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ज्ञानमुत्तमम्

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY BANGALORE

ANNUAL
REPORT
AUGUST 2017 - JULY 2018

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MISSION

To build on the track record set by India in general and Bangalore in particular, to enable India to play a key role in the global IT scenario through a world class institute with a focus on education and research, entrepreneurship and innovation.

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IIIT Bangalore

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Biotechnology and Science &
Technology, Govt. of Karnataka

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Registrar,
Secretary to the Board,
IIIT Bangalore

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Professor & Director

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Professor & Dean (Academics)

Jyotsna Bapat
Professor & Dean (Faculty)

Srinath Srinivasa
Professor & Dean R&D

Tricha Anjali
Associate Professor & Associate Dean (Continuing Professional Education)

Cmde SR Sridhar (Retd.)
Registrar

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D V Jagadish
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J P Patil
Chief Administration Officer

M K Durai Murugan
IT and Data Centre Manager

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(Women's Hostel)

Sujit Kumar Chakrabarti
Assistant Professor & Warden
(Men's Hostel)

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Assistant Professor & Faculty-in-
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(Institutional & Finance)

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(Library)

T K Srikanth
Professor & Faculty-in-charge
(Computing)

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Associate Professor & M.Sc. (Digital
Society) Programme Coordinator

Madhav Rao
Associate Professor, iM.Tech
Programme Coordinator & Faculty
in-charge - Labs

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& S.M.Tech. Programme
Coordinator

Manisha Kulkarni
Associate Professor, M.S. by
Research & Ph.D.
Programme Coordinator

G Srinivasaraghavan
Professor & Faculty-in-charge -
Internships & Placements

Cynthia DMello
Staff Officer, Dean's office

Ramadevi S
Librarian and Manager
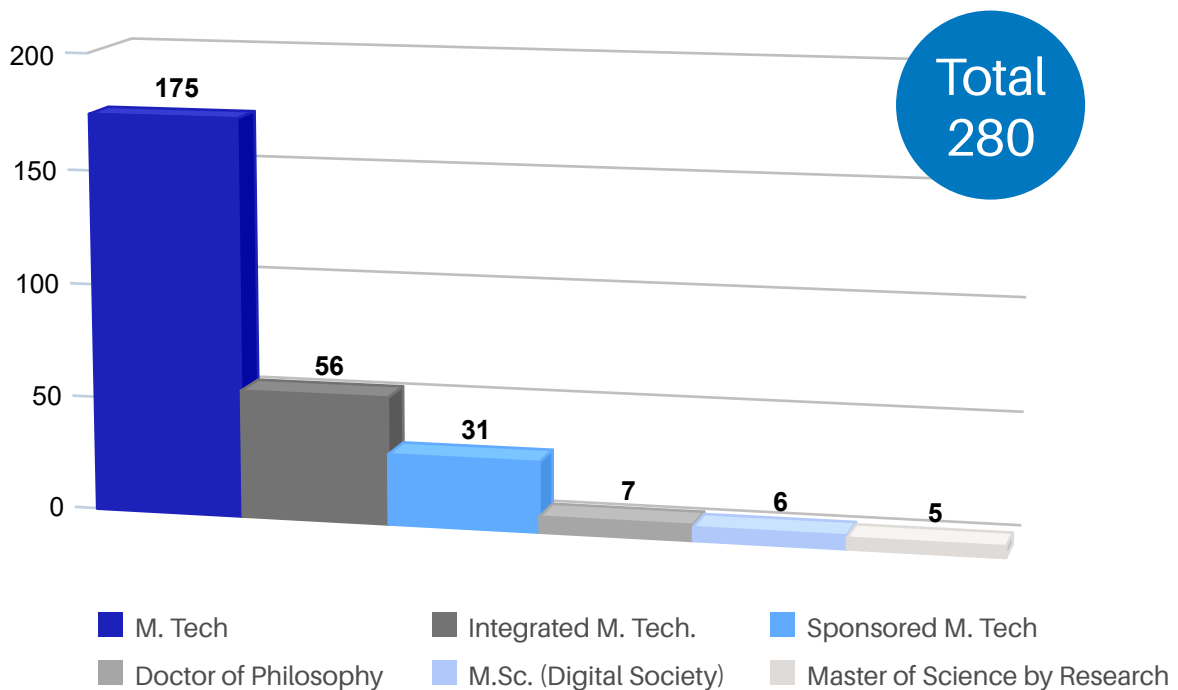(Information Services)

FROM
THE DIRECTOR'S DESK

Learning is a relatively permanent change in behaviour of a person that eventually infuses in him or her the right Knowledge, Skill and Attitude. True to our motto of "ज्ञानमुत्तमम्", we at IIIT Bangalore have always strived for an overall development of Knowledge, Skills and Attitude in our students. I am happy to present you a bird's eye view of the bygone academic year 2017-'18.

The 18th Convocation held on July 07, 2018, was a moment of joy when 280 of our students (7 with PhD degree, 5 with Master of Science by Research Degree, 175 with 2-year M.Tech Degree, 6 with M.Sc. in Digital Society, 56 students with dual degrees and 31 students with Sponsored M.Tech degree) graduated from our portals of learning. We were fortunate to have Dr Ramagopal Rao, Director, IIT Delhi, as the Chief Guest and Dr. Aloknath De, Managing Director, Samsung India Ltd., as the Guest of Honour for the day. Our Chairman of the Governing Body, Mr. S Gopalakrishnan, presided over the function. The class of 2018 triumphed, true to their potential.

Total 280

Value	Category
175	M. Tech
56	Integrated M. Tech.
31	Sponsored M. Tech
7	Doctor of Philosophy
6	M.Sc. (Digital Society)
5	Master of Science by Research

I present some cumulative statistics of our students here who have graduated from IIIT Bangalore:-

M.Tech Programme

Year	Joined	Graduated	Cumulative
2012-'14	155	155	1841
2013-'15	137	137	1977
2014-'16	154	154	2131
2015-'17	151	151	2280
2016-'18	176	175	2455

Master of Science by Research Programme

Year	Joined	Graduated	Cumulative
2013-'14	04	03	18
2014-'15	13	05	23
2015-'16	08	11	34
2016-'17	11	08	42
2017-'18	11	05	47

Ph.D

Year	Joined	Graduated	Cumulative
2013-'14	08	03	07
2014-'15	09	07	14
2015-'16	13	02	16
2016-'17	14	04	20
2017-'18	14	07	27

Integrated M.Tech

Year	Joined	Graduated	Cumulative
2012-'17	51	48	48
2013-'18	57	56	104

M.Sc (Digital Society)

Year	Joined	Graduated	Cumulative
2015-'17	09	09	09
2016-'18	06	06	15

Placements at IIIT Bangalore continues to be our competitive advantage for the 18th year in a row with nearly 100% placements. The highlights are appended below:

Median Salary Package (Lakhs Per Annum)

71%
149 students
40 recruiters

75

50

25

0

15%
31 students
7 recruiters

6%
12 students
3 recruiters

4%
9 students
3 recruiters

4%
8 students
2 recruiters

IT Product & Services

R&D

Hardware

BFSI

Higher Studies

M.Sc (Digital Society)

M.Tech

Integrated M.Tech

Least: 12 Lakhs
12 Lakhs
Highest: 12 Lakhs

Least: 7 Lakhs
13 Lakhs
Highest: 28 Lakhs

Least: 8 Lakhs
13 Lakhs
Highest: 30 Lakhs

Some of the other notable achievements of our students in the last academic year as follows:-

(a)   Three of our students (Simran, Shyam and Aditya) participated in the ACM ICPC (International Collegiate Programming Contest) which is undoubtedly the most prestigious competition in the planet with 49,335 students participating from 3,098 universities in 51 countries; our students reached the "final 128." Please join me in congratulating the students and the coach, Prof. VN Muralidhara, for winning the competition the second time in a row.

(b)   Seven of the graduating Integrated M.Tech students are

pursuing Ph.D Programme in prestigious universities around the world – Harvard, UC Irvine, Johns Hopkins, Rochester, UT Dallas and Twente.

(c)   Our students, Susarla Praneeth and Utkarsh Agarwal, along with our colleague, Dr. Dinesh Babu Jayagopi, won the best paper award in Mediterranean Conference on Pattern Recognition and AI in March 2018.

(d)   Our students were the winners in Smogathon Poland, Smart India Hackathon and Inclusive STEM Hackathon.

(e)   The very first batch of 291 students of the highly successful Online Education program on Analytics, jointly executed with UPGRAD, graduated on August 5, 2017.

(f)   Shraddha Agarwal, our graduating M.Tech student, won the Google Scholarship Award; she is one of the 73 selected from over 20,000 women across the globe.

(g)   Our student, Aditya Paliwal of the graduated iMTech batch, helped our students reach a new high by receiving the opportunity to work in AI Research Group at Google Research with a whopping salary of Rs 1.20 Crores.

Aditya Paliwal

Vidhya

Some of the highlights of our Alumni are as follows:-

(a)   Compute.io, a startup founded by our alumnus Paddy Raghavan, was acquired by Cisco which is a unique development for the Bangalore-based tech startup.

(b)   Our alumnus Ms Vidhya, author of an award-winning paper (along with four other authors from Microsoft Research), was recognised as "Rising Star of the Year" by Namma Bengaluru.

Our faculty too excelled in their respective spheres:-

(a)   Dr R Chandrashekar and Dr G Srinivasa Raghavan were selected among the "Most Influential Analytics Academicians in India 2018."

(b)   Dr Srinath Srinivasa joined the Board of Gooru Labs – an online global initiative with participation from UC Berkeley, Stanford, John Hopkins and IIIT Bangalore.

(c)   VideoKen, founded by our faculty colleague Dr Manish Gupta, is powering the specialised video search for ACM, the first society in computing, since January 2018.

(d)   Dr Meenakshi D'Souza and Dr Manish Gupta got elected to ACM India Council.

(e)   Dr Debabrata Das was elected as the Chair of Bangalore Chapter of IEEE. He was also elevated to Fellow of IETE (Institution of Electronics and Telecommunication Engineers).

(f)   Dr V Sridhar and Dr S Rajagopalan served as resource persons for the Technology part of Karnataka's Vision 2025.

(g)   Dr Madhav Rao won the Young Investigator Award in MeltingPot 2020 along with faculty members from IITB and IITK.

(h)   Dr Tricha Anjali won the Huawei Research Award for the establishment of SDN Innovation Lab.

Institutionally, it was an eventful year with a lot of milestones being crossed:-

(a) IIIT Bangalore's M.Sc in Digital Society programme has attracted 6 full time international students from Indonesia. This a significant first for IIIT Bangalore.

(b) IIIT Bangalore continues to mentor IIIT-Dharwad and Myanmar Institute of Information Technology for the third year.

(c) CEOs of 40+ companies have agreed to serve on IIIT Bangalore's Industry Affiliate Board from September 2018 onwards, including Dr Aloknath De; a special thanks to him.

(d) IIIT Bangalore hosted TEDx for the first time, Ramanujan Conference on Mathematics & IT for the seventh year, HP Aruba Network University for the ninth year, a Summer School on Theoretical Computer Science and a Winter School on "Digital and the Everyday - From Codes to Cloud."

(e) October 31, 2017, saw the launch of YAMINI – a dawn-to-dusk classical music programme under SPICMACAY banner – coinciding with Karnataka Rajyotsava Day.

(f) A supercomputer class machine and high performance compute cluster based on GPU's has been installed to support AI research at IIIT Bangalore.

(g) The Institute participated for the very first time in NIRF (National Institutional Ranking Framework) – a more objective ranking compared to the ones by media houses – and was ranked at 56.

(h) The Karnataka Jnana Aayoga and Government of Karnataka endowed a grant of Rs 35.14 Crores over five years to support MINRO (Machine Intelligence and Robotics Research) Center with Dr R Chandrashekar as the Principal Investigator.

The following notable student amenities were commissioned in the year:

(a) YourDost – online counselling
(b) An international standard basketball and tennis courts
(c) A rock garden and a water body to add to the eco-friendly environs
(d) A 70 feet flag mast bearing the National Tricolour to instil a sense of patriotism and national pride in the students

IIIT Bangalore continues to attract outstanding faculty members and scholars from around the world. The following joined the institution as full time faculty members this year:-

(a) Dr Vivek Srinivas
(b) Dr Nanditha Rao
(c) Dr Uttam Kumar re-joined after a 4-year stint at NASA, USA

It is impossible to build enduring institutions without solid values. For us, the core value is to maximize the capacity of each student in all spheres. But for the trust-based relationship between the Governing Body and the Executive, IIIT Bangalore would not be what it is today. We look forward to such continued support from the management as well as other sections including faculty, students, staff, alumni, funding agencies, government, industry and civil society.

We have a long way to go, but our baby steps of the past nineteen years are reassuring as we enter the20th year, thus leaving our teenage years behind us.

ABOUT
IIIT BANGALORE

International Institute of Information Technology Bangalore, (IIIT Bangalore) is promoted by the Karnataka government and the IT industry. IIIT Bangalore attracts high quality students from all over India and abroad to its acclaimed iMTech. M. Tech., M.S. by Research and PhD programs. Along with a very distinguished faculty, they pursue research in a unique campus located in Electronic City, the heart of the IT Industry in Bengaluru.

The major objectives of the Institute are, to be a specialized centre for higher learning in IT, to promote Bengaluru as a global centre of Excellence in IT, to carry out R&D, both on its own account and also based on sponsorship from the Indian and global IT industry, to act as an interface between industry and the academic community, to co-create and commercialize Intellectual Property, to train professionals from industry and government on advanced IT technologies. IIITB has been conferred the status of Deemed to be a University by the University Grants Commission (UGC) under section 3 of the UGC Act in 2005 and is, therefore,empowered to award degrees. The Institute has also been accredited by the National Assessment and Accreditation Council (NAAC) with the highest grade of A.

The best universities in the world share common traits - a) ability to attract talented faculty and students, b) open environment that fosters creativity, critical thinking and knowledge sharing and c) genuine commitment to make a lasting contribution to the broader society. At IIITB, these serve as guideposts in our pursuit of excellence in teaching, research and student development.

The curriculum here is designed to strike an appropriate balance between foundational elements and industry relevance. Teaching methods at IIITB are continuously evolving with developments in technology and increasing access to information sources. The emphasis is on contextualization and enhancing students experience and not the mere delivery of content. The success of our internship and final placement programs year after year is a visible sign of the value that employers attach to Ill T-B students. The Institute focuses on the generation of new ideas, building a deep understanding of technology, and teaching with skill and passion. The institute aims at inculcating skill, knowledge, teamwork, perseverance and self-confidence in its students.

The institute has a short but distinguished history of 17 years producing quality post-graduates every year. The 2000+ strong alumni occupy key positions in various corporations, delivering tremendous value to their organizations. The courses are designed with an eye on the requirements of the industry, and are kept

Photo Credits: Vipasa (M.Tech 2018-2020)

flexible to accommodate any changes in the industry. Students from different technical and cultural backgrounds come together in the institute, realizing the potential of unity and teamwork. Immense support from the faculty members enables the students to stay on the path of scientific enquiry. In addition to high quality publications, the students and faculty have produced several patents and novel projects.

State of the art technology infrastructure is available to all the students in the various research laboratories in the institute.

The institute has an excellent library, through which the students have access to the latest developments in their fields.

The institute attracts a lot of visitors, and the list of distinguished visitors in its short history is a very long one.

The institute helps the students keep in touch with the pace of innovation and development in the industry by holding conferences and workshops at regular intervals.

The entrepreneurship cell of the institute is very active, and has incubated and supported several companies in the campus. These companies have since moved on to other successes, but have proved to be an excellent training ground for the students.

The local SPICMACAY chapter also conducts a yearly musical and dance festival, in which the students and various famed artists perform, delivering an enthralling evening of music and culture.

The students are also active in the community work around the college. A yearly blood donation camp is a regular feature at Ill TB where a large number of students donate blood.

The institute has a vibrant student exchange program with a number of universities including MIT, City University of Berlin, Hoff University, University of Nottingham and Southampton University.

IIITB is the mentor institute for setting up of Myanmar Institute of Information Technology (MIIT) at Mandalay. This is being done as part of the MEA Development Partnership Project with Govt. of Myanmar. As part of the project, IIITB is expected to help set up and manage MIIT for the first 5 years.

MIIT currently offers a Post Graduate Diploma in Software Development, a 9 months program designed to prepare the graduate students, IT industry ready. The first batch of the program was started in Oct 2015 with a strength of 60 students. MIIT also has a B.E(Hons) program, launched on 15th December 2015 with a batch strength of 120 students.

IIITB is helping with the procurement process to ensure world class infrastructure is set up at MIIT on the same lines (if not better than) available in the top class institutions at India.

IIITB actively encourages the pursuit of entrepreneurial ventures. The IIITB Innovation Centre, a section 8 Company under the Companies Act (2013) provides incubation facilities and seed funding for promising ideas that could have the significant social impact or economic value. The entrepreneurship cell of the institute is very active and has incubated and supported around 40 companies in the campus. These companies have since moved on to other successes but have proved to be an excellent training ground for the students.

Photo Credits: Arbab (M.Tech 2018-2020)

Classroom

Photo Credits: Shreya and Neerja (M.Tech 2017-19)

Photo Credits: Arbab (M.Tech 2018-2020)

INFRASTRUCTURE

The Institute offers a world-class infrastructure and an ambience perfectly conducive to teaching, learning and research for both the students and faculty. The main campus area of 9.002 acres has five main buildings and is well planned with facilities like Innovation Centre, academic blocks, research labs, state-of-the-art classrooms, playground, library, food court, medical room and multipurpose hall.

- Smart classrooms, with high-speed data networks

- WiFi enabled campus

- Separate hostels and gymnasium for both boys and girls

- 24x7 security

- 90,000 sq. ft. of air-conditioned space

- In-house Sewage Treatment Plant (STP)

- Solar power panels

- Uninterrupted power supply

The campus is equipped with sports facilities for outdoor activities like Jogging, Cricket, Football, Basketball, Volleyball, Lawn Tennis, Throw ball, and indoor activities like Badminton, Table Tennis, Carom, Chess.

Academic Block

Ramanujan Block

Library

MINRO Lab

Lilavati – Women's Hostel

Photo Credits: Vipasa (M.Tech 2018-2020)

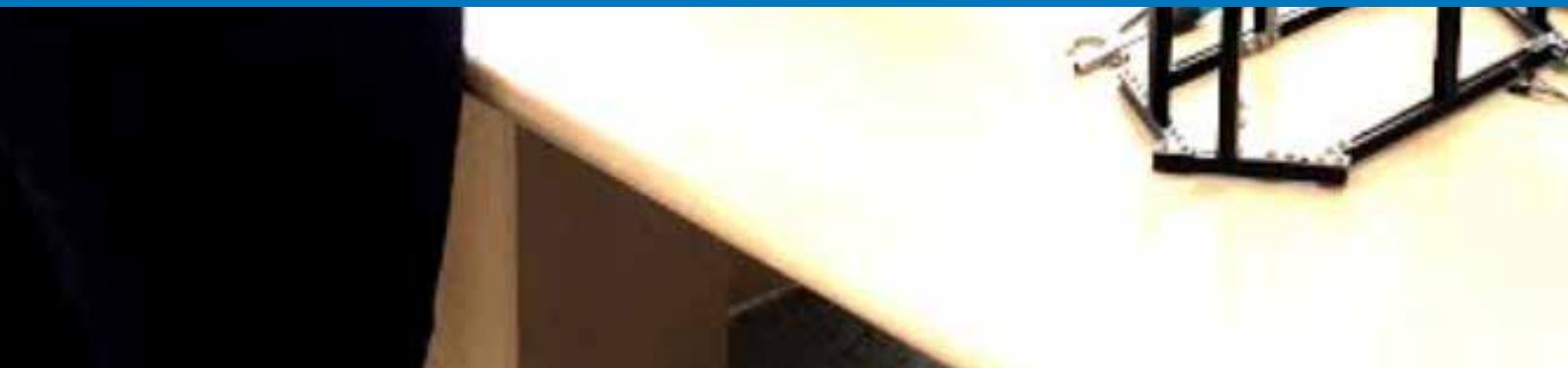## Bhaskara – Men's Hostel

Photo Credits: Arbab (M.Tech 2018-2020)

RESEARCH AND LABS

HiDES Lab

(High Density Electronic Systems Lab)
https://www.IIITB.ac.in/hides/hides.html

High Density Electronic Systems (HiDES) Lab is affiliated to Centre of Electronics and Embedded systems Lab (CEEMS) and Computational Sciences Lab (CSL) at IIIT Bangalore. The HiDES lab at IIIT Bangalore is sponsored by Government of Karnataka, and Mentor Graphics Corporation Ltd.

HiDES lab is used extensively to carry out high-end research as well as to support undergraduate and postgraduate teaching. The lab has Intel IoT board, Grover starter kit plus, STM32, Cypress ARM Cortex M4, Arduino controller boards, Kalam IoT board, ABB commercial robot, Rover Robot, Electric ray robot, Firebird V robotic kit, High end Oscilloscopes, Function generator, Power supplies and LCR meters.

The lab also has a variety of software suites, including IC nanometer Design suite, VLSI Design, Verification and Test suite, PCB Expedition suite and Mechanical Analysis suite from Mentor Graphics, Cadence VLSI Design suite, Ansys HFSS, National Instruments Multisim, etc.

Electronic system design and manufacturing (ESDM) lab is sponsored by Government of Karnataka. The lab focuses on research and development in the area of Digital VLSI, interconnects, Surgical and assistive Robotics.

IoT centre in HiDES Lab

Students Projects

- Laser Oscilloscope
- Logic finder
- Laser Tracker
- LIET(Light Aided Information Encoding and Transmission)
- Acoustic source localization based touch surface
- CRIS cellular based remote irrigation system
- Electromyography
- O.D.R.A (Object detecting robotic ARM)

- Object following robot
- Music Synthesizer
- Wireless charging device
- Blind walking stick
- The Human Tape
- Pen Barcode Scanner
- Electronic Voting Machine
- Cheque box counter
- Ardiuno Touchpad "Tic Tic Tac"
- Electronic student movement register
- Smart Pot
- Dice circuit using ardiuno
- Snakes and jadders
- Traffic control systems
- Gesture controlled robot
- Facial Recognition using open CV and Ardiuno Microcontroller
- Automated cookie dispensing machine
- Photoresistor controlled music generator
- Wearable laser tag game
- RF controlled car
- Gmail counter using intel galileo

Electronics Workstation

ESDM Lab

(Electronics System Design and Manufacturing Lab)

State-of-art optical microscope is used to capture high resolution images of around 1 micron. The design facilities includes mentor graphics commercial software, electric MOSIS compatible open source software, and Matlab software.

The lab has Agilent Parametric Analyzer, Cascode DC Probe station, Carl Zeiss High resolution optical microscope, Ultimaker 3D printer, Makerbot 3D Printer, Wet lab for wet etching, copper plating, dip soldering, Thermal and Electron beam evaporator and Desktop Lathe Machine.

Faculty members

- Dr. Madhav Rao

Focus Area

Nanomagnetic logic gates in collaboration with IIT-Bombay, 3-D high frequency antenna in collaboration with IISc. The SARL lab at IIIT Bangalore is a joint work by IIIT Bangalore and NIMHANS. Currently, we are working on the development of surgical probe, assistive upper limb exoskeleton and lower limb DVT prophylaxis devices. MSJE has funded a project for upper limb assistive device.

Projects running in ESDM lab is sponsored by SERB, MEITY, MSJE, IBM Shared University Research, INTEL-FICE, and Government of Karnataka.

Research Publications

- Neha Oraon and Madhav Rao, Stick diagram representation for nanomagnetic logic based combinational circuits, 18th IEEE International Conference on Nanotechnology 2018 conference, July 22-26, Cork Island, Ireland, 2018

- Madhav Rao and Sowmya N, Design and analysis of High Impedance surface modified 3D antennas , CSI Transactions on ICT, Springer India, pp 1-5, May 2018

- Madhav Rao, Electrical modeling of

copper/multiwalled carbon nanotubes for 3D IC applications , 17th IEEE International Conference on Nanotechnology 2017 conference, July 25-28, Pittsburgh, USA

- Kumaresh K, Gopika G, Madhav Rao and Neelam Sinha, Cognitive State Signature Analyses Using Single Channel EEG Data , 25th European Signal Processing Conference (EUSIPCO 2017), January 7-11, September 2017, Kos Island, Greece

- Madhav Rao, Vertical Delay Modeling of Copper/Carbon Nanotube Composites in a Tapered through Silicon Via , 67th IEEE conference in Electronic Components and Technology Conference (ECTC), May 2017, Orlando, USA

- Gaurangi Gupta, A R Harish, and Madhav

Rao, Performance Enhancement of 3D Posts based Antenna using High Impedance Surface , IESC, April 2017, Shillong, India

- [Indian Patent Application no. 201641011051] Vinay Chandrashekar, Madhav Rao, Wearable Integrated System to Aid Parkinson Disease Patients in Overcoming Freezing of Gait Position, March 2017

- Madhav Rao, Electrical Modeling and Characterization of Copper/Carbon Nanotubes in Tapered through Silicon Vias , VLSI Design and 2017 16th International Conference on Embedded Systems, January 7-11, January, 2017, Hyderabad, India

Students Research Work Area
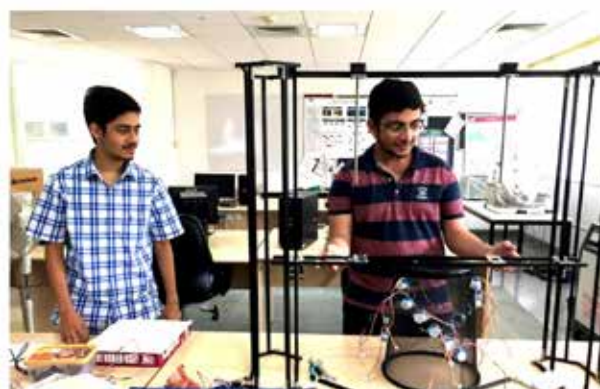
Current Projects

Sponsored Projects

- Development of anthropomimetic upper limb device
- AI assisted device for upper limb
- Single touch citizen safety and emergency response system
- Fabrication of Nanomagnetic logic device
- Intel Galileo board curriculum

Unsponsored Projects

- Modeling of 3D Interconnects: Cu/CNTs
- Modeling of Nanomagnetic subsystems

- Low power Digital VLSI
- Lower limb DVT prophylaxis device
- Hyperflexible Probe
- Ventricular Assistive devices
- Surgical tools: Gripper, Cutter, Surtering device
- Robots mapping, and swarm robotics
- Development of rapid freezing diagnostic chamber
- Development of 3D antennas
- Graphical robot programming environment
- Women safety reporting tool
- Wearable for Parkinson disease patients

Achievements

- [5/2018] Our paper titled "Design and Analysis of High Impedance surface modified 3D antennas" was published in CSI Transactions on ICT in May 2018. The authors are Madhav Rao and Sowmya N.

- [4/2018] Our paper titled "Stick diagram representation for nanomagnetic logic based combinational circuits" was accepted in IEEE NANO 2018 to held in Ireland, in July 2018. The authors are Neha Oraon and Madhav Rao.

- [4/2018] IBM Shared University Program funded a research project on "AI assisted Anthropomimetic device for Upper limb." The work is carried by Vinay Chandrashekar (iMTech 2015) and Madhav Rao.

- [11/2017] iMtech 2015 batch students: Vinay Chandrasekhar, Krishna Nagaraj and Aravind Reddy won the "Young Innovators Award" in MeltingPot2020 event, held in Hyderabad on November 14-15, 2017. The students demonstrated prototypes of upper limb exoskeleton, lower limb DVT prophylaxis device, programmable braille device and surgical probes in the event.

- [11/2017] IIIT Bangalore won the "Exemplary student driven innovation ecosystem" award in MeltingPot2020 event, held in Hyderabad on November 14-15, 2017 for showcasing prototypes of surgical and assistive devices. This work is carried in SARL lab affiliated to EHRC, IIIT Bangalore. The research work on these devices is carried by IIIT Bangalore in collaboration with NIMHANS faculty.

- [9/2017] Our paper titled "Cognitive State Signature Analyses using Single Channel EEG Data" was accepted in EUSPICO-17 conference. EUSIPCO 2017 was held in Kos Island, Greece, in September 2017. The authors are Kumaresh K, Gopika G, Madhav Rao and Neelam Sinha.

- [5/2017] Our paper titled "Electrical Modeling of Copper/Multiwalled Carbon nanotubes for 3D IC applications" was accepted in IEEE Nano 2017 to be held in Pittsburgh, USA, in July 2017.

"Young Innovators Award" at MeltingPot2020, Hyderabad

Patents:

- (8/2017) A provisional patent application on Surgical Snake Robot was filed in August 2017. This work was primarily done by Aravind Reddy (iMTech 2015 ECE student).

- (8/2017) A patent application on upper limb exoskeleton device was filed in July 2017. TiFAC PFC organization has funded for the patent application. This work was primarily done by Vinay Chandrashekar (iMTech 2015 ECE student).

- [Indian Patent Application no. 201741025128] Vinay Chandrashekar, Madhav Rao, Vikas V, Laxmi Rao, AN ELECTRICALLY CONTROLLED MECHANICAL INTEGRATED WEARABLE DEVICE TO ASSIST MOVEMENT OF FINGERS AND WRISTS, July 2017.

- [Indian Patent Application no. 201741024666] Aravind Reddy, Krishna Nagaraj, Vinay Chandrashekar, Madhav Rao, Vikas V, Laxmi Rao, Subhajit Sen, Debabrata Das, Srikanth T K, Muralidhara V N, A FLEXIBLE SURGICAL DEVICE, July 2017.

News Highlights

IIITB student makes glove to help motor neuron disease patients

CEEMS Lab

(Centre for Electronics and Embedded Systems)

Centre for Electronics and Embedded Systems (CEEMS) lab is a multi-disciplinary lab that supports research and education in embedded hardware and computing, wireless communication, computer vision and software technologies. Current research has an emphasis on design of ultra-low power and reliable system design, design methodologies and architectures for systems-on-chip, wireless sensor and ad-hoc networks and other emerging technologies for pervasive computing such as Solar, RFID technology, implementation of controllers for robotic manipulators.

Multimodal Perception lab also contributes to the CEEMS lab. The CEEMS Lab is equipped with state-of-the-art instrumentations for design of analog circuits and digital design circuits, simulation, layout and testing of various circuits. Apart from the regular laboratory classes, it is also utilized for academic and research purposes by UG/PG/Ph.D students and faculty. The lab offers internship opportunities for students from various institutes as well as support to in-house companies using lab facilities for product testing. Students have 24 hours biometric access to the lab.

The Embedded Systems lab houses training facilities with high-end computer systems and variety of advanced electronic components, vision cameras and high-tech industrial equipment such as spectrum analyzer, signal analyzer, vector signal generator, Agilent instruments MSO, Logic Analyzer, NI PXIe1065; various Microcontroller development boards PIC, AVR, Atmel, NI development board, TI launchpad, Freescale, ARM, Digital signal processing (TI) kits, Micro

processors, FPGA Xilinx Spartan kit/Vertex kit, Basys board, Altera, Memsic wireless sensor networks boards, RFID kit as well as Robotics building kits Tetrix and Lego, I robot and sensor boards; and industry standard VLSI EDA tools Cadence, Xilinx Vivado, Xilinx 13.0, Quartus II, Embedded systems software's tools including, Matlab, Code Composer Studio, Real View Development Suite, National Instrument Labview, Lego Mindstroms Education Nxt software.

Funded by the Government of Karnataka, CEEMS Lab provides students the opportunity to apply their design concepts learnt during their project work under the supervision of faculty and publish papers in international conference, seminars and to win prizes and accolades in various design contests such as Maxim, Hackathon, etc.

Faculty members
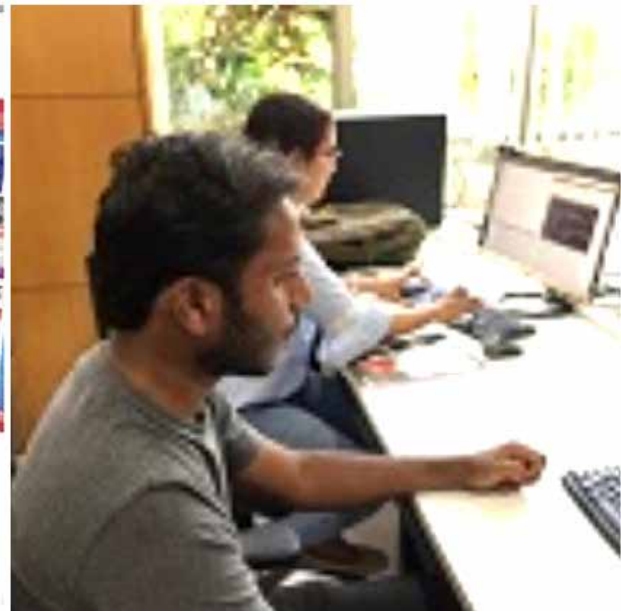
- Dr. Madhav Rao
- Dr. Chetan Parikh
- Dr. Sachit Rao
- Prof. Subhajit Sen
- Dr. Subir K. Roy
- Dr. Debabrata Das
- Dr. Dinesh Babu Jayagopi
- Dr. Jyotsna Bapat
- Dr. Neelam Sinha
- Dr. G. N. Srinivasa Prasanna
- Dr. G. Srinivasaraghavan
- Dr. Nanditha Rao

Analog and Digital design workbench

Students' Projects

DSP Workbench

VLSI Design Lab

Microcontroller Lab

Faculty : Dr. Subhajit Sen

Research Interests

- Analog and mixed-signal VLSI integrated circuit & system design, digitally-assisted analog circuit design, embedded systems for biomedical and energy-harvesting applications

Projects

- ISRO project on development of high-speed pipelined ADC (Dr. Subhajit Sen, Dr. Chetan Parikh)
- Wake-up detection circuit for PAM4 signaling for Global Foundries (Dr. Subhajit Sen, Dr. Chetan Parikh)
- Ultrasound imager for guided surgery (sponsored by EHRC) in collaboration with NIMHANS
- Most of the hardware for phantom-modeling of brain-tissue and ventricle and signal processing hardware for single-transducer imaging have been developed

Seminars

- Professor Purushothaman of Amrita Vishwa Vidyapeetham was invited to give a talk on pipelined ADC design.

Conference/Workshop Publication

- Uma Kulkarni, Chetan Parikh, Subhajit Sen, "A systematic approach to determining the weights of capacitors in the DAC of a non-binary redundant SAR ADC", IEEE International Conference on VLSI Design in Pune, January 2017.
- Mahesh Zanwar, Subhajit Sen, "Programmable Output Multi-phase Switched-Capacitor Step-up DC-DC Converter with SAR-based Regulation", IEEE International Conference on VLSI Design, January 2017.
- Mahesh Zanwar, Subhajit Sen, "Programmable CMOS Step-Up DC-DC Converter", 2016 IEEE ICSEE Conference, Eilat, Israel, 17 November 2016.

Faculty : Dr. Subir K. Roy

Focus Areas/Domains of research

- Hardware Trojan Design and Detection
- High Speed Decimal Floating Point Arithmetic Design
- Formal Verification of Hybrid Systems (such as Analog Mixed Signal Designs)
- Model-based Hardware Software Co-synthesis of Embedded Systems
- Cache Compression, Branch and Value Prediction (jointly with Professor Nanditha Rao)

Research publications

- Hardware Trojan Design and Detection - 2 Conference Publications
- High Speed Decimal Floating Point Arithmetic Design - One paper presented in RISE 2018
- Formal Verification of Hybrid Systems (such as Analog Mixed Signal Designs) - 2 Conference Publications
- Model-based Hardware Software Co-synthesis of Embedded Systems - 2 Conference Publications , One paper presented in RISE 2018

Research outcomes

- Our work on "High Speed Decimal Floating Point Arithmetic Design" will be incorporated in the India Microprocessor Design being coordinated by CDAC.

Faculty: Dr. Nanditha Rao

- Focus Areas/Domains of research - Computer architecture, VLSI design

Research publications

- Nanditha P. Rao, Madhav P. Desai, "Quantification of the likelihood of single event multiple transients in logic circuits in bulk CMOS technology," Microelectronics Journal, Volume 72, 2018, Pages 86-99
- S. Banerjee Belur, M.Khaturia and N. P. Rao, Book Title: Community Networks: The Internet by the people for the people, Official 2017 Outcome of the United

Nations Internet Governance Forum (IGF) Dynamic Coalition on community connectivity (DC3)

- Sarbani Banerjee Belur, Meghna Khaturia and Nanditha P. Rao, "Community-led Networks for Sustainable Rural Broadband in India: The Case of Gram Marg", Internet Governance Forum (IGF), Geneva, Switzerland, December 2017

- N. P. Rao and M. P. Desai, "A Detailed Characterization of Errors in Logic Circuits due to Single-Event Transients," Digital System Design (DSD), 2015 Euromicro Conference, Funchal, 2015, pp. 714-721. doi: 10.1109/DSD.2015.58

- Poster Presentation: Nanditha P Rao, Shahbaz Sarik and Madhav P Desai, "On the likelihood of multiple bit upsets in logic circuits", VLSI Design Conference 2014, Mumbai, India

- Presentation: Reed Nelson, Sara Stille, Nanditha Rao, Steve Hall, Scott Gilbert, Tony Lewis, Tal Israeli, 'Impact of halogen free stackup on Pcie signaling' in the PCI-SIG conference in Santa Clara, June 2010

- Presentation: Nanditha Rao, "De-emphasis buffer modeling issues with IBIS", in the Asian IBIS Summit, Tokyo, November 2008 (https://ibis.org/summits/nov08b/rao.pdf)

- Presentation: Nanditha Rao, Sara Stille, "Signal integrity challenges and design practices on a mobile platform" in the PCI-SIG conference in Munich, November 2007

- T. N. Ruckmongathan, Nanditha Rao P., and Ankita Prasad, "Wavelets for Displaying Gray Shades in LCDs", SID (Society of Information Display) Symposium Digest of Technical Papers, May 2005, USA, Volume 36, Issue 1, pp. 168-171

National and International Conferences

- Sarbani Banerjee Belur, Meghna Khaturia and Nanditha P. Rao, "Community-Led Networks for Sustainable Rural Broadband in India: the Case of Gram Marg", Internet Governance Forum (IGF), Geneva, Switzerland, December 2017

- N. P. Rao and M. P. Desai, "A Detailed Characterization of Errors in Logic Circuits due to Single-Event Transients," Digital System Design (DSD), 2015 Euromicro Conference, Funchal, 2015, pp. 714-721. doi: 10.1109/DSD.2015.58

- Poster Presentation: Nanditha P Rao, Shahbaz Sarik and Madhav P Desai, "On the likelihood of multiple bit upsets in logic circuits", VLSI Design Conference 2014, Mumbai, India

- Presentation: Reed Nelson, Sara Stille, Nanditha Rao, Steve Hall, Scott Gilbert, Tony Lewis, Tal Israeli, 'Impact of halogen free stackup on Pcie signaling' in the PCI-SIG conference in Santa Clara, June 2010

- Presentation: Nanditha Rao, "De-emphasis buffer modeling issues with IBIS", in the Asian IBIS Summit, Tokyo, November 2008 (https://ibis.org/summits/nov08b/rao.pdf)

- Presentation: Nanditha Rao, Sara Stille, "Signal integrity challenges and design practices on a mobile platform" in the PCI-SIG conference in Munich, November 2007

- T. N. Ruckmongathan, Nanditha Rao P., and Ankita Prasad, "Wavelets for Displaying Gray Shades in LCDs", SID (Society of Information Display) Symposium Digest of Technical Papers, May 2005, USA, Vol. 36, Issue 1, pp. 168-171

MINRO Centre

(Machine Intelligence and Robotics Centre)

MINRO Centre's broad charter is to carry out high quality research in the area of Machine Intelligence and Robotics. The research is expected to lead to path-breaking innovations that benefit entire state of Karnataka. The innovations will be widely disseminated for the benefit of the entire state of Karnataka through well-orchestrated showcasing mechanisms.

Sponsored by Department of ITBT, Govt. of Karnataka, the Centre's activities can be divided into three major focus areas: education, research, and government. MINRO Centre will conduct multidisciplinary research and development activities in important research areas related to machine intelligence, artificial intelligent systems, data analysis, data science, pattern recognition, human-machine interface and industrial products of robotics and automation. The application areas will have the potential to address numerous real world problems of governance and society thereby bringing greater focus to societal applications of

MI and also industrial products generation – all of which cannot be resolved through traditional systems. The envisaged application directions include, but are not limited to, governance, manufacturing, transportation, assisted living, communications, eLearning, finance, web services and many other areas.

Faculty members

- Dr. Chandrashekar Ramanathan
- Dr. Bidisha Chaudhuri
- Dr. Dinesh Jayagopi
- Dr. G Srinivasaraghavan
- Dr. Janaki Srinivasan
- Dr. Madhav Rao
- Dr. Neelam Sinha
- Dr. Sachit Rao
- Dr. Srinath Srinivasa
- Dr. Sujit Kumar Chakrabarti

MINRO Inauguration day on June 25, 2018

Milestones and Outcomes:

- Shri K. J. George, Honorable Minister for Large & Medium scale Industries, IT and BT, Science and Technology, Government of Karnataka, visited IIIT Bangalore on June 25 and inaugurated the Machine Intelligence and Robotics (MINRO) Centre

- External review and monitoring committee with renowned experts established
- Internal Project Management Unit being created
- 11 internal project proposals received and are under review for internal approval

## Objectives of the MI/R Centre

A best-in-class centre of excellence in Karnataka for Machine Intelligence and Robotics

- Serves as a vibrant melting pot of great ideas and innovative solutions
- Natural vehicle to bring synergy in multi-disciplinary research
- Establish an experience centre to showcase and experience future of research
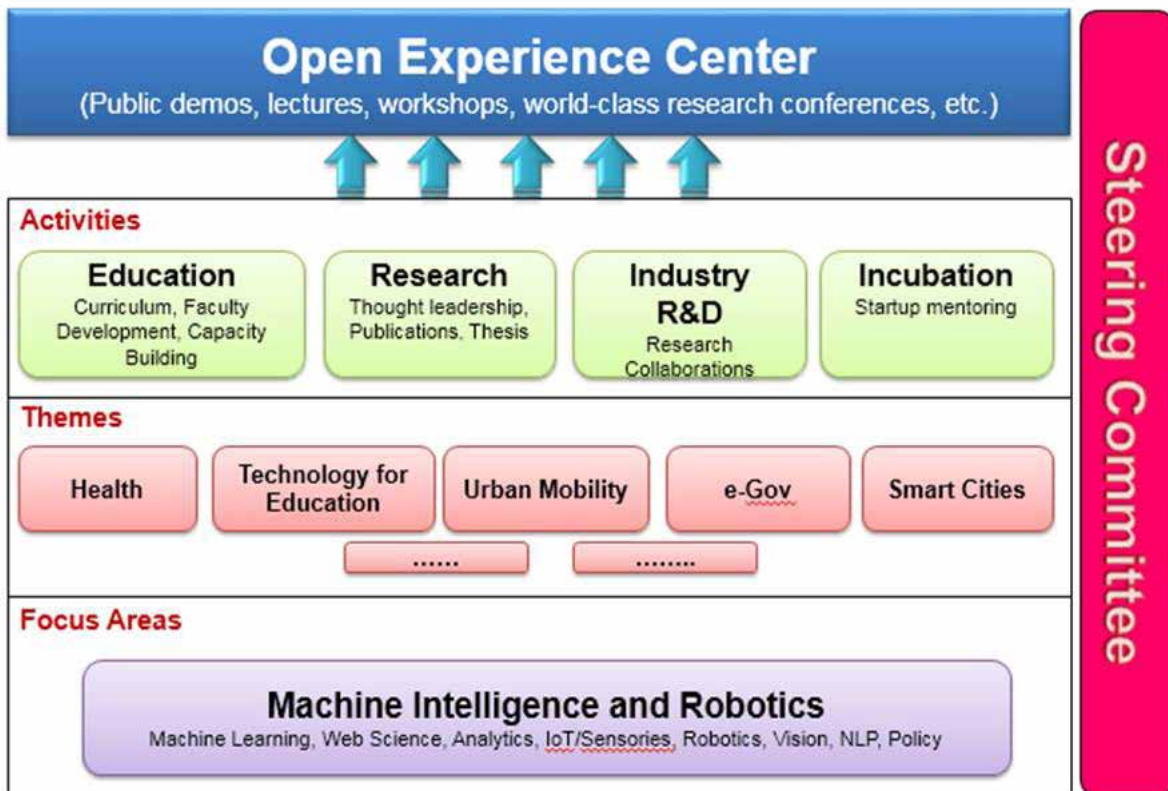
Structure of the MI/R centre

Target of MINRO
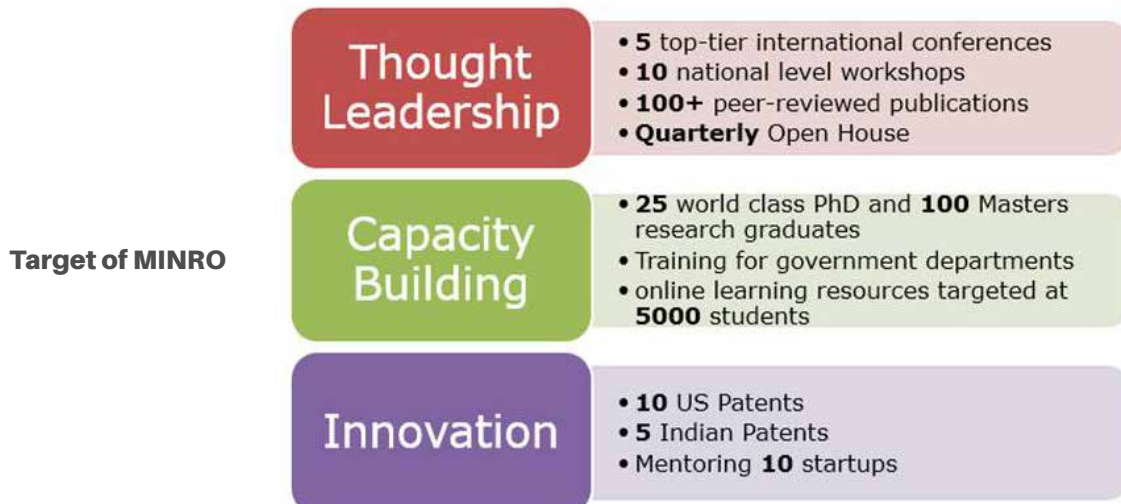
NCL lab
(Networking and Communication Lab)
https://www.IIITB.ac.in/ncl/

Networking and Communication Lab (NCL) in IIIT Bangalore, mainly focuses on various R&D areas related to broadband wireless network. This lab was created in January 2007 by research fund from Hewlett Packard, Motorola India Research Labs. The Lab later received research funding from Microsoft, Nokia, Intel, Siemens, DeitY-Government of India on tasks related to various challenging problems in niche areas of broadband Wireless Network. This lab has already produced six Ph.Ds and nine MS by Research (MSR) theses over the last 8 years. Eight students are currently pursuing Ph.D.

Faculty members:

- Dr. Debabrata Das
- Dr. Jyotsna Bapat

Focus Areas:

Power Saving in devices and base stations by New Protocols, Multi-Radio Access Technology (RAT selection), Privacy Aware Smart Buildings, Bandwidth Efficiency for 5G systems, TVWS, Scheduling schemes in LTE-A and Beyond, MAC for IoT devices as well as secured Transport layer

Research publications:

Peer reviewed journal publications

1. Dibakar Das, Jyotsna Bapat and Debabrata Das, "SDN assisted self organizing network architecture for multi-RAT networks and mobility prediction", accepted at Wireless Networks, Springer, June 2018 https://link.springer.com/article/10.1007/s11276-018-1776-2

2. Pradnya Gaonkar, Jyotsna Bapat and Debabrata Das, "Location-Aware Multi-Objective Optimization for Energy Cost Management in Semi-Public Buildings using Thermal Discomfort Information", Elsevier Sustainable Cities and Society Journal, Vol. 40, pp 174–181, accepted December 2017 https://www.sciencedirect.com/science/article/pii/S2210670717305747

3. Dibakar Das, Jyotsna Bapat and Debabrata Das, "A Dynamic QoS Negotiation Mechanism Between Wired and Wireless SDN Domains", IEEE Transactions on Network and Service Management, Vol. 14, No. 4, pp. 1076-1085, December 2017 https://ieeexplore.ieee.org/document/8049516/

4. Prashant K Wali, Amudheesan Aadhithan N and Debabrata Das, "Optimal Time-Spatial Randomization Techniques for Energy Efficient IoT Access in LTE-Advanced", IEEE Transaction on Vehicular Technology, Vol. 66, Issue: 8, August 2017 http://ieeexplore.ieee.org/document/7847433/

5. Dibakar Das and Debabrata Das, "Efficient UE Mobility in Multi-RAT Cellular Networks using SDN", Wireless Networks, Springer, accepted in June 2017

6. Saptarshi Chaudhuri, Irfan Baig, and Debabrata Das, "Self-Organizing Method for Handover Performance Optimization in LTE-Advanced Network", Computer Communication, Elsevier, accepted in June 2017 http://www.sciencedirect.com/science/article/pii/S0140366417300464

7. Dibakar Das and Debabrata Das, "Radio Access Technology Selection in SDN controlled Reconfigurable Base Station", Journal of Computers and Electrical Engineering, Elsevier, accepted on April 11, 2017 http://www.sciencedirect.com/science/article/pii/S0045790617308595

8. Parthiban A, Jyotsna Bapat and Debabrata Das, "Constellation Constraining-based Coverage Enhancement Technique for MTC Devices in LTE-A", IEEE Wireless Communication Letter, Vol: 5, Issue: 6, pp. 596-599, December 2016 http://ieeexplore.ieee.org/document/7556315/

9. Prashant K. Wali and Debabrata Das, "Enhanced Power Saving Semi-

Persistent Scheduler for VoLTE in LTE-Advanced", IEEE Transaction on Wireless Communication, Vol. 15, No. 11, pp. 7858-7871, November 2016
http://ieeexplore.ieee.org/document/7565559/

10. Parthiban A, Jyotsna Bapat and Debabrata Das, "Coverage Enhancement for MTC Devices using Reduced Search Viterbi Decoder Across RATs", IEEE Communication Letter, Vol. 20, No. 9, pp. 1892-1895, September 2016
http://ieeexplore.ieee.org/document/7505916/

Peer reviewed conference publications

1. Dibakar Das and Debabrata Das, "A Novel UE Centric Multi-RAT Deployment Model", IEEE International Conference on Smart Technologies for Smart Nation, Bangalore, August 17-19, 2017

2. Pradnya Gaonkar, Amudheesan Aadhithan N, Jyotsna Bapat and Debabrata Das, "Energy Budget Constrained Comfort Optimization for Smart Building", IEEE International Conference TENSYMP-2017, Cochin, India, July 14-16, 2017

3. Amudheesan Aadhithan N, Prashant K Wali and Debabrata Das, "Maximizing the Throughput of Duty-Cycle Based Licensed-Assisted Access in the Unlicensed Band", Twenty Third National Conference on Communication (NCC-2017), IIT-Madras, March 2-4, 2017

4. Amudheesan Aadhithan N, Prashant K Wali and Debabrata Das, "Duty-Cycled Based Licensed-Assisted Access: Does Proportional Fairness Affect Wi-fi more than it should?", 9th IEEE International Conference on COMmunication Systems and NETworkS (COMSNETS-2017), Bangalore, January 4-8, 2017

5. Anushree Joshi, Pradnya Gaonkar and Jyotsna Bapat, "A Reliable and Secure Approach for Efficient Car-to-Car Communication in Intelligent Transportation Systems", International Conference on Wireless Communications, Signal Processing, and Networking (WiSPNET), December 2016

6. Saahithyan Radhakrishnan, Samir Kumar Mishra and Debabrata Das, "Efficient Algorithm for Less Power Consumption in Extended-Coverage-GSM for Low Data-Rate IoT Devices", 13th International IEEE India Conference (INDICON-2016), December 16-18, Bangalore, India

7. Irfan Baig, Saptarshi Chaudhuri, and Debabrata Das, "A Dynamic Scheme for User Load Balancing in a Multi-Carrier LTE-Advanced Network", 13th International IEEE India Conference (INDICON-2016), December 16-18, Bangalore, India

8. Saptarshi Chaudhuri, Irfan Baig and Debabrata Das, "QoS aware Downlink Scheduler for a Carrier Aggregation LTE-Advance Network with Efficient Carrier Power Control", 13th International IEEE India Conference (INDICON-2016), December 16-18, Bangalore, India

9. Irfan Baig, Saptarshi Chaudhuri and Debabrata Das, "Downlink Interference Control through Adaptive DRX in a Carrier Aggregation Enabled LTE-Advanced Heterogeneous Networks", IEEE International Conference on Advanced Networks and Telecommunication System (ANTS-2016), November 6-9, 2016, Bangalore, India

10. Dibakar Das and Debabrata Das, "Enhancement of mobility through reconfiguration of base-stations in multi-RAT cellular networks", IEEE WiSPNET 2016, March 23-25, 2016, Chennai, India

Research Output:

Book Chapters

- Prashant Wali, Amudheesan Aadhithan N, Debabrata Das, "Link Level Resource Allocation Strategies for Green Communications in LTE-Advanced", a chapter in Resource Allocation in Next-Generation Broadband Wireless Access Networks (edited by Swades De et. al.), IGI Global Publications, November 2016

Conferences Organized

- Dr. Debabrata Das served as the Program Chair for the 14th IEEE International Conference on Information Technology (ICIT-2016), December 21-23, 2016, Bhubaneswar, India
- Dr. Debabrata Das served as the General Chair for the 13th International IEEE India Conference (INDICON-2016), December 16-18, 2016, Bangalore, India

Recently Completed Projects

- Interoperability of Internet of Things (IoT) Devices – sponsored by Nokia Research Lab
- Principal Investigator: Dr. Debabrata Das Co-Principal Investigator: Dr. Jyotsna Bapat Year: October 2015 – October 2016
- Energy efficient radio access technologies and networking for 4G LTE broadband wireless access network – sponsored by Department of Electronics and Information Technology (DeitY), Government of India Principal Investigator: Dr. Debabrata Das Co-Principal Investigator: Dr. Jyotsna Bapat Year: July 2014 – March 2017

Ongoing Projects

- COPAS - Cooperating Objects for Privacy Aware Smart public buildings – Sponsored by Ministry of Electronics and Information Technology (MeitY), Government of India and Cognizant Technologies Ltd. in collaboration with University of Twente, Enschede, The Netherlands Principal Investigator (from Indian academia, IIIT Bangalore): Dr. Jyotsna Bapat Co-Principal Investigator (from Indian academia, IIIT Bangalore): Dr. Debabrata Das Project Commencement: April 2016
- "Over The Air Small-Cell Testing" – sponsored by Cisco, Bangalore Principal Investigator (from Indian academia, IIIT Bangalore): Dr. Jyotsna Bapat Co-Principal Investigator (from Indian academia, IIIT Bangalore): Dr. Debabrata Das

Project Commencement: September 2016

International Visits

- Pradnya Gaonkar and Dr. Debabrata Das visited the University of Twente, Enschede, The Netherlands during June-July 2017 as part of a collaborative on-going project on Cooperating Objects for Privacy Aware Smart public buildings (COPAS) sponsored by Ministry of Electronics and Information Technology (MeitY), Government of India and Cognizant Technologies Ltd.

Participation in National and International Conferences related to the research areas

1. Dibakar Das attended and presented his paper in IEEE International Conference on Smart Technologies for Smart Nation, Bangalore, August 2017
2. Pradnya Gaonkar attended and presented her paper in IEEE International Conference TENSYMP-2017, Cochin, July 2017
3. Amudheesan Aadhithan N attended and presented his paper in the Twenty Third National Conference on Communication (NCC-2017), IIT-Madras, March 2017
4. Amudheesan Aadhithan N, attended and presented his paper in the Ninth IEEE International Conference on COMmunication Systems and NETworkS (COMSNETS-2017), Bangalore, January 2017
5. Anushree Joshi attended and presented her paper in International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET), December 2016
6. Saahithyan Radhakrishnan, Irfan Baig and Saptarshi Chaudhuri attended and presented their papers in the 13th International IEEE India Conference (INDICON-2016), IISc, Bangalore, December 2016
7. Irfan Baig attended and presented his paper in IEEE International Conference on Advanced Networks and Telecommunication System (ANTS-2016), Bangalore, India, November 2016

NCL lab Research Area
EHRC
(E-Health Research Centre)

The E-Health Research centre of IIIT Bangalore is an interdisciplinary research centre which conducts research on the use of information and communication technologies to meet the healthcare needs of the underserved and marginal population groups in India and similar regions across the world, with a focus on affordability, accessibility and availability of technology solutions covering [medical] devices, [health] data, and delivery [platforms and models]. Initial primary focus areas are mental health, malnutrition and disabilities. The work of the centre is structured as a set of interdisciplinary research programs, with participation from faculty members across the research domains at IIIT Bangalore. The centre has received multiple grants from the Government of Karnataka and IBM. EHRC currently funds 6 Ph.D scholars and 3 MS scholars at IIIT Bangalore on research in healthcare.

The centre works in collaboration with partners including hospitals, research institutes, government organizations, healthcare startups and NGOs. The centre has been working closely with NIMHANS and has initiated several research projects. These range from development of assistive devices and robotic surgery, creating wearable devices to aid in physical rehabilitation, medical image analysis using machine learning, EEG-based modeling of the human brain, quantification of degeneration of human brain with neurological disorders, creating ultrasound transmitter and receiver for biomedical imaging,

exploring artificial intelligence and natural language processing based conversation platform for assisting mental health patients. Solution designing and prototyping is also in progress for a state level public initiative for mental health covering digitisation of clinical and hospital processes. Research projects are also underway for visual analytics of healthcare informatics and public health data. Research projects are also being done for developing IT-based solutions for helping people with disabilities like visual impairment and Autism Spectrum Disorder (ASD) with partners like Vision Empower, Hitham and Bubbles Centre for Autism respectively.
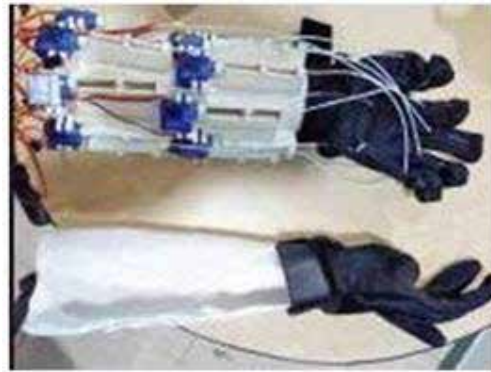
Faculty members

- Prof. T. K. Srikanth
- Prof. Amit Prakash
- Prof. Jaya Sreevalsan Nair
- Divya Raj (Adjunct Faculty)
- Prof. Madhav Rao
- Prof. G. Srinivasaraghavan
- Prof. Neelam Sinha
- Prof. Subhajit Sen
- Prof. Sachit Rao

Some images from EHRC Projects
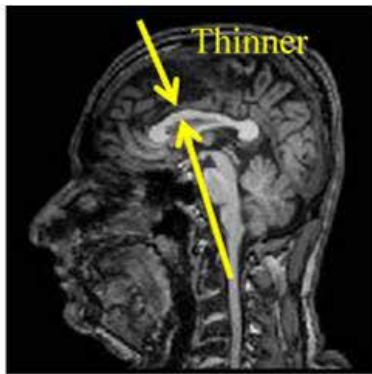
Analysis of MR Image for Parkinson Disease

Hand glove created to help patients with motor neuron disease
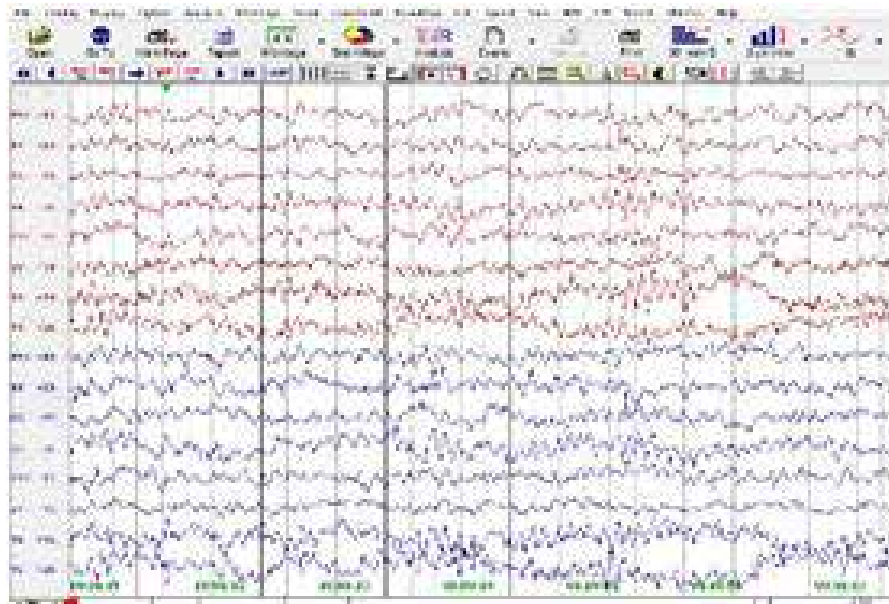
Study of Electrical Signals in Brain due to firing of Neurons

Global Accessibility Awareness Day – May 17, 2018, IIIT Bangalore

Formal handover of the e-monitoring solution for the District Mental Health Program, a partnership between NIMHANS, Govt. of Karnataka and EHRC - January 3, 2018

Publications and Patents

- Prajwal Sharma, Prashanthi K, Krishna Nagaraj, Vikas V and Madhav Rao, "Development of a Minimally Invasive Ventricular Assistive Device", accepted in IEEE Sensors 2018, New Delhi, India, October 29-31, 2018

- Kumaresh K, Gopika G, Madhav Rao, and Neelam Sinha, Cognitive State Signature Analyses Using Single Channel EEG Data , 25th European Signal Processing Conference (EUSIPCO 2017), January 7-11, September 2017, Kos Island, Greece

- [Indian Patent Application no. 201741025128] Vinay Chandrashekar, Madhav Rao, Vikas V, Laxmi Rao, "AN ELECTRICALLY CONTROLLED MECHANICAL INTEGRATED WEARABLE DEVICE TO ASSIST MOVEMENT OF FINGERS AND WRISTS", July 2017

- [Indian Patent Application no. 201741024666] Aravind Reddy, Krishna Nagaraj, Vinay Chandrashekar, Madhav Rao, Vikas V, Laxmi Rao, Subhajit Sen, Debabrata Das, Srikanth T K, Muralidhara V N, "A FLEXIBLE SURGICAL DEVICE", July 2017

- S Mehrotra, P Sudhir, G Rao, J Thirthalli, TK Srikanth , "Development and Pilot Testing of an Internet-based Self-Help Intervention for Depression for Indian Users", Behavioral Sciences 8 (4), 36, 2018

- S Mehrotra, PM Sudhir, S Kumar CR, J Thirthalli, GN Rao, TK Srikanth, "Profile of seekers of an internet-based self-help program for depression in India: Observations and implications", International Journal Of Community Medicine And Public Health 4 (9), 3202-3211, 2017

SE lab

(Software Engineering Lab)

The mission of the Software Engineering stream at IIIT Bangalore is two-fold: firstly, to educate our students so that they become high quality software engineers with hands-on experience and strong foundation in computer science; secondly, to contribute original and ground-breaking ideas to the state-of-the art in SE by actively involving in research.

Faculty members

- Dr. Meenakshi D'Souza
- Dr. Sujit Kumar Chakrabarti

Research areas

Formal verification of embedded and complex systems, architecture for embedded software and complex systems, testing and verification of web applications, automated evaluation for online learning

Research Outcomes

Publications (as per list below), research grant from DST. Student Maithily Diwan graduated with a M.S. (by research) degree in July 2018

Research Grant

- Grant from DST for a project titled "Verification and Validation of IoT Systems" for Meenakshi D'Souza for a period of three years

Research Publications

- Rajanikanth Kashi, Meenakshi D'Souza, Koyalkar Raman Kishore. Incorporating Formal Methods and Measures Obtained through Analysis, Simulation Testing for Dependable Self-Adaptive Software in Avionics Systems, 10th ACM Compute 2017, Bhopal, 2017

- Avijit Mandal, Raoul Jetley, Meenakshi D'Souza, Sreeja S Nair. A static analyzer for industrial robotic applications, 28th IEEE ISSRE, Toulouse, France, 2017

- Maithily Diwan, Meenakshi D'Souza. A framework for modelling and verifying IoT communication protocols, SETTA 2017, Springer LNCS 10606, pp. 266-280, China, 2017

- Hilam Patel, Meenakshi D'Souza, Nagesh Tikare. Method level power estimation and optimization in next generation smart phones, IEEE ICACCI 2017, 1010-1016, 2017

- Gracy Philip, Meenakshi D'Souza, V. P. Abidha. Model-based safety analysis: Automatic generation of safety validation test cases, in 36th IEEE/AIAA Digital Avionics Systems Conference (DASC), Florida, 2017

- Gracy Philip, Meenakshi D'Souza, Varsha P. Suresh. Automatic Generation of Safety Validation Test cases from System Architecture Fault Trees, ACM, India Software Engineering Conference (ISEC), Hyderabad, India, 2018

- Palani Kumar, Meenakshi D'Souza, Debabrata Das. Efficient Anomaly Detection Method for Power Saving in massive IoT architectures, Proceedings of ICDCIT, LNCS 10772, pp. 256-262, Springer, 2018

- Ramakrishnan Raman, Meenakshi D'Souza. Learning framework for maturing architecture design decisions for evolving complex SoS, in Proc. IEEE 13th System of Systems Engineering Conference, pp. 350-357, Paris, France, 2018

- Surabhi Jha, Meenakshi D'Souza, Raoul Jetley, Sreeja Nair. Worst case execution time estimation for control code of automation systems, in Proc. IEEE 4th International Conference on Advances in Computing and Communication Engineering, Paris, France, 2018

Seminars

- Newton-India project meeting held from 17-19 April, 2018

- Lectures in Automated Formal Verification as a part of summer school in Theoretical Computer Science

- NPTEL course in Software Testing taught by Meenakshi D'Souza (12-week course): First edition from July to October 2017, second edition commenced from July 2018 onwards

National and International Conferences

- Meenakshi D'Souza attended SETTA in October 2017 in Changsha, China, to present her paper

- Meenakshi D'Souza attended IEEE ICACCI conference in Manipal to present her paper

- Rajanikanth Kashi attended ACM Compute conference in Bhopal to present his paper

- Gracy Philip and Meenakshi D'Souza attended ISEC conference in Hyderabad to present their paper and Meenakshi D'Souza also chaired a session at the conference

- Ramakrishnan Raman attended IEEE SoSE conference in Paris which was fully sponsored by INCOSE

Ph.D student Gracy Philip presenting her paper at ISEC conference, Hyderabad

SOFTWARE DESIGN LABORATORY

The research focus here is on the design and architecture of software. Design patterns approach for the software development process is studied with special emphasis on the impacts of design principles and patterns on the flexibility as one of the prime focus.

Faculty members:

- Dr. K. V. Dinesha

GVC Lab
(Graphics-Visualization-Computing Lab)

The research undertaken at the Graphics-Visualization-Computing Lab (GVCL), IIIT Bangalore, is in the domain of spatial computing and visual analytics. The lab focuses in research and development in visual analytics, GPGPU (general purpose GPU) computing and graphics. The research interests of GVCL lie in developing interdisciplinary data models and techniques for

visual analytics, involving second-order tensors and matrices for complex networks, spatio-temporal and multivariate data. Over the years, the lab has worked on applications in geosciences/earth observations, small-world networks, biological networks, public health data and others. The lab conducts interdisciplinary work with domain experts such as oceanographers, GIS practitioners, survey data analysts, biologists, and medical doctors, in devising novel solutions in data analysis and presentation.

Publications:

2018:

J. Sreevalsan-Nair, A. Jindal and B. Kumari, "Contour Extraction in Buildings in Airborne LiDAR Point Clouds using Multi-scale Local Geometric Descriptors and Visual Analytics," IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS), 11(7), pp. 2320-2335, July 2018

K. Lukose, S. Agarwal, V. N. Rao and J. Sreevalsan-Nair, "Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans Using Model Based Testing," in the Proceedings of the 13th International Joint Conference on Computer Vision, Imaging, and Computer Graphics Theory and Applications (VISIGRAPP 2018), vol 3: IVAPP, SCITEPRESS, pp. 289-300, 2018

2017:

J. Sreevalsan-Nair, N. Murthy, S. Agarwal, R. R. Vangimalla and S. Ramesh, "Collaborative Design of Visual Analytics Techniques for Survey Data for Community-based Research in Public Health," (accepted as poster) in the 8th Workshop on Visual Analytics in Healthcare, affiliated with IEEE VIS 2017

J. Sreevalsan-Nair and A. Jindal, "Using Gradients and Tensor Voting in 3D Local Geometric Descriptors for Feature Detection in Airborne LiDAR Point Clouds in Urban Regions," in the Proceedings of the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS 2017), July 2017

J. Sreevalsan-Nair and B. Kumari, "Local Geometric Descriptors for Multi-Scale Probabilistic Point Classification of Airborne LiDAR Point Clouds," in "Modeling, Analysis and Visualization of Anisotropy," Mathematics and Visualization Series, Springer, Cham, pp. 175-200, October 2017 (from Proceedings of Dagstuhl Seminar 16142)

Projects:

New:

Visual Analytics of Population Health Survey

From May 2018 (for 18 months)
IBM SHARED UNIVERSITY GRANT
INR 19,55,000/-

Ongoing:

Visual Analytics of Public Health Data

From July 2017 (for 18 months)
FOUNDATIONS OF RESEARCH IN HEALTH SYSTEMS (FRHS), INDIA
INR 10,00,000/-

Tensor Modeling and Visualization of Three-dimensional Geospatial Datasets

From June 2017 (for 36 months)
EARLY CAREER RESEARCH AWARD, SCIENCE AND ENGINEERING RESEARCH BOARD, GOVERNMENT OF INDIA
INR 14,83,900/- .

Participation in National and International Conferences:

1. Keynote talk at the Indo-US Workshop on Modeling Dynamics, Statistical Inference and Prediction of Infectious Diseases (WMDSIP-ID), "Visualization of Epidemiological Networks: A Case of Exploiting Spatial Locality" at the Sri Sathya Sai Institute of Higher Learning, Ananthapur, Andhra Pradesh, August 14, 2018

2. Poster presentation of accepted paper at the 9th International Conference on Information Visualization Theory and Applications (IVAPP), "Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans using Model-based Testing," Madeiro, Portugal, January 27-29, 2018

3. Fast-forward and poster presentation of the accepted paper "Collaborative Design of Visual Analytics Techniques for Survey Data for Community-based Research in Public Health," at the 8th Workshop on Visual Analytics in Healthcare (VAHC 2017), Phoenix, Arizona, U.S.A., October 1, 2017

4. Oral presentation of accepted paper at the 2017 IEEE International Geoscience and Remote Sensing Symposium (IGARSS) 2017, Fortworth, Texas, U.S.A., July 28, 201.

Seminars/ Workshop held during the academic year:

1. Visualization Groups Meetup between Graphics-Visualization-Computing Lab and Visualization Graphics Lab, Indian Institute of Science on July 25, 2018, at the International Institute of Information Technology, Bangalore

2. Visualization Groups Meetup between Graphics-Visualization-Computing Lab and

Visualization Graphics Lab, Indian Institute of Science (IISc) on February 10, 2018, at the Department of Computer Science and Automation, IISc

Lab Members:

Current:

- Jaya Sreevalsan Nair - faculty member, lab founder
- Amit Tomar – Ph.D student (2018-)
- Ashish Pandey - M.Sc. Digital Society student (2017-)
- Bhargav Ram K. S. - Research staff member (2018-)
- Komal Dadhich - Master of Science by Research student (2018-)

- Harshitha Ravindra - Ph. D student / Research staff member (2018-)
- Pragyan Mohapatra - Master of Science by Research student (2018-)
- Reddy Rani Vangimalla - Ph.D student (2016-)
- Satendra Singh - Master of Science by Research student (2017-)
- Shivangi Motwani - Master of Science by Research student/Research staff member (2018-)

Alumni:

Kuhu Gupta (Research staff member [2017-18]

MPL Lab
### (MULTIMODAL PERCEPTION LAB)
http://mpl.IIITB.ac.in

Multimodal Perception Lab focuses on human-centred sensing and multimodal signal processing methods to observe, measure, and model human behavior. These methods are used in applications that facilitate behavioural training and social media analysis; and enable human-robot interactions (HRI). The focus is mainly on vision and audio modalities. Probabilistic graphical models form the backbone of the underlying formalism.

Faculty members

- Dr. Dinesh Babu J

Focus Areas

Multimodal signal processing, Applied Machine Learning, Social Computing, Behaviour Analytics
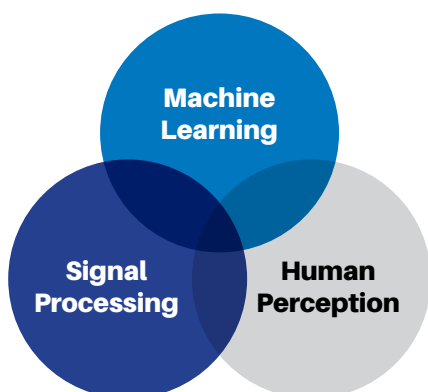
Conference publications

- N. Nair, C. Thomas and D. Jayagopi; Human Activity Recognition Using Temporal Convolutional Network accepted in the 5th International Workshop on Sensor-based Activity Recognition and Interaction (iWOAR) 2018, Berlin, September 2018
- Gupta and D. Jayagopi; Unsupervised Speaker Cue Usage Detection in Public Speaking Videos accepted in the 1st International Workshop on Vision for Interaction and Behaviour undErstanding (VIBE 2018), BMVC, New Castle, September 2018
- Sharma and D. Jayagopi; Automated Grading of Handwritten Essays published in 16th International Conference on Frontiers in Handwriting Recognition (ICFHR-2018) to be held on August 5-8, 2018 in Niagara Falls, USA
- S. Praneeth, U. Agrawal and D. Jayagopi; Human Weapon-Activity Recognition in Surveillance Videos using Structural-RNN published in the 2nd Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI'2018) to be held in Rabat, Morocco, on March 27-28,

2018 - Best student paper award

- Surendranath and D. Jayagopi; Curriculum Learning for Depth Estimation With Deep Convolutional Neural Networks published in the 2nd Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI 2018) to be held in Rabat, Morocco, on March 27-28, 2018

- P. Sudheendra and D. Jayagopi; Genre Linked Automated Assessment and feedback of Photographs based on Visual Aesthetics published in the International Conference on Image Processing Tools and Applications (IPTA), Montreal, November 2017

- P. Rao, S. Rasipuram, R. Das, D. Jayagopi; Automatic Assessment of Communication Skill in Non-Conventional Interview Settings: A Comparative Study published in International Conference on Multimodal Interaction (ICMI), Glasgow, Scotland, November 2017 - Pooja R receives Travel Grant

- C.Thomas, D. Jayagopi; Predicting Student Engagement in Classrooms Using Facial Behavioral Cues published in ICMI MIE Workshop, Glasgow, Scotland, November 2017

- S.K. Nambiar, R. Das, S. Rasipuram, D. Jayagopi. Automatic Generation of Actionable Feedback Towards Improving Social Competency in Job Interviews., published in ICMI MIE Workshop, Glasgow, Scotland, November 2017.

- S. Rasipuram, R. Das, P. Rao, D. Jayagopi. Online Peer-to-peer Discussions: A Platform for Automatic Assessment of Communication Skill, published in Context-Based Affect Recognition Workshop, ACII, San Antonio, Texas, USA, October 2017.

- K. E. Manjunath, K.S. Rao and D. Jayagopi. Development of Multilingual Phone Recognition System for Indian Languages IEEE SPICES, Kochi, August 2017.

- M.K. Prabhu and D. Jayagopi. MERS – A Multimodal Real Time Emotion Recognition System published in the Second International Workshop on Pattern Recognition (IWPR), Singapore, May 2017.

Journals

- S. Rasipuram and D. Jayagopi. Automatic Assessment of Communication Skill in interview-based Interactions, accepted for publication in Springer Multimedia Tools and Applications 2018 (Impact Factor: 1.5).

Funding

- Mphasis centre of Excellence Funding – Accessibility for disabled – Indian Sign Language Synthesis, targeting the deaf-mute community.

Events

- Chinchu. T starts her 3-month internship at Idiap Research Institute, EPFL

- Annapurna attends ICFHR in the US and presents her work

- Sharma and D. Jayagopi. Automated Grading of Handwritten Essays , accepted in the 16th International Conference on Frontiers in Handwriting Recognition (ICFHR-2018), to be held between August 5-8, 2018 in Niagara Falls, USA.

- Utkarsh Agrawal attends MedPRAI, Morocco and presents his work with S. Praneeth (Best student paper award!).

- S. Praneeth, U. Agrawal and D. Jayagopi. Human Weapon-Activity Recognition in Surveillance Videos using Structural-RNN accepted in the 2nd Mediterranean Conference on Pattern Recognition and Artificial Intelligence (MedPRAI'2018), to be held in Rabat, Morocco, between March 27-28, 2018. (Best student paper award!).

- P. Sudheendra (Samsung) attends IPTA in Montreal and presents his work.

- P. Sudheendra and D. Jayagopi. Genre Linked Automated Assessment and feedback of Photographs based on Visual Aesthetics, published in the International Conference on Image Processing Tools and Applications (IPTA), Montreal, Nov 2017.

- Dr. Dinesh Babu J Visited IIT Ropar and gave a talk on Sequence Learning using Neural Network Architectures (15 March 2018)

- Dr. Dinesh Babu J Attended ICMI 2017 at Glasgow
- Pooja Rao presents her poster at ICMI, Glasgow.
- Manjunath (ISRO) presents his paper in SPICES 2017, Kochi.
- Mahesh Prabhu (Samsung) presents his paper in IWPR 2017, Singapore

CSL Lab
(Computational Sciences Laboratory)

CSL at IIIT Bangalore is interested broadly in the areas of Algorithms, Optimization, and Robotics.

Faculty Members Involved

- Dr. G. N. Srinivasa Prasanna
- Dr. Muralidhara V.N
- Dr. Sachit Rao
- Dr. Manisha Kulkarni
- Dr. G. Srinivasaraghavan
- Dr. Jaya Sreevalsan Nair

Focus areas

Optimization /Robotics /Algorithms / Microprocessor design

Conferences

- Anushka Chandrababu, Aswal A., Srinivasa Prasanna G.N. (2017) Convex Model Databases—Solving Real-World OR Problems. In: Contractor D., Telang A. (eds) Applications of Cognitive Computing Systems and IBM Watson. Springer, Singapore, October 2017.
- Anushka Chandrababu, Abhilasha Aswal, Sanat R and G N Srinivasa Prasanna, A Convex Model Database approach to Railway Schedule validation, International Conference on Business Analytics and Intelligence, Bangalore, December 2017.
- Anushka Chandrababu, G.N.Srinivasa Prasanna, Convex Model Database - An Extension to Transportation Networks, INFORMS Annual Meeting 2017, Houston, USA, October 2017.

- Abhilasha Aswal, G.N.Srinivasa Prasanna, Decision Making Under Uncertainty, INFORMS Annual Meeting 2017, Houston, USA, October 2017.
- Sanat R, Tarun Dutt, Anushka Chandrababu, Abhilasha A, G.N.Srinivasa Prasanna. (2018) Optimizing Schedule of Trains in Context of a Large Railway Network, 21st IEEE International Conference on Intelligent Transportation Systems, Hawaii, USA, November 2018.
- Sanat R, Tarun Dutt, Anushka Chandrababu, Abhilasha Aswal, Optimizing Schedule of Trains in Context of a Large Railways Network, INFORMS Annual Meeting 2018, Phoenix, USA, November 2018
- Abhilasha Aswal, Anushka Chandrababu, Indu Ilanchezian, Sanat R, Tarun Dutt, G.N.Srinivasa Prasanna, Big Data Analytics using Set-Theoretic Relational Algebra for Convex Models of Data, International Conference on Business Analytics and Intelligence, Bangalore, December 2018.

Patents

Patent Granted - Polytope and Convex Body Database

Authors : Neha Bhatia, Shriguru Nayak, G.N.Srinivasa Prasanna, Anushka Chandrababu, Abhilasha Aswal, Manjunath Sindagi

Patent Application No : US14409149

Government of India Projects

- Virtual Labs
- Indian Railways Project
- KSRTC Bus Scheduling Project with IISc
- Infosys Sponsored Projects
- Optimization Under Uncertainty
- Decimal Floating Point ALU Design

IIIT Bangalore Projects

- iChess
- Chitrakavya - Sanskrit Computing
- Paduka
- Copy Number Variation Detection Algorithms

- Magnetic Carrom
- Automated Trash Separation using Pattern Recognition and Image Processing
- Storage Area Networks

ABB Robot

Centre for Data Sciences

The Centre for Data Sciences is a formal conglomeration of all the labs under the Data Sciences research domain, which takes care of overall activities at a higher hierarchical level of operation. This involves pooling in resources, conducting biannual student workshops, etc.

CITAPP

(Centre for Information Technology and Public Policy)

The Centre for Information Technology and Public Policy (CITAPP) at IIIT Bangalore focuses on the policy challenges and the organizational demands made by technological innovation. The centre is interested in interactions between technology and society and is particularly concerned with how technological advances, along with institutional changes, address the needs of underserved communities. It seeks to provide a means to nurture and transform public policy through the use of IT by engaging with academic faculty members and researchers, policy planners, political leaders and community representatives, technology vendors, public officials and civil society organizations. The centre brings together the best practices demonstrating the power of IT and analytical tools for information management, modeling, and forecasting. It engages in research and evaluation studies of topics where IT and public interest intersect.

Computer Science Lab

URL: https://www.IIITB.ac.in/research.php?pid=computer-science

Faculty Members involved

- Dr. Amit Chattopadhyay
- Dr. Ashish Choudhury
- Dr. Meenakshi D'Souza
- Dr. V. N. Muralidhara
- Dr. Pradeesha Ashok
- Dr. G. N. S. Prasanna
- Dr. Sachit Rao
- Dr. Shrisha Rao
- Dr. G. Srinivasaraghavan

Focus areas

- Theoretical Cryptography
- Multi-party computation
- Formal verification
- Software Testing and Software Architecture
- Artificial Intelligence: agent-based modeling, machine learning
- Distributed Computing: cloud computing, Internet of Things, intelligent transportation systems, energy efficiency
- Applied Mathematics: mathematical programming, network modeling
- Robust optimization,
- Communication systems (optical, wireless, powerline)
- Electromechanical systems

- Combinatorial Geometry, Algorithms, Graph Theory, Combinatorics,
- Computational Topology, Geometric Computing
- Scientific Visualization, Geometric Modeling, Meshing, Graphics and Data Analysis

Research Publications

Journal paper

- Ashish Choudhury and Arpita Patra: An Efficient Framework for Unconditionally secure Multiparty Computation. In IEEE Transactions on Information Theory, 63(1): 428-468, 2017.
- Jyotiska N. Khasnabish, Mohammad Firoj Mithani, Shrisha Rao. Tier-Centric Resource Allocation in Multi-Tier Cloud Systems. IEEE Transactions on Cloud Computing, July--September, 2017.
- Amit Chattopadhyay, Gert Vegter and Chee K. Yap. "Certified Computation of planar Morse-Smale Complexes of Smooth Functions." Journal of Symbolic Computation: Special issue on Algorithms and Software for Computational Topology, Elsevier, 78, 3-40, Sept, 2017.

Centre for Complex Systems & Soft Matter Physics

Faculty members

- Dr. B. Ashok, Associate Professor

Focus Areas / Domains of research

Prof. Ashok's research interests are primarily in problems in nonlinear dynamics & complex systems and in theoretical soft condensed matter & polymer physics. These include biomechanics and problems motivated by biological systems, vesicular nanotubulation, neuronal dynamics, ecological modelling, problems in fluid mechanics including dynamics of acoustically forced charged bubbles & acoustic cavitation, instabilities in combustion phenomena, dynamics of macromolecular & micellar solutions, modelling of climate phenomena, etc.

Major Achievements in terms of the following:

Research publications

1. B. Ashok, Thotreithem Hongray & Janaki Balakrishnan.
   "The charged bubble oscillator: dynamics and thresholds",
   Indian Academy of Sciences Conference Series (from Pramana: Journal of Physics) 1, 109 (2017).
   https://www.ias.ac.in/article/fulltext/conf/001/01/0109-0115

2. Balakrishnan Ashok.
   "Dynamics and kinematics at small scales: from micro and nano bubbles to nanotubulation". Book Chapter, in "Unifying Themes in Complex Systems IX", A. J. Morales et al. (Eds.): ICCS 2018, Springer Proceedings in Complexity, pp. 210-219, Springer Nature (2018). (ISBN 978-3-319-96660-1)
   https://doi.org/10.1007/978-3-319-96661-8_22ISBN 978-3-319-96660-1

3. Brijesh Kumar Mishra & Balakrishnan Ashok.
   "Coaxial carbon nanotubes: from springs to ratchet wheels and nano bearings",
   Mater. Res. Express 5, 075203 (2018).

https://doi.org/10.1088/2053-1591/aad07a

4. B. Ashok, T. Hongray & J. Balakrishnan.

"The acoustically forced charged bubble in a liquid", Abstract published in the Conference Book of Abstracts, 15th Experimental Chaos & Complexity Conference (ECC15), organized by the Rey Juan Carlos University at its campus in Madrid, Spain, 4-7 June, 2018. (ISBN:978-84-697-0441-7)

Research outcomes

Work done over 2017-18 by Prof. Ashok at the Centre for Complex Systems & Soft Matter Physics at IIIT Bangalore has focussed on topics such as forced oscillations of a charged bubble in a liquid, dynamics of neuronal firing & bursting, investigating the mechanical behaviour of double-walled carbon nanotubes, modelling ecological systems, etc.

Our work on bubble dynamics included first results of charge and pressure thresholds for the system, and effect of bubble radius on dynamics, and has also resulted in publications. This can have practical applications in ultrasound medical diagnostics and in damage control of marine machinery.

Our work on neuronal bursting dynamics looks at both the firing behaviour of coupled neurons as well as, in particular, diverse types of bursting associated with different kinds of neurons.

The mechanical, nonlinear spring model we proposed of double-walled carbon nanotubes (DWCNTs) exactly duplicates the interaction energy of the system obtained from quantum - mechanical density functional theory calculations. We were also able to predict the natural oscillation frequencies of the DWCNTs, in agreement with values in the literature. This also has resulted in a publication.

Other ongoing work includes the behaviour of forced, coupled oscillators, as well as modelling ecological systems, dynamics of nanotubulation and physics of micellar systems.

Research & outreach with student interns

Some external students worked on short-term assignments as summer interns at the Centre for Complex Systems & Soft Matter Physics:

1. Ishaant Agarwal, from BITS, Goa (22 May-21 July, 2018) (through the IIIT Bangalore Summer Intern Programme).
2. Jasvith Raj, from BITS, Hyderabad (16 May - 16 July,2018).
3. Danush Shekar from NISER, Bhubaneshwar (16 May- 16 July, 2018).

Seminars held / conducted during the academic year

1. Prof. B. Ashok gave a talk on the research done in complex systems & soft matter physics at IIIT Bangalore, at the RISE 2018 event at IIIT Bangalore on 17 February, 2018.
2. A talk entitled "Dynamics & soft matter: from bubble oscillators to living systems" was given by Prof. B. Ashok on 12th February, 2018, as part of the Samvaad

Faculty Research talk series at IIIT Bangalore.

Participation in National and International Conferences related to the research areas

1. Prof. Ashok presented a poster "The acoustically forced charged bubble in a liquid" (authors: Balakrishnan Ashok, Thotreithem Hongray & Janaki Balakrishnan) in the 15th Experimental Chaos & Complexity Conference (ECC15), at Madrid, Spain (4-7 June, 2018).
2. Prof. Ashok gave a Talk, "Dynamics & kinematics at small scales: from micro & nano bubbles to nanotubulation" in the Ninth International Conference on Complex Systems (ICCS2018), held at Cambridge, MA, USA (22-27 July, 2018).

Theoretical Chemistry

Faculty Member Involved

- Dr. Brijesh Kumar Mishra

Focus Areas /Domains of research

- Theoretical Chemistry

Research publications

1. 1) Substituents' influence on the C–H···ϖ interaction in the T-shaped benzene dimer
   Brijesh Kumar Mishra and R Venkatnarayan

(Theoretical Chemistry Accounts 137 (5), 72, 2018)

2. Coaxial carbon nanotubes: from springs to ratchet wheels and nanobearings
   Brijesh Kumar Mishra and B. Ashok
   (Materials Research Express 5 (7, 075023, 2018))

3. Cooperativity in non-covalent interactions in ternary complexes: a comprehensive electronic
   structure theory based investigation
   Shyam V.K.P., Mahesh K.R., Brijesh Kumar Mishra, V. Subramanian, N. Sathyamurthy
   (accepted in Journal of Molecular Modeling, 2018)

National and International Conferences

- Gave a talk at Theoretical Chemistry Symposium 2017 IIT Bombay

CFD lab

(Computational Fluid Dynamics Lab)

Faculty Member Involved

- Dr. Shiva Kumar Malapaka

Focus Areas /Domains of Research

Computational Fluid Dynamics / Physics

Major Achievements

Research Publication

Poster : 3D-DNS of Helically forced Magnetohydrodynamic Turbulence with Varying Magnetic Prandtl Number & Data Analysis, Shiva Kumar. Malapaka, A. Chattopadhyay, J. Nair, N. Bisai, D. Sharma and R.Ganesh, NFP-PFRC Vision Meeting, Nirma University, Ahmedabad & Institute for Plasma Research, Gandhinagar, Gujarat, India. (April 26 -28, 2018)

Grant obtained

S.K. Malapaka (Principal Investigator [PI]), A. Chattopadhyay, and J. Nair (Co-PIs) [IIIT Bangalore, Bengaluru, Karnataka], N. Bisai (Principal Collaborator [PC]), D. Sharma and R.Ganesh (Co-

- Attended a conference on Spectroscopy and Dynamics of Molecules and Clusters (SDMC) at Dooars

PCs) [Institute of Plasma Research, Gandhinagar, Gujarat], 'High Resolution DNS of 3D-MHD turbulence with varying P rm & Spectral, statistical and topological analysis of Magnetic Structures formed with some implications to Plasma Fusion Devices, Sanction No: 39/14/08/2017-BRNS, Rupees 34.8 Lakhs, PFRCBRNS a funding agency under Department of Atomic Energy, Government of India. The grant is for 3 years, starting August 2017, ending 31st March 2020.

Lab set

High Performance Computing (HPC) Cluster named FUsion TURbulencE (FUTURE) The cluster consists of one master node and two computing nodes. Important specifications: Processors: Intel Xeon E5-2630V4, 1.128TB RAM, 28TB internal Hard disc, Infiniband and 30TB external Hard disc, using the grant mentioned above.

Participation in National and International Conference

Turbulence from Angstroms to light years, Discussion Meeting at ICTS-TIFR, Bangalore, India. (January 20 - 25, 2018)
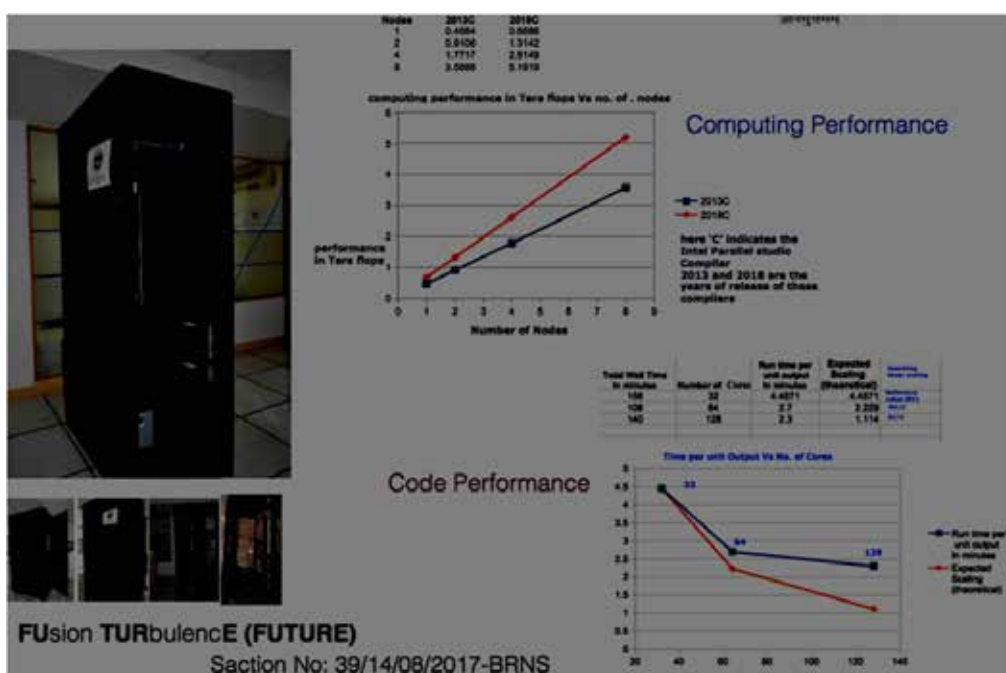
FUsion TURbulencE (FUTURE)
Saction No: 39/14/08/2017-BRNS

WSL Lab

(Web Science Lab)

Web Science Lab at IIIT Bangalore is focused on understanding the web in all its aspects. Research interests of the WSL include enabling technologies for the web, web-scale data management, web mining, network analysis and socio-cognitive models of web dynamics.

Faculty members

- Dr. Srinath Srinivasa

Publications

Books and Book Chapters

Asha Subramanian and Srinath Srinivasa. "Semantic Interpretation and Integration of Open Data Tables." In N.L. Sarda and P.S. Acharya (Eds.), Geospatial Infrastructure, Applications and Technologies : India Case Studies. Springer International Publishing, 2018 (to appear).

Year - 2018

- 9-12 July. Aparna Lalingkar presented poster of her work "Deriving semantics of learning mediation" at the 18th IEEE International Conference on Advanced Learning Technologies (ICALT) at IIT Bombay.
- 9-11 July. Sharath Srivatsa presented his work "Narrative Plot Comparison Based on a Bag-of-actors Document Model" in 29th ACM Conference on Hypertext and Social Media (ACM HT'18) at Baltimore, USA.

10-11 July. Raksha P S attended "InDITA conference on Digital Inclusion through Trust and Agency" held at IIIT Bangalore. She also hosted a session named "Effects of Digital Identities (multiple) on Human Cognition or Behavior". Key points of the session can be found in this link: http://wsl.IIITB.ac.in/wordpress/wp-content/uploads/2018/07/summary.pdf.

- 21-25 May 2018. Prof Srinath Srinivasa visited Web Science Institute, University of Southampton and City University of London, United Kingdom. Also presented

a talk titled "Many Worlds on a Frame, Characterizing online social cognition" at the University of Southampton.

- 18th May 2018, Asha Subramanian successfully defended her Thesis titled "Semantic Integration And Knowledge Representation Of Open Data, Powered By Linked Open Data".
- 15th May 2018, WSL. "Web Science Lab Workshop" at IIIT Bangalore discussing the research activities happening in the lab.
- 14th May 2018, Dr Prasad Ram, CEO of Gooru Learning visited Gooru Labs at IIIT Bangalore for research collaborations and discussions.
- 26th April, 2018, Project Reviews of all the projects in WSL.
- 13th April 2018, Jaya Appukuttan presented her seminar on the state-of-the-art and the thesis proposal entitled, "Semantic Summarization of User Generated Short Reports".
- 3rd April 2018, Aravindh Raman from King's College London presented his work "Content Delivery at the Edge: Possibilities and Solutions" at IIIT Bangalore.
- 2nd April 2018, Prof. Oliver Guenther, President of the University of Potsdam, Germany visited IIIT Bangalore and Gooru Labs. He delivered a talk "Defining a University Strategy – A European Perspective".
- 5-9 March 2018, Prof. Srinath Srinivasa visited Gooru HQ at Redwood City, California for research and collaboration.
- 12th Jan 2018, Dr Prasad Ram, CEO of Gooru Learning visited Gooru Labs at IIIT Bangalore and other teams in India. Several discussion meetings were held at Gooru labs, the minutes of which can be found in Gooru Knowledge Base.
- 11–13 Jan 2018, Raksha P S, Chaitali Diwan and Praseeda Kalkur participated

in the 18th International Conference on Management of Data and Data Science (COMAD-CODS) at Goa, India.

- 3rd Jan 2018 Dmytro Karamshuk, Senior Data Scientist at Skyscanner, presented his work on "Bridging big data and qualitative methods in the social sciences" at Gooru Labs, IIIT Bangalore.

Year - 2017

- 11th December 2017, Srinath Srinivasa presented a talk entitled "A Case for Open-ended Data" at eGovernments Foundation, Bengaluru.
- 28th November 2017, WSL "Web Science Lab Workshop" at IIIT Bangalore. WSL Workshop 2017
- 23-25 October 2017. Raksha P S participated in the International Conference on Ontologies, Databases, and Applications of Semantics (ODBASE 2017), at Rhodes island, Greece, and presented a research paper entitled: "Identifying Opinion Drivers on Social Media"
- 23-25 October 2017. Asha Subramanian and Srinath Srinivasa. Participated in the 16th International Semantic Web Conference (ISWC 2017), at Vienna, Austria, and presented a demo paper

entitled: "Towards Semantically Aggregating Indian Open Government Data from data. gov. in"

- 16 October 2017. Raksha P S presented her seminar on the state-of-the-art and the thesis proposal entitled, "Characterizing the marketplace of opinions."
- 13 October 2017. Jaya Appukuttan successfully cleared her comprehensive exam.
- 20-21 September 2017. Chaitali Diwan presented paper "Autonomous Spectrum Assignment of White Space Devices" at 12th EAI International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM 2017), held in Lisbon, Portugal.
- 5 September 2017. Gooru labs was formally inaugurated at IIIT Bangalore, by Prof. Rajagopalan, Dr. Sridhar Mitta and Dr. Prasad Ram.
- 4 August 2017. Asha Subramanian completed her open seminar entitled, "Semantic Integration and Knowledge Representation of Open Data Powered by Linked Open Data" as a pre-requisite requirement to the submission of her PhD thesis.

Events

International Institute of Information Technology, Bangalore (IIIT Bangalore) is organising a "Summer School on Theoretical Foundations of Computer Science" that is sponsored by Sonata Software Ltd. The aim of this school is to encourage and promote interest in theoretical foundations of computer science among students and researchers. We identify a few selected topics in theoretical computer science and aim to conduct lectures in a tutorial fashion, primarily aimed at students with a basic understanding of theoretical computer science. This five-day event also features a few invited talks given by researchers from both academia and industry. The focus of the tutorial-style lectures will be on the foundations of the selected topics and will aim to include problem solving/hands-on sessions. The invited talks will focus on the state-of-the-art research on these or related topics and their applications.

The topics that we aim to cover are from Approximation Algorithms, Parameterised Algorithms and Complexity, Cryptography, Program Analysis and Formal Methods, and Theoretical Foundations of Distributed Computing. Since each of the above topics is itself broad, we only seek to give a very brief overview of the subject, and additionally some deeper insights into specific sub topics that may reflect the research interests of the speakers.

WSL Workshop - 27 November 2017

Venue: Room no 102, IIIT Bangalore

One day workshop to discuss, reflect and plan research work at the Web Sciences lab, IIIT Bangalore. Research Scholars to present their work, discuss ideas, share problems encountered, retrospect and provide updates on their progress. Project teams to show demo of their projects and share the technical implementations, updates and progress achieved. A reflection session and SWOT analysis of the Lab to reflect upon the past year and suggestions and improvement for the coming year.

Talk on "Bridging big data and qualitative methods in the social sciences"

Date: Jan 3rd 2018

Location: TBD

Abstract: With the rise of social media, a vast amount of new primary research material has become available to social scientists, but the sheer volume and variety of this make it difficult to access through the traditional approaches: close reading and nuanced interpretations of manual qualitative coding and analysis. This work sets out to bridge the gap by developing semi-automated replacements for manual coding through a mixture of crowdsourcing and machine learning, seeded by the development of a careful manual coding scheme from a small sample of data. To show the promise of this approach, we attempt to create a nuanced categorisation of responses on Twitter to several cases of extreme circumstances.

Bio of speaker

Dima is a Senior Data Scientist at Skyscanner where his focus is on developing and optimizing the Skyscanner's travel search engine. Prior to Skyscanner, Dima was with King's College London where he worked on analysis of BBC iPlayer (a joint project with BBC) and various social media websites (Twitter, Pinterest, Foursquare, etc.). He contributes to the data mining (KDD, WWW, etc.) and computer networks communities (Infocom, ComMag, etc.) and have his works featured by New Scientist, BBC News and other media outlets. Dima has also co-founded and was a former CEO of Stanfy.com

Projects

Sponsored Projects

- Gooru
- Co-creation of a centre of Excellence in Big Data Engineering
- REACH
- An Open Architecture for Smart Cities

- Establishing a Web Science Research Centre and a Web Observatory in India

Research Projects

- ISWC2017-Learning Semantics of Literal-Value Columns
- SANDESH
- Characterizing the online social cognition as a Marketplace of Opinions
- Inferencing in the Large: Semantic Integration of Open-Data Tables

Conference and Journal Papers

2018

- Chaitali Diwan, Srinath Srinivasa, and Prasad Ram. "Exposition Coherence of Learning Resources" In Proceedings of ODBASE 2018, Valletta, Malta, October 22-26, 2018, Springer International Publishing. (To appear)
- Sharath Srivatsa, Srinath Srinivasa. Narrative Plot Comparison Based on a Bag-of-actors Document Model. In Proceedings of the 29th ACM Conference on Hypertext and Social Media (ACM HT'18), Baltimore, USA, ACM Press, July 2018.
- Lalingkar. A., Srinivasa, S. and Ram, P. (2018). Deriving semantics of learning mediation, In Proceedings of the 18th IEEE International Conference on Advanced Learning Technologies (ICALT), IEEE, 9th July to 13th July, IIT Bombay.
- Raksha Pavagada Subbanarasimha, Lokesh Todwal, Mamillapalli Rachana, Aditya Naidu, and Srinath Srinivasa. 2018. Mithya: A Framework For Identifying Opinion Drivers On Social Media. In Proceedings of ACM IKDD Conference on Data Science and International Conference on Management of Data (Demos), Goa, India, Jan 2018 (CODS-COMAD 2018).
- Sumant Kulkarni, Srinath Srinivasa, Tahir Dar. 2018. Syncretic Matching: Story Similarity Between Documents. In Proceedings of ACM IKDD Conference on Data Science and International Conference on Management of Data, Goa, India, Jan 2018 (CODS-COMAD 2018).

2017

- S. K. Gudla, J. Bose, V. Gajam and S. Srinivasa, "Relevancy Ranking of User Recommendations of Services Based on Browsing Patterns," 2017 16th IEEE International Conference on Machine Learning and Applications (ICMLA), Cancun, 2017, pp. 765-768. doi: 10.1109/ICMLA.2017.00-66
- Lalingkar, A. (2017). Applet Ontology as a Tool for Automatic Assessment of Applet-based Assessment Tasks. Journal of Computers in Education, 1-19, https://doi.org/10.1007/s40692-017-0096-3 (Paper Link)
- Asha Subramanian, Anmol Garg, Omang Poddar and Srinath Srinivasa, Towards Semantically Aggregating Indian Open Government Data from data.gov.in. Proceedings of the 16th International Semantic Web Conference (ISWC 2017), Posters and Demos, CEUR-WS, October 2017.
- Anish Bhanushali, Raksha Pavagada Subbanarasimha, and Srinath Srinivasa. Identifying Opinion Drivers on Social Media. In Proceedings of ODBASE 2017, Rhodes island, Greece, October 23-27, 2017, Springer International Publishing, Cham, 242–253.
- Chaitali Diwan, Srinath Srinivasa, Bala Murali Krishna. Autonomous Spectrum Assignment of White Space Devices. Proceedings of the 12th EAI International Conference on Cognitive Radio Oriented Wireless Networks (CROWNCOM 2017), Lisbon, Portugal. September 2017.

Centre for Spatial Information Science:-

(a) faculty members:

- Prof. S. Rajagopalan, PhD. (IITK)
- Prof. Uttam Kumar, PhD. (IISc, Bangalore)

(b) Focus Areas /Domains of research:

Applied machine learning, Remote sensing, Digital image processing, Geographic Information System (GIS), Spatial Computing.

(c) Major Achievements in terms of the following:-

    (i)   Research publications - NA

    (ii)   Research outcomes NA

    (iii) Patents approved /obtained if any - NA

    (iv) Any other

(d) Seminars held / conducted during the academic year.

1. 1. "Algorithms for Geospatial Analysis using Multi-resolution Remote Sensing Data" at the Department of Civil Engineering, Indian Institute of Technology Guwahati.
2. Subpixel Learning Algorithms for Estimating Global Land Cover Fractions from Satellite Data Using High Performance Computing" at The Tweflth National Frontiers of Engineering (12NatFoE), Indian National Academy of Engineering (INAE), Indian Institute of Technology Guwahati.
3. "Algorithms for Geospatial Analysis using Multi-resolution Remote Sensing Data" at North East Space Application Centre (NESAC), ISRO, Umiam, Meghalaya.
4. "Space is the place: Why Geospatial Thinking Matters for Management of Environmental Resources?" at The Bangalore Science Forum, The National College Buildings, Basavanagudi, Bangalore.

(e) Participation in National and International Conferences related to the research areas. -

Rahul Ambati, Chakravardhan Reddy, Smit Patel, Sandeep Tadepalli and Uttam Kumar, "Automatic feature selection for Landsat-8 and Sentinel-2 image co-registration using SURF-FANN" IEEE Symposium Series on Computational Intelligence (SSCI), to be held held from 18-21 November, 2018 at Bangalore, India. (Accepted)

COURSES
OFFERED

INTRODUCTION

The Institute is a post graduate school, and offers no undergraduate degree programs. The Institute is an exclusive post graduate school that offers programs that lead to post-graduate degrees. The graduate study programs offered lead to course-oriented, namely the Integrated Master of Technology (Integrated M.Tech.), and the Master of Technology (M.Tech.) in Information Technology and Electronic Systems Design, and (b) research oriented, namely, the Master of Science by Research /Master of Science (Digital Society) and the Doctor of Philosophy (Ph.D.). These programs offer training that is comparable to the best anywhere and cater to different needs. The course-based degree programs are full-time resident programs that offer the students a comprehensive learning in an area of specialization. The research degree programs, which may be undertaken as a full-time or a part-time registration, train the students to undertake quality research work in a specific research domain. The course-based degree programs have a fixed timeline whereas the research degree programs are student-paced. Working professionals employed as research scientists/engineers at reputed organizations or government agencies are encouraged to pursue part-time research degree programs.

Integrated M.Tech

M.Tech (IT)

M.Tech (ESD)

M.Sc. (Digital Society)

Master of Science by Research

Doctor of Philosophy

Executive Education (Samsung/ Analytics Essentials)

Integrated M.Tech

IIITB introduced Integrated M.Tech. program in 2012. Integrated M.Tech. (iMTech) Programme is a five-year full time programme intended for students who have passed or are appearing for Senior Secondary (Plus Two) examination with Mathematics or equivalent subject. At the end of five years of the program, successful students get B.Tech and M.Tech. degrees. (The B.Tech. degree will be issued subject to pending clarification on UGC notification regarding the matter of award of two degrees at the time of graduation. The said UGC notification is applicable to all Integrated Masters programmes across India for 2015 admissions). From the academic year 2015-16 onwards, separate admissions are being done in two branches: Computer Science and Engineering (CSE) and Electronics and Communication Engineering (ECE). The total number of credits required to fulfil the requirements of the program is 204. The course curriculum includes courses that are mandatory for all the students ("core") as well courses that they can choose depending upon their area of interest selective). There will be two streams which will be an umbrella of focus areas. Following are the streams with their focus areas:

CSIS (Computer Science and Information Systems) stream

- Computer Science,
- Database and Information Systems,
- Information Technology and Society
- Software Engineering.

E & CE (Electronics & Communication Engineering) stream

- Embedded System Design,
- Information Technology and Society,
- Networking and Communication Systems.
- Signal Processing.
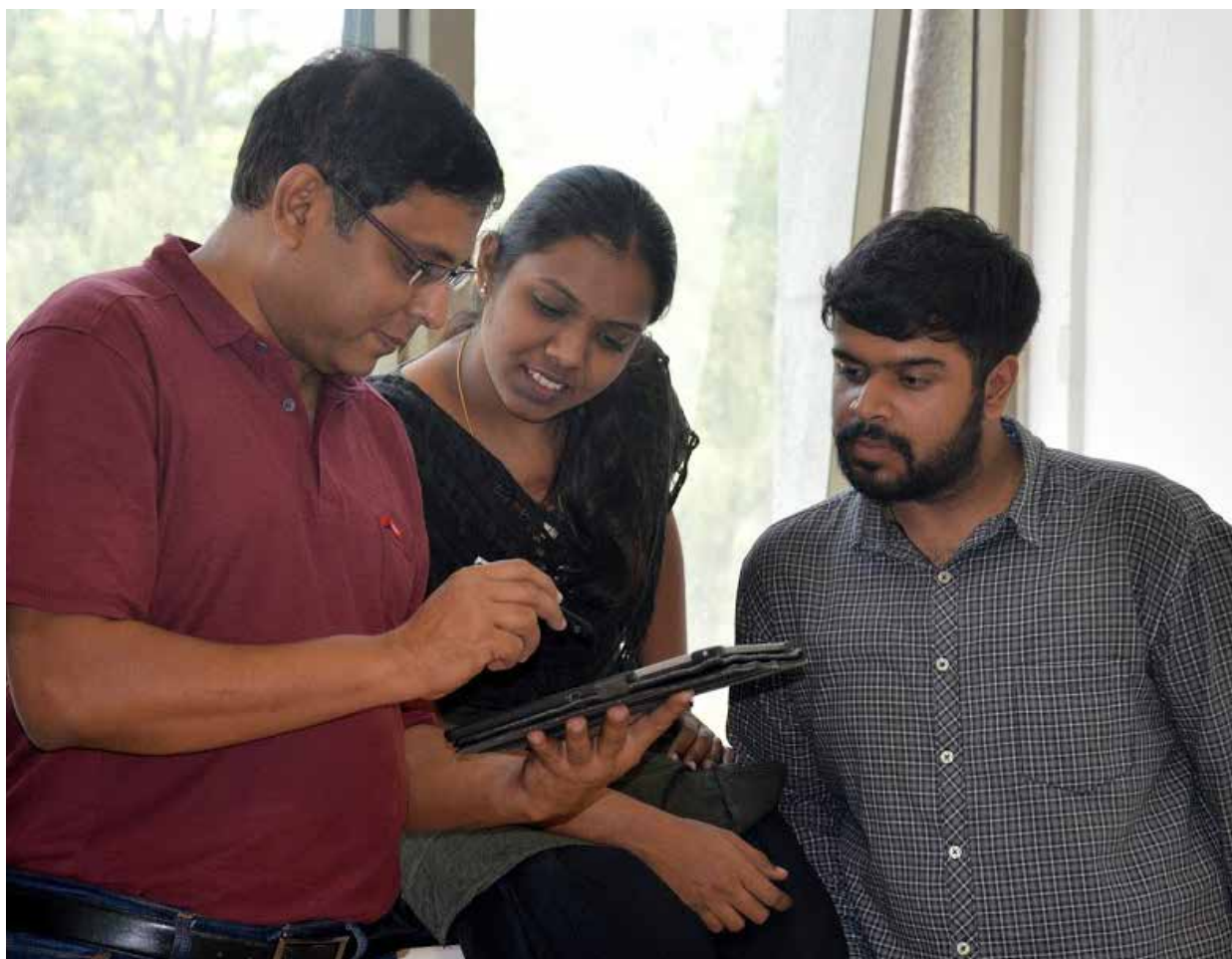
M.Tech (IT)

M.Tech degree in Information Technology (IT) is intended to provide education for students who wish to work in the IT industry as practitioners. It is awarded upon successful completion of a 4-semester broad-based academic program in IT going beyond but incorporating essential elements of, traditional computer science. Apart from imparting technical knowledge, the program teaches managerial and other cognate skills that are essential for a successful career in today's competitive IT industry. All students enrolled in the M.Tech, i M Tech and M Sc programs are residential, full-time students.

Course Structure

The M.Tech. program is a four semester program. The first three semesters of the program constitute academic course work. During the fourth semester, a student can either take up an industry internship or academic research at the institute leading to a thesis. The M.Tech. program also includes a unique 3-week period during the beginning of the program called "Preparatory Semester: The preparatory semester is intended to give uniform background to all the students irrespective of their technical background. This semester covers introductory programming covering C and Java programming. After the 3-week preparatory term, the first semester of the M.Tech. program consists entirely of required "core' courses.

These courses teach the new students the common foundational elements required, such as advanced programming principles, mathematical background, algorithms. digital signal processing. databases, fundamentals of software engineering and networking. The second semester builds on this foundation with elective courses. The student now has the freedom to begin specializing in one of several areas such as:

- Computer Science
- Data Sciences
- Networking & Communication and Embedded Systems
- Software Engineering

Across the second and third semesters, the students take at least five elective courses in their area of specialization and an additional three open elective courses (some of which may indude research and other individual or group projects supervised by a faculty member). The final semester is designated for industry internship, or the writing and defense of a research thesis.

M.Tech (ESD)

IIITB started a new M.Tech. program in 2014 offering degree in Electronics Systems Design (ESD). The genesis of this program is to help address the growth of the highly skilled manpower in Chip Design and Embedded System Design needed to support electronics system design and manufacturing (ESDM) in our country, in alignment with the national and state policies to foster growth and entrepreneurship in ESDM as outlined by the Department of Electronics and Information Technology (DIETY) of the Government of India, and the Government of Karnataka. respectively. One emerging area where such skilled manpower will be needed in large numbers is in the domain of Internet of Things (IoTs) which is fostering a rapid revolution in different domains such as industrial automation, e-health, mobile communication, smart homes, automotives, space. aviation, railways, agriculture, logistics. consumer electronics, pervasive computing, computer architecture and ambient intelligence. The M. Tech. program in ESD is envisaged to meet the above objectives.

Specializations

The 2-year degree program allows students to specialize in two possible areas:

1. Embedded System Design: This specialization focuses on imparting general principles of designing platform agnostic embedded systems. This includes hardware design, software design. hardware-software co-design and co-synthesis of embedded systems, model based design and synthesis approaches to realizing embedded systems using COTS devices, FPGAs, ASICs and SOCs targeting applications in the diverse areas listed above. Students specializing in this area can draw upon elective courses spanning different areas such as. peripheral devices, device drivers. interfacing, real-time operating systems, digital, image and video signal processing, computer networks, communication networks, robotics, auto-motive, software validation and testing etc.

2. System on Chip (SoC) Design: This specialization focuses on realizing complex embedded systems on a single silicon chip which integrate not only the core digital functionality, but also the analog mixed signal functionalities — an approach warranted when the end applications need embedded systems in millions, such as, smart-phones and point of care diagnostic devices to cite a few. Design approaches to realizing SoCs, while based on the traditional linear and sequential VLSI design flow, differs from it substantially - with 70-80% legacy IPs (soft, hardened. in-house, third party IPs) being integrated with 30-20% new IPs to realize them. For SoCs, front-end RTL design. gate level nellist design, backend physical design. I/O design. test and DFT integration, verification. middleware. firmware and application software development happen, more or less concurrently to reduce design turnaround time. This difference in design flow is emphasized and highlighted in several elective courses. Core and elective courses impart general principles of designing complex digital and analog VLSI circuits and systems. Physics of semiconductor devices, VLSI sub-system design, high-level synthesis, functional verification, formal verification, hardware emulation, testing and design for testability, circuit simulation, deep submicron design, low power design. design optimization, are some of the electives offered in this specialization. Apart from imparting technical knowledge, the program teaches managerial and other cognate skills that are essentialfor a successful career in today's electronics industry. All students enrolled in the M.Tech program are residential, full-time students.

M.Sc. (Digital Society)

Recognizing the socio-economic potential of Information and Communications Technologies (ICTs), and the increasing need to train professionals in harnessing this potential, IIITB has started a unique and innovative two-year M.Sc. (Digital Society) programme from 2015 onwards. M.Sc. (Digital Society) program at IIITB prepares students to who have an astute understanding of the digital ecosystem. In the Information Age, digital technologies have opened up immense

possibilities for economic and social change that is inclusive and sustainable. Designing and deploying digital technologies, analyzing human-computer interaction or big data entail not just technological expertise but also a nuanced understanding of the social, cultural, and economic aspects of the digital society. Students of the program will gain insights into the design of digital technologies, and the policy challenges of deploying such technologies, with a broad-based training that will draw from computer science, engineering, research methods, management, economics and other social sciences, which will equip them with a rigorous understanding of technologies for development and the development of technologies.

Career Opportunities

The programme is designed to create a group of professionals who will:

- Contribute to the design, development and deployment of digital technologies for diverse social groups:
- Provide and manage solutions that address persistent developmental challenges in domains such as education. governance, and heath:
- Engage in policy making and in advocacy for deploying digital technologies: and Enrich interdisciplinary research on the digital society.

Executive Education

IIITB has following Continuing Professional Education Programmes:

- Certificate Course in Analytics Essentials.
- Dedicated M.Tech Programme for Samsung Employees.
- Post Graduate Diploma in Data Analytics.
- Professional Certificate Course in Software Testing.

Master of Science by Research/ Doctor of Philosophy

International Institute of Information Technology Bangalore (IIITB) invites applications for its research degree programs, namely, Doctor of Philosophy and Master of Science by Research/ Master of Science (Research) programs, for admissions in JULY of 2016. Both programs have full-time as well as part-time registration options. The students admitted to these programs will be referred to as research scholars. The funding for the fellowships for Ph.D. students will be from government agencies (the specifics will be notified by March 15, 2016), COPAS project (Deity), and industry-sponsored fellowships from ABB and others (Funding sources updated on March 01, 2016). The funding for fellowships for Master of Science by Research will be from various sponsored projects.

Research Domains

At IIITB, there are seven research domains, which have openings for both the degrees programmes, except for Mathematics & Basic Sciences which have openings exclusively for the Doctor of Philosophy Programme.

FACULTY PROFILES

Sl. No.	Name	Rank
1	Tricha Anjali	Associate Professor
2	Balakrishnan Ashok	Associate Professor
3	Jyotsna Bapat	Professor & Dean, Faculty
4	Sujit Kumar Chakrabarti	Assistant Professor
5	Bidisha Chaudhuri	Assistant Professor
6	Ashish Choudhury	Assistant Professor
7	Meenakshi D'Souza	Associate Professor
8	Debabrata Das	Professor
9	K V Dinesha	Professor
10	Dinesh Babu Jayagopi	Assistant Professor
11	Manisha Kulkarni	Associate Professor
12	Jayprakash T Lalchandani	Assistant Professor
13	Brijesh Kumar Mishra	Assistant Professor
14	V N Muralidhara	Associate Professor
15	Jaya Sreevalsan Nair	Associate Professor
16	Balaji Parthasarathy	Professor
17	Amit Prakash	Associate Professor
18	S Rajagopalan	Professor
19	Chandrashekar Ramanathan	Professor and Dean, Academics
20	Madhav Rao	Associate Professor
21	Shrisha Rao	Professor
22	Subir Kumar Roy	Professor
23	S Sadagopan	Professor and Director
24	Subhajit Sen	Associate Professor
25	Neelam Sinha	Associate Professor
26	Varadarajan Sridhar	Professor
27	T K Srikanth	Professor
28	Srinath Srinivasa	Professor & Dean, R&D
29	G N Srinivasa Prasanna	Professor
30	G Srinivasaraghavan	Professor
31	Janaki Srinivasan	Assistant Professor
32	Chetan Parikh	Professor
33	Shiva Kumar Malapaka	Assistant Professor
34	Sachit Rao	Assistant Professor
35	Preeti Mudliar	Assistant Professor
36	Amit Chattopadhyay	Assistant Professor
37	Pradeesha Ashok	Assistant Professor
38	Manish Gupta	Infosys Chair Professor
39	V Ramasubramanian	Professor
40	B Thangaraju	Professor
41	Uttam Kumar	Assistant Professor
42	Nanditha Rao	Assistant Professor
43	Srinivas Vivek	Assistant Professor

Advisory Faculty

1	S S Prabhu	Advisory Professor
2	Usha Rani Vyasulu Reddy	Advisory Professor

Visiting /Adjunct Faculty

1	P G Poonacha	Visiting Faculty
2	Roland E Haas	Visiting Faculty
3	Samar Shailendra	Visiting Faculty
4	Radha M Parikh	Visiting Faculty
5	Shourya Roy	Visiting Faculty
6	Harish Ramani	Visiting Faculty
7	Anantha Rangan	Adjunct Faculty
8	Ramesh Sundararaman	Adjunct Faculty
9	S Nagarajan	Adjunct Faculty
10	Tridib Roy Chowdhury	Adjunct Faculty
11	Muralidhar Koteshwar	Adjunct Faculty
12	Joy Prabhakar	Adjunct Faculty
13	Valsala Rajan	Adjunct Faculty
14	Girish K Kumar	Adjunct Faculty
15	K K Subramaniam	Adjunct Faculty
16	Vivek Yadav	Adjunct Faculty
17	Mohan Ram C	Adjunct Faculty

FACULTY
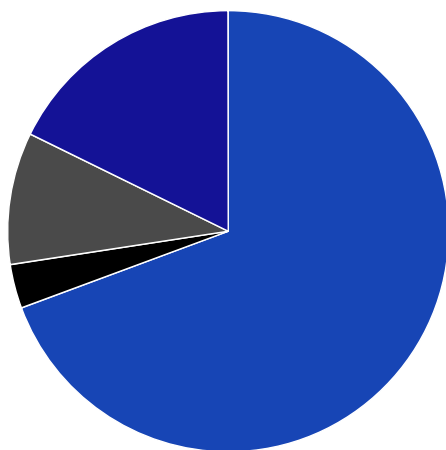
- Regular
- Adjunct
- Visiting
- Advisory

FACULTY PUBLICATIONS

Pradeesha Ashok, A Basu Roy and S Govindarajan;

"Local Search Strikes Again: PTAS for Variants of Geometric Covering and Packing." *International Computing and Combinatorics Conference COCOON 2017,* pp. 25-37

K. E. Manjunath, K. Sreenivasa Rao and Dinesh Babu Jayagopi;

"Development of multilingual phone recognition system for Indian languages." *IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems SPICES, 2017,* pp. 1-6

S. Sadagopan and Ravindran;

"Transformational IT Projects Series: Khajane – Treasury Network of the Government of Karnataka." *Voice and Data, Online August 16, 2017*

Dibakar Das and Debabrata Das;

"A novel UE centric multi-RAT deployment model." *International Conference On Smart Technologies For Smart Nation SmartTechCon, 2017,* pp. 866-871

Yashvanth Kondi and Arpita Patra;

"Privacy-Free Garbled Circuits for Formulas: Size Zero and Information-Theoretic." *37th International Cryptology Conference: Advances in Cryptology CRYPTO 2017,* pp.188-222

K. Krishnan, Gopika Gopan, Madhav Rao and Neelam Sinha;

"Cognitive State Signature Analyses using Single Channel EEG Data." *25th European Signal Processing Conference EUSIPCO 2017,* pp. 56-60

Prashant K. Wali, N. Amudheesan Aadhithan and Debabrata Das;

"Optimal Time-Spatial Randomization Techniques for Energy Efficient IoT Access in LTE-Advanced." *IEEE Transactions on Vehicular Technology,* vol. 66, no. 8, p.7346 - 7359, August 2017

Vandana M. Ladwani, Y. Vaishnavi and V. Ramasubramanian;

"Hopfield Auto-Associative Memory Network for Content-Based Text-Retrieval." *26th International Conference on Artificial Neural Networks ICANN 2017,* pp. 753-755

Shruthi Vattem and Tricha Anjali;

"Complete RFID security solution for inventory management systems." *International Conference on Advances in Computing, Communications and Informatics ICACCI, 2017,* pp. 179-183

Meenakshi D'Souza, Hilam Patel and Nagesh Tikare;

"Method level power estimation and optimization in next generation smartphones." *International Conference on Advances in Computing, Communications and Informatics ICACCI, 2017,* pp. 1010-1016

Gracy Philip, Meenakshi D'Souza and V. P. Abidha;

"Model based safety analysis: Automatic generation of safety validation test cases." *36th IEEE/AIAA Digital Avionics Systems Conference 2017,* pp. 1-10

Meghana Madhyastha, Sriveda Chevuru Reddy and Shrisha Rao;

"Online Scheduling of a Fleet of Autonomous Vehicles Using Agent-Based Procurement Auctions." *IEEE International Conference on Service Operations and Logistics and Informatics IEEE SOLI 2017,* pp. 114-120

Chaitali Diwan, Srinath Srinivasa and Bala Murali Krishna;

"Autonomous Spectrum Assignment of White Space Devices." *12th EAI International Conference on Cognitive Radio Oriented Wireless Networks CROWNCOM 2017,* pp. 37-48

J. N. Khasnabish, M. F. Mithani and Shrisha Rao;

"Tier-Centric Resource Allocation in Multi-Tier Cloud Systems." *IEEE Transactions on Cloud Computing, vol. 5, no. 3, p.576-589, July – September 2017*

Saptarshi Chaudhuri, Irfan Baig and Debabrata Das;

"Self organizing method for handover performance optimization in LTE-advanced network." *Computer Communications, vol. 110, p.151-163, September 2017*

M. A. Wani, M. A. Sofi and S. Y. Wani;

"Why Fake Profiles: A study of Anomalous users in different categories of Online Social Networks." *International Journal of Engineering Technology Science and Research IJETSR,* vol. 4, no. 9, pp. 320-329, September 2017

Jaya Sreevalsan-Nair, Nirmala Murthy, Shivam Agarwal, Rani Vangimalla Reddy and Sanat Ramesh;

"Collaborative Design of Visual Analytics Techniques for Survey Data for Community-based Research in Public Health." *8th Workshop on Visual Analytics in Healthcare VAHC 2017, Phoenix, USA, 1-2 October, 2017, (poster presentation)*

Faculty Publications

Balaji Parthasarathy and Yuko Aoyama;

"Beyond the impasse of the state-market dichotomy: Social entrepreneurship and new institutional actors for the underserved." *15th Globelics Global Network for Economics of Learning, Innovation and Competence Building Systems, Athens, Greece, 11-13 October 2017. (paper Presentation)*

Ashish Choudhury, G. Garimella, A. Patra, D. Ravi and P. Sarkar;

"Crash-Tolerant Consensus in Directed Graph Revisited." *31 International Symposium of Distributed Computing, DISC 2017,* pp. 1-24

Asha Subramanian, Anmol Garg, Omang Poddar and Srinath Srinivasa;

"Towards Semantically Aggregating Indian Open Government Data from data.gov.in." *16th International Semantic Web Conference, ISWC 2017,* pp. 4

Meenakshi D'Souza and Maithily Diwan;

"A framework for modeling and verifying IoT communication protocols." *Dependable Software Engineering: Theories, Tools and Applications, SETTA 2017,* pp. 266-280

Avijit Mandal, Raoul Jetley, Meenakshi D'Souza and Sreeja Nair;

"A Static Analyzer for Industrial Robotic Applications." *IEEE International Symposium on Software Reliability Engineering Workshops ISSREW 2017,* pp. 24-27

Sowmya Rasipuram, Pooja Rao, Rahul Das and Dinesh Babu Jayagopi;

"Online Peer-to-peer Discussions: A Platform for Automatic Assessment of Communication Skill." *7th International Conference on Affective Computing and Intelligent Interaction Workshops and Demos ACIIW 2017,* pp. 68-73

A. Bhanushali, R. P. Subbanarasimha and Srinath Srinivasa;

"Identifying Opinion Drivers on Social Media." *OTM Confederated International Conferences, On the Move to Meaningful Internet Systems OTM 2017,* pp. 242-253

Swarup Kumar Mohalik, Badrinath Ramamurthy, Mahesh Babu Jayaraman and Meenakshi D'Souza;

"Workshop on Developmental aspects of Intelligent Adaptive Systems (DIAS)." ACM SIGSOFT Software Engineering Notes, Vol. 42, no. 4, p.25-27, October 2017

Balaji Parthasarathy and Yuko Aoyama;

"Institutionalizing Frugal Innovation: 'Domain Flexibility' and 'Scalar Flexibility' for Sustainable Development." *Frugal Innovation for Sustainable Global Development, Leiden, The Netherlands, 7-8 November, 2017 (paper presentation)*

Shruthi Kukal Nambiar, Rahul Das, Sowmya Rasipuram and Dinesh Babu Jayagopi;

"Automatic generation of actionable feedback towards improving social competency in job interviews." *1st ACM SIGCHI International Workshop on Multimodal Interaction for Education, MIE 2017,* pp. 53-59

Chinchu Thomas and Dinesh Babu Jayagopi;

"Predicting student engagement in classrooms using facial behavioral cues." 1st ACM SIGCHI International Workshop on Multimodal Interaction for Education, MIE 2017, pp. 33-40

S. B. Pooja Rao, Sowmya Rasipuram, Rahul Das and Dinesh Babu Jayagopi;

"Automatic assessment of communication skill in non-conventional interview settings: a comparative study." *19th ACM International Conference on Multimodal Interaction, ICMI 2017,* pp. 221-229

Sneha Singhania, Nigel Fernandez and Shrisha Rao;

"3HAN: A Deep Neural Network for Fake News Detection." *International Conference on Neural Information Processing ICONIP 2017,* pp. 572-581

V. N. Muralidhara, D. Kumar and G. Srinivasaraghavan;

"Policy Gradient Reinforcement Learning for I/O Reordering on Storage Servers." *International Conference on Neural Information Processing ICONIP 2017,* pp. 849-859

Bidisha Chaudhuri, Linus Kendall, Janaki Srinivasan, Onkar Hoysala and Purnabha Dasgupta;

"Understanding capabilities through everyday practice: The case of a weather information system for farmers in West Bengal." *9th. International Conference on Information and Communication Technologies and Development, ICTD 2017,* pp. 10

Rajanikanth Kashi, Meenakshi D'Souza and K. R. Kishore;

"Incorporating Formal Methods and Measures Obtained through Analysis, Simulation Testing for Dependable Self-Adaptive Software in Avionics Systems." *10th ACM Compute Conference, COMPUTE '17,* pp.

Karthik Revanuru, Kaushik Turlapaty and Shrisha Rao;

"Neural Machine Translation of Indian Languages." *10th ACM Compute Conference, Bhopal, 2017,* pp. 6

Pavan Sudheendra and Dinesh Babu Jayagopi;

"Genre Linked Automated Assessment and feedback of Photographs based on Visual Aesthetics." *International Conference on Image Processing Tools and Applications, IPTA 2017,* pp.1-6

Ashish Choudhury, Arpita Patra and D. Ravi;

"Round and Communication Efficient Unconditionally-secure MPC with t< n/3 in Partially Synchronous Network." *International Conference on Information Theoretic Security ICITS 2017,* pp. 83-109

V. Sridhar and S. Vadivelu;

"Management of an outsourced satellite phone development project: Sasken's experience." *Journal of Information Technology Teaching* Case, vol. 7, no.2, p.114-121, November 2017

Sashank Dara and V. N. Muralidhara;

"Similarity Based Interactive Private Information Retrieval." *International Conference on Security, Privacy and Applied Cryptography Engineering,* SPACE 2017, pp. 151-169

Suresh Kumar Gudla, Joy Bose, Venugopal Gajam and Srinath Srinivasa;

"Relevancy Ranking of User Recommendations of Services Based on Browsing Patterns." *16th IEEE International Conference on Machine Learning and Applications, ICMLA 2017,* pp. 765-768

Priti Kumari and Tricha Anjali;

"Secure key-exchange for implantable sensors using inductive coupling." *IEEE International Conference on Advanced Networks and Telecommunications Systems ANTS 2017,* pp. 1-6

Jaya Sreevalsan-Nair;

"Paving the Way for Geovisual Analytics." *Advanced Computing & Communications, no. 3, December 2017*

Dibakar Das, Jyotsna Bapat and Debabrata Das;

"A dynamic QoS negotiation mechanism between wired and wireless SDN domains." *IEEE Transactions on Network and Service Management, Vol. 14, No. 4, pp.1076-1085, December 2017*

B. Ashok, Thotreithem Hongray and Janaki Balakrishnan;

"The charged bubble oscillator: Dynamics and thresholds." *Indian Academy of Sciences Conference Series (from Pramana: Journal of Physics) Vol.1, No. 1, pp. 109-115, December 2017*

Preeti Mudliar and Noopur Raval;

"'They are like personalised mini-Googles': Seeking Information on Facebook Groups." *51st Hawaii International Conference on System Sciences, Hawaii, 3-6 January, 2018,* pp. 2058-2067

Yogalakshmi Jayabal, Chandrashekar Ramanathan and S. Rajagopalan;

"HDSanalytics: a data analytics framework for heterogeneous data sources." *ACM India Joint International Conference on Data Science and Management of Data, CoDS-COMAD '18, 2018,* pp. 9

Sumant Kulkarni, Srinath Srinivasa and Tahir Dar;

"Syncretic matching: story similarity between documents." *ACM India Joint International Conference on Data Science and Management of Data, CoDS-COMAD '18, 2018,* pp. 11

Raj Kumar Saranappa, Vimal Bastin Edwin Joseph and Debabrata Das;

"Dynamic Power Saving Techniques for Mobile Hotspot." *IEEE International Conference on Consumer Communications & Networking Conference CCNC 2018,* pp. 2

Lalit Pathak, Diwakar Sharma, Tushar Vrind and Debabrata Das;

"Protocol for Reduction in Network Resource Wastage for 4G Dual SIM Dual Standby User Equipment." *IEEE International Conference on Consumer Communications & Networking Conference CCNC, 2018,* pp. 4

Tushar Vrind, Diwakar Sharma, Lalit Pathak and Debabrata Das;

"Session Cloning Protocol between Smart Devices for connected and unconnected states in B4G and 5G." *IEEE International Conference on Consumer Communications & Networking Conference CCNC, 2018,* pp. 8

Palani Kumar, Meenakshi D'Souza and Debabrata Das;

"Efficient Anomaly Detection Methodology for Power Saving in Massive IoT Architecture." *14th International Conference on Distributed Computing and Internet Technology ICDCIT 2018,* pp. 256-262

Jaya Sreevalsan-Nair, Kuruvilla Lukose, Shivam Agarwal and Vidyashankar Nagesha Rao;

"Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans using Model-based Testing." *9th International Conference on Information Visualization Theory and Applications IVAPP 2018,* pp. 289-300

Janaki Srinivasan, Savita Bailur, Emrys Schoemaker and Sarita Sheshagiri;

"The Poverty of Privacy: Understanding Privacy Trade-Offs From Identity Infrastructure Users in India." *International Journal of Communication, 2018, Vol. 12,* pp.1228-1247

Gracy Philip, Varsha P. Suresh and Meenakshi D'Souza;

"Safety Validation using AADL System Architecture Models." *ISEC '18: Innovations in Software Engineering Conference, 2018,* pp. 10

Debanjali Bhattacharya and Neelam Sinha;

"An improved approach of high graded glioma segmentation using sparse autoencoder and fuzzy c-means clustering from multi-modal MR images." *Medical Imaging 2018: Biomedical Applications in Molecular, Structural, and Functional Imaging, 2018,* pp. 9

Dibakar Das and Debabrata Das;

"Radio access technology selection in SDN controlled reconfigurable base station." *Computers & Electrical Engineering, February 2018, Vol. 66,* pp. 260–273

Sashank Dara, Saman Taghavi Zargar and V. N. Muralidhara;

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Amogh Johri, Neelab and Meenakshi Srivastava;

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Ajay Surendranath and Dinesh Babu Jayagopi;

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Praneeth Susarla, Utkarsh Agrawal and Dinesh Babu Jayagopi;

"Human Weapon-Activity Recognition in Surveillance Videos using Structural-RNN." *2nd Mediterranean Conference on Pattern Recognition and Artificial Intelligence MedPRAI '18, 2018,* pp. 101-107

Ashutosh Trivedi and Shrisha Rao;

"Agent-Based Modeling of Emergency Evacuations Considering Human Panic Behavior." *IEEE Transactions on Computational Social Systems, March 2018, Vol. 5, No. 1,* pp. 277-288

Aparna Lalingkar;

"Applet ontology as a tool for automatic assessment of applet-based assessment tasks." *Journal of Computers in Education, March 2018, Vol. 5, No. 1,* pp. 113–131

V. Karthik and G. N. Srinivasa Prasanna;

"Improving search performance of B-tree on flash devices." *ARSSS International Conference,* pp. 18-22

M. Balasubramaniam, S. Radhakrishnan and Debabrata Das;

"Mitigating initial access congestion for dense smart meters deployment in LTE network." *IEEE Wireless Communications and Networking Conference WCNC, 2018,* pp. 6

R Rajavelsamy, Debabrata Das and M. Choudhary;

"Privacy protection and mitigation of unauthorized tracking in 3GPP-WiFi interworking networks." *IEEE Wireless Communications and Networking Conference WCNC, 2018,* pp. 7

Apoorva Bhalla and T. K. Srikanth;

"Designing a mobile phone-based music playing application for children with autism." *The 3rd Symposium on Computing and Mental Health CMH 2018,* pp. 9

Amit Sarkar and G. Srinivasaraghavan;

"Contextual Web Summarization: A Supervised Ranking Approach." *WWW '18 Companion, 2018,* pp.105-106

Seema Mehrotra, Paulomi Sudhir, Girish Rao, Jagadisha Thirthalli and T. K. Srikanth;

"Development and Pilot Testing of an Internet-Based Self-Help Intervention for Depression for Indian Users." *Behavioral Sciences, April 2018, Vol. 8, No. 4,* pp. 24

Saptarshi Chaudhuri, Irfan Baig and Debabrata Das;

"A novel QoS aware medium access control scheduler for LTE-advanced network." *Computer Networks, April 2018, Vol. 135,* pp. 1-14

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Priti Kumari and Tricha Anjali;

"Vulnerabilities in key management schemes in body sensor network." *CSI Transactions on ICT Online, May 2018*

Brijesh Kumar Mishra and Ramanathan Venkatnarayan;

"Substituents' influence on the C–H···ττ interaction in the T-shaped benzene dimer." *Theoretical Chemistry Accounts, Vol. 137, No. 5, May 2018*

Balakrishnan Ashok, Thotreithem Hongray and Janaki Balakrishnan;

"The acoustically forced charged bubble in a liquid." *15th Experimental Chaos & Complexity Conference (ECC15), Madrid, Spain, 4-7 June, 2018*

Uma Mukund Kulkarni, Chetan Parikh and Subhajit Sen;

"An approach to determining the weights of the capacitors in the DAC of a non-binary redundant SAR ADC." *31st International Conference on VLSI Design and 2018 17th International Conference on Embedded Systems VLSID, 2018,* pp. 1-6

Ramakrishnan Raman and Meenakshi D'Souza;

"Learning Framework For Maturing Architecture Design Decisions For Evolving Complex SoS." *13th Annual Conference on System of Systems Engineering SoSE, 2018,* pp. 350-357

S. Jha, Meenakshi D'Souza, R. Jetley and S. Nair;

"Worst Case Execution Time Estimation for Control Code of Automation Systems." *2018 International Conference on Advances in Computing and Communication Engineering ICACCE, 2018,* pp. 82-88

Bidisha Chaudhuri and Lion König;

"The Aadhaar scheme: a cornerstone of a new citizenship regime in India?" *Contemporary South Asia, 2018, Vol. 26, No. 2,* pp. 127-142

Pradnya Gaonkar, Jyotsna Bapat and Debabrata Das;

"A survey on QoE and energy cost optimization strategies for smart buildings." *CSI Transactions on ICT Online, June 2018*

Balachandra Kumaraswamy and P. G. Poonacha;

"Octave Error Reduction in Pitch Detection Algorithms Using Fourier Series Approximation Method." *IETE Technical Review Online, June 2018*

Dibakar Das, Jyotsna Bapat and Debabrata Das;

"SDN assisted self organizing network architecture for multi-RAT networks and mobility prediction." *Wireless Networks Online, June 2018*

V. Karthik and G. N. Srinivasa Prasanna;

"Improving search performance of B-tree on flash devices." *International Journal of Advances in Electronics and Computer Science, June 2018, Vol. 5, No. 6,* pp. 32-36

Pradeesha Ashok, Aditi Dudeja, Sudeshna Kolay and Saket Saurabh;

"Exact and Fixed Parameter Tractable Algorithms for Max-Conflict-Free Coloring in Hypergraphs." *SIAM Journal on Discrete Mathematics, 2018, Vol. 32, No. 2,* pp. 1189-1208

Sharath Srivasta and Srinath Srinivasa;

"Narrative Plot Comparison Based on a Bag-of-actors Document Model." *29th on Hypertext and Social Media, HT '18, 2018,* pp. 136-144

Aparna Lalingkar, Srinath Srinivasa and Prasad Ram;

"Deriving Semantics of Learning Mediation." *2018 IEEE 18th International Conference on Advanced Learning Technologies ICALT, 2018,* pp. 54-55

B. Ashok;

"Dynamics and Kinematics at Small Scales: From Micro and Nano Bubbles to Nanotubulation." *Ninth International Conference on Complex Systems ICCS 2018: Unifying Themes in Complex Systems IX, 2018,* pp. 210-219

Risabh Bhadauria and Ashish Choudhury;

"Asynchronous Secure Distributed Computing with Transferrable Non-equivocation Revisited." 2018 ACM Symposium on Principles of Distributed Computing PODC 18, 2018, pp. 265-267

Faculty Publications

Laasya Bangalore, Ashish Choudhury and Arpita Patra;

"Almost-Surely Terminating Asynchronous Byzantine Agreement Revisited." *2018 ACM Symposium on Principles of Distributed Computing, PODC 18, 2018,* pp. 295-304

Brijesh Kumar Mishra and Balakrishnan Ashok;

"Coaxial carbon nanotubes: from springs to ratchet wheels and nanobearings." *Materials Research Express, July 2018, Vol. 5, 075203,* pp. 13

Jaya Sreevalsan-Nair, Akshay Jindal and Beena Kumari;

"Contour Extraction in Buildings in Airborne LiDAR Point Clouds using Multiscale Local Geometric Descriptors and Visual Analytics." *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, July 2018, Vol. 11, No. 7,* pp. 2320-2335

Pradnya T. Gaonkar, Jyotsna Bapat and Debabrata Das;

"Location-Aware Multi-Objective Optimization for Energy Cost Management in Semi-Public Buildings using Thermal Discomfort Information." *Sustainable Cities and Society, July 2018, Vol. 40,* pp.174-181

Vishwanath Acharya, Piyush Singh Bora, Karri Navin, Anisha Nazareth, P. S. Anusha and Shrisha Rao;

"Classification of SDSS photometric data using machine learning on a cloud." *Current Science, 25 July, 2018, Vol. 115, No. 2,* pp. 248-257

Yuko Aoyama and Balaji Parthasarathy;

"When both the state and market fail: inclusive development and social innovation in India." *Area Development and Policy Online, July 09, 2018*

A. C. Victor and Shrisha Rao;

"Analytics on the Cloud." *IEEE Potentials, July-August 2018, Vol. 37, No. 4,* pp. 24-27

Sowmya Rasipuram and Dinesh Babu Jayagopi;

"Automatic assessment of communication skill in interview-based interactions." *Multimedia Tools and Applications, July 2018, Vol. 77, No. 14,* pp. 18709–1873

FACULTY ACHIEVEMENTS

Dr R Chandrashekar and **Dr G Srinivasa Raghavan**
were selected among the "Most Influential Analytics Academicians in India 2018."

Dr Srinath Srinivasa joined the Board of Gooru Labs – an online global initiative with participation from UC Berkeley, Stanford, John Hopkins and IIIT Bangalore.

VideoKen, founded by our faculty colleague **Dr Manish Gupta**, is powering the specialised video search for ACM - the first society in computing since January 2018.

Dr Meenakshi D'Souza and **Dr Manish Gupta**
got elected to ACM India Council.

Dr Tricha Anjali won the Huawei Research Award for the establishment of SDN Innovation Lab.

Dr Madhav Rao won the Young Investigator Award in MeltingPot 2020 along with faculty members from IITB and IITK.

Dr V Sridhar and **Dr S Rajagopalan** served as resource persons for the Technology part of Karnataka's Vision 2025.
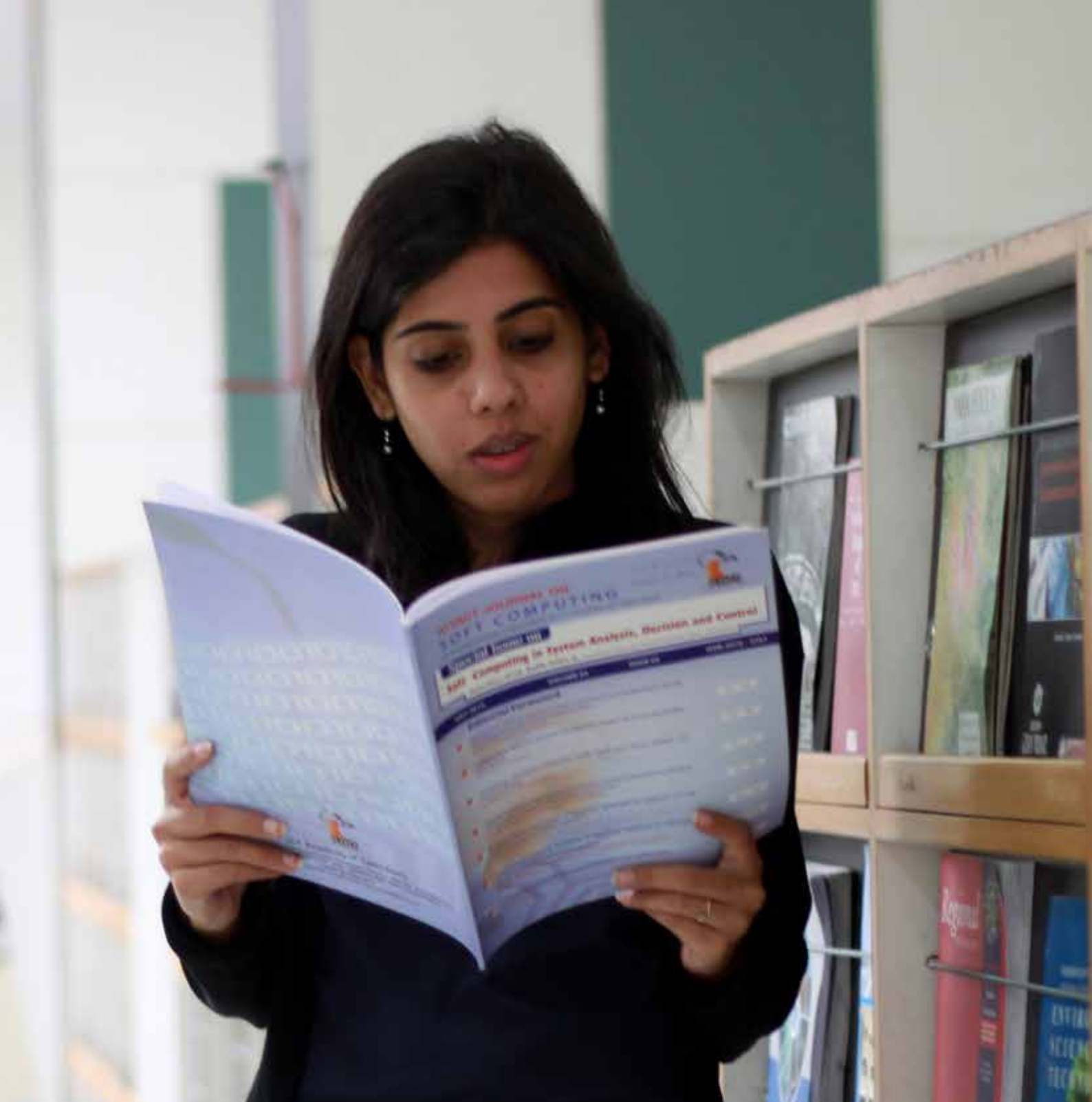
**STUDENTS &
DEAN'S LIST**

THESIS LIST - 2018 CONVOCATION

Sl. No.	Roll No.	Student Name	Title of the Report	Supervisor
1	PH2009902	Sunil Kumar Vuppala	Optimization Under Uncertainty for Energy Management in Smart Grid	Prof.G. N. Srinivasa Prasanna
2	PH2010902	Saptarshi Chaudhuri	Enhanced MAC Protocol and SON technique to improve the QoS of LTE-Advanced network	Prof. Debabrata Das
3	PH2011002	J.Yogalakshmi	Clustering on Heterogeneous Data using a De-Centralized Analytics Framework	Prof. Chandrashekar Ramanathan
4	PH2012002	Shilpi Banerjee	Design of Quality Assessment Instruments for Engineering Courses	Prof.N. J. Rao and Prof. Chandrashekar Ramanathan
5	PH2012003	P Joy Prabhakaran	Novel Techniques in Image Zooming and Hierarchical Multi-Resolution Image Representation	Prof. P. G. Poonacha and Prof. Jaya Sreevalsan Nair
6	PH2013001	Asha Subramanian	Semantic Integration and Knowledge Representation of Open Data Powered by Linked Open Data	Prof. Srinath Srinivasa
7	PH2013010	Dibakar Das	Efficient Software Defined Network Techniques for Wireless Access Networks	Prof.Debabrata Das
8	MS2011005	Karthik.V	Md-Tree: A Search-Optimized Index Structure for Flash/Non-Volatile Memory	Prof.G. N. Srinivasa Prasanna
9	MS2013005	Anshu Bharadwaj	Secure Architecture for High Assurance System Design	Prof.Subir Kumar Roy
10	MS2014004	Pooja Venkatesh	Automatic Bharatnatyam Dance Expertise Prediction Based on Posture and Expression Recognition	Prof. Dinesh Babu Jayagopi
11	MS2015006	Maithily Diwan	A framework for modeling and verifying IoT communication protocols	Prof. Meenakshi D'Souza

12	MS2015013	Uma Kulkarni	A Novel Approach to Deciding the Weights of Capacitors in the Dac of a Non-Binary Redundant Sar Adc	Prof. Subhajit Sen
13	MT2016005	Atul Agarwal	Very Deep CNN Acoustic Modelling from Speech Waveform	Prof. V. Ramasubramanian
14	MT2016016	Anoop Toffy	Acoustic Model Refinement for Automatic Speech Recognition	Prof. V. Ramasubramanian
15	MT2016026	Ashish Gupta	GABINET: Gated Attention Network for Non-Factoid answer-selection in Video Comprehension	Prof. Manish Gupta
16	MT2016041	Chellapriyadarshini M	Efficient Acoustic Model Refinement for Low Resource Languages Using Semi-Supervised Learning Methods	Prof. V. Ramasubramanian
17	MT2016112	Rahul Sharma	Multi-object Target Disappearance Prediction	Prof. G. Srinivasaraghavan
18	MT2016120	Sabari Nathan A	Enhanced Rerouting for Link Failure in MANET: QoS Perspective	Prof. Jyotsna Bapat and Prof. Debabrata Das
19	MT2016519	Prajwal Sharma K	Development and Analysis of Minimally Invasive Ventricular Assistive Device	Prof. Madhav Rao
20	MT2016523	Sai Dheeraj Nadella	Implementation of Dynamic Power Cut-off and Dual-threshold Voltage Technique to Control Leakage for a CMOS-based Subsystem Design	Prof. Madhav Rao
21	EMT2013002	Ajith Kumar Velutheri	Mobile Web Browser User Experience & Enhancement	Prof. Jayprakash T Lalchandani
22	SMT2014028	Sudheer Kumar H U	User Behaviour Modeling and Segregation-based Framework for MEMS Operation on Demand	Prof. Debabrata Das
23	SMT2014029	Suraj Kumar Singh	Location-based Resource Management Algorithms for D2D Communications	Prof. Debabrata Das
24	SMT2015001	Abhilash Karthik B V	Three-way Classification of Fundus Images into Healthy, Glaucoma and Diabetic Retinopathy using Convolutional Neural Network and its localization	Prof. Neelam Sinha

25	SMT2015003	Amith Dsouza	Blood Vessel Segmentation of Super-resolved Retinal Images	Prof. Neelam Sinha
26	SMT2015005	Bhavith M P	A nocwl in-storage Computing Architecture and Method for Functional and Performance Improvement	Prof. Debabrata Das
27	SMT2015009	Chandan V N	Forward and Angular Velocity Estimation using Mobile Phone Cameras on Cars in Indian Road Conditions	Prof. Dinesh Babu Jayagopi
28	SMT2015011	Deb Kumar Chowdhury	Test Case Generation Framework for Rapid Programming Language using Decision Trees-based Learning	Prof. Meenakshi D'Souza
29	SMT2015012	Harsh Jain	Rash Driving Detection using Frontal View Camera Stream	Prof. Dinesh Babu Jayagopi
30	SMT2015013	Imtiaz Ahmed N	Efficient Write Performance Algorithms for Storage Devices	Prof. Debabrata Das
31	SMT2015014	Kavin Kumar Thangadorai	Enhancement of Interworking Mac and Security Algorithms between Wifi Mesh Backhaul and Traditional Wifi Network for Better QOS	Prof. Debabrata Das
32	SMT2015015	Kishore S N	A Deep Learning-based Approach for Detection and Localization of Exudates in Diabetic Retinopathy Fundus Images	Prof. Neelam Sinha
33	SMT2015018	Manasij Sur Roy	Resource Engagement Inference Model to Improve Service Handling Delegation System in Multi-tiered Iot Environment	Prof. Jyotsna Bapat
34	SMT2015019	Mohamed Abdul Khader K R	Tracking of Fast Moving Objects in Table Tennis Dataset and Study of Table Tennis Video Analysis	Prof. Dinesh Babu Jayagopi
35	SMT2015020	Mohanraja B	Efficient Initial Access Algorithm for MTC Devices in AG-advanced and Beyond Networks	Prof. Debabrata Das

36	SMT2015024	Raghavendra Ghatage	From Bay Area, USA to Bangalore, INDIA: Quantifying Spatio Temporal Patterns of Urban Land Use Change From 1973-2018 using Landsat Legacy and Spatial Metrics	Prof. Uttam Kumar
37	SMT2015027	Sridharan Natarajan	Enhanced Performance due to Novel Content Caching LTE-Advanced Architecture	Prof. Debabrata Das
38	SMT2015028	Srinivasa Mysore Ravindra	Evaluation of Breast Cancer Histo-pathology using Transfer Learning	Prof. Neelam Sinha
39	SMT2015031	Suhas S P	Towards Realistic Synthetic Video Creation using Monocular Depth Estimation and Scene Understanding	Prof. Dinesh Babu J
40	SMT2015035	Vimal Bastin Edwin Joseph	Efficient Device to Device Direct Communication Protocols for Wifi and Wigig	Prof. Debabrata Das
41	IMT2013004	Aditya Sanjay Paliwal	Differentiable Neural Computers for Combinatorial Optimisation	Prof. Manish Gupta
42	IMT2013005	Anirudh Ravi	Automatic Assignment of Domain Tags to Educational Videos	Prof. Manish Gupta
43	IMT2013006	Apoorv Vikram Singh	Clustering Perturbation Resilient Instances	Prof. G Srinivasaraghavan
44	IMT2013008	B Laasya	Almost surely Terminating Asynchronous Byzantine Agreement	Prof. Ashish Choudhry
45	IMT2013013	Aneesha Devulapally	Music Genre Classification	Prof. V. Ramasubramanian
46	IMT2013015	Gayathri Annapurna Garimella	Crash-tolerant Consensus in Directed Graphs	Prof. Ashish Choudhury
47	IMT2013018	Komaragiri Vasundhara	Learning Structure from Unstructured information: Process Description to flowchart	Prof. G Srinivasaraghavan
48	IMT2013021	Kumaresh Krishnan	Studies on Odour Identity Decoding from Neural Activity in the Piriform Cortex	Prof. G. Srinivasaraghavan, and Prof.Venkatesh N .Murthy
49	IMT2013025	Meghana M Reddy	On the Chromatic Art Gallery Problem	Prof.Pradeesha Ashok

50	IMT2013026	Meghana Madhyastha	Scalable Directed Graph Convolutional Networks	Prof. Manish Gupta
51	IMT2013027	Nigel Steven Fernandez	Bayes-YOLO: Model Uncertainty in Deep Convolutional Architectures for Confident Object Detection	Prof. G. Srinivasaraghavan
52	IMT2013028	P. S. Srinivasan	A Theoretical Study of the Bichromatic Covering Problems and an Experimental Study of the Steiner Tree Problem	Prof. Pradeesha Ashok
53	IMT2013032	Rajesh D M	Reinforcement Learning: Improving Learning Agents in Continuous Action Space	Prof.G. Srinivasaraghavan
54	IMT2013033	Revanuru Karthik	Activity Recognition in Classrooms using Structural RNN	Prof.Dinesh Babu Jayagopi
55	IMT2013034	Rishabh Bhadauria	Asynchronous Secure Distributed Computing using Transferable Non-equivocation	Prof. Ashish Choudhury
56	IMT2013035	Rishabh Manoj	Automated Evaluation of Programming Assignments	Prof. Sujit Kumar Chakrabarti
57	IMT2013045	Sneha Singhania	Deep Learning Methods for (I) Extracting Numeric Semantics, and (II) Entity Relation Classification	Prof. G. Srinivasaraghavan
58	IMT2013053	Trisha Mittal	Learning to Mimic how Humans Guess and Draw Sketches	Prof. Dinesh Babu Jayagopi

International Institute of Information Technology Bangalore

Dean's List (M.Sc. (Digital Society))
June 2018

The Dean's List at IIIT-B honors the students of MSc (Digital Society) who have attained a cumulative GPA of 3.75 or above. The list is updated annually.

MSc (Digital Society) 2016 & 2017

Roll No	Name	CGPA
DT2016003	Ashish Kumar Srivastava	3.81
DT2017004	Dipanjan Saha	3.80

Prof. Chandrashekar Ramanathan
Dean (Academics)

Prof. Amit Prakash
Co-ordinator M.Sc. (Digital Society)

Prof. Amit Chattopadhyay
Faculty Incharge Fellowship

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International Institute of Information Technology Bangalore

Dean's List (Integrated MTech)
June 2018

The Dean's List at IIIT-B honors the students of Integrated Mtech (iMTech) who have attained a cumulative GPA of 3.60 or above. The list is updated annually.

Integrated MTech Batch 2017

Roll No	Name	CGPA
IMT2017003	Amogh Johri	3.79
IMT2017004	Ananya Appan	3.76
IMT2017009	Ayush Yadav	3.63
IMT2017013	Deep Inder Mohan	3.82
IMT2017016	Eric John	3.76
IMT2017024	Kaushal Mittal	3.72
IMT2017027	SeelamLalitha	3.69
IMT2017043	Swasti Shreya Mishra	3.68
IMT2017047	Yeddula Sai Dhanush Reddy	3.66
IMT2017517	U Prateksha	3.76
IMT2017521	Ram S	3.85
IMT2017522	Rathin Bhargava	3.88
IMT2017524	Kalyanapu Sailesh	3.68

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Dean (Academics)

Prof. Madhav Rao
Co-ordinator iMTech Programme

Prof. Amit Chattopadhyay
Faculty Incharge Fellowship

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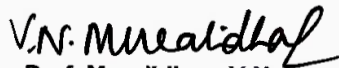# International Institute of Information Technology Bangalore
Dean's List (Integrated MTech)
June 2018
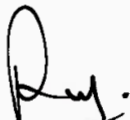
The Dean's List at IIIT-B honors the students of Integrated Mtech (iMTech) who have attained a cumulative GPA of 3.60 or above. The list is updated annually.

Integrated MTech Batch 2016

Roll No	Name	CGPA
IMT2016001	Gopalakrishnan V	3.70
IMT2016005	Aayush Grover	3.80
IMT2016008	Satvik Sunkam Ramaprasad	3.90
IMT2016024	Shobhit Pankaj Behl	3.76
IMT2016025	Akshi	3.73
IMT2016050	Biswesh Mohapatra	3.86
IMT2016052	Aditya Gulati	3.90
IMT2016054	Aditya Shridhar Hegde	3.88
IMT2016057	Lakshmi Manonmaie Pasumarthy	3.63
IMT2016072	Nomula Rohith Yogi	3.62
IMT2016082	Nimisha Garg	3.65
IMT2016110	Dachepalli Soumith Kumar	3.73
IMT2016129	Ananth Shreekumar	3.85

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Dean's List (Integrated MTech)
June 2018

The Dean's List at IIIT-B honors the students of Integrated Mtech (iMTech) who have attained a cumulative GPA of 3.60 or above. The list is updated annually.

Integrated MTech Batch 2015

Roll No	Name	CGPA
IMT2015002	Abhiramon R	3.69
IMT2015003	Aditya Ankush	3.80
IMT2015006	Alavala Deepika	3.63
IMT2015015	Ghantasala Oormila	3.65
IMT2015044	Utkarsh Agrawal	3.72
IMT2015504	Aparna D Nair	3.70
IMT2015512	Krishna Nagaraja	3.85
IMT2015517	Pranav Aggarwal	3.72
IMT2015523	Vinay Chandrasekhar K	3.85

Prof. Chandrashekar Ramanathan
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Prof. Madhav Rao
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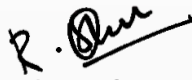
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June 2018

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Integrated MTech Batch 2014

Roll No	Name	CGPA
IMT2014004	Ahmad Shayaan	3.77
IMT2014005	Ankita Christine Victor	3.62
IMT2014018	G Neha	3.85
IMT2014019	Gaurav Koley	3.64
IMT2014024	Indu Ilanchezian	3.92
IMT2014034	Meghana Kotagiri	3.87
IMT2014047	Seelapureddy Venkata Rama Aditya Reddy	3.63

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Dean's List (Integrated MTech)

June 2018

The Dean's List at IIIT-B honors the students of Integrated Mtech (iMTech) who have attained a cumulative GPA of 3.60 or above. The list is updated annually.

Integrated MTech

Roll No	Name	CGPA
IMT2013004	Paliwal Aditya Sanjay	3.71
IMT2013008	B Laasya	3.89
IMT2013012	Devarsh K U	3.83
IMT2013018	Komaragiri Vasundhara	3.71
IMT2013021	Kumaresh Krishnan	3.86
IMT2013025	Meghana M Reddy	3.74
IMT2013027	Nigel Steven Fernandez	3.69
IMT2013030	Pranay Dugar	3.65
IMT2013032	Rajesh D M	3.64
IMT2013044	Simran Dokania	3.76
IMT2013047	Sri Veda Chevuru Reddy	3.68
IMT2013053	Trisha Mittal	3.60

Prof. Chandrashekar Ramanathan
Dean (Academics)

Prof. Madhav Rao
Co-ordinator iMTech Programme

Prof. Amit Chattopadhyay
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International Institute of Information Technology Bangalore
Dean's List (MTech)
June 2018

The Dean's List at IIIT-B honors the students of MTech who have attained a cumulative GPA of 3.75 or above. The list is updated annually.

Master of Technology Batch 2017

Roll No	Name	CGPA
MT2017012	Akshita	3.75
MT2017020	Anamol Saxena	3.86
MT2017023	Anmol Asrani	3.85
MT2017037	Shinde Deepali Deelip	3.80
MT2017041	Veerapuraju Dhanya Akhila	3.90
MT2017047	Harshita Gupta	3.78
MT2017054	Jaishankar G M	3.96
MT2017060	Kavya K Puranik	3.83
MT2017120	Sumitesh Purohit	3.92
SMT2017003	Gaorav Kumar Gupta	3.75
SMT2017013	Rahul Kumar	3.80
SMT2017023	Sowbarnika Thiruppathiraj	3.85
SMT2017027	Surendra Pandey	3.85

Prof. Chandrashekar Ramanathan
Dean (Academics)

Prof. Muralidhara V N
Co-ordinator MTech Programme

Prof. Amit Chattopadhyay
Faculty Incharge Fellowship

International Institute of Information Technology Bangalore

Dean's List (MTech)
June 2018

The Dean's List at IIIT-B honors the students of MTech who have attained a cumulative GPA of 3.75 or above. The list is updated annually.

Master of Technology Batch 2016

Roll No	Name	CGPA
MT2016011	Anjana K	3.87
MT2016021	Archana R	3.93
MT2016040	Chavala Sriharipriya	3.91
MT2016041	Chellapriyadharshini M	3.76
MT2016068	Jyotsana	3.84
MT2016069	Kanika Narang	3.85
MT2016082	Meghna Ajay Srivastava	3.83
MT2016088	Naik Shivani Shrikant	3.91
MT2016094	Nimrani Alok Ramesh	3.88
MT2016096	Nishant Oli	3.76
MT2016102	Patel Meet Shantibhai	3.92
MT2016120	Sabari Nathan A	3.80
MT2016138	Suparna Ghanvatkar	3.78
MT2016518	Polareddy Bhavani Lakshmi	3.78
MT2016520	Prashanthi S K	3.95
SMT2016023	Sulochan Naik	3.76

Prof. Chandrashekar Ramanathan
Dean (Academics)

Prof. Muralidhara V N
Co-ordinator MTech Programme

Prof. Amit Chattopadhyay
Faculty Incharge Fellowship

International Institute of Information Technology Bangalore

Dean's List (MTech)

June 2018

The Dean's List at IIIT-B honors the students of MTech who have attained a cumulative GPA of 3.75 or above. The list is updated annually.

Master of Technology Batch 2015

Roll No	Name	CGPA
SMT2015014	Kavin Kumar T	3.87
SMT2015015	Kishore S N	3.81
SMT2015020	Mohanraja B	3.75

Prof. Chandrashekar Ramanathan
Dean (Academics)

Prof. Muralidhara V N
Co-ordinator MTech Programme

Prof. Amit Chattopadhyay
Faculty Incharge Fellowship

CAMPUS EVENTS

CONVOCATION

08-Jul-18	The 18th Convocation of IIIT Bangalore was held on July 8th. Professor V. Ramgopal Rao, Director, IIT Delhi was the chief guest, and Dr. Aloknath De, CTO, Samsung India, the guest of honour at the event. Mr. Kris Gopalakrishnan, Chairman of the IIIT Bangalore Board, presided over the function and declared the convocation open. The 280 students who graduated from its various post-graduate programmes, had 7 graduating with a Doctor of Philosophy degree, 5 with a Master of Science by Research degree, 175 with a M.Tech. degree from the 2-year programme, 56 with a B. Tech. and an M.Tech. degree from the 5-year Integrated programme, 31 with an M.Tech. degree from a sponsored program by Samsung, and 6 with a M. Sc. in Digital Society degree.

FOUNDATION DAY

15-Sep-17	IIIT Bangalore celebrated its 18th Foundation Day on September 15th. The Guests of Honour of the event were Dr. Ganesh Margabandhu, General Manager -Transformation Leadership, IBM India, Professor G. Shainesh, Dean – Administration, IIMB and Ms. Seethalakshmi S, City Editor (Chief of News Bureau), The Times of India. The celebration included the Director's welcome speech, speeches by the Guests of Honour, cake cutting, cultural programme and dinner.

Foundation Day September 15, 2017

ALUMNI DAY	
24-Feb-18	Sangam 2018 (Alumni Day) was held on February 24. Wing Commander Rakesh Sharma, Ashok Chakra, Hero of the Soviet Union was the Chief Guest for the event. After an introduction by Professor S. Sadagopan, Shri Rakesh Sharma addressed the gathering with inspiring words. Towards the end when he was asked to say the famous one-liner which he said to the then Prime Minister Indira Gandhi, Wg Cdr sang the first few lines of "sare jahan se achcha." Jatin Chaudhary (member of Alumni Council) gave the alumni council updates and Professor Debabrata Das updated on what is new at IIIT Bangalore. The Theatre Club and Chhayachitra jointly released two videos celebrating the event, which are at: https://youtu.be/fRDxS3maIYk https://youtu.be/alwAZWKf41k

SAMVAAD	
08-Jan-18	Samvaad is a formal, time-tabled activity of IIIT Bangalore faculty and the research scholars working along with them to introduce their research and academic interests to the institute members, as well as to external participants who are interested. All members of the institute are invited to attend Samvaad talks. Professor Amit Prakash from the Center for IT and Public Policy (CITAPP) gave the first Samvaad talk along with his research team members on January 8.

SPANDAN

March 9-11, 2018	The annual sports event Spandan 2018 was held during March 9-11 at IIIT Bangalore. The event featured several sports events including Basketball, Carrom, Chess, Computer games, Cricket, Football, Gully Cricket, Lawn Tennis, Marathon, Table Tennis, Throwball, Tug of War, and Volleyball with the active participation by over 600 students, alumni, faculty and staff. As always, the event was entirely organised by the student's sports committee and student volunteers, with active support from faculty and staff.

IEEE'S FIRST IDENTITY UNCONFERENCE

July 10-11, 2018	IIIT Bangalore hosted IEEE's first identity unconference in India during July 10-11. Title of this unconference was "Digital Inclusion through Trust and Agency" and it includes series of sessions. Some of the main topics included affordable solutions ; decentralized identity; secure identity protocols; blockchain and "user-centric" identity; ethical and cultural considerations for inclusion; protocol and policy impact of "user-centric" identity; trust and agency frameworks that deliver "the right to be forgotten".

SPICMACAY

23-Aug-17	SPICMACAY IIIT Bangalore chapter presented Carnatic Violin by Professor T. N. Krishnan with Sri. M. R. Sainath on the Mridangam and Sri. Vaikom Gopalakrishnan on the Ghatam on August 23. Testimonials on the event included the following: "Professor T. N. Krishnan's music moves at a leisurely pace, self-reliant with a rich classical overtone. The marriage between the bow and the strings is a gift of God and polishing it further depends on the amount of practice a vidwan has put in. TNK's bowing makes his violin sing expressively."

SPICMACAY Carnatic Music Violinist

Dance performance by P Praveen Kumar

31-Oct-17	The SPICMACAY chapter of IIIT Bangalore held its first ever overnight event 'Yamini' 2017 on October 31st to celebrate five major classical art forms. The night boasted back-to-back performances from dusk to dawn. The performances were a fascinating blend of Indian music and dance. Ms. Rama N S, the CEO of ELCITA was the chief guest for the occasion. The event commenced with the beguiling performance of Mohiniyattam by Dr. Methil Devika, a dance research scholar, performer, choreographer, and a professor. It was then followed by the Oscar nominee, Smt. Bombay Jayashri performing a soul-stirring Carnatic vocal concert. Pt. Nityanand Haldipur, a purist in Maihar Gharana tradition, and one of the most sought-after Hindustani Bansuri artistes then amazed the audience with his fascinating performance on the Bansuri, a Hindustani classical instrument. Smt. Shruti Sadolikar, a Hindustani singer of the khyal style in the Jaipur-Atrauli Gharana mesmerized the audience with an auditory aesthetic performance. The enthralling event concluded with the rise of the sun and a performance by Vidwan Seshampatti Shivalingam playing Nadaswaram.

VISITS AT IIIT Bangalore

02-May-18	The students from ASEAN countries visited IIIT Bangalore on May 2. This visit was under the ASEAN-India Students Exchange Program 2018, latest of the series where the Confederation of Indian Industry at the behest of Ministry of External Affairs has been organizing this Student Exchange Program from the ten ASEAN countries to India for the past 10 years. The Student Exchange Program organizes visits of ASEAN graduate and post-graduate students in the age-group of 20-28 years to India. 25 students from each of the ten ASEAN member nations are selected from among those who have displayed academic interest in India.

Visit of ASEAN graduate and post-graduate students

May, 2018	IIIT Bangalore and the Ministry of Communications and Information Technology (MCIT), Government of Indonesia have signed a scholarship cooperation agreement to facilitate education of Indonesian government officers and students at IIIT Bangalore. Under this agreement, 10 full-funding scholarships will be made available to Indonesian citizens, identified by MCIT as potential future leaders of Indonesia, to undergo the unique and interdisciplinary 2-year Master's Programme in Digital Society at IIIT Bangalore. The MoU between the two organizations is one of the fifteen agreements, which are a part of the Indian Prime Minister's recently-concluded visit to Indonesia.

25-Jun-18	Shri K. J. George, Honorable Minister for Large & Medium Scale Industries, IT and BT, Science and Technology, Government of Karnataka, visited IIIT Bangalore on June 25. During his visit, he inaugurated the Machine Intelligence and Robotics (MINRO) Centre at IIIT Bangalore.

SMOGATHON

16-Oct-17	IIIT Bangalore's Innovation Center hosted the Bangalore Semi-final of the Global edition of Smogathon 2017 - a global initiative focused on "Air Pollution" on October 16th at IIIT Bangalore. We congratulate Graviky Labs (our alumni-entrepreneur, Mr. Nitesh Kadyan) and Chakr Innovation for winning the Semi-finals and securing a place in the 2017 finals.

FLASHBACK

09-Nov-17	FLASHBACK event was held on November 9th at IIIT Bangalore. The event was organized for those Faculty members who were with IIIT Bangalore in its formative years.

CULTURAL EVENT

11-Oct-17	Theatre Arts Club (IIIT Bangalore) addressed the issue of Food Wastage through a street play on October 11. The act threw light on the recent trend in the college hostels wherein students tend to overestimate their food consumption and end up taking more food than they need, also not hesitating to throwing it away. The act ended with the message "Today's Wastage is tomorrow's shortage."

29-Nov-17	The play "The Way Out" was performed by Theater Arts club on November 29 at IIIT Bangalore. The play was about three women, subjected to hardships and abuse, each one chose to take a different path which eventually got intertwined. Dealing with shame, stigma, and self-apprehension, they came out to face life, in their own ways. The Way Out, at its core, deals with the constant abuse, women have to face, be it in the workplace, educational institutions and other such social settings. Some of them gather the courage to stand up against the wrong that is being done, but many of them don't. Afraid to be ostracized by peers and family, fear of being misunderstood and other such consequences deter many from speaking up, often resulting in the person sliding into depression and eventually ending up harming themselves. With this play, we wanted to convey a very simple message. No matter what happens, your family and your friends will always stand by you. So don't give up on life for the wrong someone else did. Speak Up! Always remember, there's always a way out.
19-21 Jan-2018	Infi8-2k18, the techno-cultural fest of IIIT Bangalore, was held during January 19-21. The fest included several oratorical, art, and gaming competitions.
28-Mar-18	Theatre Arts Club performed a Mime act on the occasion of International Women's Day Celebration on March 28th. The Mime portrayed the struggles of a working woman in balancing her family and career; and the struggles of a sports enthusiast in a male dominated sport. The mime was followed by the screening of the movie, "Hidden Figures," which is a 2016 biographical movie conceptualized and directed by Theodore Melfi. The movie is based on an eponymous book by Margaret Lee Shetterley, and is about female black mathematicians who worked at NASA during the Space Race in mid 1950s and 1960s.

	EVENTS AT IIITB
05-Aug-17	1st Graduation Ceremony of Post Graduate Diploma in Data Analytics was held on August 5 at IIIT Bangalore. The first cohort started with 291 students out of which 231 students graduated. Students received their degrees from the Chief Guest, Mr. Naresh Shah, President, EG India R&D, Hewlett Packard Enterprise, and Mr. Ronnie Screwvala, Co-Founder, UpGrad. Professor S. Sadagopan, Director, IIIT Bangalore, Professor Chandrashekar Ramanathan, Dean (Academics) IIIT Bangalore, Professor Tricha Anjali, Coordinator PGDDA programme, Mr. Mayank Kumar, Co-Founder UpGrad and other faculty members of IIIT Bangalore attended the event.

30-Aug-17	Z Nation Lab in association with IIIT Bangalore organized Khoj 2017 Bangalore on August 30.
05-Sep-17	Gooru labs was formally inaugurated at IIIT Bangalore by Professor Rajagopalan, Dr. Sridhar Mitta and Dr. Prasad Ram on September 5. Gooru is a non-profit educational technology initiative that is dedicated to improving the learning outcomes of all the students by making education equally accessible and empowering. The Gooru Labs is a network of partnerships with several universities and research labs around the world, including Drexel University, Stanford University, John Hopkins School of Education, University of Illinois Urbana-Champaign, and IIIT Bangalore. The researchers atThe Gooru Labs work on Learning Science, Social Cognition, Web Science and Data Science for Learning.

05-Sep-17	5th September marks an important day, popularly known as Teacher's Day. To pay respect to our teachers, student community this year celebrated the day in a grand manner. It started with a play by the Theatre Club depicting the role of a teacher in changing student's lives. Chhayachitra, the Photography Club showed a movie thanking all the professors for their effort, guidance, and support, in every situation. At the end, Professor Sadagopan and Professor Chetan Parikh thanked all the students with their kind words of appreciation.
05-Sep-17	Like every year, this year also, IIIT Bangalore conducted a Blood Donation Camp on September 5th to contribute their bit as a collective in helping save lives. The Blood Donation Camp was setup with the help of Bangalore Medical Services Trust (BMST). A total of 86 people came forward and donated blood, which has been the highest number until now.

Jan-18	IIIT Bangalore is soon going to host its very first TEDx event. As a prelude to the main event during March-end, the TEDx team organised TEDx Exordium, a short, fun and engaging event to give the students an idea of what TEDx is. It consisted of a short talk by the organisers followed by interactive games to fuse energy into the eventaudience. Professor Sachit Rao gave a talk on the science behind addiction to social media. Further, the event included games, gifts, the TEDx website launch, and the theme reveal for the first edition of TEDxIIIT Bangalore. The theme, Demystify, encourages one to think deeper than what appears to the naked eye and read between the lines to break myths and explore the truth behind every occurrence in each and every aspect of life. The event ended with a high note, with the audience leaving with some food for thought and in anticipation of the main event on March 31.

17-Aug-17

The election for the Student Activity Council 2017 (SAC) was held on August 17. The process of identifying the new SAC started in the first week of August and culminated with the elections. After a fun round of creative introductions by the candidates, they were each assigned an event to organize. There were several fun events like Musical Night, Treasure Hunt, Smash-a-thon (Badminton), Shootout (Carrom) at IIIT Bangalore and Gully Cricket. During these events, the candidates showed their leadership and management skills in the way in which they handled certain tasks and scenarios. The students participated in these events with enthusiasm. The SAC 2016 guided the nominees throughout the process till the final elections. The SAC elections follow a democratic process overall, as a tradition. Apoorva Bhalla (DT2017002) and Sriram N.G. (DT2017009) from the M.Sc. Digital Society programme, and Samruddhi Joshi (MT2017516) from the M.Tech. (ESD) programme, and Suryakant Mishra (MT2017123) of M.Tech. (IT) programme, have been elected as SAC 2017 members, as their representatives for 2017-18 based on majority votes from the student body.

LAUNCH OF COMPETITIVE PROGRAMMING CLUB	
19-Aug-17	The student club, Competitive Programming Club, was launched on August 19, with the aim to prepare iMTech students for the ACM ICPC - the Olympics of programming. It is being run by Aditya Paliwal (IMT2013004), P. S. Srinivasan (IMT2013028), Simran Dokania (IMT2013044) and Shyam K. B. (IMT2014050) who had represented IIIT Bangalore at the World Finals held in May 2017.
ELEVATE 100	
30-Aug-17	On August 30, the Government of Karnataka announced the winners of the ELEVATE 100 programme, which includes VideoKen, which is incubated at the IIIT Bangalore Innovation Center. Professor Manish Gupta is the CEO and co-founder of Videoken. The winners of ELEVATE 100 are innovative tech startups will get financial support from the government of about Rs 35 crore. Five other start-ups incubated at the Innovation Center were shortlisted for the final round, and were thus, runners-up.
INAUGURATION OF OPEN SOURCE TECHNOLOGY LAB	
05-Apr-18	Open Source Technology Lab was inaugurated by Professor S. Sadagopan, Director, IIIT Bangalore on April 5th. More than 30 participants attended the function, including faculty members, students and members from the Innovation Center. Professor B. Thangaraju delivered the welcome address. The Director launched the OSTL website and emphasized on the necessity of open source initiative at IIIT Bangalore. Professor Thangaraju presented the OSTL strategic plan. The main points of the strategic plan covered the purpose, focus and key objectives of the OSTL, setting up of the OSTL committee in various domains, details of the ways of contributing to the existing open source projects, and description of a platform to create new projects, along with a listing of various open source forums where one can publish their OSS work.

DAYS CELEBRATED	
15-Aug-17	The 71st Independence Day was celebrated at IIIT Bangalore on August 15th. The national flag was hoisted by the Chief Guest for the day, Vidya Y. (DT2015009), our alumnus. The flag hoisting was followed by the National Anthem. Tree-planting in the campus was the highlight of the event. Professor S. Sadagopan, and several members from the Faculty, the Staff, and the student body attended the event.
August 25-27, 2017	Ganesh Chaturthi was celebrated at IIIT Bangalore during August 25-27.
09-Sep-17	Students celebrated Onam festival on September 9th. The preparations began a night before, where around 150 students gathered to make "Pookkalam", a floral rangoli. The festivities began around 4 PM with our alumnus Tarun Jain lighting the lamp, followed by a dance performance by M.Tech first year girls popularly known as Thiruvathira. There was a range of games organized for students such as Bread catching, One-legged race, etc. However, Tug-of-War stole the show with around 15 teams participating with high energy. Overall, it was a day full of excitement and fun.
10-Sep-17	Fresher's Day was organized for welcoming new students on September 10. It provided all the new students a platform to know each other and also interact with seniors in an informal but friendly way. iMTech first year students gave a dance performance which was cherished by everyone. All in all, students had a fun time and ended the week on a high note.

Independence day

Yoga Day

Yoga Day

Lohri

13-Jan-18	The Lohri festival was celebrated at IIIT Bangalore on January 13. It included several activities during 8-10 pm on the day
26-Jan-18	The 69th Republic Day was celebrated on January 26th at IIIT Bangalore campus. There were special dance and singing performances by the children from Surabhi Adhawaya orphanage at the time of celebration. IIIT Bangalore students organized games like lemon and spoon race, balloon fight, musical chairs, musical grouping, carroms and volleyball for students and staff.
21-Jun-18	IIIT Bangalore celebrated the 4th International Yoga Day on June 21st. The celebration started with lighting of the lamp, after which we formally welcomed the guest and an alumnus, Surabhi Taluja, who is a faculty member of Art of Living Organization. Ms. Taluja explained the importance of asanas and meditation followed by demonstration and practice of asanas and meditation. She also explained the importance of yoga in daily life. The students, faculty and staff participated in the event enthusiastically. The event was concluded with formal vote of thanks by Professor R. Chandrashekar, Dean-Academics.

Ganesha Chaturthi

Onam

WORKSHOPS & CONFERENCES

19-Aug-17	Centre for Information Technology and Public Policy (CITAPP) at IIIT Bangalore along with the Everett Programme for Technology and Change at the University of California Santa Cruz organized a workshop on "Economic Inclusivity in India: Conceptual and Empirical Recommendations for an Indicator Framework" on August 19. This workshop is a part of a larger study on Inclusive Economies, supported by the Rockefeller Foundation. In its attempt to better promote inclusive economies, the researchers in the project team are developing a framework to better understand and measure inclusivity, focusing on five broad dimensions, namely, growth, equity, participation, stability and sustainability. The workshop was attended by the experts from within Bangalore and other parts of the country where the project team presented its findings from applying the framework in the Indian context and sought expert opinion on the relevance and usefulness of the framework on different aspects of inclusivity and development in India.

18-Aug-17	The Innovation Studio at IIIT Bangalore organized a seminar on MVC architecture on August 18. The speaker was Awais Tyagi (MT2016086). The seminar was attended by around 100 students.
02-Sep-17	Professor V. Sridhar organized and chaired the workshop on "Privacy and Global Data Protection: Case of India" at IIIT Bangalore in association with International Association of Privacy Professionals on September 2. The event saw lawyers, General Counsels, and privacy professionals from different parts of the city participating in two round table discussions: one on "Aadhaar and Associated Privacy Issues" moderated by Prof. Janaki Srinivasan and another on "EU General Data Protection Regulation and its Effects on Indian IT Industry" moderated by Professor V. Sridhar
06-Sep-17	The 69th Meeting of the Governing Body was held on September 6th.
8, 9 & 10 Sep-17	ADCOM 2017 International Conference was held during September 8, 9 & 10.
16-Sep-17	A round table discussion on "People with Disabilities and, Digital Economies, Rural Livelihoods, Inclusion & Participation" was organized at IIIT Bangalore on September 16. The event was part of EHRC and CITAPP's ongoing collaboration with the Disability NGOs Alliance (http://www.disabilityngosalliance.org/), Srishti Institute of Art, Design & Technology (http://srishti.ac.in/) and Azim Premji University (http://azimpremjiuniversity.edu.in).
18-Sep-17	Board meeting of IIIT Bangalore's Innovation Center was held on September 18.

RMIT 2017

27-Sep-17	19th Annual Governing Body Meeting of IIIT Bangalore was held on September 27.
13-14-Oct-17	The eighth series of Rmanujan Math & IT Conference was held during October 13-14 at IIIT Bangalore.
16-Oct-17	Meeting with 5 trustees of Dakshina Pinakini River Rejuvenation was held on October 16th. Collaborative efforts by way of IIIT Bangalore's contribution to the rejuvenation efforts were discussed in the meeting.
25-26 Oct-17	Ministry of Electronics and Information Technology (MeitY) from India and NWO from Netherlands have organized a matchmaking R&D workshop in order to boost the engagement with potential counterparts and to enable the exchange of ideas for joint research projects. The workshop was a two-day event held during October 25-26 in IIIT Bangalore, India. Scientists from academia and industry with a special interest in the Internet of Things (IoT), Big data-analytics and Emerging areas in ICT attended the workshop. Professor S. Rajagopalan, was the Chairperson of the workshop. Professor Debabrata Das, Professor Jyotsna Bapat were the Organising Co-Chairpersons of the workshop from IIIT Bangalore.
10-Nov-17	Roundtable on IT Project Management Education and Research conducted at IIIT Bangalore on November 10.

11-13 Dec-17	Profs. Bidisha Chaudhuri and Amit Prakash organized a 3-day workshop, the CITAPP Winter School, themed Digital and the Everyday: from codes to cloud, during December 11-13. At the Winter School, an interdisciplinary approach has been used to unpack and analyse different elements of our digitally mediated social existence, from health to public services, from finance to entertainment. The underpinning questions that were addressed during the workshop were: What are the building blocks of the digital networks that we experience everyday? Are they just a combination of software and hardware, or do they involve infrastructure, regulations, policy frameworks, institutional mechanism and much more? Given this entanglement of the digital and the everyday, the idea is to argue that a more interdisciplinary approach is required to fully understand and realize the potential of these increasingly sociotechnical systems. The workshop has been published by NPTEL at https://onlinecourses.nptel.ac.in/noc18_ge01/preview The winter school has received positive feedback from the attendees -- one such feedback is published here: https://www.linkedin.com/pulse/problem-solving-digitalsociety-rajesh-chandran/ More details at: https://www.IIITB.ac.in/content.php?pid=citapp-winter-school-2017

15-Dec-17	IIIT Bangalore and CUTS International partnered together to organize the IIITB CUTS Workshop on Broadband Labels, to generate awareness and sensitize multiple stakeholders such as policy makers, industry and consumers to advocate for broadband labels that are readable in a simple and standard format (similar to nutrition labels on food packs) and at the same time to empower consumers with information in making informed decisions on usage and purchase of broadband data plans. The workshop was co-chaired by Professor V. Sridhar, IIIT Bangalore and Mr. Rahul Singh, CUTS International, and was organised at IIIT Bangalore on December 15. The event was attended by officials of the Telecom Regulatory Authority of India (TRAI) and industry experts.

20-21 Jan-18	Inclusive STEM (I-Stem), a group that aims to be the leading self-advocacy group focused on changing the mindset, resource availability and opportunities for persons with blindness and low vision to pursue STEM education and careers in India, in collaboration with E-Health Resource Centre (EHRC), IIIT Bangalore; Vision Aid, Vision Empower and Xavier Resource Centre for Visually Challenged (XRCVC) organized a hackathon during January 20-21 at the IIIT Bangalore campus. 12 teams of 5 persons each (consisting of 2 blind/low-vision students - many of who are pursuing technical programmes at IITs/NITs/IIITs, 1 sighted student from IIIT Bangalore and 2 working industry professionals representing companies like Deutsche Bank, Google, Honeywell, Microsoft, Mindtree, Uber, Wipro) worked on challenging and exciting accessible technology solutions that ranged from navigating crowded public spaces, filtering information from social media sites, helping students prepare for Model United Nations (MUN) competitions and learning mathematics through simple games. The participants felt, it provided them a good opportunity to understand and appreciate how blind people code and to explore how they could jointly work towards making the IT industry a more inclusive workplace. The following teams were awarded prizes based on their work: 1st prize: "3rd Eye: identifying objects around you and their relationships": Aman Datta, Mayank Senani, Rama Krishna, Rishabh Jain, Rutwik Vempati 2nd prize: "Snapes and Brooms: snakes and ladder game with a Harry Potter twist": Abhijit Dasgupta, Harsha, Manjot Singh, Mohammad Khalid, Sai Krishna, 3rd prize: "CurrenSee: a currency recognition app": Abhishek Aggarwal, Kartik Sawhney, Shashidhar Gurumurty, Siddhartha Raja, Tarun Pandey

20-Mar-18	The Centre for IT and Public Policy (CITAPP) co-organized a one-day Symposium on Technology and Trafficking, with an India-based non-governmental organization, Justice and Care, on March 20 at the IIIT Bangalore campus. The symposium targeted in spreading awareness of the use of technology in human trafficking, for both promoting it as well as for preventing it. The event included introductory talks by Prof. Srinath Srinivasa, Dean R&D, IIIT Bangalore, and representatives of Justice and Care. This was followed by a panel discussion on "Technological Challenges in Anti Human Trafficking," moderated by Ms. Gayathri Kalia, Senior Advisor, Strategy and Operations, Justice and Care. The panelists included Shri Pronab Mohanty, Deputy Director General, UIDAI, Regional Office South, Government of Karnataka; Mr. Pankaj Bafna, Managing Partner, Bafna Law Associates; a representative from Deloitte; Mr. Sam Inocencio, National Director, International Justice Mission, Philippines; Mr. Rizwan Shaikh, CTO & Founder, Pristine InfoSolutions; and Mr. Peter Roxburgh, Senior Director, Impact & Analysis, Justice and Care and another panel discussion on "Technology Solutions in the Area of Human Trafficking and Child Protection" was moderated by Prof. Manish Gupta, Infosys Chair Professor, IIIT Bangalore. The panelists included Ms. Kirra Hughes, VCMS Project Manager, Liberty Asia; Mr. Valmeeka Nathan, Member, Executive Council, Nasscom Foundation; Mr. Mohan Ram Chandrashekar, Chief Mission Integrator and Innovator - Forensic Intelligence Surveillance & Security Technologies/ Centre for Cyber Security Education and Research; Mr. Nataraj K. S., VP - Open Innovation and Tech4Good, Accenture Labs, Mr. Prateek Dubey, Director, HR, IDFC Bank; and Dr. Srujana Merugu, Machine Learning researcher & Data Science consultant. The panel discussions were followed by an ideathon, chaired by Prof. essorRamesh Sundararaman, CEO, Innovation Center, IIIT Bangalore. The event concluded with pointers on the way forward and a vote of thanks. Professors Amit Prakash, Bidisha Chaudhuri, and Ramesh Sundararaman were part of the organizing team.
24-Mar-18	Professor Janaki Srinivasan led an #VisibleWikiWomen editathon for adding media content and contributions of renowned women in different walks of life in Wikipedia, on March 24th at the IIIT Bangalore campus and on March 25th at the Center for Internet and Society, Domlur. There were volunteers from the faculty, students, and alumni. Professor Preeti Mudliar had contributed to the event as well. They procured portrait images of famous women under the right - Creative Commons License, which Wikipedia expects. They have added images to include: C.S.Lakshmi (writer), Chiki Sarkar (publisher), Gauri Lankesh (journalist), Isher Judge Ahluwalia (economist), Dhondutai Kulkarni (musician), Tessy Thomas (scientist), and Geeta Phogat (sportsperson). They have also added a profile (of the ISRO scientist Moumita Dutta), and requested image permissions for several others.

31-Mar-18	The first edition of TEDxIIIT Bangalore was held on March 31st at IIIT Bangalore. The theme of the independently organized event, licensed by TED, was Demystify. The event had a captivating line-up of speakers, with talks ranging from cyber forensics and cloud computing, to fashion to branding. The tone for the event was set by the warm welcome extended by Professor Srinath Srinivasa, Dean (R&D), IIIT Bangalore. The event began with a technical talk by Chirag Gandhi, an alumnus of IIT Bombay establishing a link between chess and business strategies in an exquisite manner. Jhansi Munukoti's talk on Smart Art focused on the democratization of creativity. The buzzword of cryptocurrency and the fascinations of cyber forensics were demystified to the rapt audience by Ajeet Khurana (Head, Blockchain and Cryptocurrency Committee, India) and Sebastian Edassery (Director and CSO for Deloitte India) respectively. Oyindrila Ray Ghosh, Celebrity and Fashion Stylist demystified the fashion world through her talk. Vidhya Y., an alumnus of IIIT Bangalore talked of her journey till Vision Empower, her start-up that aims to provide accessible solutions to the visually impaired. Saurabh Uboweja (International Brand Expert and Founder CEO of Brands of Desire) presented the ideas of breaking the conventional notions of branding and enabling the individual to contribute to true branding in some form. Sudhanshu Kaushik (Young India Foundation) talked about the socio-political effect that social media has on India.
April, 2018	Sonata Software Limited, a global IT solutions company, announced a grant to IIIT Bangalore to support scientific research for accelerating digital and platform-based business transformation. The three-year project funded to the tune of INR 1.05 Crores, will focus on research fellowship and evangelisation of technology for platform-based digital business transformation. Professor Srinivas Vivek is the principal investigator for the research component of the grant and the topic is platforms and data security.

04-Apr-18	The IBM Research Workshop was organized on April 4th. The workshop covered topics on activities at the IBM Research Lab and technical talks on introduction to transfer learning, introduction to adversarial machine learning, and SE4AI (Software Engineering for Artificial Intelligence). It also included a tutorial on "deep learning from scratch". The workshop was organized by IBM Research Lab employees, Tanmayee Narendra and Tarun Tater, who are also alumni of IIIT Bangalore

12-13 Apr -18	The Centre for IT and Public Policy (CITAPP) at IIIT Bangalore conducted a 2-day workshop on "Digital Media Presence for the Not-for-Profit Sector" during April 12-13. The workshop has been organized as a part of the Niranthara Programme of Dhwani Foundation, which seeks to enable NGOs to achieve higher organizational maturity and sustainability. The workshop aimed at meeting emerging requirements of their stakeholders and making greater impacts in the communities they serve. During the workshop, Operations Managers from 25 NGOs were introduced to good practices towards setting up of their respective organizations' online presence across various digital media platforms, including aspects related to data privacy and content management.

17-May-18	E-Health Research Centre at IIIT Bangalore and Rotary Bangalore, Abilities jointly organised a workshop on "Bringing an equitable ecosystem for accessibility" as part of the Global Accessibility Awareness Day 2018 on May 17. The event was organized as an effort towards creating awareness at all levels about the need to make technology and physical space accessible and inclusive for all users with a disability. Speakers included accessibility advocates, leaders from tech companies and organizations working on improving accessibility in the workplace, as well as product companies building accessibility into their solutions. Professor T. K. Srikanth has coordinated the organization of the event.

05-Jul-18	The Fairwork Foundation, in collaboration with the Center for IT and Public Policy (CITAPP)organized a workshop on online platform labour on July 5 at IIIT Bangalore. The workshop was designed as a multi-stakeholder meeting to gauge what might be considered 'fair' online work in an Indian context, against the backdrop of a growing number of platform workers (7 million across the world). The workshop was convened to discuss and deliberate on the nine principles of fairness in relation to platform work identified by the Fairwork Foundation on the basis of consultation and research in other countries. The core question was how the nine general principles could be contextualized and operationalized in the Indian context, where 24% of the world's online labour is to be found. The inputs from various stakeholders will provide the basis for further research in India. Another goal of the workshop was to examine the viability of a certification mechanism to rank and rate platforms. The workshop was attended by members of the academia, international policy agencies, think tanks, corporate research labs, worker and civil society organizations, activist groups, labour unions, platform representatives, lawyers and online workers.

25-Jul-18	Visualization Groups Meetup on July 25th saw a half-day workshop at IIIT Bangalore between Graphics-Visualization-Computing Lab (GVCL) of IIIT Bangalore and the Visualization Graphics Lab of IISc. Profs. Jaya Sreevalsan Nair and Amit Chattopadhyay and their research groups along with the research group of Prof. Vijay Natarajan, IISc, discussed ongoing projects in their respective labs

CAMPUS VISITORS

August 2017

- August 1: Dr. Mukund Rao ,KKC
- August 1: Dr. Gayatri Saberwal, IBAB
- August 3: Udaya Hegde, Useready
- August 4: Dr. J Ramachandran Dr Reddy's Lab
- August 4: Ms. Geetha Rao
- August 8: Mr. Rahul, Senior Editor Times of India
- August 8: Ms. Seethalakshmi Metro Editor Times of India
- August 10: Mr. Giri Srinivasan
- August 16: B Priyanka IAS, Asst. Secretary to Govt. of India Ministry of Electronics & IT
- August 21: Mr. Selvaraj V Sasken Technologies
- August 22: Dr. Deepali Sharma DDG, UIDAI
- August 29: Mr. Shubhranshu Choudhary Founder, CGNet Swara
- August 30: Shri Sharath Sasidaran To give a special talk on Yoga The Root of Happiness
- August 30: Participants for KHOJ 2017 Bangalore

September 2017

- September 05: Dr. Sridhar Mitta, Founder & Managing Director, NextWealth Entrepreneurs Pvt Ltd for the Inauguration of GOORU LABS
- September 06: Prof. Shirin Madon, London School of Economics and Political Science
- September 06: Shri Sharath Sasidaran, to give a special talk on "Karma-are we destined?"
- September 13: Dr. Srikanth Cherla
- September 20: Dr. Abhijith Laskar
- September 22: Prof. P Nagabhushan, Director, IIIT Allahabad
- September 22: Prof. Kavi Mahesh, Director, IIIT Dharwad
- September 22: Ms. Seethalakshmi S & Mr. Rahul Nandan, Times of India
- September 22: Mr. Satyanarayan, Career Launcher
- September 28: N Mohanra, EVP & Chief Technology Officer, National E-Governance Services Limited

B. Priyanka, IAS, Meity, Delhi

October 2017

- October 05: Prof. K N B Murthy, Chairman, BITES
- October 09: Mr. Lakshmipathy Bhat, Robosoft Technologies
- October 10: Mr M N Vidyashankar IAS (Retd), Former Additional Chief Secretary
- October 13: Mr. P Manivannan, IAS & Ms. Salma Fahim, IAS, Director Department of ITBT
- October 16: Mr. N Vishwanathan, IAS (Retd) & Team
- October 16: Mr. Omprakash Subbarao, Sonata Software
- October 17: Ms. Gayathri Krishna, Bhoomija Trust
- October 23: Nipun Mehortra, Chief Digital Officer, IBM
- October 24: Mr.Geetha Krishnan, Research Head, CL Educate
- October 25: Mr. K Vaitheeswaran, Co-Founder, Fabmart/Fabmall /India Plaza & Mr. Chinnu Senthilkumar, CTO, Exfinity Ventures
- October 26: Prof. U B Desai, Director, IIT Hyderabad
- October 27: Managing Director & Senior Management Team, NESL
- October 27: Dr. David Keynan, Vice Chiarman & Mr. Srinivasa Raghavan, Federation of Indo-Israel Chamber of Commerce
- October 27: Mr. B V Naidu, Chairman
- October 31: Guest for Yamini 2017
    a. Shruti Sadolikar – Hindustani Vocal
    b. Methil Devika – Mohiniyattam
    c. Bombay Jayashri- Carnatic Vocal
    d. Nityanand Haldipur- Hindustani Bansuri
    e. seshampatti sivalingam- Nadaswaram

Visit of Nipun Mehrotra, Chief Digital Officer, IBM

Visit of Ms. Salma, IAS and Mr. Manivannan, IAS

November 2017

- Nov 02: Mr. Mrirani Sharma Assistant General Manager (Legal) in NEDFi
- Nov 02: Mr. Zaveer Zaman Manager in North East Venture Fund
- Nov 02: Mr. Siddhartha Lahkar Assistant Manager, North East Venture Funds
- Nov 06: Hart Singh SVP- New Ventures, Evolving Systems Inc
- Nov 06: Mr. Giri Srinivasan

- Nov 06: Mr. Sudhir Patnaik
- Nov 06: Hart Singh, SVP- New Ventures, Evolving Systems Inc.
- Nov 07: Dr. Sridhar Mitta Founder and MD, Nextwealth Entrepreneurs Pvt.Ltd
- Nov 07: Mr. S Srikrishna, Partner- Incubation Hub at Candor Hub
- Nov 07: Mr. Rajendran S, Mentor and Strategic Advisor
- Nov 07: Sakshi Agarwal, Digital Entrepreneur, Ambassador of Technovation
- Nov 07: Nivedha R M, Founder and CEO, Trashcon Profile & Co-Founder of CCC and Sparsh the Help
- Nov 07: Geeta Ramamurthy, Co- Founder & CEO GIGA Innovation Centers, India & Us
- Nov 20: Mr. Chinnu Senthilkumar, CTO, Exfinity Venture Partners
- Nov 20: Mr.Karthik Padmanabhan & Mr. Mathang Sheshagiri
- Nov 21: Dr. Sanjay, Dell
- Nov 22: Spanish Consulate
- Nov 24: Dr. Rajan M A
- Nov 29: Korean Delegation

December 2017

- December 01: Cyient Insights
- December 05: Dr. V K Agrawal
- December 06: Mr. Karthik K S, CEO, AEON Learning Pvt Ltd
- December 06: Mr. Rajesh Nambiar, Saleforce
- December 11: Prof. Swami Manohar, Microsoft Research India
- December 11: Mr. Paddy Raghavan, Co-Founder and Mr. Vijay & Santhosh, Founding Engineers, CMPUTE.IO
- December 19: Mr. Shamim Ahmad, Senior Editor, Mathematics & Statistics, Sprniger India Pvt Ltd
- December 21: Ms. Vinutha Narayanmurthy, Wipro
- December 27: Dr. U Thein Win, Director General, Ministry of Education, Govt. of Myanmar
- December 27: Daw Nwe Ni, Deputy Director General, Ministry of Education, Govt. of Myanmar
- December 27: Dr. Daw Win Aye, Rector - MIIT
- December 27: Dr. Daw Mie Mie Khin, Pro Rector - MIIT

Visit of Myanmar Delegation to review mentoring activities of MIIT

January 2018

- January 11: Dr. Katharine S Willis
- January 16: Officials from iSPIRT, Omidyar Networks, PwC & The World Bank
- January 19: Mr. Arjun Singh, Managing Director, ENVESTNET YODLEE Infotech
- January 19: Prof. Simon Evans, Pro Vice Chancellor, Global Engagement, University of Melbourne
- January 24: Mr. Omprakash Subbarao,Mr. Navin Jacob, Sonata Software
- January 23: Industry Leaders to the Partnership event

February 2018

- February 2: Ms. Sarita & Mr. Kamal, Indian Angel Network
- February 5: Delegation from Daimler
- February 14: Dr. Ravi Kiran
- February 15: Mr. Sanjay Anandaram
- February 15: Mr. Anjaneyulu Kuchibhotla, Finuno
- February 16: Dr. Aditya Rachakonda, Senior Data Scientist, Flipcart
- February 17: Prof Uday Desai, Director, IIT Hyderabad
- February 22: Mr. TAN Moorthy
- February 24: BARR. ABDUR-RAHEEM ADEBAYO SHITTU, Honorable Minister for Communications, Nigeria
- February 24: Rakesh Sharma, Hero of the Soviet Union(Chief guest for SANGAM)

Barr. Abdul-Raheem Adebayo Shittu, Nigerian Minister

Visit Of Students Of Acharya's Bangalore B-School

March 2018

- March 1: Dr. D B Kiran, Senior Director & Anand Kalidoss, Microsoft Corporation India Pvt Ltd
- March 2: The Members of AICTE Expert Visit Committee
- March 7: Ms. Vasanthi Hariprakash, Founder, Pickle Jar
- March 8: Mr. Nagendra Desai, Director and Head of Product DevelopmentMindtuit Analytics Pvt Ltd

- March 12: Mr. Binod Hampapur, Infosys Foundation
- March 12: Professor Rajah Rasiah, University of Malaya
- March 13: Dr. C S Kedar, IAS(R) and Team
- March 13: H.E. Mr. Veljko Kajtazi, Honorable Member of Parliament, Croatia and Mr. Emir Grabic, Advisor to Minister
- March 13: Mr. P Venugopal, Regional Director, Indian Council for Cultural Relations
- March 14: Dr. Chandrashekar and Dr. Harsha Kestur
- March 14: Mr. Vincent Quah, AWS
- March 14: Mr. Vikram Ahuja & Mr. Lalit Ahuja
- March 14: Mr. Varun Aggarwal (CTO Aspiring Minds)
- March 26: Mr. William Zhao, CEO of Huawei Technologies India and Huawei Technologies India Team

April 2018

- April 02: Prof. Oliver Günther, President, University Potsdam
- April 04: Mr. Madhusudhan, CTO of Mindtree & Team
- April 05: Dr. Nischal Nadhamuni, Massachusetts Institute of Technology,Department of Electrical Engineering & Computer Science
- April 05: Samsung, South Korean Team
- April 10: Shri M B Dyaberi, IAS (Retd), Chief Executive Officer (CEO),Dr. B R Ambedkar School of Economics
- April 10: Dr. Mallika, Dr. B R Ambedkar School of Economics
- April 10: HPE Team
- April 11: Dr. Sowmya Balasubramanya, International Water Management Institute
- April 11: American Express Team
- April 12: Industry Leaders to the Partnership event
    a. Vinay Shenoy, Managing Director, Infineon Technologies (India)
    b. Sumeet Verma, Director, Strategic Engagements, Intel India
    c. Rama N S, CEO, ELCIA
    d. Kumaran Venkatesh, Senior Director of Business Development, ARM

MoU with Sonata

Indonesian Delegation

     f. Dr. Chavali Ramesh and Ms. Hemavathi, BEL

     g. Gilbert Joseph, Head Corporate Affairs, Huawei Technologies India

     h. Arnob Roy, Head R&D, Tejas Networks

     i. Meenu Bhambhani, Vice President & Head - Corporate Social Responsibility, Mphasis

- April 13: Dr. Kavi Mahesh, Director, IIIT Dharwad
- April 13: Mr. Basuki Yusuf Iskandar, Mrs. Gati Gayatri, Mr. Hendra Fatadona, Ministry of Communication and Informatics, Republic of Indonesia
- April 16: Shri. Bhavesh R Trivedi, Director (DPA), MEA, Shri. Vikram Singh, AO (FIN-II), ME
- April 16: Dr. C S Kedar, IAS (R) & Team
- April 17: Mr. S K Murthy, Patent Counsel, Intel India
- April 18: Ms. Apurva Varma, Regional Manager, ARM
- April 18: Mr. Srikar Reddy, CEO, Sonata Software
- April 18:Mr. P V S N Raju, Chief Delivery Officer, Sonata Software
- April 18:Mr. Om Prakash, Head Verticles, Sonata Software
- April 18:Mr. Navin Mathew, Head Planning, Sonata Software
- April 23: Dr. Kalpana Gopalan, IAS, Additional Chief Secretary, Government of Karnataka
- April 23: Mr. Sachidanand Mangalabasavanna, Director, HCL Products India Lab, HCL Technologies Ltd
- April 25: Dr. Manish Mandloi
- April 25: Mr. Vedant Dugar

May 2018

- May 02: Dr. Vidyadhar Mudkavi, Director, CSIR Fourth Paradigm Institute, (CSIR-4PI)
- May 02: ASEAN Students
- May 02: Dr. Neil Jain, IRS
- May 04: Mr. Vijay Anand, Senior Vice President, Intuit Global Development Centers
- May 07: The Morocco Delegation & Other Invitees
- May 14: Dr. Prasad Ram
- May 14: Dr. Sanjay Kagwade

Morocco Delegation

- May 16: KISED Team, (Korea Institute of Startup & Entrepreneurship Development)
- May 17: Ms. Parimala Sudhindra, Tech Mahindra
- May 24: Dr. Raj Kumar Upadhyay, Doordarshan
- May 24: Ms. Seethalakshmi, Times of India
- May 24: Ms. Sujata Kshirsagar
- May 28: Ms. Neha Yadav, AWS
- May 30: Sri. P Rajendra Cholan, IAS, Managing Director, BESCOM
- May 31: Mr. Subramanya Bharadwaj, BOSCH

June 2018

- June 07: Mr. Sunil Pathak & Team
- June 13: Shri. P Ravi Kumar, Additional Chief Secretary to Government
- June 14: Chairman & Members of PRSG Committee:
  a. Dr. Debashis Dutta
  b. Dr. A K Garg
  c. Mr. K Kodandarama
  d. Mr. Sharad Sharma
  e. Mr. Navratan Katariya, and
  f. Mr. Anurag Kumar
- June 19: Dr. Rangachar Kasturi, University of South Florida
- June 20: Dr. Venkatesan Chakaravarthy, IBM Research
- June 21: Dr. Priyanka Das
- June 22: Dr. Shivakumar Shastry
- June 22: The Shortlisted Candidates of Integrated M.Tech 2018
- June 25: K. J. George, Minister for Large & Medium Scale Industries, IT and BT, Science and Technology, Government of Karnataka
- June 26: Dr. Vinod Veera Reddy
- June 26: Mr. Nandakumar, IFS, Deputy Secretary, Office of Minister of State(MJA)
- June 27: Mr. Sunil Kumar, Senior Advisor, Science & Innovation India, UK Science & Innovation India British Deputy High commission

IT BT, S and T Minister, Shri. K. J. George visits

July 2018

- July 4: Udaya Hegde
- July 4: Dr. K R Raghunath, Vice chairman & Mr. H S Prakash, GM Public relations, Sitaram Jindal Foundation
- July 4: Rajesh Iyer, HCL, Singapore
- July 16: Dr. Vidyadhar Mudkavi, Director, CSIR National Aerospace Laboratories
- July 16: Mr. Natarajan, Former CMD BEML
- July 18: Prof. Lakshmish Ramaswamy, The University of Georgia
- July 19: Dr. Preetha Ram, Chief Academic Expansion Officer, Harrisburg University
- July 20: Sony Team
- July 20: Prof. Rahul De & Team, Indian Institute of Management Bangalore
- July 20: Prof. Prashant Sankaran
- July 25: Sony Leadership Team
- July 26: Prof. P Balaram, Prof. P Satishchandra, Prof. B S Sonde, Prof. S S Prabhu
- July 30: Mr. Ramann IA and AS & Dr. Mohan Ram NESL

Visit of The British High Commissioner to India

Prof. V. Ramgopal Rao, Director, IIT Delhi, Chief Guest

Dr. Aloknath De, CTO, Samsung India, Guest of Hounour

**GUEST
TALKS**

Aug-17	
18-Aug-17	"Knowledge Matters: Equity, Growth and and the Future of Work in the Information Economy" by Prof. Chris Benner, University of California, Santa Cruz.
23-Aug-17	"Explore and Exploit: Because you may not know what you're missing" by Dr. Shipra Agrawal, Columbia university.
29-Aug-17	Talk by Shubhranshu Choudhary, Founder, CGNet Swara, on the ground realities of Development in the tribal areas of Chhattisgarh and initiatives to make journalism more democratic through his work at CGNet Swara.

Sep-17	
06-Sep-17	"Improving Accountability of Primary Healthcare: Does ICT have a role?" by Dr. Shirin Madon, Associate Professor, London School of Economics and Political Science.

Oct-17	
11-Oct-17	"NLP + Computational Social Science - The Emerging Trend," Dr. Amitava Das, Department of Computer Science & Engineering, IIIT Sri City, Andhra Pradesh.
Jan-18	
03-Jan-18	"Bridging big data and qualitative methods in the social sciences" by Dr. Dmityro (Dima) Karamshuk, Senior Data Scientist, Skyscanner (talk organized by WSL and Gooru Labs)
11-Jan-18	"Whose right to the Smart City?" by Prof. Katharine S. Willis, Plymouth University.
17-Jan-18	"Mentor Together", by Ms. Arundhuti Gupta, CEO and Founder of Mentor Together.
17-Jan-18	"Designing Inclusive Technology" by Ms. Rohini Lakshané, Director (Emerging Research) at The Bachchao Project and a consultant with the Centre for Internet and Society, India.

Feb-18	
05-Feb-18	"Cool Asia: Technology and Culture in the Evolution of the Video Game Industry" by Yuko Aoyama, Professor of Geography, Clark University
14-Feb-18	"Looking at (Almost) Nothing, Understanding Everything: Deep Learning for Hand-drawn Sketches" by Mr. Ravi Kiran Sarvadevabhatla, a Research Associate at Qualcomm India

Talk by Mr. Vaitheeswaran, co-founder of Fabmart Fabmall India Plaza

Talk by Mr. Shubhranshu Choudhary

Talk by Prof. Chris Benner, University of California, Santa Cruz

Mar-18	
12-Mar-18	"Catching-up and Leapfrogging: How East Asia has redefined the Integrated Circuit Industry" by Prof. Rajah Rasiah, Asia Europe Institute, University of Malaya
14-Mar-18	"Leading Science and Technology: India Next?" by Varun Aggarwal, CTO, Aspiring Minds
23-Mar-18	"Theorising Media, Censorship, and Creative Resistant in India", Guest talk by Dr. Lion Koenig, Post-Doctoral Research Fellow at St. Antony's College, The University of Oxford

Apr-18	
11-Apr-18	"Guiding Policy through Research" by Dr. Soumya Balasubramanya, Senior Researcher-Environment and Development Economics at International Water Management Institute (IWMI)

Jun-18	
21-Jun-18	"Optimal Relay Selection in Underlay Cooperative Cognitive Radio Networks" by Dr. Priyanka Das, Indian Institute of Science
26-Jun-18	A Talk on Spatio-temporal Signals by Dr. Vinod Veera Reddy, Samsung Research Institute, Bangalore

Talk by Dr. Shipra Agrawal, Columbia university

OUTREACH

Gender Wise Stats
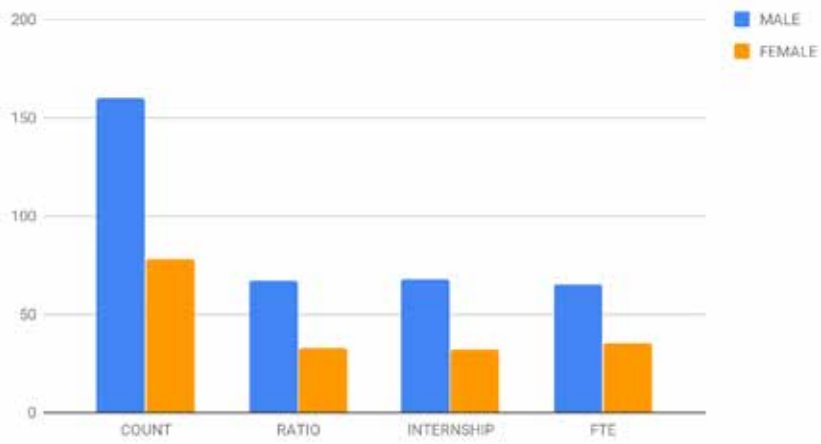
Internship and Thesis

211 (88.7%)

Full Time Stats

223 (95.7%)

Branchwise Stats

Legend:
- No.of Students
- Placed
- Opted Out
- Not Graduating

Internship

28 (13.8%)

20 (9.9%)

126 (62.1%)

Legend:
- Academics
- R&D
- Product
- IT - Services
- BFSI
- Networking

Full Time

46 (20.2%)

124 (54.4%)
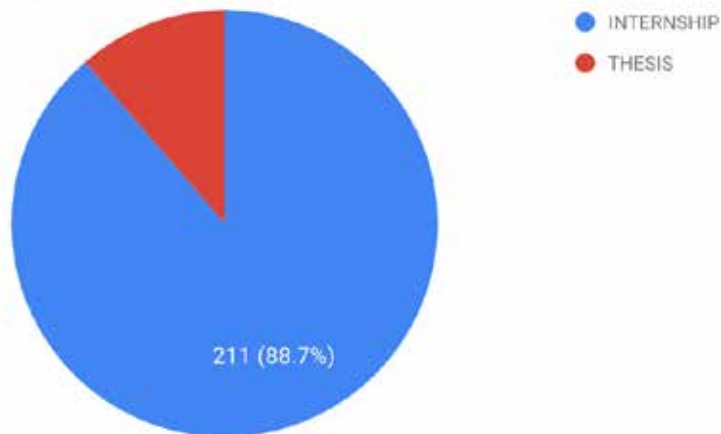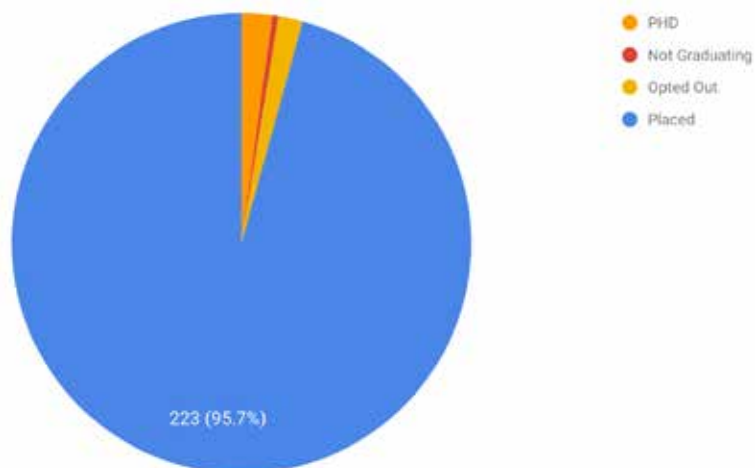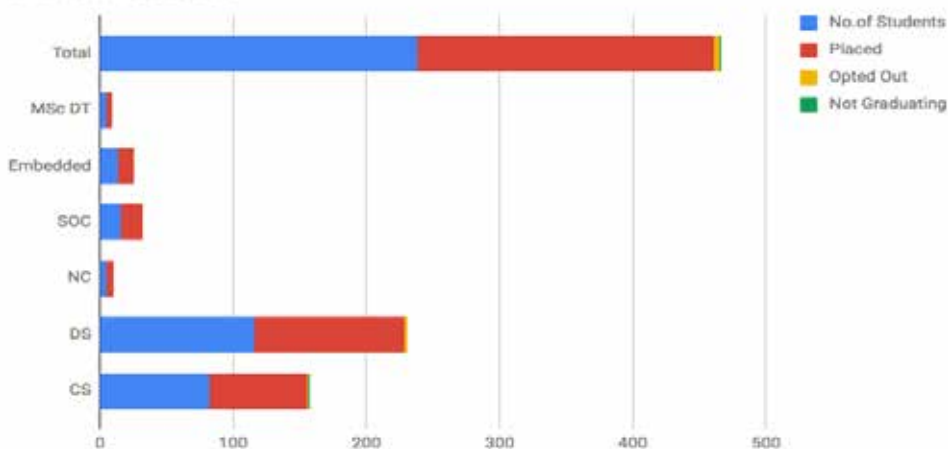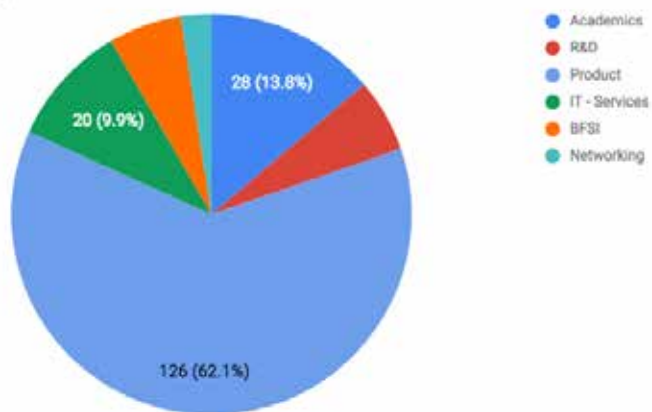
Legend:
- Academics
- R&D
- Product
- IT - Services
- BFSI
- Hardware
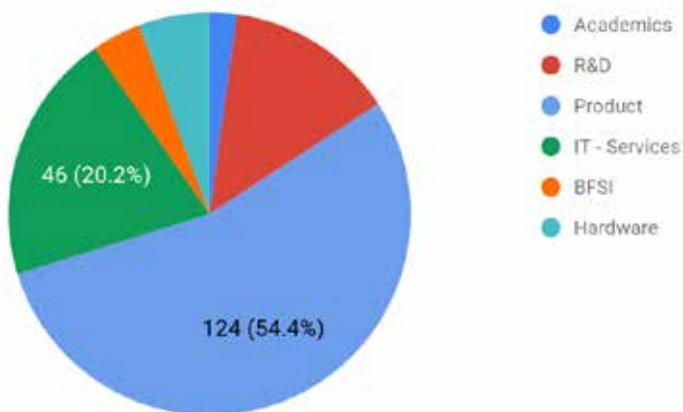
Internship Salaries (Lakhs)
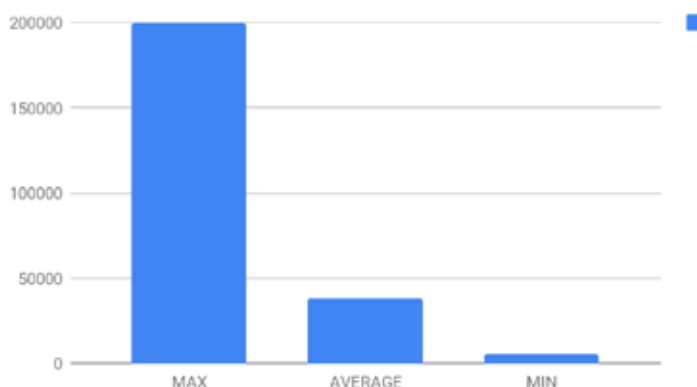
Full Time Salaries (Lakhs)
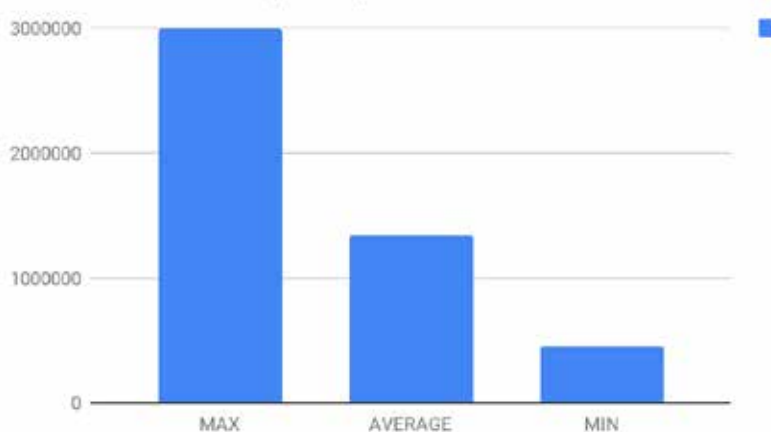
Joint research & consultancy

Since its inception, outreach has played a vital role in bringing together Government Agencies, Universities, Industry faculty and students resulting in important contributions to design and development of the implementation of ICT in the country and across the world. The consultancy service of IIIT Bangalore facilitates, coordinates and administers Sponsored and Consultancy projects. It also identifies and protects IP rights and manages transfer of technology and commercialization. Some of the companies we have joint research projects with are Mphasis, Tejas, Fidelity, IBM, ABB, etc.

Various types of consultancy are undertaken including:

- Technology assessment / management, project assessment
- Product / process design / development
- Simulation / modeling / optimization
- Software development
- Retainership of faculty in advisory capacity over specified periods
- Troubleshooting / testing

Internship and Full time placement

Our 2 year Mtech Students (IT and ESD) have to go through 6 months of internship in their 4th term

followed prior to their graduation and full time placements. Thanks to some of the best companies in the industry showing interest in our students and helping them with their careers, we have had a track record of 100% placement of our students.

Our M.Sc. in Digital Society (2 year programme) students have to go through the process similar to our M.Tech Students.

Our iMtech (5 year integrated M.Tech) students are available for 2.5 months of summer internship which is then followed by coursework. They also have to go through 6 months internship in their 10th semester and are then available for Full time placements.

Alumni program

Alumni represent another very important stakeholder community for the institute and its future. We have over 2700 alumni who are in leading companies as well as successful entrepreneurs. We connect with our alumni in various ways such as research collaborations, star lectures by distinguished achievers, mentorship activities, knowledge sharing sessions with current students, etc.

Alumni activities are run by the Alumni Council, a body elected by the registered alumni supported by the student alumni committee.

Executive education for IT professionals

We have various customized and calendarised executive education programmes for the working IT professional. IIIT Bangalore has conducted programs specifically tailored for the requirements of several companies. IIIT Bangalore is currently conducting an M.Tech program for the employees Samsung. It also completed a short term IT Security essentials programme over a period of 3 months.

Scholarships:

Scholarships are available for all Ph.D. and Masters of Science by Research students. They are also available to approximately 15-20% of the M.Tech. students and to approximately 25% of iMTech students. The selection based on student accomplishments in academic as well as other areas and interviews. Industry also gives scholarships to students based on need as well as academic records. Some of the companies are Infosys, ABB, Huawei, SOCGEN, etc. We welcome more corporates to offer scholarships to our students.

Advisory Board:

Many members of the industry are a part of our advisory board where they share their views and ideas in order to help the institute understand the current trends and needs of the industry. The IAB meeting is held twice a year on the IIIT Bangalore campus. The advisory meeting held on January 23, 2018 was a success with various members of the industry reviewed the programmes and participated in various institute – industry collaborations.

Corporate Social Responsibility :

Industry is invited to support the Institute as part of its CSR initiatives. Apart from our educational activities, our incubation centre (called the IIITB Innovation Centre) is eligible to receive funds under the definition of CSR as per the law. The IIITB Innovation Centre, founded in 2009, has already graduated around a dozen startup companies, and is currently incubating several technology startups in areas such as Medical Devices, Aadhaar based devices for financial inclusion, social media and smart metering solutions.

IIIT Bangalore is a top ranking academic institution focusing on graduate studies and research in the areas of Information Technology and Electronics. This institute is among the earliest to be set up in the Public Private partnership Model. The government of Karnataka supported us with

gift of land and grants for buildings. The industry has supported with corpus donations, chair professorship, scholarships and support for research. Though we do not receive any grants towards our operating expenditure from the Government, we are able to maintain a moderate student fees due to the support we receive from industries in the form of Corporate Social Responsibility.

Apart from the satisfaction of supporting a noble cause, the Industry can account for this expenditure under the mandated CSR activity. In case the industry does not want to use CSR funds, but account the grant/donation as expenditure in the books of accounts, the industry will get benefits under section 35 (1) (2) of the IT act which enables the industry to account 175% of the donation as allowable expenditure and reduce the income tax substantially. This also creates warm feelings not only within the student and teaching community of the institute, but also with visitors to the institute and its website.

Mentoring start-up companies at the IIITB Innovation Centre:

Industry can play a vital role in mentoring the startup companies, be it advising them about the market, help with funding, strategy, etc. We have more than 20 start ups on campus which belong to various verticals like e-health, agriculture, security, etc. The institute mentors the start-ups and helps them achieve their goals in every possible way. The Innovation Centre invites accomplished professionals - in the field of IT, Finance, Legal, Marketing, Venture funding, etc. – who are passionate about working with startup companies, to join its panel of mentors.

INNOVATION CENTRE

IIIT Bangalore Innovation Centre is a hub for Information and Communication Technologies (ICT) research, innovation and entrepreneurship. It supports and incubates new ventures from startup entrepreneurs working on innovative ideas. It promotes commercialization of IP generated by faculty and students of the Institute by incubating their ventures.

The Innovation Centre has a close association with the industry with the latter setting up R&D Centres for collaborative research. Supported through government funding and CSR initiatives of the corporate companies, the Innovation Centre has a vibrant end-to-end ecosystem - office infrastructure, mentorship, and access to the industry - for incubating new age companies.

Incubation

A Section 25 company under the Companies Act, the Innovation Centre provides an end-to-end ecosystem for incubating technology-driven startups. Over the years, the Innovation Centre has incubated a number of successful startups.

Startups	70+	100+	New products/services brought to market
Full-time jobs created	350+	12+	Startups raised funding

COMMITTEES, CLUBS & COUNCIL

Committees Clubs Council

Alumni

Branding

Chayachitra

Cite

Food

Theatre arts club

Placement

Music

Comic

Dance

Students Activity Council

Innovation Studio

ICC

Sports

Infin8

Turiya club

Competitive programming

Enigma

Theory Club

Zense
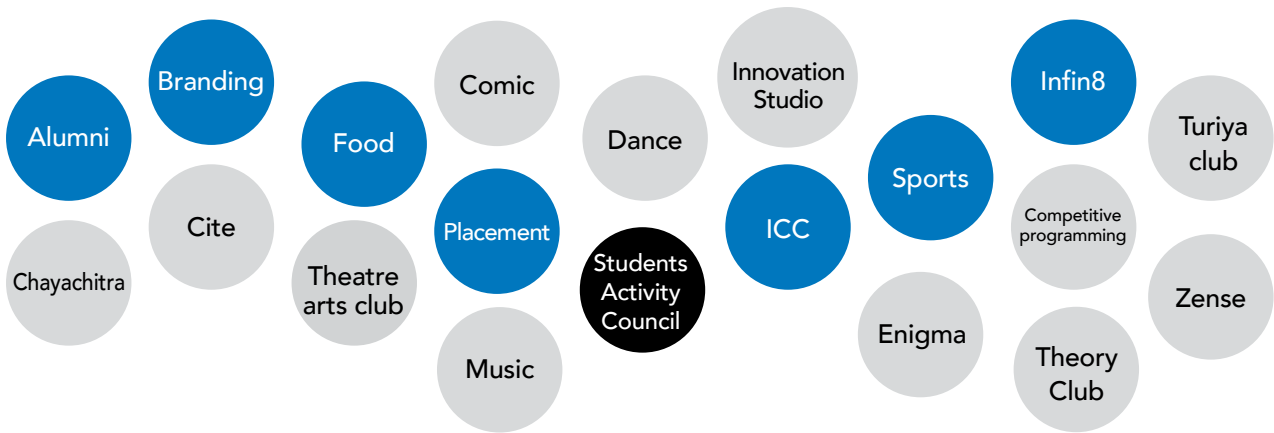
Aikyam Club

Theatre Arts Club

Photo Credits: Vipasa M.Tech 2018-2020

Placement Committee

Sports Committee

NEW INITIATIVES

June 25, 2018

Inauguration of Machine Intelligence and Robotics lab in Ramanujan block by Mr. K J George (Minister for Large & Medium Scale Industries, IT and BT, Science and Technology, Government of Karnataka)

June 28, 2018

Inauguration of new Rock Garden and water body in IIITB lawns and hoisting of National Flag on new 70 feet tall Flag Mast.

January 8, 2018

Inauguration of Samvaad Talks a forum for Faculty and Research scholars to present their Research areas, development and progress.

ADMISSIONS AND PERFORMANCE GRAPHS DATA ANALYTICS

Class of 2018 Summary

Total 280

Program	Count
M.Tech	175
Integrated M.Tech.	56
Sponsored M.Tech.	31
Doctor of Philosophy	7
M.Sc. (Digital Society)	6
Master of Science by Research	5

Integrated M.Tech.
Female 39% (22)
Male 61% (34)

M.Tech
Female 31% (54)
Male 69% (121)

Sponsored M.Tech.
Female 3% (1)
Male 97% (30)

Doctor of Philosophy
Female 43% (3)
Male 57% (4)

M.Sc. (Digital Society)
Female 33% (2)
Male 67% (4)

Master of Science by Research
Male 40% (2)
Female 60% (3)

Academics

Average CGPA (out of 4.0)

Program	CGPA
Integrated M.Tech.	3.27
M.Sc. (Digital Society)	3.29
M.Tech	3.38
Sponsored M.Tech.	3.27

M.Tech. Specialization

Integrated M.Tech.

Specialization	Value
Data Science	31 (55%)
Theoretical Computer Science	24 (43%)
System on Chip	1 (2%)

M.Tech

Specialization	Value
Data Science	120 (69%)
Computer Science	19 (11%)
System on Chip	16 (9%)
Embedded systems	14 (8%)
Networking & Communication	5 (3%)

Placement

71%
149 students
40 recruiters
IT Product & Services

15%
31 students
7 recruiters
R&D

6%
12 students
3 recruiters
Hardware

4%
9 students
3 recruiters
BFSI

4%
8 students
2 recruiters
Higher Studies

Median Salary Package (Lakhs Per Annum)

Program	Median	Least	Highest
M.Sc. (Digital Society)	12 Lakhs	Least: 12 Lakhs	Highest: 12 Lakhs
M.Tech	13 Lakhs	Least: 7 Lakhs	Highest: 28 Lakhs
Integrated M.Tech.	13 Lakhs	Least: 8 Lakhs	Highest: 30 Lakhs

Major Recruiters*

Legend:
- BFSI
- Hardware
- Higher Studies
- IT Product & Services
- R&D

Bubble chart labels:
- Accenture 10
- Daimler 8
- TCS 8
- Dailyhunt 6
- MathWorks 7
- Mobileiron 6
- Cisco 21
- Morgan Stanley
- Mediatek 7
- O9 8
- Aganitha 5
- PHD 7
- Tesco 5
- Telstra 5
- Qualcomm 19

Recruiters hiring at least 5 students

Geo Distribution

20
States represented

Map numbers: 1, 3, 10, 14, 6, 9, 20, 1, 3, 3, 27, 13, 2, 18, 5, 36, 72, 11, 7
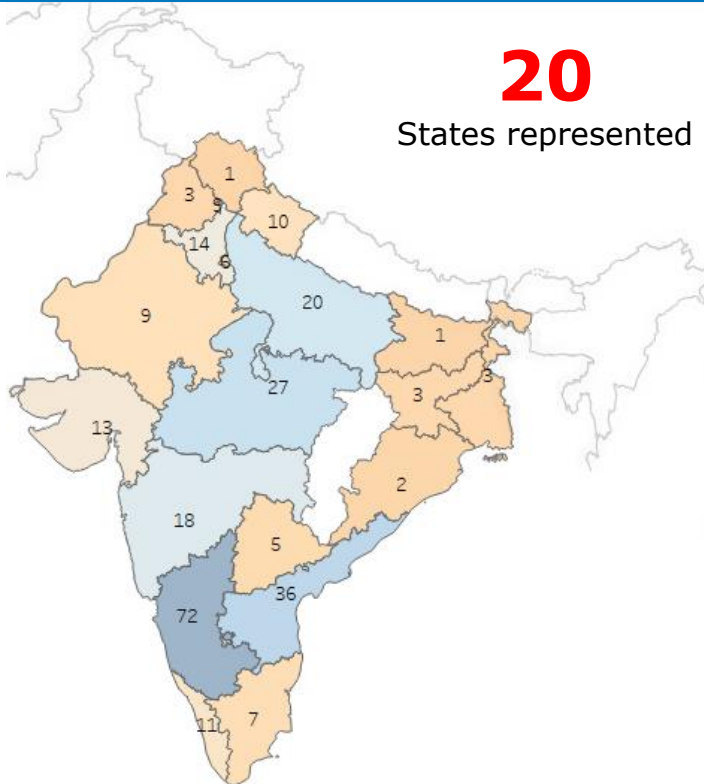
State	Percentage
Karnataka	26.7%
Andhra Pradesh	13.3%
Madhya Pradesh	10.0%
Uttar Pradesh	7.4%
Maharashtra	6.7%
Haryana	5.2%
Gujarat	4.8%
Kerala	4.1%
Uttarakhand	3.7%
Chandigarh	3.3%
Rajasthan	3.3%
Tamil Nadu	2.6%
Delhi	2.2%
Telangana	1.9%
Jharkhand	1.1%
Punjab	1.1%
West Bengal	1.1%
Odisha	0.7%
Bihar	0.4%
Himachal Prade..	0.4%

WE WELCOME

Nanditha Rao, Assistant Professor

Email: nanditha.rao@IIITB.ac.in

Prof. Nanditha Rao obtained her B.E in Electronics & Communication Engineering from PES Institute of Technology and Ph.D in Electrical Engineering from Indian Institute of Technology, Bombay. Prior to joining the PhD programme, she worked as a Hardware design engineer (mainly Signal Integrity) at Intel Technologies, Bangalore.

Dr. Uttam Kumar, Assistant Professor

Email: uttam@IIITB.ac.in

Dr. Uttam Kumar holds a Bachelor's Degree in Computer Science from Visvesvaraya Technological University Belgaum, Diploma in Advanced Computing from CDAC Pune, Master's Degree in Geoinformation Science from University of Twente, The Netherlands and Ph.D. in Algorithms for Geospatial Data Analysis from Indian Institute of Science (IISc), Bangalore.

Dr. Srinivas Vivek, Assistant Professor

Email: srinivas.vivek@IIITB.ac.in

Dr. Srinivas Vivek obtained his Ph.D. from the University of Luxembourg, Luxembourg, in 2015. His main research interests are in the design, analysis and implementation of side-channel countermeasures, and homomorphic encryption schemes.
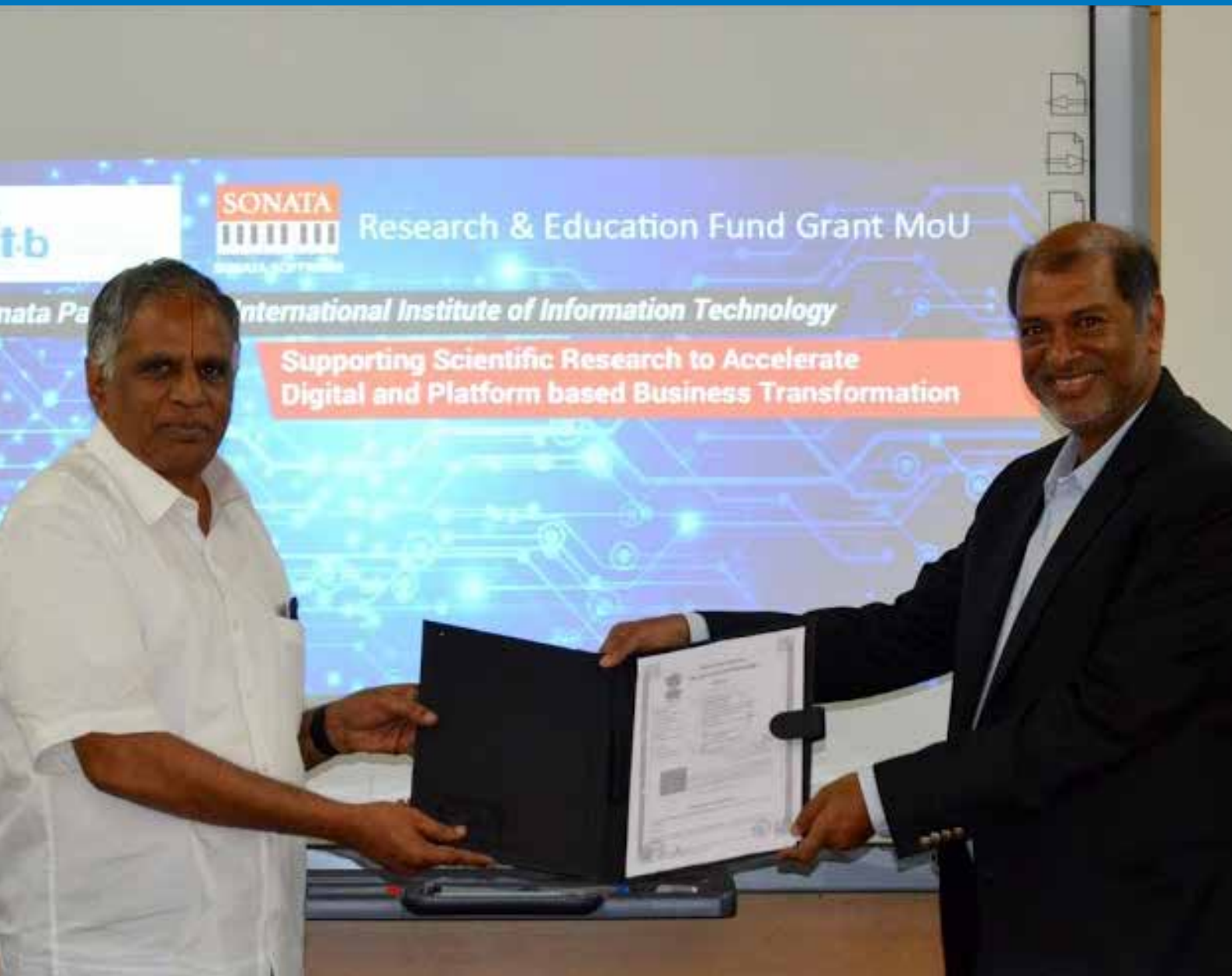
MEMORANDA OF UNDERSTANDING

DETAILS OF MEMORANDA OF UNDERSTANDING SIGNED
IN THE YEAR 2017-18

Sl No.	MoU Signed with	Date of Signing	Description / purpose
1	Swades Foundation	August 14, 2018	Trademark licence – Scholarship for continuing Education programmes
2	Narayana Health Bangalore	October 05, 2017	Hospital services for IIITB campus
3	UpGrad Education Pvt. Ltd. Mumbai	October 17, 2017	Continuing Education and research
4	AICTE – MoU with Fourth Ambit	October 17, 2017	Jobs, Internships, Networking Skilling, Faculty capability, community causes, Higher education, Tech Evangelism and Entrepreneurship
5	Aerospace Engineering Department IIAEM, Jain University	October 31, 2017	Research / technical collaboration in the areas of smart city development, sensor application , wireless technologies and drones
6	Yoursdost health solutions pvt. Ltd.	November 13,2017	Virtual Counselling for Students and campus community.
7	NITI Aayog New Delhi under SAMAVESH	November 14,2017	Transformative policy reform /research in Science & Technology through SAMAVESH – Networking & Partnership with knowledge and research institutions
8	National e-Governance Division New Delhi	December 06,2017	Education and research
9	Meity Govt. of India	November 01, 2017	Research and Innovation
10	Hewlett Packard India Software Operation Pvt. Ltd.	March 20, 2018	Joint research and academic activities in various fields and Corporate Social Responsibilites

Sl No.	MoU Signed with	Date of Signing	Description / purpose
11	Samsung R&D Institute India Bangalore	April 10, 2018	Selection and participation of employees in Master of Science by Research Programme
12	PRHLT Research Centre Valencia Spain	April 17, 2018	Test Collection
13	Agency for HRD & Research Communication MCITR Indonesia	May 28, 2018	Scholarship Award for Indonesian Students to pursue Master Degree programme
14	Zensar Technologies Ltd. Pune	March 01, 2018	Research and dissemination of knowledge acquired from the research for the benefit of students
15	Sonata Software Ltd.	March 27, 2018	Disseminate Knowledge between Academia and Industry to foster innovation and Digital transformation, expose students to industry experience and real scenario for business problems, Evangelization of Technology for Digital Transformation
16	BIONIC Yantra Pvt. Ltd. Bangalore	July 27, 2018	Joint research in the field of AI, robotics and Healthcare

IMPORTANT DECISIONS OF GOVERNING BODY MEETINGS

IMPORTANT DECISIONS OF GOVERNING BODY
& ANNUAL GENERAL BODY MEETINGS OF IIIT Bangalore

Sl No.	Number	Date of Meeting	Decisions
1.	68 GBM	02/07/2017	Approval of award of following for the 17th Convocation :- • Ph.D Degrees • MS (by research) Degrees • M.Tech Degrees • M.Tech (Sponsored) • M.Sc (Digital Society) • iMTech – B.Tech & M.Tech • Scholarships and Medals
2.	69 GBM	06/09/2017	• Appointment of Statutory Auditors • Appointment of Internal Auditors • Summarized Observations -Internal Audit for the Half year ended March 31, 2017 • Financial Statements for the year 2016-17 • Authorization for the opening/operation of bank accounts • Revised Project Cost for Men's Hostel-Bhaskara • Revised Project Cost of Academic Block – Ramanujan and status of funding
3.	70 GBM	08/11/2017	Revision of pay for Faculty and Staff of IIIT Bangalore
4.	71 GBM	07/02/2018	• Approval of Annual Budget for the financial year 2018-2019 • Approval of Proposal for Fees increase • Summarized Observations of Internal Audit for the Half year ended September 30, 2017 • Writing off the outstanding dues of Facility Users of Innovation Centre
5.	72 GBM	08/07/2018	• Approval of award of following for the 18th Convocation :- • Ph.D Degrees • MS (by research) Degrees • M.Tech Degrees • M.Tech (Sponsored) • M.Sc (Digital Society) • iMTech – B.Tech & M.Tech • Scholarships and Medals • Approval of Issue of Expense Cards to Faculty and Staff • Approving Director for Issuing Letters of Credit
6	19th AGM	27/09/2017	• To consider, approve and adopt the Audited Balance Sheet as on 31st March 2017 and the Income and Expenditure Account for the year ended on that date. • Appointment of Statutory Auditors and fixing their remuneration • Nomination/Re nomination of members to the Governing Body

IMPORTANT DECISIONS TAKEN DURING SENATE MEETINGS

IMPORTANT DECISIONS OF SENATE OF IIIT Bangalore

Sl. No.	Meeting Number	Date of meeting	Decisions
1.	58th Meeting	26/07/2017	• Branch change process for Integrated M.Tech
2.	59th Meeting	06/12/2017	• List of admissions for all programmes were placed on record and approved • Dean's List of academic achievers noted and placed on record
3.	60th Meeting	21/02/2018	• Reports of the curriculum review committee for M.Tech and M.Sc (Digital Society) was presented • Changes to the curriculum based on the recommendations of the curriculum review committee were discussed and approved • Number of instruction days in the academic calendar as per UGC norms was approved
4.	61st Meeting	04/04/2018	• Changes to First Semester course structure for M.Tech was approved • One new course was approved
5.	62nd Meeting	20/06/2018	• Recommendation for award of degrees for the 18th convocation
6.	63rd Meeting	25/07/2018	• More electives to be introduced for Integrated M.Tech programme in 5th Semester under Choice-Based-Credit-System • Report of the Senate Sub-Committee on current

FINANCES

International Institute of Information Technology - Bangalore			
26/C, Electronics City, Hosur Road, Bangalore - 560 100			

Income and Expenditure Account for the year ended 31st March 2018

31-Mar-17	Income	Sch.No.	31-Mar-18
31,64,91,429	Tuition Fees	M	54,17,85,207
3,83,11,551	Hostel Fees		4,01,69,140
10,42,500	Sports Fees		22,18,500
3,32,28,213	Academic Activities	N	1,25,13,311
1,45,44,202	Interest on Bank Deposits		1,63,04,990
85,86,839	Other Receipts	O	4,85,68,999
5,24,17,806	MIIT Project Income	U3	6,27,14,324
46,46,22,540	TOTAL (a)		72,42,74,471

31-Mar-17	Expenditure	Sch.No.	31-Mar-18
12,13,08,936	Faculty & Staff Expenses	P	19,32,42,241
39,29,371	Student Expenses	Q	80,59,782
14,66,58,989	Academic Expenses	R	28,85,27,493
3,32,38,142	Infrastructure Expenses	S	5,09,95,466
1,02,00,954	Administrative & General Expenses	T	4,31,59,422
5,89,36,742	MIIT Project Expense	U4	6,24,87,489
37,42,73,133	TOTAL (b)		64,64,71,892
9,03,49,406	Excess of Income before Interest, Depreciation and Appropriation (a-b)		7,78,02,579
85,69,000	Interest on Term Loan		43,98,754
8,17,80,407	Excess of Income before Depreciation and Appropriation		7,34,03,826
(2,25,80,397)	Depreciation on Assets	E	(2,10,36,419)
5,92,00,009	Excess of Income before Appropriation		5,23,67,407
	Appropriation: Transferred to Student Benevolent Fund		68,00,000
5,92,00,009	Surplus/ (Deficit) for the year transferred to Revenue Account		4,55,67,407
	Significant Accounting Policies & Notes forming part of Accounts	V	

As per our report of even date

For International Institute of Information
Technology - Bangalore

S.Sadagopan
Director

For Rao Associates
Chartered Accountants
Firm Reg. No. 003080S

Sandeep S Shekar
Partner
Membership No. 232631

Place: Bangalore
Date:

IIIT BANGALORE
IN MEDIA

NOTES

Photo Credit: Adarsh (M.Tech 2018-20)