iiit-b International Institute of Information Technology Bangalore

Newsletter
December 2017 - January 2018

From the Director's Desk

2017 was eventful and we started 2018 on a high note. We have had new additions to the faculty in 2017 with Drs. Uttam Kumar and Nanditha Rao, and started 2018 with Dr. Srinivas Vivek's joining. "Research in the Air" is the theme for the Institute; which is reflected in the Samvaad, a talk series driven by the faculty and initiated by Dean-Research since January. We are very proud of our students, who made it to 2018 ACM ICPC World Finals for a second year in a row.

Elsewhere in the world, the new year was ushered in with great joy. Amazon opened its first high tech supermarket with no checkouts, Amazon Go, in Seattle on January 22, marking the realization of "future of retail". On a low note, on January 23, the computer science fraternity mourned the demise of Mary Lee Berners-Lee (nee Woods), who was an English mathematician and computer programmer, with several "firsts" to her work and

life. She was part of the programming team which built the first commercially sold computer, the Ferranti Mark I. She was one of the early proponents for equal pay for male and female programmers, and being a young mother in the 1950's, she also became one of the earliest freelance programmers and also popularised "cottage industry programming". Her last name is familiar, as she married Conway Berners-Lee and is the mother of Sir Tim Berners-Lee.

HAPPY READING!

Achievements

Team Mochizuki (Aditya Paliwal (IMT2013004), Simran Dokania (IMT2013044) and Shyam KB (IMT2014050)), coached by Prof. V. N. Muralidhara, has qualified for the 42nd Annual ACM ICPC 2018 World Finals and will be representing IIIT Bangalore in Beijing, China among 140 teams, from 100+ countries. They have qualified from more than 300,000 students all over the world and will be one of the 8 teams from India. ACM ICPC is widely regarded as the toughest, oldest, largest and most prestigious programming competition in the world and is often referred to as the "Olympics" of programming. Congratulations to the team! More details at: https://icpc.baylor.edu/

VideoKen, incubated at the IIIT Bangalore Innovation Center, has had a few milestones with **ACM webinar series** using the VideoKen embedded player and VideoKen powering the

video search on the **NPTEL portal**. Prof. Manish Gupta is the CEO of VideoKen.

Our **Basketball team** is the **winner of the   Revelations 2018** organised by SIBM during January 19-21, 2018. Congratulations, team!

Campus News

 Events

A **documentary screening** of "Tomorrow We Disappear", was organised as a part of the E-Governance course on December 1, 2017.

The **59th Senate meeting** was held on December 6.

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-digital-society-rajesh-chandran/

More details at: https://www.iiitb.ac.in/content.php?pid=citapp-winter-school-2017

The Faculty Strategy Brain-storming Session was held on December 14.

IIIT Bangalore and CUTS International partnered together to organize the IIIT-B 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 Prof. 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.

IIIT Bangalore Innovation Centre Board Meeting was held on December 18.

IIIT Bangalore **felicitated Mr. N.R. Narayana Murthy** for his **2018 IEE Founders award** on December 26.

The **E-Health Research Center (EHRC)** has received a **seed grant from the Department of Health and Family Welfare, Government of Karnataka** in early January 2018, for a proposal submitted by the EHRC core team (Profs. T. K. Srikanth, Amit Prakash, and Jaya Sreevalsan Nair), including inputs from Prof. Madhav Rao.

A faculty and staff **get-together lunch** was organized for welcoming new year at IIIT Bangalore on January 1.

Term II (2017-18) started on January 2. The **5th batch of Sponsored M.Tech.** students joined on January 4. New batch of Master of Science by Research and Ph.D. students also joined on January 4.

The **film screening** of "Have you seen the arana?" by Sunanda Bhat, was organized by the Student's Activity Council (SAC) on January 5.

Samvaad is a formal, time-tabled activity of IIIT Bangalore faculty and 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.

Profs. S. Rajagopalan, Manish Gupta and Neelam Sinha met **Prof. Karlheinz Brandenburg**, Director, Fraunhofer Institute for Digital Media Technology IDMT and Head of Electronic Media Technology Group, Ilmenau University of Technology, on January 9, to explore a possible scope of collaboration.

IIIT Bangalore was the knowledge partner for **HPE Aruba Network University Program** held during January 9-12. Prof. S. Sadagopan delivered a talk at the event.

The **Lohri festival** was celebrated at IIIT Bangalore on January 13. It included several activities during 8-10 pm on the day.

Makar Sankranti celebration was organized by Student's Activity Council (SAC) for the student community on January 14. There was a kite-flying event during 11am-5pm on the day.

Google Developer Student Club at IIIT Bangalore Innovation Studio conducted a session on **"what and why of the Progressive web apps"** on January 14. Toshi Gupta, Flipkart Lite team was invited to share her knowledge on the same.

Infi8-2k18, the techno-cultural fest of IIIT Bangalore, was held during January 19-21. The fest included several oratorical, art, and gaming competitions.

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.

Student's Activity Council (SAC) celebrated **Vasant Panchami** on January 22. The event consisted of worship of Goddess Saraswati followed by **Ethnic Day** celebrations. The day had the best groupfie contest where students had to post a groupfie in ethnic attire on Instagram. The pictures posted by Tejas Kotha (with team) and Yashaswi Mannepalli (with team) were declared winners.

An **'industry partnership meeting'** was held at IIIT Bangalore campus on January 23. The meeting, chaired by Mr. Kris Gopalakrishnan, Chairman of the Board, was attended by more than 12 luminaries of the IT and Financial industry. The meeting was convened to present the highlights and plans of the institute to the industry leaders, and attempt to strengthen the academic and research partnership between Industry and the Institute. The participants of the meeting have been invited to join the 'Industry Advisory Board' which looks at the big picture and helps the Institute achieve its next phase of growth.

The newly renovated **Coffee Cove** has been operational in the main building from January 24.

The **69th Republic day** was celebrated on January 26 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, caroms and volleyball for students and staff.

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 audience. Prof. 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 TEDxIIITBangalore. 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.

Publication Including Presentations

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 journal,* Elsevier, Accepted December 2017.

Paper that has appeared on December 30, 2017: B. Ashok, T. Hongray & J. Balakrishnan, **"The charged bubble oscillator: dynamics and thresholds"**, Indian Academy of

Sciences Conference Series vol.1, pp.0109-0115, (2017). URL: http://www.ias.ac.in/article/fulltext/conf/001/01/0109-0115

Dibakar Das, Jyotsna Bapat and Debabrata Das **"A Dynamic QoS Negotiation Mechanism Between Wired and Wireless SDN Domains"** *IEEE Transaction on Network and Service Management (TNSM)*, Accepted. Full text at http://ieeexplore.ieee.org/document/8049516/

Palani Kumar (EMT2013018 - alumnus) presented his paper titled **"Efficient Anomaly Detection Methodology for Power Saving in Massive IoT Architecture,"** co-authored by Prof. Meenakshi D'Souza and Prof. Debabrata Das, at the 14th International Conference on Distributed Computing and Internet Technology (ICDCIT2018) held at Bhubaneswar during January 11-13.

Tushar Vrind, Diwakar Sharma, Lalit Pathak and Debabrata Das **"Session Cloning Protocol between Smart Devices for connected and un-connected states in B4G and 5G"** IEEE International Conference on Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, January 12-15, 2018.

Lalit Pathak, Diwakar Sharma and 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), Las Vegas, USA, January 12-15, 2018.

Raj Kumar and Debabrata Das **"Dynamic Power Saving Techniques for Mobile Hotspot"** IEEE International Conference on Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, January 12-15, 2018.

Dr. Subhajit Sen presented a paper titled **"An approach to determining the weights of the capacitors in the DAC of a non-binary redundant SAR ADC"** at the 2018 International Conference on VLSI Design and Embedded Systems in January. This work was done by Uma Kulkarni, MS by Research student.

Jaya Sreevalsan Nair presented her paper, **"Design Study for Creating Pathfinder: A Visualization Tool for Generating Software Test Plans Using Model Based Testing,"** co-authored by Kuruvilla Lukose, Shivam Agarwal, and Vidyashankar

Nagesha Rao, at the 9th International Conference on Information Visualization Theory and Applications (IVAPP 2018). Funchal, Madeira, during January 27-29.

IIIT Bangalore in Media

B2B startups in India are making inroads in enterprise space …

Express IT Awards: 'Repeatable jobs won't be relevant anymore, we …

Here's proof that blindness is no barrier to app-making

How blindness did not stop these youngsters from being a techie

'If data is the new oil, location intelligence is rocket fuel' – insights …

India is facing a possible mental health epidemic, says President

Institute extends Bengaluru's IT knowledge to Myanmar

Is Talent Crunch a Spoiler for India's AI Industry?

Lost and found

Managing e-commerce

NPTEL partnering with CII to provide 226 technical courses

NPTEL partners with CII for training

Faculty, Staff and Students

Other than team "Mochizuki", two other student teams were ranked in the semifinals of the ACM ICPC 2018. The team "Codemaniacs" consisting of Nimisha Garg (IMT2016082), Shreya Singh (IMT2016045) and Venkat Raghavan (IMT2016099) participated in the semifinals at Gwalior and was ranked 68. The team"Grey Coders" consisting of Varada Desikan PS (IMT2016115), Shobhit Behl (IMT2016024) and Ashish Singh (IMT2016077) participated in the semifinals at Kolkata, and was ranked 63.

Prof. V. Sridhar **co-chaired ICANN 60 Readout Session** held at IIIT Bangalore on December 1, 2017. This event was organized by IIIT Bangalore in partnership with the Internet Corporation for Assigned Names and Numbers (ICANN).

The Director, Prof. Sadagopan, attended **Google Developer Days** on December 1. It was a global event showcasing the latest developer products and platforms from Google to help and develop high quality apps, grow & retain an active user base, and tap into tools to earn more.

Prof. T. K. Srikanth along with Dr. Girish, NIMHANS, and Dr. Rajani, Deputy Director, Mental Health, Government of Karnataka, presented the **District Mental Health Programme (DMHP) in Karnataka,** and the software developed for this program by EHRC, IIIT-B, to the Joint Secretary, Ministry of Health and Family Welfare, Government of India, in New Delhi, on December 18.

ACM has started using the VideoKen embedded player, from December 20, 2017, for the web recordings of their popular webinar series (https://learning.acm.org/webinar/index.cfm). The VideoKen video player allows the user to navigate these videos with a table of contents and phrase cloud. The video player with its navigational capabilities, using both table of contents and phrase clouds, is available for IIIT Bangalore students for watching the webinars as well as for providing feedback. VideoKen is considering the possibility of the indexing of video recordings of other conference talks that may be of interest to the IIIT Bangalore fraternity. **VideoKen** is now **powering the video search on the NPTEL portal** from IITs (http://nptel.ac.in/videoken.php), since early December 2017. Videoken's new

portal for NPTEL (https://videoken.com/nptel) went live on January 23, 2018.

Videoken is currently working on adding richer functionality on the NPTEL-specific page (https://videoken.com/nptel/). The goal of this feature of Videoken is for providing students with a more convenient way of consuming the NPTEL videos, including their unique navigational capabilities, ability to add notes and save clips of these videos for personal use. While VideoKen has a large target user-base in corporate organizations in 2017 (it is being used by thousands of learners in companies), VideoKen has launched **a special offering for faculty at academic institutions** (https://videoken.com/learning, priced at USD 99 per annum, with no further charge for students), with a special fee waiver for IIIT Bangalore faculty. VideoKen can be beneficial for faculty in two ways -- it can be used as a full learning platform to deliver courses for a class, as well as it can augment your course material with clips from freely available videos (Kenlists, in the parlance of VideoKen), e.g., talks from top conferences, webinars, or lectures from MOOCS that cover a specific topic very well. VideoKen is currently working on providing the capability to share these Kenlists via URLs in a different LMS or website as well. The basic capability of video search and playing, without sharing, is available for free. Prof. Manish Gupta is the CEO of VideoKen, which is incubated at the IIIT Bangalore Innovation Center.

Prof. Debabrata Das gave a keynote address titled **"4G Advanced and Beyond"** at 5G and Future Wireless Technology, IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS-2017), Bhubaneswar, December 19.

Profs. S. Sadagopan and T. K. Srikanth participated at the **8th State-level Workshop on Mental Health in Karnataka.** The event was organized at the National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore during January 3-4, 2018. The software for e-Monitoring of the District Mental Health Programme (DMHP) in Karnataka, which was developed by EHRC, IIIT-B in collaboration with NIMHANS, was handed over to the Department of Health and Family Welfare, Government of Karnataka.

Profs. V. Sridhar and T. K. Srikanth co-chaired, **Mobile India 2018** as part of the Tenth Communications and Networking Conference (COMSNETS) held at Bengaluru on January 5. Mobile India 2018 was one of the first premier events and will be the curtain raiser for this year's mobile disruption in the country. It is associated with the Tenth International Conference on COMmunication Systems and NETworkS (COMSNETS), the world's premier international conference on networking and communications technology innovation. The theme for this year was: Data Analytics and Protection in the Mobile World. The session on Telecom/ Mobile Data Analytics was moderated by Prof. T.K. Srikanth; session on Mobile

Authentication and Security was moderated by Prof. V. Sridhar; and session on Data Protection and User Privacy was moderated by Prof. Janaki Srinivasan. The panelists of the various sessions included industry, technology, legal and management experts in the above areas.

Prof. Meenakshi D'Souza delivered an invited talk titled **"Graphs in Software Testing"** at the International Conference on Computing Sciences (ICCS) on January 9, at Loyola College,Chennai.

Prof. Chandrashekar Ramanathan, Dean Academics attended the SocGen- GSC CSR Conclave –panel discussion on **"How CSR is defining/ changing Business Leadership"** on January 17 to promote an open discussion among the participants developing collaborative models that can focus on reducing the inequality divide in the country today.

Prof. T. K. Srikanth presented a talk on "Research on IT in Healthcare" at the **Victoria-India Digital Health Workshop,** organized by the Victoria (Australia) Government Trade and Investment office, on January 18, in Bengaluru.

Prof. Subhajit Sen visited Amrita University, Kollam campus at the invitation of Prof. Purushothaman and was an **external examiner for the Ph.D. theses** of two students in the area of mixed-signal VLSI design on January 19.

IIIT Bangalore student magazine, **8-Bit** published its 12th edition in digital format on January 26. The digital copy of the twelfth edition of 8Bit, themed 'Food' is available at: https://drive.google.com/open…

Profs. S. Sadagopan, Chetan Parikh, V. Sridhar and Chandrashekar Ramanathan attended the **MIIT Senate and Board meeting** at Myanmar on January 31.

Academic Milestones

Dibakar Das (PH2013010) completed his Ph.D. State of the Art seminar titled

"Efficient software defined network techniques for wireless access networks"

on December 8.

Dibakar Das (PH2013010) completed his Ph.D. open seminar titled **"Efficient software defined network techniques for wireless access networks"** on December 15.

Kumar D. (PH2013004) completed his Ph.D. open seminar titled **"Machine Learning Techniques for cluster storage systems"** on December 19.

V. Krishna Sashank Dara (PH2014011) completed the oral examination of his Ph.D. thesis titled **"Towards Privacy Preserving Intrusion Detection"** on December 20.

J. Yogalakshmi (PH2011002) completed the oral examination of her Ph.D. thesis titled **"Clustering on Heterogeneous Data Using a De-Centralized Analytics Framework"** on December 21.

Sunil Kumar Vuppala (PH2009902) completed the oral examination of his Ph.D. thesis titled **"Optimization under Uncertainty for Energy Management in Smart Grid"** on January 13.

Joy Prabhakaran (PH2012003) completed the oral examination of his Ph.D. thesis titled **"Novel Techniques In Image Zooming And Hierarchical Multi-Resolution Image Representation"** on January 24.

New faces on campus:

January 2018: Ms. Shivangi Motwani (Research project staff, GVCL)

January 2018: Prof. Srinivas Vivek (Faculty member)

Campus Visitors

December 1: Dr. Nam Pam, Massasusetts Gov. Representative

December 5: Dr. V. K. Agarwal, R&D, PES University

December 11: Mr. Paddy Raghavan, Co-Founder Vijay and Santhosh, Founding Engineers CMPUTE.IO (47Line)

December 21: Ms. Vinutha Narayanmurthy, Wipro

December 22: Mr. Pavan Kumar, Founder & CEO, FabLab Bangalore

December 27-29: A team from MIIT, Myanmar, Director General and Officials from Ministry of External Affairs.

January 3: Dr. Mohan Kumar, Golisano College of Computing and Information Sciences
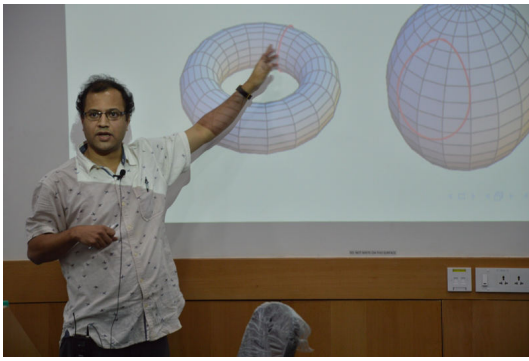
January 19: Prof. Simon Evans Pro-VC Melbourne University

January 31: Visit of students of Acharya's Bangalore B-School

 Samvaad Talks

January 8: Inclusion and Technology Designs: Reflecting on ICT & Development (ICTD) Efforts in India by Prof. Amit Prakash and team (Rajesh Hanbal (PH2015008), Sanjay V. P. (PH2015021), Supriya Dey (MS2014006 - alumnus), Vidhya Y. (DT2015009 - alumnus).

January 15: Geometry, Topology and Computing by Prof. Amit Chattopadhyay.

January 22: The World of Secure Multi-Party Computation (SMPC) by Prof. Ashish Choudhury.

January 29: Investigations to Enhance on Linux Kernel's Deterministic Behavior by Prof. B. Thangaraju.

Guest Talks

January 03: "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)

January 11: "Whose right to the Smart City?" by Prof. Katharine S. Willis, Plymouth University.

January 17: " Mentor Together", by Ms. Arundhuti Gupta, CEO and Founder of Mentor Together.

January 17: "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.

Campus Calendar for February-March 2018

February 16-18: RISE 2018

February 21: 60th Senate Meeting

February 24: Sangam 2018

February 26- March 3: Midterm

March 4-11:   Midterm break

March 9-11:   Spandan 2018

March 20:   One-day symposium on Technology and Trafficking (organized by Profs. Amit Prakash and Bidisha Chaudhuri, in partnership with Justice and Care)