



International  
Institute of Information  
Technology Bangalore

## Newsletter

December 2018 - January 2019



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## From the Director's Desk



We wound down our semester in December 2018, to come back with a bang in January 2019! On that note, we have restarted our Bang(alore)OnIT public lectures series, which was conducted in its earlier avatar in the ITPL campus of IIITB, during our early days. I take this opportunity to wish the entire IIITB fraternity a happy 2019!

January 2019 ushered in several happy moments. JEE Mains 2019 was held in January 2019 by National Testing Agency in online mode during January 9-12; and the results were declared on January 19, 2019. Nearly 10 lakhs of students have taken the exam; and this year, one more attempt has been made available for all students in April 2019. Doordarshan Science channel has been launched on January 15, 2019, by DST Secretary & S&T Minister. The micro-satellite "Kalamsat-V2" weighing little over 1 kg, designed by students with the guidance from NGO SpaceKidz India, has been put in orbit by ISRO on January 24, 2019. Computer scientist Dr. Subhash Kak, ISRO scientist Dr.

Nambi Narayan, Cisco Chairman John Chambers, Adobe CEO Santanu Narain, and L&T Chairman A. M. Naik is few of the recipients of the Padma awards 2019. Also, five eminent personalities from Karnataka won the Padma Shri -- particle physicist Prof. Rohini Godbole from IISc, archaeologist Prof. Sharada Srinivasan from National Institute of Advanced Studies (NIAS), Bangalore, environmentalist Ms. Saalumarada Thimmakka, classical musician Dr. Rajeev Tharanath, and actor-dancer Mr. Prabhu Deva. Congratulations to the winners!

January also had its share of sad moments with the passing away of Bernice Sandler, the Godmother of Title IX, and the British mathematician, Sir Michael Atiyah. RIP!

Once again, I sign off with a note of hope for a fulfilling 2019 to all!

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**HAPPY READING!**

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## Achievements

Dr. Srinivasan Ramani has received the prestigious IEEE Fellow Award for the year 2019. The faculty and staff of IIITB had the privilege to meet Dr. Srinivasan Ramani - a scientist and an inventor. The achievements of Dr. Srinivasan Ramani include him being one of the Internet Hall of Fame global connectors, who brought the Internet to India. A Ph.D. from IIT Bombay, he had proposed an Indian Academic Network in 1983 and contributed to the launch of ERNET. He moved to Bangalore in 2001 as the Director of HP Labs India. Dr. Srinivasan Ramani was a Professor at IIITB during 2007-2011, where he introduced T4E conferences and many new initiatives at IIITB. Congratulations to Dr. Srinivasan Ramani on his great achievement. IIITB fraternity felicitated Dr. Srinivas Ramani on December 19, 2018. Photos of the felicitation ceremony are at: <https://photos.app.goo.gl/LuHbBTCBrztHdk5QA>



**Prof. Debabrata Das has been felicitated by IEEE Bangalore Section during**

**Annual General Body Meeting** on January 6, 2019, for his contribution to IEEE's educational/research activities (around 700+ in a year) as Chairman, Bangalore Section.



**IIITB Theatre Arts Club, now called "Parvaaz"**, participated in the stage play competition **"Proscenium"** in the annual cultural fest of IISC, Pravega, and has **bagged the first position**. The team had submitted a 12 minutes video for the preliminary round and got shortlisted in the top five finalists. The team performed in the final event on January 18, 2019, at the J. N. Tata auditorium, IISC and won the first position. The team performed an adaptation of the play - "Sawdhaan! Dulhe ki Talash hai" by Vijay Tendulkar.



**IITB Basketball Team has won the first place in Slam Jam**, conducted as a part of sports event "Olympiada", in the inter-collegiate management fest, Revelation 2019, by SIBM on January 18, 2019.



**Balaji Parthasarathy was awarded GBP 17,150 by the Oxford Internet Institute, UK, for the project "Fairwork: Developing fairwork standards in the gig economy."**

The project will allow him to support, and co-supervise with Janaki Srinivasan, the theses of MSc (Digital Society) student Pradyumna Taduri and iM.Tech. student Mounika Neerukonda.

**Prof. Debabrata Das and Anil Kumar Vengalil (PH2014010) have been awarded the following US Patent** titled "Method and Device for Categorizing a Stream Control Transmission Protocol (SCTP) Receiver Terminal as a Malicious SCTP Receiver Terminal."

Other details:

Innovators: V. A. Kumar and Debabrata Das

US Patent Number: US 10,129,294 B2.

More details at: <https://patents.google.com/patent/US10129294B2/en>

The contribution by Rajula Vineet Reddy (IMT2014045) to Pharo 7.0 software release has been acknowledged at: <http://pharo.org/news/pharo7.0-released>

Pharo is a live programming environment based on Smalltalk which runs on Linux, MacOS and also Windows. It is also a free and open source software, to which several research scholars from Europe contribute. Vineet has contributed to it as a part of his 2017 Google Summer of Code (GSoC) project:

<https://summerofcode.withgoogle.com/archive/2017/projects/5927132983197696/>

Vineet's blog post on 2017 GSoC: <https://vineetreddy.wordpress.com/2017/08/28/google-summer-of-code-2017-final-report-pharo-consortium-rajula-vineet-reddy/>

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## Campus News

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Events

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CITAPP, IIITB successfully carried out its third iteration of the three day Winter School Program, titled '**Towards an Inclusive Digital Society: Shaping the Agenda for Technology Design**' during December 10-12, 2018. By looking at the categories of gender, disability and economic class, this edition of the Winter School highlighted the ways in which technologies can become exclusive, how it could impact different segments of the society and how we can think of alternative design principles that will make Information and Communication Technologies (ICTs) more inclusive. The Winter School drew in over 25 participants, both students and working professionals from across the country, belonging to different backgrounds and disciplines. Diverse cohorts of students pursuing engineering, design, development studies and professionals from large companies and not-for profit outfits, entrepreneurs and professors from technical and legal domains resulted in a very enriching , productive and interactive discussions around technology and inclusion. Participants were also involved in group activities to help understand the concepts they had been exposed over the course of the day and the workshop. Several sessions were conducted by IIITB faculty

members, entrepreneurs from the IIITB innovation centre and collaborators from University of Melbourne, Sheffield Hallam University, Microsoft Research India.



**SE lab, IIITB and Programming Languages lab at the Department of Computer Science and Automation (CSA), IISc, jointly organized a day-long workshop** on December 20, 2018, at CSA, IISc. Students from both the labs presented their research work.

The **new batch of Master of Science by Research and Ph.D.** students joined on January 1.

The **new batch of Sponsored M.Tech** joined on January 3.

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A grant proposal to initiate a '**Post Graduate Diploma in Big Data Biology**' was submitted to the Department of Biotechnology, Government of India during August 2016 by the Institute of Bioinformatics and Applied Biotechnology (IBAB) in collaboration with IIIT-B. The proposal by IBAB was rated as the best out of the 300 proposals submitted to DBT and a grant of Rs.1.8 crores was sanctioned to initiate the programme. The joint IBAB-IIITB program was officially inaugurated by Mr. Kris Gopalakrishnan at IBAB on January 9, 2019. The selection interviews were conducted in December 2018, by panels of faculty members from IBAB and IIITB. The contributions from IIITB have been driven by a Senate sub-committee led by Prof. R. Chandrashekar and convened by Prof. Jaya Sreevalsan Nair. Profs. G. Srinivasaraghavan, Neelam Sinha, Srinath Srinivasa, T. K. Srikanth, and Jaya Sreevalsan Nair have proposed and are teaching some of the courses in the program.

More details can be found here: <http://ibab.ac.in/index.php/pg-diploma-in-big-data-biology/>



The **first MOSIP Technology Bootcamp** was organised at IIITB on January 10th and 11th. Experts on digital identity, privacy, security and biometrics from India and around the world attended the event. Also in attendance were representatives from countries interested in learning more about MOSIP.

The boot camp was organised with the objectives of (a) sharing the design and thinking behind MOSIP 1.0, and its core architectural principles, and gathering feedback on the same; (b) discussing new developments and advances in identity-related technologies in order to inform plans of IIITB for the future of MOSIP; (c) seeding and creating a network of experts to help grow; and (d) sustaining MOSIP as a flourishing open source platform in the future. Finally, the boot camp intended to seed and create a network of experts, to help grow and sustain MOSIP as a flourishing open source platform in the future. In addition, the delegation from Morocco shared the status of its ambitious National Population Register (RNP) program being developed with MOSIP as its kernel. Morocco is the first country to adopt MOSIP. All the sessions at the boot camp resulted in valuable feedback and inspiration on the future of MOSIP.



A **UGC Expert Committee visited IIITB** during January 11-12, 2019 to review the functioning of the institute and to accord continuation of the Deemed University Status. This visit is part of the review which UGC undertakes once in every five years.





IIITB launched "**Bangalore on IT**", a public lecture series on January 18, 2019. This lecture series is an initiative by the Branding Committee of 2018 who believe that informed and up-to-date students and researchers can bring about greater technological change through the dissemination of information via these lectures given by leading scholars and thinkers on all topics related to IT. The inaugural lecture was given by Dr. Marianne Schmid Mast, full professor of Organizational Behavior at HEC at the University of Lausanne. She is a former member of the Swiss National Research Council and acted as president of the Swiss Psychological Society. In 2018, she was named one of the 50 most influential living psychologists. For videos: <https://www.youtube.com/watch?v=CJ3Rj3wEicU>



**i-Stem hackathon** was held during January 17-19, 2019.



**The 70th Republic Day of India** was celebrated at IIITB campus on January 26. The ceremony included flag hoisting by the Director, the National Anthem recitation, and an address to the gathering by the Director and one of our student, this was followed by patriotic songs. The main attraction of the event was the motorbike acrobatic show by the IIITB Security group. The acrobatic fete was headed by ex-servicemen from Corps of Military Police (CMP). The CMP Acrobatics team hold several Guinness Book of World Records to their credit like "Most men on a single bike" (48 men) and Largest Motorcycle pyramid with 151 men etc.



On January 30, 2019, the **second edition of Happy Healthy Hour** was conducted on campus. This included activities like run/walk race and fun/recreational games for faculty and staff members.



Publication Including Presentations

The paper titled **"ASD: A Framework for Generation of Task Hierarchies for Transfer in Reinforcement Learning"** was published at the International Conference on Neural Information Processing (ICONIP 2018) at Siem Reap, Cambodia, during December 13-16, 2018. This paper was a combined effort of Abhijith Madan and Jatin Goyal, under the guidance of Prof. Shrisha Rao along with Akshay Narayan (IIITB alumnus and PhD candidate at NUS).

The paper is available to download on the springer website:

[https://link.springer.com/chapter/10.1007/978-3-030-04182-3\\_28](https://link.springer.com/chapter/10.1007/978-3-030-04182-3_28)

[https://www.researchgate.net/publication/327746022\\_AS\\_D\\_A\\_Framework\\_for\\_Generation\\_of\\_Task\\_Hierarchies\\_for\\_Transfer\\_in\\_Reinforcement\\_Learning](https://www.researchgate.net/publication/327746022_AS_D_A_Framework_for_Generation_of_Task_Hierarchies_for_Transfer_in_Reinforcement_Learning)

A paper titled **"Emerging Access Technologies and Open Challenges in 5G IoT: From Physical Layer Perspective"** by Parthiban Annamalai (PH2016007) was presented in 3rd International Workshop on 5G and Future Wireless Technologies in association with IEEE ANTS 2018, December 16-19 2018, Indore, India. It is co-authored by Prof. Jyotsna Bapat and Prof. Debabrata Das.

The following papers will be published in the proceedings of the 11th Indian Conference on Computer Vision, Graphics, and Image Processing (ICVGIP) in Hyderabad during December 18-22, 2018, from the Multimodal Perception Lab:

1. **"Handwritten Essay Grading on Mobiles Using MDLSTM Model and Word Embeddings,"** by Annapurna Sharma (PH2015015), and Prof. Dinesh Babu J.
2. **"Rash Driving Detection Using a Frontal View Camera in Cars,"** by Chandan Nataraj (SMT2015009), Harsh Jain (SMT2015012), and Prof. Dinesh Babu J

Sunita Katre, Aakansha Goswami, Prashant Mishra, Jyotsna Bapat and Debabrata Das **"Improved Connectivity Using Differential Priority Assignments in Military Network"**, to appear in the Proceedings of 2018 5th International Conference on Parallel Distributed and Grid Computing (PDGC), Solan, December 20-22, 2018.

**"To regulate OTTs or not"** by Raja, Kartik and Sridhar V. has been published in Financial Express on December 27, 2018.

<https://www.financialexpress.com/opinion/over-the-top-to-regulate-otts-or-not/1425848/>

Narasimman Subburayalu, Sridharan Natarajan and Debabrata Das, **"Dynamic load balancing using multiaccess in 5G"**, in the proceedings of the 11th International Conference on Communication Systems & Networks (COMSNETS 2019), Bangalore, India, January 7-11, 2019.

Prof. Sachit Rao presented his paper titled **"Designing Sliding Modes to Control the Longitudinal States of Fixed-Wing Aircraft Incorporating Control Bounds"** at the 2019 Fifth Indian Control Conference (ICC) on January 9-11, 2019, IIT Delhi, India.

Vaishnav Savarni (MS2016006) presented his paper titled **"Feedback Control Based Spatial Filter Window Size Selection for Image Processing"** at the 2019 Fifth Indian Control Conference (ICC) during January 9-11, 2019, IIT Delhi, India. Prof. Sachit Rao is the co-author of this paper.

Balaji Parthasarathy made a presentation titled **"A regional variant of Silicon Valley?: Bangalore's role in the innovation networks of the global information economy"** at the Urban ARC 2019 Conference, Indian Institute of Human Settlements, Bangalore, during January 10-12, 2019.

Lalit Pathak, Tushar Vrind, Diwakar Sharma and Debabrata Das, **"Efficient Protocol for Performance Enhancement of B4G and 5G Networks for MultiSIM Deployment"**, in the proceedings of the IEEE Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, January 11-14, 2019.

Kavin Kumar Thangadorai, K Murugesan, Vimal Bastin Joseph and Debabrata Das, **"A Novel Unified Signaling Beacon for Traditional and Mesh WiFi Network"**, in the proceedings of the IEEE Consumer Communications & Networking Conference (CCNC), Las Vegas, USA, January 11-14, 2019.

Preeti Mudliar published a short science fiction story titled **'The Automaton's New Clothes', in 'Drones and Dreams: A Speculative Sprint Story Collection' on Artificial Intelligence Futures**. Digital Asia Hub, Hong Kong. January, 2019. The book is available for download at this link <https://www.digitaliasiahub.org/download/drones-dreams-a-speculative-sprint-story-collection/>

Sridhar, V. (2018). **Gaming Robosoft Way: A Global Tech Start-up from a Small Town in India**. Asian Business Case Centre. Case No: ABCC-2018-034. Nanyang Business School, Nanyang Technological University, Singapore.



## Faculty, Staff and Students

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Prof. Dinesh Babu Jayagopi delivered an invited talk on **"Machine Learning and Speech"** at KL University, Vijayawada, during December 3-4, 2018.

Jaya Sreevalsan Nair gave a tutorial on **"Visual Analytics: Bringing Data to Life"** at ICIIT 2018 Conference, Chennai, on December 10. Prof. Dinesh Babu Jayagopi gave an invited talk on December 12, 2018, at ICIIT 2018 Conference.

For details: <https://iciit.in/tutorials.html>; <https://www.iciit.in/invitedtalks.html>

Prof. Srinivas Vivek visited the **Scientific Analysis Group at DRDO, New Delhi** on December 14, 2018.

Jaya Sreevalsan Nair gave an invited talk on **"Visual Analytics is Komorebi: For Exploring Spatial Relationships in Data and for Leveling the Playing Field in STEM Careers,"** at the Workshop for Women in Data Science and High Performance Computing (WDSHPC18), co-located at HiPC 2018 on December 17, 2018.

For details at: <https://hipc.org/wdshpc/>



**The Surgical and Assitive Robotics Lab (SARL) team** @ IIITB affiliated to EHRC and

MINRO centers was invited by IIT Madras Shastra organizers to **showcase all the devices in the Shastra event held in IIT Madras** during January 3-4, 2019. Vinay Chandrashekar (IMT2015523), Aravind Reddy (IMT2015524), and Dr. Madhav Rao presented the upper limb, lower limb Deep-vein thrombosis (DVT) device, and other assistive devices at the two-day event.

Prof. Srinivas Vivek gave an invited talk titled **"Fixed-Point Arithmetic in Somewhat Homomorphic Encryption Schemes"** at the CSE Department of IIT Kanpur on December 19, 2018. He also gave another invited talk titled the same, at the CSE Department of IIT Kharagpur on January 23, 2019.

Prof. V. Sridhar gave an invited talk on **"ICT Policies and Regulation in India"** at the Department of Information Systems, Faculty of Computer Science and Information Technology, University of Malaya, Kuala Lumpur, December 20, 2018.



Balaji Parthasarathy was invited to speak at a panel titled **"Is this time different? The novelty of ICT in ICTD"** at the Tenth International Conference on Information and Communication Technologies and Development. Ahmedabad, during January 4-7, 2019.

Balaji Parthasarathy delivered a talk titled **"The historical specificity of frugal innovation"** at Ahmedabad University, Ahmedabad, on January 7, 2019.

Prof. Sridhar co-chaired **Mobile India event**, as part of COMSNETS with Prof. T. K. Srikanth on January 10, 2019, in Bangalore. The theme was **"AI and Machine**

**Learning in Mobile Services"**. Profs. Sridhar, Srikanth, and Janaki Srinivasan participated as moderates for panel sessions during the event.



Prof. Meenakshi D'Souza delivered an invited talk titled **"Avionics Self-adaptive Software: Towards Formal Verification and Validation"** at 15th International Conference on Distributed Computing and Internet Technologies (ICDCIT), held from January 10-13 in Bhubaneswar, India.

Prof. Meenakshi D'Souza attended the Complexity, Algorithms, Automata and Logic Meet (CAALM) organized under the aegis of Indo-French joint research unit UMI-ReLaX, at Chennai Mathematical Institute, Chennai, India, during January 21-25, 2019. Meenakshi gave a talk titled **"Formal Methods for Embedded Software Systems: Two case studies"**.

Prof. Dinesh Babu Jayagopi delivered an invited talk on **"Deep Models for Vision"** at TCS Bangalore on January 28, 2019.

#### New Faces

**There are new faces and roles on campus. Details of their joining:**

January 21, 2019: **Dr. Arti Dilip Yardi** as DST-Inspire faculty fellow.

[https://www.iiitb.ac.in/faculty\\_page.php?name=drartidilipyardi](https://www.iiitb.ac.in/faculty_page.php?name=drartidilipyardi)

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December 4: Oindrila Matilal (PH2015019) completed her comprehensive examination towards her Ph.D. in the topic of **"Gender and Digital Labor"**.

December 6: Ghodeswar Shweta Bhimrao (PH2010903) completed her Ph.D. thesis oral examinations titled **"Modulation Recognition over AWGN and Generalized Fading Channels using Higher Order Moments and Cumulants."**

December 7: Praseeda (PH2016008) completed her comprehensive examination titled **"Competency Modeling for Digital Empowerment."**

December 11: Parthiban A. (PH2016007) completed his state of the art seminar titled **"Improving Frequency Reuse Efficiency to Enhance Throughput for 5G Using in Band Full Duplex Devices."**

January 29: Ramakrishnan Raman (PH2015010) completed his open seminar on **"Decision Learning Framework for Architecture Design Decisions of Complex Systems and System-of-Systems."**

**December 10: "Real-time Image Guided surgery using Ultrasound"** by Prof. Subhajit Sen

**January 7: "Frontiers in Machine Learning Today"** by Prof. G. Srinivasaraghavan.

**January 21: "Public transportation in Bangalore, with a focus on the public bus transport run by BMTCT"** by Prof. S. Rajagopalan.

January 28: **"WiFi in the Wild – Learnings from non-users of an infrastructure"** by



January 8: Prof. Kaliappa Ravindran, CUNY, on **"Configuration Management for Resilient Networked Systems"**.

January 8: Prof. Sharma Chakravarthy, UT Arlington, on **"Graph Analysis: Decomposition- based Analysis Using Multilayer Networks"**.

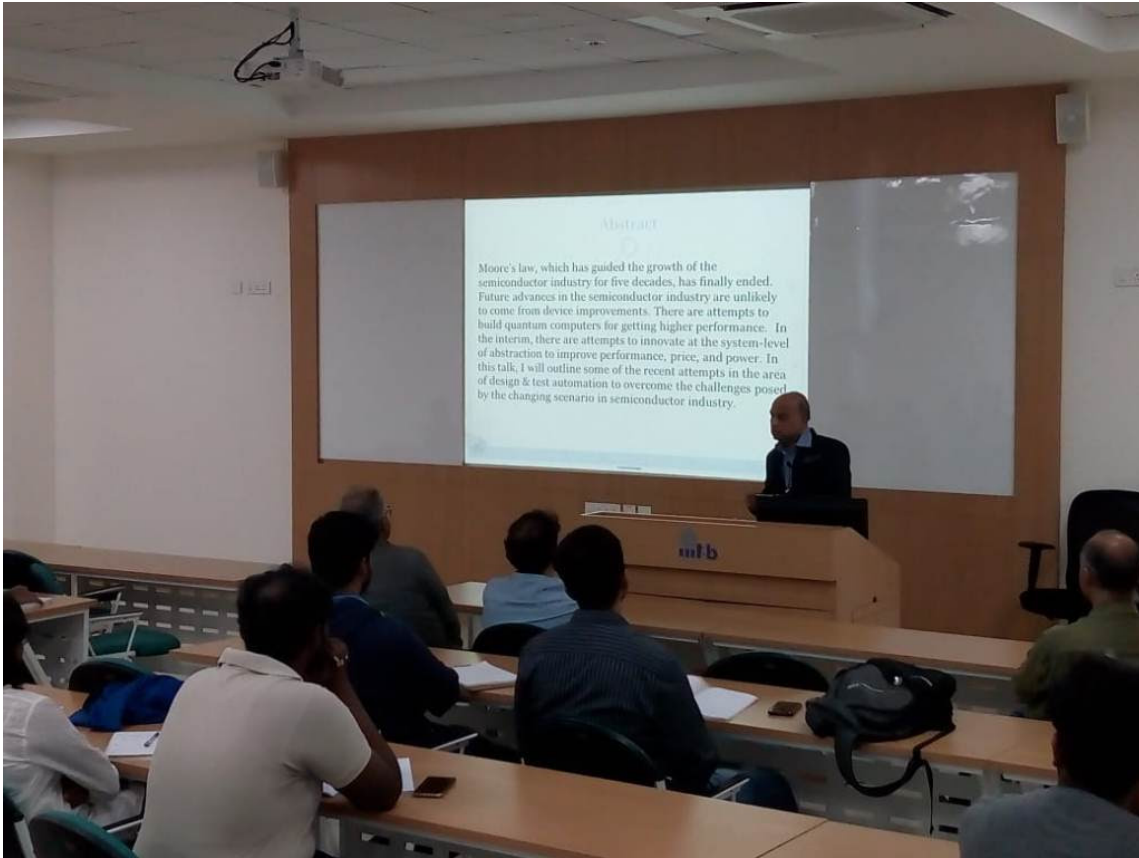
January 10: Prof. Richa Kumar, IIT Delhi, on **"Remaking Landscapes, Reshaping Palates and Transforming Diets in Western Awadh, Uttar Pradesh, India"**.

January 17: Prof. Hanan Samet from the University of Maryland-College Park, on **"Scalable Network Distance Browsing in Spatial Databases,"** as part of the ACM Distinguished lecture series.



January 23: Dr. C. P. Ravikumar on **"New Areas in VLSI design and Test"**

**automation”** as a part of IEEE Circuits and Systems chapter series.



January 29: Mr. Samiran Gupta, India Head of the Internet Corporation for Assigned Names and Numbers (ICANN) on **"The Internet - Technology, Business and Governance"**.



**December 17:** Dr. Vidyadhar Y Mudkavi, Head, CSIR Fourth Paradigm Institute.

**December 17:** Dr. Sujatha Ramdorai, University of British Columbia, Canada

**December 18:** K S Viswanathan, NASSCOM & Mr. Gururaj Deshpande, Infosys Technologies

**January 08:** Mr. Kaliappa Ravindran, City University of New York, (CUNY- City College

& Graduate Center)

**January 10:** Mr. Nandan Nilekani, Infosys Technologies Co-Founder & Former Chairman of Unique Identification Authority of India (UIDAI)

**January 28:** Dr. Usha Gogineni, Maxim Integrated

**January 28:** Dr. Aloknath De, CTO and Global VP SRIB, Samsung

**January 28:** Dr. Prasad Ram, Gooru Labs

**January 29:** Mr Samiran Gupta, Head of India at ICANN

**January 30:** Visit by the Japanese Delegation:

Mr. Tanaka Shigeki, Director-General for Global Industrial Structure Policy, METI.

Mr. Keiichi Onozawa, Director, JETRO New Delhi

Ms. Eri Nakatani, Dy Director, Global Industrial Structure Policy, METI

Mr. Yutaka Endow Director, Japan-India Startup Hub at JETRO Bengaluru, METI

**January 30:** Mr. Paul Gilbert, Chief Executive Officer, & Dr Tom Lee, Quanser India

**January 30:** Dr. Lalit Singh, Managing Director, & Deepak Singh, Mc Graw Hill Education

**January 31:** Visit Of Midshipmen From Indian Naval Academy

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## Campus Calendar for February 2019

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**February 9-10:** Inter college Sports competition

**February 14-16:** RISE 2019

**February 16:** 2nd IAB Meeting

**February 20:** 66th Senate Meeting

**February 20:** 3rd edition of Happy Health Hour

**February 23:** Sangam 2019

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