

Newsletter August-September-2018



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## From the Director's Desk



In September, the renowned high-performance computing scientist, Jack Dongarra, has been named to receive the 2019 SIAM/ACM Prize in Computational Science and Engineering. The award will be presented at the Society for Industrial and Applied Mathematics (SIAM) Conference on Computational Science and Engineering (CSE19) in February. We congratulate the giant in HPC.

In a touching event, 1500 IT professionals all over the world came together to volunteer to create the rescue helpline website <u>http://keralarescue.in/</u>. The website, outcome of efforts by IEEE Kerala chapter, has helped in connecting different stakeholders in rescue operations for the devastating floods in Kerala in August 2018. IT, in its different forms, continues to spread its wings!

Back at home, we commemorated our 19th Foundation Day on September 15 and launched the year-long 20th Year celebrations. The first Industry Advisory Board (IAB) meeting was held on that day too. We hosted the ADCOM 2018 Conference at IIIT Bangalore that saw many renowned scholars from IISc, IITM, and IITB visiting us as Guest Speakers.

Overall, as always, while August marks new beginnings with the new academic year, September reminds us of our humble beginnings on our Foundation Day.

#### **HAPPY READING!**

# Achievements

Tarun Pandey (MT2017128) and Amitabh Tiwari (MT2017018) won the second prize of INR 30000 in MMA Ideathon 2018. For the 30-hour hackathon, they have come up with a Social Analytics Dashboard, Recommendation Engine and E-commerce Integration Wizard for Hindustan Unilever. The hackathon partners were Unilever, Vodafone, Godrej, and Tata.



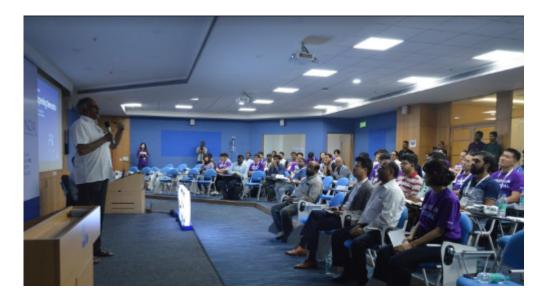
# **Campus News**

🗰 Events

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

Meeting between AICTE and E-Governance was held on August 4 at IIIT Bangalore.

Samsung Accelerator Programme was held on August 6.



The Roundtable on Technology Partnership between Karnataka & Northern Powerhouse, UK was held on August 9 at IIIT Bangalore. The event was attended by His Excellency Sir Dominic Asquith, The British High Commissioner to India, Mr. Dominic McAllister, British Deputy High Commissioner to Karnataka, members of U.K. delegation, industry leaders, eminent professors of IIIT Bangalore and IISc and officials from the Department of IT and BT, S&T, Government of Karnataka.





The **72nd Independence Day** was celebrated at IIIT Banglore on August 15. There were special dance and singing performances by the children from Samarthanam orphanage.

Workshop on Urban Mobility was held on August 16 at IIIT Bangalore.

Faculty Selection & Promotion Committee meeting was held on August 22.

Center for Information Technology and Public Policy (CITAPP) organized **an interaction session with Mr. Shubhranshu Choudhary, the founder of CGNet Swara** on August 22. During his visit, Mr. Choudhary discussed his organization and their work in the tribal areas of Chhattisgarh. CITAPP and CGNet Swara are currently collaborating on few projects.

CITAPP has been engaging with CGNet Swara over the past few months to explore/ work jointly on some governance challenges being faced in the region.

**The graduation ceremony of the Certified Cyber Warrior programme** under the IIIT Bangalore CCSER was held on August 25. The chief guest for the ceremony was Dr. D. S. Ravindran, Ph.D. (Wales), IFS, who is the Principal Secretary to Government (Khajane 2), Finance Department, Government of Karnataka.



**A user orientation/ awareness program for Turnitin**, plagiarism checking software was held on campus on August 29.

An MoU was signed on August 27 at Rabat, Morocco between the Government of Kingdom of Morocco and the International Institute of Information Technology Bangalore for implementation of an Identity system called **Modular Open Source Identity Platform**  (MOSIP). IIIT Bangalore will own and steer the MOSIP project and build up a version to be adapted for the Kingdom of Morocco. It is a proud moment for IIIT Bangalore for having formally inked this MoU that has enabled the institute to extend it's benign hand across continents to empower the Moroccan citizens and the Government to participate in mutually beneficial e-governance initiatives. It will truly be a path-breaking endeavor that has the potential to not only make a big difference to the Moroccan people but also to the international community as a whole, as no such open source solution is available in this space. The project is being supported by the World Bank and other donors development of this global public good.



The 73rd Board meeting of IIIT Banglore was held on September 5.

IIIT Bangalore students paid tribute to all the teachers on the occasion of **Teachers day** on September 5. The Theatre Arts Club had a light-hearted take on Ramayana, and the students got to express their gratitude through personalized greeting cards given to all faculty members.





IIIT Bangalore welcomed its newest members with the **Fresher's night** on September 8. The celebration included energetic dance performances, photo booth selfies, and several other events.

#### Blood donation camp was held on September 10.



**Ganesh Chaturthi** was celebrated on campus on September 13. The event included a procession, Ganesh Sthapna, aarthi, daily puja until visarjan and the final visarjan.





**Prof. Shrikanth Narayanan**, Niki & C. L. Max Nikias Chair, University of Southern California, Los Angeles, CA, Viterbi School of Engineering visited IIIT Bangalore on September 14, upon invitation by Prof. V. Ramasubramanian. Prof. Narayanan met with the Director and Deans and presented a talk on "Human-centered Computational Media Intelligence" during his visit.

IIIT Bangalore celebrated its **19th Foundation Day** on September 15. Guests of Honour of the event were: Prof. Y. Narahari, Computer Science & Automation Chair Division of Electrical Sciences, IISc; Dr. Vidyadhar Mudkavi, Director Head, CSIR Fourth Paradigm Institute; Mr. Saket Modi, CEO, Lucideus Technologies Pvt. Ltd.; Ms. Manasi Prasad, Executive Director, Indian Music Experience (IME); Lt. Payal Gupta, NM, Indian Navy, Crew Member, Navika Sagar Parikrama Voyage; Mr. Dilip Asbe, MD and CEO, National Payments Corporation of India. The photos of the event are at: https://photos.app.goo.gl/iWqMCk5dMMfzNJyo9

The year-long celebrations of IIIT Bangalore's 20th year was kick-started. It included the launch of the special edition of the Institute logo for the year. The commemorative video can be accessed at:

https://www.youtube.com/watch?v=aIKqD73I6I4

A videokenned version of it is at: https://videoken.com/embed/alKqD73l6l4



The first meeting of the **Industry Advisory Board (IAB)** was held at the Institute on Sep 15th, 2018, on a day when the Institute stepped into the 20th year of its founding. The meeting discussed several key issues pertaining to academics and research at IIIT Bangalore. The IAB of IIIT Bangalore is a select group of senior representatives from industry, who will provide guidance to the Institute on academic issues and strategic planning. The IAB is also intended to be a forum where ideas are exchanged and recommendations are made. The roles of IAB include those of an advisory group to the Institute in curriculum development and implementing improvements, of a connector or link between the Institute and its industry partners, and overall as a sounding board in terms of preparing students for industry as well as capital fund generation for infrastructure. The IAB mandates to meet twice in a year.



The IIIT Bangalore Innovation Centre Board Meeting was held on September 20.

**ACCS ADCOM 2018** was held at IIIT Bangalore campus during September 21-23. This was the 24th edition of the International Conference and the focus of this year's edition has been in the area of "Cognitive Computing & Applications - Artificial Intelligence, Machine Learning, IoT, Security, Video, Vision, Audio, NLP & Associated Fields". The conference included several talks, panel discussions, hackathon, tensorflow workshop & conference expo booths to showcase solutions.

During the event, IIIT Bangalore Innovation Center conducted the "**Artificial Intelligence -Innovation JAM**". The list of speakers included prominent researchers, namely, Dr. Ashish Tendulkar (Google), Dr. Ramasuri Narayanam (IBM Research), Prof. V. Kamakoti (IIT Madras), Prof. P. Vijay Kumar (IISc), Dr. P. Anandan (Wadhwani AI), Prof. Udayan Ganguly (IIT Bombay), Prof. Manish Gupta (IIIT Bangalore, Videoken), Dr. Sriram Rajamani (Microsoft Research), and Dr. Shailesh Kumar (Reliance Jio).



IIIT Bangalore press was launched by Dr. Harry (J.J.) Blom, VP Math, Computer

Science, and Publishing Development, Springer, New York on September 25. IIIT Bangalore Press is a book series that will be published by IIIT Bangalore in collaboration with Springer Nature Publishing. IIIT Bangalore Press encourages proposals for books, edited volumes, monographs, lecture notes, and conference proceedings from researchers. The Press has an internationally acclaimed Editorial Board in place and will be following best practices of Springer Nature for review and publication processes.





**IIIT Bangalore and Intuit signed a memorandum of understanding (MoU) on September 25**, agreeing to collaborate on several academic and research areas of mutual interest. The MoU was signed by Commodore (Retd) Sridhar, Registrar of IIIT Bangalore and Mr. Sudhir Pattnaik, VP of Intuit Labs, in the presence of Prof Sadagopan, Director, IIIT Bangalore. The main objective of this collaboration is to focus on bringing mutually agreed upon successful opportunities that lead to education, training, and research in the areas of Information Technology. The MoU aims to allow exchange of students, faculty and industry executives between IIIT Bangalore and Intuit to enhance the overall competence in the above field. Besides competence enhancement at Undergraduate, Masters and Doctoral programs, the cooperation will be extended to the execution of projects in the aforementioned areas. The MoU includes a plan for a center of excellence in Information Technology including the current trends of Artificial Intelligence and Machine Learning.



The 20th Annual General Body meeting was held on September 26.

Prof. Alberto Maria Segre gave the talk on **"Contact Network Transmission Modeling of Healthcare-Associated Infections**" at the E-Health Research Center (EHRC) seminar on September 26. Prof. Segre is Professor and Chair of the University of Iowa Computer Science Department where he is also the Gerard P. Weeg Faculty Scholar in Informatics.



The **1st Symposium on Cognitive Computing & Digital Social Innovation** was held at IIIT Bangalore on September 27. The symposium has been co-organized by Mphasis F1 Foundation and IIIT Bangalore Innovation Center. Mphasis F1 Foundation has been actively supporting some of the research & innovation activities at IIIT Bangalore through Mphasis CSR grants. Since April 2018, the foundation has supported the setting up of "Cognitive Computing CoE" at IIIT Bangalore.

IIIT Bangalore and Mphasis inaugurated a first of its kind **Center of Excellence** (**CoE**) for **Cognitive Computing**. The CoE will leverage cognitive computing technology to solve problems related to education, enterprises, and accessibility.





An MoU was signed between IIIT Bangalore, Touchetech Labs and Vision Empower

on September 28 for a research project to develop. The project is to develop a refreshable Braille reader. Prof. Sujit is the PI from IIIT Bangalore.



## Publication Including Presentations

Annapurna Sharma (PH2015017), presented her paper titled "**Automated Grading of Handwritten Essays**" at the 16th International Conference on Frontiers in Handwriting Recognition (ICFHR-2018), in Niagara Falls, U.S.A., during August 5-8. Dr. Dinesh Jayagopi is a co-author of this work.

Prof. V. Ramasubramanian and his students K. E. Manjunath (PH2014014), Anoop Toffy (MT2016016), Shreekantha Nadig (MS2016010), K. M. Srinivasa Raghavan (MS2017008), and Tilak Purhoit (MT2017129) attended Interspeech-2018, during September 2-6, the premier flagship conference of ISCA (International Speech Communication Association) and presented 2 papers in this conference.

Manjunath presented his paper in Interspeech-2018: **"Indian languages ASR: A multilingual phone recognition framework with IPA based common phoneset, predicted articulatory features and feature fusion**", co-authored by K. Sreenivasa Rao, Prof. Dinesh Babu Jayagopi, and Prof. V. Ramasubramanian.

Anoop and Srinivasa Raghavan (MS2017008) presented their paper "**Semi**supervised and active-learning scenarios: Efficient acoustic model refinement for a low resource Indian language", co-authored by Maharajan Chellapriyadharshini, Prof. V. Ramasubramanian. K. E. Manjunath also presented his Ph.D. work "**Study of Multilingual Phone Recognition using Indian Languages**" at the Doctoral Consortium.

Prof. Ramasubramanian was the Chair, Tutorials Committee of Interspeech-2018, and organized and hosted 8 tutorials related to speech processing, speech recognition, machine learning, and deep learning topics as part of the pre-conference Tutorials on September 2. The team also attended the Machine Learning for Speech and Language Processing (MLSLP) – Satellite Workshop of Interspeech-2018, organized and hosted by Google Inc., Hyderabad, on September 7.

Anshul Alok Gupta (IMT2014006), presented his paper titled "**Unsupervised Speaker Cue Usage Detection in Public Speaking Videos**" at the 1st International Workshop on Vision for Interaction and Behaviour undErstanding (VIBE 2018), collocated with the British Machine Vision Conference (BMVC), in New Castle, U.K., during September 3-6. Dr. Dinesh Jayagopi is a co-author of this work.

Abhishek Singh presented his paper co-authored with Meenakshi D'Souza titled **"Formal Verification of Datarace in Safety Critical ARINC653 compliant RTOS"** at the 7th IEEE International Conference on Advances in Computing, Communication, and Informatics (ICACCI), held in Bangalore during September 19-22.

Chinchu Thomas (PH2015017), presented her paper titled "Human Activity Recognition Using Temporal Convolutional Network" at the 5th International Workshop on Sensor-based Activity Recognition and Interaction (iWOAR) 2018, in Berlin, Germany, during September 20-21. Nitin Nair and Dr. Dinesh Jayagopi are coauthors of this work.

Prashant K. Wali and Debabrata Das, "**Optimization of Barring Factor Enabled Extended Access Barring for Energy Efficiency in LTE-Advanced Base Station**", IEEE Transaction on Green Communication and Networking, Vol. 2, No. 3, pp-830-843, September 2018. Parthiban A., Jyotsna Bapat and Debabrata Das, "A Novel Frequency Allocation Scheme for In Band Full Duplex Systems in 5G Networks", IEEE Wireless Communications Letters, September 2018.

A guest editorial by Prof. Shrisha Rao, co-authored with Deya Chatterjee (summer intern from SRM University) was published in the journal Current Science on Septemeber 25 issue.

Shrisha Rao, Deya Chatterjee, "**Artificial intelligence policy: Need aggressive development with prudent regulation**", Current Science, Volume 115, Number 6, 25 September 2018, pp. 1015--1016.

URL: http://www.currentscience.ac.in/Volumes/115/06/1015.pdf



## IIIT Bangalore in Media

20 locations, 8 cities, 2000 startups: how co-working space ... 3 Startups Won Cash Prize at Samsung Global Startup Acceleration ... 'Artificial Intelligence may give rise to new jobs' As floodwaters retreat, Kerala's confidence rises City Surveillance is watching, analysing CCTV data to make homes safer Domain experts from Samsung Electronics mentor 20 Indian startups Flood relief: Bengaluru students donate pocket money, teachers their ... Google Launchpad Accelerator India shortlists 10 startups Here's how leading universities are UpGrad'ing' to online Hexpressions wins Samsung start-up award for ready-to assemble ... IIIT Bangalore to develop digital database for Morocco, similar to ... IIITB to develop Aadhaar-like database for Morocco IISc prof among two chosen for ACCS-CDAC award 2018 IIT Bangalore-CGNet Swara's translation technology to bridge gap in ... Looking for an exciting career transition? It's time to 'UpGrad' with Data ... Morocco, WB Discuss Preschool Education, Social Welfare Morocco-India Social Register Program Aims to Reduce Inequality Mphasis partners with IIIT-B, to invest Rs 50 Mn in next three years Mphasis pioneers India's first CoE for Cognitive Computing in ... National Register: Interior Ministry, India's International Institute of ... NIMHANS signs MoU with Public Health England

Putting K'taka at the heart of India-UK tech tie-up Ready-to-assemble homes provider wins Samsung start-up award Samsung announces winners of Global Startup Acceleration Program Samsung seeks cooperation with India startups under 'Make in India .... This Bengaluru-based institute will help Morocco develop a database .... This Indian startup wins Samsung Global Startup Acceleration .... Top Edtech Startups in India for K12, competition exams, upskilling .... Translation tech to bridge gap in red-corridor areas UIDAI number landed in your contact list because of Google Web observatory at IIIT-B aims to check fake news and trends World Bank and Morocco will strengthen long-standing partnership



Prof. Debabrata Das has been invited by SAP to be the "**Research Adviser, SAP** Labs, India" in August 2018.

Prof. Uttam Kumar gave an invited lecture on **"Algorithms for Geospatial Analysis** using Multi-resolution Remote Sensing Data" at North East Space Application Centre (NESAC), ISRO, Umiam, Meghalaya on August 10.

Prof. Debabrata Das gave a technical talk, on "**Concept of Network Slicing in 5G Network – A Paradigm Shift**", on August 11, at the workshop on "Cloudification and Network Slicing in 5G Network," hosted by Nokia Research and IEEE COMSOC in Bangalore.

Sridhar, V., and Raja, Kartik. **Monitoring Net Neutrality: a challenge**. Financial Express, August 21.

Prof. Madhav Rao was invited as one of the **20 Young Indian delegates to visit Israel as a part of "Discover Israel Program**" during September 1-6. The Discover Israel program included visits to Haifa University, Tel-Aviv Innovation Center and other places to explore Research and Innovation between India and Israel in the immediate future.

Sridhar, Kala., Sridhar, V. Space up, in the Airbnb. Economic Times, September 5.

Meenakshi D'Souza gave an invited talk on "**Web applications testing using graphs**" at a national seminar on software testing and machine learning held at CTTE College for Women, Chennai, on September 6.

Prof. Ramasubramanian presented an invited talk on "**Hypothesized Wiener Filtering**" at the Satellite Workshop of Interspeech-2018 - International Workshop on Speech Processing in Challenging Environments (SPICE), at Indian Institute of Science, Bangalore, on September 8.

Prof. Sujit Kumar Chakrabarti from IIIT Bangalore was invited as the **Chief Guest at a book release at Sapna Book House** on September 16. The book released at the event is titled 'Knowledge Driven Development: Bridging Waterfall and Agile Methodologies' authored by Manoj Kumar Lal.

Sridhar, V. Where is Indian E-Comm headed? Financial Chronicle, September 17.

Prof. Uttam Kumar gave an invited lecture on "**Subpixel Learning Algorithms for Estimating Global Land Cover Fractions from Satellite Data Using High-Performance Computing**" at The Twelfth National Frontiers of Engineering (12NatFoE), Indian National Academy of Engineering (INAE), Indian Institute of Technology Guwahati, during September 17-18.

Prof. Debabrata Das gave a technical talk at the Continental Corporation, on the recent trends in Networking, "5**G: Network Slicing and Vehicular Communication Challenges and Opportunity**", Bangalore, on September 24. Balaji Parthasarathy delivered a talk titled **"The Innovation Centre at IIIT Bangalore and the IMACX Studios**" at the workshop on Universities and Social Innovation for Global Sustainable Development held at Lund University, Sweden, during September 26-27.

Sridhar, V. (2016). Internet access and Economic Development: Comparative Study of India and China. Indo-China Conference 2018 on "Economic Growth in India and China: Social and Economic Impacts", jointly organized by Institute for Social and Economic Change (ISEC) and Sichuan Academy of Social Sciences (SASS), Bangalore, 27-28 September 2018.

Prof. Meenakshi D'Souza, Shrisha Rao and Srinath Srinivasa have been appointed **as** Associate Editors (Computer and Data Sciences) in the Editorial board of Sadhana, a journal of the Indian Academy of Sciences, published by Springer. This is for a period of three years, commencing from September 2018.



Prof. Sridhar has been inducted as **Member, Think Tank on Digital Markets, by Competition Commission of India**.

Prof. Sridhar has been serving as Member Secretary of the Task Group on

Karnataka Cyber Security Vision, under the Karnataka Jnana Ayoga (Karnataka Knowledge Commission).

Sridhar, V. **EU GDPR: Privacy matters**. Advanced Computing & Communications, Vol: 2, Issue 3, September 2018.



August 16: State-of-the-art Seminar by Anjana Prabhakar (PH2015014) on "**IoT Security** in a Resource-constrained Environment"

August 22: Open Seminar by Gracy Joseph (PH2013002) on "Architecture Model-Based Safety Assurance and Validation Framework"

September 26: Open Seminar by Neha Oraon (PH2013008) on "**Design of Nanomagnetic** logic: from gates to subsystem"



August 08: **"The Promise of Privacy in the Age of Visibility**" a CITAPP talk by Dr. Pawan Singh, a postdoctoral researcher at the Deakin University, Australia.

August 13: "**Digital Ghars/Bahirs**" a CITAPP talk by Prof. Radhika Gajjala, (PhD, University of Pittsburgh, 1998), Professor of Media and Communication and of American Culture Studies at Bowling Green State University, USA.

August 22: A CITAPP-EHRC talk on **Autism Spectrum Disorder** (ASD) by Ms. Sarbani Mallick, Bubbles Center for Autism. August 24: **"Work and income security among workers in on-demand digital economy: Issues and challenges in developing economies**," a CITAPP talk by Dr. Uma Rani Amara, Senior Economist at the Research Department, International Labour Office (ILO) in Geneva.



September 4: "**Did Demonetization Enable Digital Money Transactions in e-Public Services Delivery? Evidence from Andhra Pradesh, India**" by Dr. Sundar Balakrishna, Director of Electronics Services Delivery and CEO, Andhra Pradesh Information Technology Academy, Government of Andhra Pradesh, Vijayawada.

September 5: **"The Future of World Electronics and Possible Role India Can Play**" by Prof. Mayank Shrivastava, Assistant Professor, Department of Electronic System Engineering, Indian Institute of Science, Bangalore.



August 01: Mr. Nitin Vora, Apple Inc

August 16: Dr. Mukul Saxena, Havells

August 20: Dr. Mandar & Dr. Sridhar Jonnala, IBM

August 22: Ms. Sarbani Mallick, Bubble Centre for Autism and Ms. Meenakshy Kavassery, Pragati Centre Livelihood

**August 24**: Prof. (Dr.) John Apurruot Akec, Vice Chancellor, University of Juba, South Sudan

August 31: Mr. Gururaj Yellapur & Mr. Sanjib Rakshit, Omega Healthcare

August 31: Mr. Rajaraman Subramanian, Co-Founder & Technical Director, Calligo Technologies

**September 06**: Dr. Gururaj Deshpande, Chief Operating Officer, EDGE/NIA Products Edgeverve Systems, Head, Infosys

September 11: Dr. Ashwin Mahesh, Mapunity

September 11: Mr. Sashi Sreedharan, Managing Director, Microsoft India



#### September 27: Havells team

- 1. Mr. Ameet Gupta, Executive Director, and Board Member, Havells
- 2. Mr. Rajiv Goel, Executive Director, Havells
- 3. Mr. Ramesh Viswanathan, Vice President, Havells.
- 4. Mr. Mukul Saxena, Executive Vice President and CTO, Havells

September 27 - Dr. Dyaberi, IAS (Retd) CAO, Ambedkar School of Economics

September 27: Mrs. Shikha, IAS, Managing Director, BESCOM

**September 28**: James Godber, Deputy Head of the UK Science and Innovation Network, India & Mr. Sunil, British Deputy High Commission Bangalore.



"Medical Imaging & Analysis" by Prof. Neelam Sinha, Gopika Gopan (PH2014003), Debanjali Bhattacharya (PH2015018), Kotta Hari Chandana(IMT2014027) on August 06. "Efficient Algorithms for Geometric Problems" by Prof. Pradeesha Ashok on August 13.

"How to define a research problem in your areas of interest  $\rightarrow$  Solve  $\rightarrow$  Write a technical paper and increase your probability of success" by Prof. Debabrata Das on August 20.

"Some research in elliptic curves and Diophantine equations" by Prof. Manisha Kulkarni on August 27.

"Recent Developments in understanding Three Dimensional Turbulent Flows & Future Perspectives" by Prof. Shivakumar Malapaka on September 3.

"Have I made a right choice by joining MTech/IMTech? What Next? How to succeed and have fulfilling technical career?" by Prof. Debabrata Das on September 10.

Building Autonomous Conversational Agents, Computer Vision Systems, Neural Networks, and Unmanned Aircraft that can fly Safely" by Prof. Sachit Rao. Prof. Janaki Srinivasan, Pradeep Kumar A. V. (MS2016003), Vaishnav Ram Savarni K. R. (MS2016006), and Shreekantha Arishinagare Nadig (MS2016010) on September 24.



### Campus Calendar for October 2018

October 2: Gandhi Jayanthi

October 15-21: Midterm break

October 17: Ayudha puja

October 30-31: RMIT 2018 conference

October 31: Yamini 2018