FROM THE DIRECTOR'S DESK

ACHIEVEMENTS

CAMPUS NEWS

NewsLetter

DECEMBER 2019 – JANUARY 2020

FROM THE DIRECTOR'S DESK

We wound down our Semester in December 2019, to come back with a bang in January 2020! I take this opportunity to wish the entire IIITB fraternity 'A Happy 2020!'

New year ushered in several happy moments. We had eminent speakers, guests and delegations from different countries and signed several MoUs with Industry and Academia.

The campaign has been buzzing with varied activities. This academic year, we planned for a series of Samvaad talks grouped on themes. We continued to do interesting ones on "Design for Technology" in December 2019 and on "Models for Computational Thinking" in January 2020. We also conducted Inclusive Stem Confluence 2020 and CSAG - IIITB Workshop with KJA at NIAS and launched the revamped IIITB website. We organized the Faculty Retreat in December and Alumni lunch with the 2018 batch.

We also celebrated the Happy Health Hour – 4th edition for Faculty and Staff. In January, IIITB launched its revamped website.

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We also had Alumni lunch with the 2018 batch. We also conducted Inclusive Stem Confluence 2020 and CSAG - IIITB Workshop. January also saw important events such as handing over of Bionic Yantra Robo to IIITB besides, renewal of our MoU with NIMHANS with Dr. Gangadhar, Director, NIMHANS and the visit of Dr. Thimmappa Hedge, renowned Neuro Surgeon.

The award ceremony of Infosys Prize 2019 was on January 7, 2020, in Bengaluru, with the Nobel laureate, Amartya Sen, as the Guest of Honor. The recipients of the prestigious award are Prof. Sunita Sarawagi, Dr. Manu V. Devadevan, Dr. Manjula Reddy, Prof. Siddhartha Mishra, Prof. Govindasamy Mugesh, and Prof. Anand Pandian. Congratulations to the winners.

Once again, I sign off with a note of hope for a fulfilling 2020 to all!

Happy reading!

ACHIEVEMENTS

The project proposal by Prof. Jaya Sreevalsan Nair titled **"Data Analysis of Split Questionnaires for Conducting Surveys for Population Studies Using Novel Statistical Measures and Visualizations"** has been recommended under the fixed grant scheme, Mathematical Research Impact Centric Support (MATRICS), by the Science and Engineering Research Board (SERB) for funding in January 2020.

Balaji Parthasarathy is recognized as a **Fellow of the Regional Studies Association UK** from January 2020.

Events

A Transformational Lab for teaching and research in the era of advanced robotics, autonomous systems and artificial intelligence was inaugurated in the MINRO CoE on December 9. The lab will be a state-of-the-art platform for exploring advanced engineering design and application concepts in machine intelligence and robotics. The research studio is a combination of ground robots and drones, representing a complete modern intelligent cyber-physical system. The lab will support a broad range of courses in electronics, mechatronics, computers science, smart automation, intelligent machines, multi-robot applications, autonomous robotics applications among others. The lab has been set up in partnership with Quanser, a world leader in innovative technology for engineering education and research.

Winter School on **Towards an Ethical Digital Society: From Theory to Practice"** was held during December 9-11.

IIITB Faculty Retreat was on Dec 13th to discuss primarily : National Education Policy and Strengthening Research. Following five recommendations were suggested as the take-aways from the meeting:

- IIITB should aspire to be in Type 1 institute category, focusing more on multidisciplinary research and teaching.
- Faculty members to be encouraged to align their research interests with the existing four centers: EHRC, MINRO, upcoming Big Data, and CITAPP.
- Experiment with MOOC and equivalent video lectures up to 20% in the existing courses taught by IIITB faculty post Senate approval.
- Institute support for inviting Visiting faculty, recruiting Post-Doctoral Fellows, and quality Ph.D. students' needs to be initiated.
- Metric system especially for evaluating non-project funded research projects, research having high special impact need to be evolved and applied for evaluation and assessment.

The Global Leadership Experience Bangalore programme was organised by Common Purpose during 16-20 December, in partnership with King's Business School, London, and was hosted at IIITB. Global Leadership Experience 2019 is a week long programme attended by students from 23? Countries (India, Austria, British Isles, Brazil, Bulgaria, Canada, Colombia, Denmark, France, Italy, Ireland, Lebanon, Lithuania, Norway, Poland, Philippines, Portugal, Romania, Slovakia, Syria, Taiwan, Turkey & United States). Profs. V Sridhar, Ramesh Sundararaman, Uttam and Tridib Roy Choudhary were involved in this event.

On Dec 18, the fifth edition of **Happy Health Hour** was organized in the campus for faculty and staff. The event involved a Running/Walking race on a stretch of 1 km in four categories - (a) Gentlemen above 50 (b) Gentlemen below 50 (c) Ladies above 50 (d) Ladies below 50. The enthusiastic participants completed the 1 km stretch around the campus. A Balloon Caterpillar Race was held. It is a race where from start-to-finish the participants compete by inserting a balloon between them. This was followed by a team event that run a 3-legged race. The much-enjoyed event ended with prize distribution.

In keeping with the December festive vibes, **Christmas Celebration** was organized on the campus for faculty, staff and students on Dec 20. The event began with the singing of traditional carols. The most entertaining and eye catching part of the event was - when Santa arrived on the campus! With loads of cheer and joy ! Santa distributed gifts, wished and shook hands with everyone. Cake-cutting was also organized. Indeed, it was a joyous occasion for all of us!!

Prof. S. Sadagopan, Director, IIITB, officially **launched our new website** on December 23.

IIITB welcomed the New Year, 2020 with "The Customary Plantain Leaf Lunch" on January 1. All the faculty and staff enthusiastically joined in for the traditional South Indian lunch. Cheerful participation in ethnic clothes made the atmosphere festive. Besides, the event was also attended by some of IIITB Board members.

IIITB hosted a **13-member** delegation comprising of **9** students, **1** faculty & **1** staff from the School of Informatics, Computing, and Engineering - Indiana University, USA during January 6-8.

Objectives:

- Articulate historical and cultural aspects of Indian society and how they relate to business,
- Explain the digital and technical history and culture of India and its impact on business,
- Understand cross-cultural dimensions and challenges faced by Indian citizens moving to the US (and vice versa)
- Discuss the technological landscape of India, interacting with industry, courses, etc.

An **MoU was signed between IIITB and Bherunda Media / Bherunda Foundation** for collaboration towards "An Initiative On Digital Heritage & Culture" on January 9.

Reunion of 2018 Batch Graduates was organised on January 11. The event was attended by more than 50 alumni. IIITB arranged a few fun games and a special lunch for the Alumni.

Sankranthi celebrations reached a crescendo as the students of IIITB came together and celebrated the festival on January 15 at IIITB campus. Being a college that takes pride in its diversity, the festival was celebrated by incorporating different cultural habits of various states - feasting on delicious Pongal, dancing around the bonfire at Lohri Celebrations. The icing on the cake was : Kite flying.

The **Inclusive STEM Confluence 2020** was conducted at IIITB during 17-18 January. This event was attended by 120 participants over two days - mainly from the IT industry, higher technical institutions, special schools for persons with disabilities and Non-Governmental Organizations working in the area of accessibility. In its third year, this event aims to question our, often, 'knee jerk' reaction to diversity - striving to make inclusion an everyday aspect of our work and educational environment rather than something that needs special attention. The 2020 Confluence had multiple tracks: a 24-hour hackathon, workshops, round table discussions, an assistive technology product exposition and an employer connect initiative. Seven 'inclusive' teams, each consisting of 5-6 persons from among persons with disabilities (PWDs - visually impaired, hearing impaired and those with locomotor issues) as well as other non-PWD working professionals from the IT industry and students from higher technical institutions (mainly IITs, IIITs and NITs) participated in the 24-hour hackathon. Of the top three teams, the first placed team developed a voice enabled flow chart reader for visually impaired programmers, the second placed team developed an intrusion detection application to be used by both visually impaired and hearing impaired computer users and the third placed team worked on a 'spot-me' application that would enable visually impaired persons inside classroom settings to understand if they were being spoken to.

The Inclusive STEM Confluence 2020 was organized by I-Stem, E-Health Research Centre (EHRC) at IIIT Bangalore, Vision Aid, Vision Empower and the Xavier Resource Centre for the Visually Challenged (XRCVC) and sponsored by Intel, Microsoft, Morgan Stanley and the Dhun Pestonji Parakh Discretionary Trust.

Sub-Committee meeting of the Governing Body (Finance and Audit) was held on January 22 at IIITB

Formal handing over of Bionic Yantra's "Robotic Exoskeleton Assisted Rehabilitation System (REARS)" device to IIITB was held on January 22. REARS is a powered, intelligent device to provide calibrated support and on-demand assistance for limb movement as required during rehabilitation. The video can be accessed here: https://www.youtube.com/watch?v=-zWkQpMvktg

The **lounge area (with a contemporary interior design), on the First Floor of Lilavati block (Women Hostel 1) was inaugurated** on January 8. Prof. Jaya Sreevalsan Nair (Warden, Women Hostel) inaugurated it in the presence of the Director, Prof. Nanditha Rao, (Warden, Women Hostel), administrative staff, the Student Activity Council (SAC) members, and few students. This is an effort towards increasing social spaces on the campus. The administrative office has been instrumental in the realization of this facility which has aseating capacity of around 15 with basic amenities for dining.

Bhaskara and Lilavati laundry rooms were inaugurated by Ms Ranjani Niranjan (PH2018013) as well as a parent of an iMTech student, on January 22, 2020, in the presence of the Director, administrative staff, and hostel wardens. Bhaskara and Lilavati laundry rooms have 5 & 2 washing machines, respectively, and a dryer each.

IIITB celebrated the **71st Republic Day** on January 26. The event began with flag hoisting by Director, Prof. S. Sadagopan. This was followed by his address to students and everybody taking the national pledge. "One Nation, One Vision, One Identity". Besides, Naga Srihith Penjerla (IMT2019056) talked about the journey of Republic India.

Celebrations should never be in isolation! Aikyam- the social wing of IIITB, took the initiative of inviting Surabhi Adwaya Orphanage. The pickup and drop facility and coordination for the same was taken care of by IIITB and Aikyam Student Coordinators. Children graced the occasion with their speeches and group dance. Students from both the institutions celebrated Republic Day with a spirit of togetherness. IIITB Literature Club expressed its love for the Republic Day event by its performances. Manpreet Kaur Jaswal (PH2016006) recited a poem which she had penned down to express her love and respect for the Indian Flag and the struggle of independence. Besides, Nikhila, Varsha and Aishwarya sang the poem "Varika Varika Sahajare" written by freedom fighter Amsi Narayana Pillai which was tuned to music during the Salt Satyagraha. IIITB Music Club mesmerized the audience with their melodious patriotic group performance.

IIITB & NIMHANS strengthened their bond by extending the **Memorandum of Understanding** for exploring new areas of collaboration and technologies on January 27. Way back, in 2016, IIITB and NIMHANS had signed an MoU to accelerate the research efforts in both institutes in areas of mutual interest, by leveraging the information technology-related skills from IIITB and medical domain expertise from NIMHANS. At the event, the institutes reviewed the progress of the collaboration over the last 3 years. The meeting was presided by the Directors of the two institutes, Dr. Gangadhar and Prof. S. Sadagopan. They discussed aspects that could further strengthen the collaboration.

Debate Club, organized "War of Words" on January 29th which was meant to bring professors and students together to debate on topics of immediate relevance. The first round involved professor-student teams - who would have to speak on a topic handed out. The second round was a panel discussion on the topic "Should religions be banned from the face of the earth?". The teams were allowed to explain their views on the topic, followed by cross-dialogue between teams. The audience was allowed to question the teams at the end. The enthusiastic

participation generated great interest and cheer. The results of the competition are as below:

Winners : Balaji Parthasarathy, Nimisha Karnatak (DT2019006), Hitesha Mukherjee (MS2016007)

Runners Up : Commodore SR Sridhar (Retd), Bharath Joshi (IMT2018016), Arya Vardhan (IMT2018017)

International Workshop on Advanced Spatial Analytics and Deep Learning for Geospatial Applications was jointly organized by IIITB and C-SAG during 20 - 31 January. This was a 10-day workshop covering advanced concepts, technology scenarios and applications of Spatial Analytics and Deep Learning models. 62 participants from Government agencies, Academia, NGO & Private sectors participated in the workshop.

Publications

Debanjali Bhattacharya (PH2015018), Sunil kumar Vengalil(PH2014010), Neelam Sinha, Jitender Saini, Pramod Pal, and Sandhya M : **"Structural MRI based texture analysis of corpus callosum in classifying Progressive supranuclear palsy"** In Proc. IEEE Region 10 conference - TENCON 2019, pp: 441-446, doi = 10.1109/TENCON.2019.8929403, ISSN = 2159-3442, October 2019.

Debanjali Bhattacharya (PH2015018), Neelam Sinha, and Jitender Saini : **"Detection of chromosomal arms 1p/19q codeletion in low graded glioma using probability distribution of MRI volume heterogeneity"**, In Proc. IEEE region 10 conference- TENCON 2019, pp: 2695-2699, doi = 10.1109/TENCON.2019.8929255, ISSN = 2159-3442, October 2019.

Anushka Chandrababu (PH2012001), Abhilasha Aswal (PH2009901), G N Srinivasa Prasanna : **"Relational Algebraic Approaches to Decision Making under Uncertainty"**, 23rd International Congress on Modelling and Simulation(MODSIM), Canberra, Australia, December 2019.

Tarun Dutt (IMT2014059) presented an extended abstract titled **"Towards Artifact Rejection in Microscopic Urinalysis"** in the Medical Imaging workshop at the 33rd Conference on Neural Information Processing Systems (NeurIPS) 2019, held in Vancouver, Canada, on December 14th 2019. The coauthors are Prof. G. N. S. Prasanna, Dr. T.R. Dastidar (Sigtuple) and Ananth S. (IMT2016129). Further details here: https://sites.google.com/view/med-neurips-2019/Abstracts.

"Maximal adversarial perturbation for obfuscation : hiding certain attributes while preserving rest" in the Medical Imaging workshop at the 33rd Conference on Neural Information Processing Systems (NeurIPS) 2019, held in Vancouver, Canada, on December 14th 2019. The authors are Indu Ilanchezian (IMT2014024), Praneeth Vepakomma (MIT Media Labs), Abhishek Singh (MIT media labs)l G.N. Srinivasa Prasanna, Ramesh Raskar (MIT Media Labs). Further details here: https://arxiv.org/abs/1909.12734

Ankita Christine Victor (IMT2014005) presented her paper with Jaya Sreevalsan Nair on **"Scene Editing Using Synthesis of Three-Dimensional Virtual Worlds From Monocular Images of Urban Road Traffic Scenes"** at the ACM SIGGRAPH European Conference on Visual Media Production (CVMP) on December 18, at BFI Southbank, London, UK. More details can be found at https://www.cvmp-conference.org/2019/programme/

Debanjali Bhattacharya (PH2015018) presented her Doctoral research work **in Doctoral Symposium of National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics** (NCVPRIPG 2019), held in Hubli during December 22 to December 24, 2019.

"Digital giants need a code of conduct" by Prof. Sridhar, V., and Mehta, Uday, Executive Director, CUTS International has been published in Business Line on January 2. The same can be accessed here: https://www.thehindubusinessline.com/opinion/digital-giants-need-a-code-of-conduct/article30453085.ece

"Budget should look into Telecom crisis" by Profs. V. Sridhar and Rohit Prasad, MDI, Gurugram in Business Line on January 29. The same can be accessed here: https://www.thehindubusinessline.com/opinion/budget-should-look-into-telecom-crisis/article30676448.ece

"Sleep EEG Analysis Utilizing Inter-Channel Covariance Matrices", by Gopika Gopan K (PH2014003), Sathvik Prabhu and Neelam Sinha accepted for publication in the journal, Biocybernetics and Biomedical Engineering, Elsevier. Sathvik Prabhu was a summer intern at IIITB, from NITK Surathkal in 2019. It can be accessed at the following link : https://www.sciencedirect.com/science/article/pii/S0208521620300188?dgcid=author

Faculty & Staff

Under the guidance of Prof. G.N. Srinivasa Prasanna, Phase 1 of the IIIT-B-Sigtuple joint project was completed successfully. Sigtuple sponsored this **ML in Health Care research** to the tune of Rs 55 Lakhs, from 2017 to 2019.

Prof. Sujit Kumar Chakrabarti presented an invited lecture titled **"Automated Evaluation of Programming Assignments from Practice to Research"** as part of "Third National Conference on Computational Intelligence" in Krishtu Jayanti College, Bangalore on December 7.

Balaji Parthasarathy was invited by the Committee on Design and Innovation of the Internet and Mobile Association of India, to serve on the panel to discuss **"Designing for Experiences where digital and physical worlds converge – How is this relevant for India?"** at the Kochi Design Week, on 12 December.

Profs. Srinivas Vivek and Jaya Sreevalsan Nair gave invited talks at the 4th International Conference on Computational Intelligence, Cyber Security & Computational Models (ICC3) 2019 at PSG College of Technology. Prof. Vivek gave a plenary talk on **"Cryptanalysis of a Protocol for Efficient Sorting on Homomorphically Encrypted Data"** on December 19, and Prof. Jaya Sreevalsan Nair gave a plenary talk on **"Exploiting Spatial Locality in Novel Applications"** on December 20.

Meenakshi D'Souza was the Co-PC chair of **16th International Conference on Distributed Computing and Internet Technology (ICDCIT) 2020**, held at Bhubaneswar, India, during 9-11 January. Proceedings of the conference, co-edited with Dang Van Hung, can be accessed in Springer LNCS series, volume number 11969.

Balaji Parthasarathy delivered the keynote address titled **"Imagining Bangalore as India's Silicon Valley: Conjunctures and disjunctures"** at the Academic Development Program "Insights in the Vocabulary of Modern Technologies" hosted by the KS Institute of Technology, Bangalore, on 27 January.

Prof. V. Sridhar was an Invited speaker on **"Overview of Cyber Security in the Geo-spatial domain"**, at the International Workshop on Advanced Spatial Analytics and Deep Learning for Geospatial Applications. Bengaluru, 20-31 January 2020.

Profs. Dinesh Babu Jayagopi and Neelam Sinha were Invited speakers at the International Workshop on **Advanced Spatial Analytics and Deep Learning for Geospatial Applications**. Bengaluru, 20-31 January 2020.

Prof. Neelam Sinha was a co-chair of the Doctoral Symposium session of National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG 2019), held at KLETech, Hubli during December 22 to 24, 2019

Students

Service Science session chaired by Anushka Chandrababu (PH2012001), Abhilasha Aswal (PH2009901), in INFORMS Annual Meeting in Seattle, October 2019.

Anushka Chandrababu (PH2012001), Prof. G N Srinivasa Prasanna : "Issues and Challenges in Service Analytics in a nutshell", INFORMS Annual Meeting, Seattle, USA, October 2019.

Abhilasha Aswal (PH2009901), Prof. G N Srinivasa Prasanna : "Challenges and Solutions for Problems in a Large National Railway System", INFORMS Annual Meeting, Seattle, USA, October 2019.

Guest Talk

December 13: Dr. Gayathree Mohan, Independent researcher on **"Identification of Non-Clinical Interventions for Spontaneous Recovery of Depression Using Mathematical Modeling"**

Samvaad

December 02: **"Decoding Typing in Indic language using Cognitive Modeling"** by Sanjay Ghosh, Senior User Experience Researcher, Google, Bangalore

December 12: **"Design for Digitalization"** by Mr. VeeraVenkata Atmakuri, Head of Experience Design Siemens.

December 16: **"Thinking institutionally about technology design for social inclusion"** by Prof. Balaji Parthasarathy, IIIT Bangalore

January 06: **"Data Driven Decisioning: How Efficient Computing can make at-scale NLP Applications Practical"** by Dr. Om Deshmukh, Independent Researcher on Machine Learning.

January 13: **"Dynamics of complex behaviour in natural systems"** by Prof. Janaki Balakrishnan, National Institute of Advanced Studies, Bangalore.

January 20: **"Do the next billion users need more innovation? Rethinking AI for the common good"** by Prof. Payal Arora, Erasmus University Rotterdam, the Netherlands.

January 27: **"Counting Holes in the Data"** by Prof. Amit Chattopadhyay, IIITB.

Visitors

December 5: Mr. Pankaj Kumar Pandey, IAS, Commissioner Health, Family welfare and Ayush Service

December 9: Mr. Reda Rami, Chairman, Winvestnet Ltd

December 18: Faculty and Students from MIT- World Peace University, Pune

December 27: Consul General Dr. Marjorie Vanbaelinghem, Consulat général de France

January 10: Prof. KG Lim, Singapore Management University

January 11: Delegation from Belgium.

January 28: Delegation from Philippines.

Campus Calendar for February 2020

February 5: 79th Governing body meeting

February 8-9: Infin8

February 19: 72nd Senate meeting

February 22: Sangam 2020