

# Campus diary

November - December 2016

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INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

## IIT Bombay Celebrates Annual Alumni Day

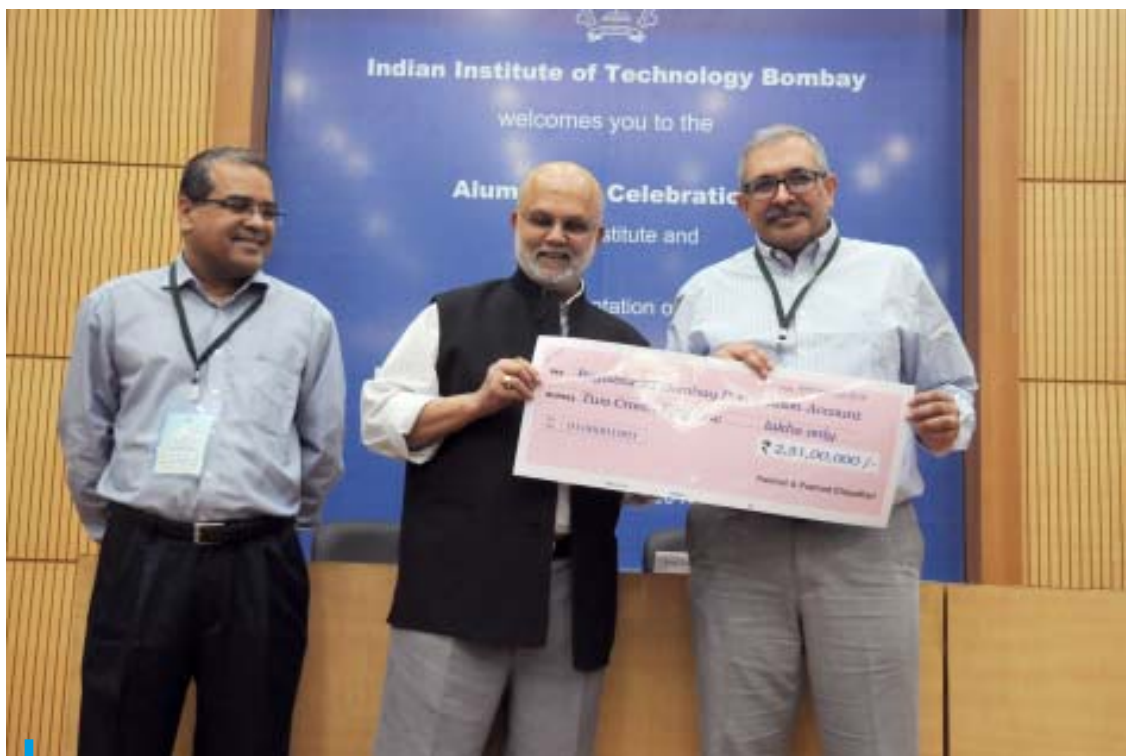
- \* Six Alumni members were presented with Distinguished Service Awards
- \* The Silver Jubilee batch of 1991 pledged Rs. 8 crores towards the Legacy project



Silver Jubilee Batch (class of 1991) pledged for a fund towards Legacy Project

The Indian Institute of Technology Bombay celebrated its annual Alumni Day on December 25, 2016. The day started with a warm welcome by Prof. Ravi Sinha, Dean (Alumni & Corporate Relations). Prof. Devang Khakhar, Director of IIT Bombay gave the visiting alumni an overview of the Institute and its growth over the years.

In his address, Prof. Khakhar informed how the Institute is growing in stature. *“Today, IIT Bombay is the leading academic Institution in the field of research and development. IIT Bombay alumni have made significant contributions towards the growth of the Institute. Our aspiration is to see IIT Bombay among the top ranks of technical universities in the world. We need continued support from our alumni to realize this dream,”* he said.



Mr. Pramod Chaudhari, Executive Chairman, Global Process Solutions Company Praj Industries donated Rs. 2.5 crore to the Institute for setting up of a Centre for Learning and Teaching

As a part of the function, Distinguished Service Awards were bestowed on six alumni members this year who, besides being achievers in their own chosen domains, have contributed in a notable and sustained manner to the progress of the Institute. The award, instituted in the year 1999, consists of a certificate, memento and an *uttaria* (scarf). This year, the award was conferred on Mr. Pradip Nadkarni, Mr. Raj Nair, Mr. Avinash Sankholkar, Mr. Dinkar Natraj, Mr. Suneet Chitale and Ms. Anuradha Narasimhan.

During the function, Mr. Pramod Chaudhari, Executive Chairman of global process solutions company Praj Industries announced a donation of Rs. 2.5 crores to the Institute to set up a *Centre for Learning and Teaching*. The Centre will promote and support advanced technical education system in the country. It will also provide support to instructors at all levels, from new faculty members to experts. It will also work with doctoral students, teaching assistants for

under-graduate and post-graduate courses, as well as students of the Institute.

After signing an MoU with IIT Bombay during the function, Mr. Chaudhari said, *"IIT Bombay is largely responsible for what I am today and what I have achieved. I have learned my early lessons of engineering and entrepreneurship at IITB. I am happy to collaborate with my alma mater to set-up this Learning and Teaching Centre that is aimed at fostering innovation, evidence-based practices and collaboration among students"*.

The Silver Jubilee Batch (class of 1991) has pledged a sum of Rs 8 crore towards the legacy project. A Legacy Project is a project adopted by the batch celebrating its Silver Jubilee anniversary for the betterment of the Institute and of the people associated with it, as a way of giving back to the alma mater and to leave behind a lasting legacy and remembrance of their silver jubilee reunion.

The batch of 1991 has raised a record amount of pledge for the Legacy project. They would be looking at deploying these funds in a number of projects largely related to the broad theme of student well being. These would include self-sustaining scholarship programs for deserving students, upgradation of study facilities across the hostels, supporting the ongoing Institute efforts for student counseling amongst other things. Apart from this, they wish to also look at supporting certain existing Legacy Projects like the Retired Faculty Wellness Program.

Ms. Neha Khandelwal from the Decennial Batch (Class of 2006) also spoke during the Alumni Day function. Several fun-filled activities were held during the alumni meet which included departmental tours, hostel visits, cultural performances, student-alumni interactions, musical evenings and so on. A large number of alumni and their family members participated in the Alumni Day celebrations this year.

## Centre of Propulsion Technology's Foundation Stone Laying Ceremony Held At IIT Bombay

Honourable Union Minister of State (Defence) Subhash Bhamre on November 11, 2016 laid the foundation stone of the Centre of Propulsion Technology at IIT Bombay premises set up by Defence Research and Development Organisation (DRDO) along with IIT Bombay and IIT Madras to support the country's plans for developing aeroengines and hypersonic propulsion for long duration flight.

DRDO Chairman and Secretary, Defence (R&D) Dr. S Christopher presided over the function. Director of IIT Bombay Prof. Devang Khakhar, Director of IIT Madras Prof. Bhaskar Ramamurthi and Chief Controller of DRDO Mr. MH Rahaman were present on the occasion.

Calling it a crucial step towards making Prime Minister Narendra Modi's vision of 'Make in India' come true, Honourable Union Minister of State (Defence)



Laying of foundation stone of 'Centre of Propulsion Technology' at IIT Bombay premises by honourable Union Minister of State (Defence) Dr. Subhash Bhamre



Prof. Bhaskar Roy, Department of Aerospace Engineering (on podium) addressing the gathering. (L-R) Chief Controller of DRDO MH Rahaman, Honourable Union Minister of State (Defence) Dr. Subhash Bhamre, DRDO Chairman and Secretary, Defence (R&D) Dr. S Christopher, Director of IIT Bombay Prof. Devang Khakhar and Director of IIT Madras Prof. Bhaskar Ramamurthi on the dais

Dr. Subhash Bhamre said, "We aim at self-reliance even in defence R&D. This is the first centre of its kind in India. It will bring together technical experts. It calls for a great amount of inter-disciplinary collaboration and focussed efforts, which DRDO will whole-heartedly extend".

Dr. S Christopher called the CoPT a marriage of great minds. He said, "Through such centres, we can overcome constraints of resources and move towards self-reliance to take the nation ahead".

Director of IIT Bombay Prof. Devang Khakhar, in his welcome address, congratulated all the teams involved and wished them great success to make the projects sanctioned under CoPT a grand success. Director of IIT Madras Prof. Bhaskar Ramamurthi said joint collaboration was the need of the hour. An agreement was entered into on July 9, 2016 at IIT Bombay amongst DRDO, IIT Bombay and IIT Madras for establishing the CoPT.

CoPT, as the main centre of propulsion technology, will engage with the primary research nodes (IIT Bombay and IIT Madras) and other research institutions/ centers to undertake advanced collaborative research in critical defence technology areas. CoPT would facilitate and undertake multidisciplinary directed basic and applied research in the focussed areas of Futuristic aero-engines, Hypersonic propulsion for long duration flight, Solid propellant combustion modeling, Morphing aircraft including its propulsion and associated technologies addressing the emerging defence and security needs.

The CoPT will plan the research activities in consultation with DRDO, coordinate and progress research activities with the Primary Research Nodes and other academic institutions including any industry, as required, and enhance technology maturity in respective areas. CoPT is envisaged to emerge as a centre of excellence, conducting basic and applied research in the areas of aero-propulsion technologies, and achieve recognition as one among the best research centers in the world in its domain within the next decade.

## Techfest 2016 Attracts Large Crowds

IIT Bombay's annual international science and technology festival TechFest was celebrated from December 16 to 18, 2016. It is today well established as Asia's largest science and technology festival patronized by UNESCO and UNICEF with a footfall of more than 1,65,000 people comprising mainly of the youth from across the nation and an outreach of over 2500 colleges across India and over 500 overseas colleges. TechFest 2016 was based on the theme of 'space expedition'.



Jeff Demain, Strategy and Business Initiative Director for Intel Lab's Photonics Technology Lab delivered the lecture during Techfest

platform for students to interact with personalities from across the globe to bridge the gap between industry and academia.

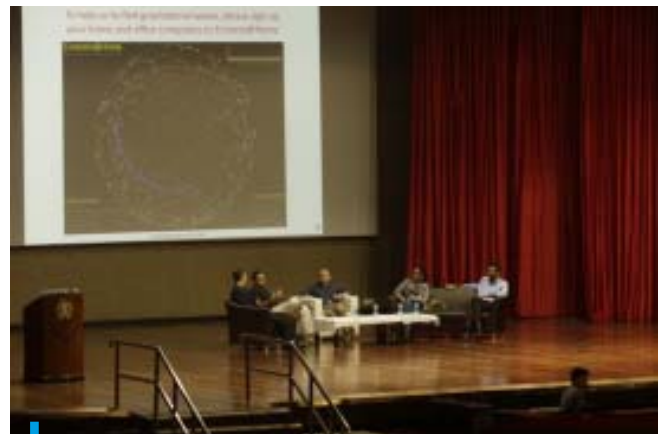


ISRO exhibited rocket models and launch vehicles

panel discussion with representatives from companies like Oracle, So Go Survey and Salesforce.com to name a few. Bionic Hands (A Helping Hand) and Auto Show showcasing Super Cars & Super Bikes left the audience gasping.

First Indian to travel in space Rakesh Sharma and renowned chemist Peter Atkins gave lectures while two tech-focussed competitions were also conducted. Robowars – fight of the robots and IC Engine Car Race named Full Throttle remained the attraction of the fest.

The fest comprised of a series of lectures, summits and competitions at the Institute's Powai campus as well as exhibitions by students from institutes around the world. To exhibit the development and research activities of IIT Bombay's students, the fest organised Techconnect. It consisted of a formula racing car and an underwater vehicle developed by students of the institute, as well as live data receiving by the Pratham satellite launched by ISRO. Techfest hosted various exhibitions, workshops and competitions for those interested in technology. The festival also acts as a



Bruce Allen, Principal Investigator of the LIGO Project, also graced the first day of the festival

With the continuous and rapid growth in the number of devices connected to the Internet, the focus of a summit was capitalizing this tremendous opportunity. The summit started with a keynote lecture by Jeff Demain, Former Director of Intel Labs, followed by a



Mr. Rakesh Sharma, first Indian to travel in space, delivered a lecture during Techfest

ISRO Chairman AS Kiran Kumar, noted economist Kaushik Basu spoke during the fest. Performance by Sonic Snares displaying the 'Visual DJ Drums' was worth watching. Following the lectures, an exhibition of rocket models and launch vehicles were done by ISRO. Mind Controlled Drones also formed a part of the exhibition.



Mind Controlled Drones also formed a part of the exhibition



Mr. Peter Atkins, renowned scientist and the author of the most famous book on physical chemistry, spoke on the topic 'Chemistry for everyone



Noted economist Kaushik Basu spoke during Techfest



IIT Bombay Racing Car



The final day witnessed lecture by UNICEF Goodwill Ambassador Sharmila Tagore

## Mood Indigo at IIT Bombay

Mood Indigo, the annual cultural festival of IIT Bombay, was held during December 23- 26, 2016. The festival saw an overwhelming response. A plethora of fun activities, concerts and more kept the audience enthralled.



The MI Studio featured an unplugged setup of music featuring Arjun Kanungo of Baaki Baatein Peene Baad fame

Day 2 saw an eclectic mix of competitions, art showcases and performing events. The hindi rock band competition saw a great vigor, followed by Conchord, an acapella competition graced by the cherubic chants of the choirs. Bollywood enjoys a hugely significant role in augmenting the glamour quotient of Mumbai. Thus, an engaging Bollywood-theme quiz and *antakshari* was arranged.



Dance competition Indigo Saga was held on Day 2

On Day 1, stage production 'Dhurmrapaan' starred renowned theatre personalities such as Shubrajyoti Barat and Siddharth Kumar.



Kicking off Day 2 was the grandiose event 'Aagaaz', the street play competition with a prominent history. Groups of students from all over India enthralled the audience with their display

The student activity center was beautifully embellished with wall paintings and art made from recycled waste. Illusionist Chris Cheong from Malaysia kept the crowd engaged. Indian -American fusion artist Karsh kale and his band took the stage at the Fusion Nite.

Day 3 saw a slew of events like icebreakers and jazz shows. The workshops gave visitors a chance to gain hands-on experience on various art forms. There were also colourful exhibitions of various cultural forms including the traditional Turkish art form of Ebru. To ensure that there was never a dull moment, crowds were engaged in the interactive music performance called drum circle. The proverbial cherry on the cake was the night concert, or Pronites as it is called, by the Italian EDM artists, the DJ duo VINAI. The crowds gyrated to the peppy electronic beats as the DJ brothers put their best foot forward. The concert was unique in itself by way of installation: the set created by Mood Indigo for the concert was one of the largest ever seen at an EDM concert, certainly not at Mood Indigo. It was no wonder that the crowds were not just dancing themselves sore but were also visually mesmerized.



One of the highlights of Day 3 was Dr. Jayaprakash Narayan's session on "Effect of Demonetization"



Third Bell included heart-rendering plays on child abuse and national issues. They were visibly captivating and entertaining too



Nationally-acclaimed Rajasthani folk singer Mame Khan kept the students glued to their seats. His hit numbers include Damadam mast kalandar



Talented jazz artist Vladimir Cetkar enthralled the crowd



The last day saw an enormous turnout as the Chief Minister of Maharashtra Mr. Devendra Fadnavis interacted with noted journalist Arnab Goswami and hundreds of college students as part of his "Transform Maharashtra" initiative

## IEEE-SA Standards Medallion Award



**Prof. Abhay Karandikar**, Department of Electrical Engineering was awarded the IEEE-SA Standards Medallion an international recognition at the Palace, Sommerset, New Jersey, USA on December 4, 2016. The IEEE-SA Standards Medallion is awarded for major contributions to the development of standards. (<http://standards.ieee.org/develop/awards/med/index.html>)

*Prof. Abhay Karandikar, Department of Electrical Engineering, IITB receiving the IEEE-SA Standards Medallion award*

## The Ambassador of Finland visits IIT Bombay



The Ambassador of Finland, Nina Vaskunlathi visited the campus of IIT Bombay on October 21, 2016 to discuss the matter of future academic collaboration of IIT Bombay with Finnish Universities. The visit was a positive sign towards this collaboration as the ambassador had promised to look into this matter for smooth agreement.

*Prof. S. Chaudhuri, former Deputy Director (AIA) felicitating Ms. Nina Vaskunlathi, Ambassador of Finland*



## Samsung Innovation Awards 2016 held at IIT Bombay

Samsung India conducted the sixth annual edition of Samsung Innovation Awards 2016 on October 26 at the Indian Institute of Technology (IIT) Bombay. Samsung Innovation Awards aim to recognize and reward innovations that have the potential to revolutionize everyday living and enable students to take their ideas to the next level.

The team comprising Shalaka Kulkarni, Umang Chhaparia and Mustafa Lokhandwala won the first prize. Their work focused on road quality measurement, monitoring and mapping solution

Javed Shaikh won the second prize for proposing new materials to cool electronic equipment. The duo Ritesh Saurabh and Kumar Pratik won the third prize for designing smart trash cans to expedite and optimize garbage collection. The top three winners were given away prizes worth INR 3.5 lakhs. The awards were presented by Dr Alok Nath De, Chief Technology Officer, Samsung R&D Institute, India - Bangalore.

Samsung Innovation Awards 2016 saw an overwhelming response, with five teams getting an opportunity to present their ideas to the jury comprising Dr. Alok Nath De, Dr. Debjani Paul and Prof. Swaroop Ganguly from IIT Bombay. The other finalists received merit prizes of INR 40,000. Samsung R&D Institute - Bangalore will engage with the award winners to further develop their innovations.

Speaking on the occasion, Dr. Alok Nath De, Chief Technology Officer, Samsung R&D Institute, India - Bangalore said, *"This platform is to encourage students to conceptualize and build innovative solutions in emerging topics of artificial intelligence,*



Samsung Innovation Awards winners along with Dr. Alok Nath De, Chief Technology Officer, Samsung R&D Institute, India – Bangalore and Prof. Soumyo Mukherji, Dean (Student Affairs), IIT Bombay

*convergence, computer vision and sensor-based solutions. It is heartening to see entrepreneurial and multi-disciplinary approach adopted by young innovators. This is very much in line with Samsung India's mission to foster meaningful innovations at every level of research-to-market journey."*

Path-breaking innovations were showcased at the competition. The innovative product ideas and solutions presented were across themes including advanced materials, applications of intelligent solutions in smart spaces/cities and assistive technologies for health.

*Prof. Soumyo Mukherji, Dean of Student Affairs, IIT Bombay said, "This collaboration between Samsung and IIT-B to identify and encourage young innovators will go a long way towards developing the critically required talent pool in India, which will be invaluable in years to come."*

The 2016 edition of the Samsung Innovation Awards was initiated at IIT Bombay campus three months ago through an open entry. Students submitted their

innovative ideas. The short-listing process was led by professors from IIT Bombay and the SRI-B team, which also selected the finalists. The final teams presented their ideas to the jury at the IIT Bombay campus. The winning project was selected based on the degree of innovation, feasibility, usability, relevance and overall impact on masses.

Conceptualised in 2011, the Samsung Innovation Awards seek to support and encourage young talent who have an innovative approach and look to improvise different systems and processes. Further, it aims to develop indigenous products and services for fulfilling mass needs thereby transforming lives and creating sustainable solutions for the benefit of the society at large.

Over the years, Samsung Innovation Awards have become one of the most eagerly awaited ideation contests at IIT's due to enthusiastic participation from the studNCAIRent community. Samsung continues to provide the next generation of Indian innovators and entrepreneurs an avenue to showcase and advance their engineering skill sets.

## Rashtriya Ekta Saptah Celebration

The Indian Institute of Technology Bombay celebrated the birth anniversary of Sardar Vallabhbhai Patel by observing Rashtriya Ekta Saptah from October 31 to November 11, 2016. To honor his memory, the Institute conducted following programmes for students, faculty and staff:

- Essay writing competition on “Relevance & importance of Sardar Patel in today’s India”
- Writing/ composing original songs on the unity theme

Campus School at IIT Bombay organized ‘Unity Run’ on October 27, 2016. A brief talk about the significance and importance of the event was delivered by Mrs. AS Bhagwat, principal and Mrs. Sridevi DS, vice-principal. The event witnessed the participation of 100 students of Std. VII, IX and X along with the teaching and non-teaching staff.



‘Unity Run’ was organised by Campus School, IIT Bombay as a part of Rashtriya Ekta Saptah celebration in the Institute

## Qaumi Ekta Saptah (National Integration Week) observed in the Institute



Dr. Vibhuti Patel, Head of the University Department of Economics in SNDT Women’s University spoke on “Role of Women In Building A Nation” on November 24, 2016

IIT Bombay observed this day by organizing a lecture by Dr. Peter Scharf, President of The Sanskrit Library and Associate at the Department of South Asian Studies, Harvard University and Visiting Professor at Department of Humanities and Social Sciences on “Linguistic Harmony in India” on November 22, 2016



IIT Bombay observed ‘Qaumi Ekta Week’ (National Integration Week) from November 19 to 25, 2016 with a view to foster and reinforce the spirit of communal harmony, national integration and pride in our vibrant composite culture and nationhood. During this week, various programmes were organized for the students, staff and faculty members of the IIT community:

**Conservation Day:** The Institute observed Conservation Day on November 25, 2016. All staffers were requested to switch off air-conditioners on the day and use only 50% lights. Water coolers too were switched off for few hours. Except where necessary such as labs which need round the clock A/c for equipment samples etc; Air conditioner for personal comfort was avoided.

## IIT Bombay Research Awards Function



IIT Bombay Research Brochure "Glimpses of Research" released by Mr. Sanjai Koli, Chief Guest during IIT Bombay Research Awards Function

Industrial Research and Consultancy Centre organised 'IIT Bombay Research Awards Function' to felicitate winners of Research awards - 2015 and release of IIT Bombay Research Brochure 'Glimpses of Research' on November 11, 2016. Mr. Sanjai Kohli, Director Engineering, FCL Tech ('Facebook') was the chief guest for the occasion and the programme was chaired by Prof. Devang V. Khakhar, Director of IIT Bombay.

The welcome address and a brief about the event was delivered by Prof. P.V. Balaji, Dean(R&D). IIT Bombay Research awards for 2015 in four categories were conferred by the chief guest to the selected faculty members in recognition of their outstanding research contributions. Each award consisted of a citation and a cash prize of Rs. 50,000. In addition, the awardees were invited to submit a research proposal to IRCC for possible funding of up to Rs.5,00,000. Details of the awards and award winners are given below.

### I) Research Publication Award : This award was given for the 'significant contribution to the research theme:

- Prof. Mahesh S. Tirumkudulu, Department of Chemical Engineering  
*Research Theme: Cracking in drying colloidal dispersions*
- Prof. Chebrolu Pulla Rao, Department of Chemistry  
*Research Theme: Calixarenes and Carbohydrates as ion & molecular sensors*
- Prof. Sagar Mitra, Department of Energy Science and Engineering  
*Research Theme: Metal ion battery*
- Prof. P. Ramadevi, Department of Physics  
*Research Theme: Quantum Racah coefficients, Chern-Simons field theory invariants and topological strings*

**II) Impactful Research Award: This award was given in recognition of ‘research results which have had a tangible impact on practice’ on industry/government/other stakeholders.:**

- Prof. Maryam Shojaei Baghini, Department of Electrical Engineering  
*Research Area: Sensors and Healthcare Devices*
- Prof. V. S. Raja, Department of Metallurgical Engineering and Materials Science  
*Research Area: Corrosion Protection*

**III) Research Dissemination Award: This award was given in recognition of ‘outstanding efforts to disseminate research through monographs/books/review chapters/review papers’.**

- Prof. Harkesh B. Singh, Department of Chemistry  
*Publication details: Organoselenium Chemistry: Role of Intramolecular Interactions, Chem. Rev. 2010, 110, 4357–4416*
- Prof. Vishnu D. Sharma, Department of Mathematics  
*Publication details: Research monograph title: Quasilinear Hyperbolic Systems, Compressible Flows, and Waves, CRC Press (Taylor & Francis Group), Florida, USA (2010)*

**IV) Early Research Achiever Award: This award was given in recognition of research work done by young researchers who have already shown their potential for producing outstanding original work.**

- Prof. Supreet Saini, Department of Chemical Engineering
- Prof. Srikanth Srinivasan, Department of Mathematics
- Prof. Dinesh Kabra, Department of Physics

The Chief Guest applauded R&D activity of the Institute to develop technology/know how, transfer it to industry and thus helping it to enhance its capability. He also appreciated Institute’s efforts in identifying significant research activities, acknowledging it and motivating the researchers by giving awards. The vote of thanks was conveyed by Prof. Anil M. Kulkarni, Associate Dean(R&D).



Award Winners at 'IIT Bombay Research Awards Function' held at IIT Bombay

## Institute Award Lecture Series by the recipients of the IRCC

The recipients of IIT Bombay Research Awards –2015 gave lectures / short presentation of their research work to the IIT Bombay academic community during November 7 – 9, 2016. The details of the lectures are as follows:

### First Session, November 7, 2016

**Prof. Sagar Mitra**, Department of Energy Science and Engineering

*Talk title: Efficient high energy density Metal-Ion Batteries*

**Prof. Vishnu D. Sharma**, Department of Mathematics

*Talk title: Non - linear hyperbolic conservation laws and associated wave Phenomenon*

**Prof. Supreet Saini**, Department of Chemical Engineering

*Talk title: Dynamics and evolution of antibiotic resistance in bacteria*

**Prof. Harkesh B. Singh**, Department of Chemistry

*Talk title: Role of intramolecular coordination in Organochalcogen Chemistry*

### Second Session, November 8, 2016

**Prof. Mahesh S. Tirumkudulu**, Department of Chemical Engineering

*Talk title: Cracking in drying colloidal dispersions*

**Prof. P. Ramadevi**, Department of Physics

*Talk title: Periodic table of knots & their invariants*

**Prof. Maryam Shojaei Baghini**, Department of Electrical Engineering

*Talk title: Sensors, circuits, systems and integration for healthcare and agriculture application*

### Third Session: November 9, 2016

**Prof. V. S. Raja**, Department of Metallurgical Engineering and Materials Science

*Talk title: Engineering Materials for Structural Integrity to Endure Corrosion*

**Prof. Srikanth Srinivasan**, Department of Mathematics

*Talk title: Circuit Complexity*

**Prof. Dinesh Kabra**, Department of Physics

*Talk title: Optoelectronics with perovskite and molecular semiconductors*

**Prof. Chebrolu Pulla Rao**, Department of Chemistry

*Talk title: Ion & molecular sensing by calixarenes & carbohydrates: Applicability to biological systems*

## Institute Colloquium / Lectures



**Prof. Shankar Narasimhan**, Department of Chemical Engg., IIT Madras delivered an Institute Distinguished Lecture (in memory of Prof. C.V. Seshadri) on "Monitoring, Management and Control of Water Distribution Networks" on November 24, 2016.



**Prof. Ikuo Towhata**, Vice President for Asia, International Society for Soil Mechanics and Geotechnical Engineering delivered an Institute lecture titled "Long term disaster management of the Nuclear accident at Fukushima (2011)" on December 5, 2015



**Prof. Kaushik Basu**, NR Kamath Chair Professor at IIT Bombay, and C. Marks Professor at Cornell University, New York (Former Chief Economist, The World Bank) delivered Third N.R. Kamath Chair Colloquium Lecture titled *“The Economics of Corruption, Black Money and Demonetization”* on December 9, 2016.



**Prof. Timothy J. Pedley**, F.R.S., Department of Applied Mathematics and Theoretical Physics, University of Cambridge, England delivered an Institute Lecture on *“Micro-organism swimming: Individual and collective behaviour”* on November 29, 2016.



**Dr. Bruce Allen**, Managing Director, Albert Einstein Institute Hannover, Germany, Max Planck Institute for gravitational Physics and Leibniz University delivered an Institute Lecture titled *“Direct observation of gravitational waves from the merger and inspiral of two black holes”* on December 15, 2016

## Departmental Lectures

### Centre for Environmental Science and Engineering

**Prof. Ramin Farnood**, University of Toronto gave a talk in a seminar titled *“Recent Advances in Water and Waste water Treatment by UV disinfection and membrane separation”* on November 24, 2016.

### Department of Humanities and Social Sciences

**Dr. Gracious M. Temsen**, University of Hyderabad gave a talk in a seminar titled *“Elicitation Techniques and Data in Linguistics Fieldwork”* on November 17, 2016.

**Prof. Sreekumar**, IIT Madras, Chennai gave a talk in a seminar titled *“Multiple Narratives of Swaraj”* on November 18, 2016.

**Mr. S Anand**, Mumbai, publisher of Navayana, co-author of Bhimayana, a graphic biography of B.R. Ambedkar delivered a talk on *“All’s Vitthal, Vitthal’s All: The Great Confluence Around Vitthal”* on November 22, 2016.

**Dr. Emma Dawson**, Varughese, UK delivered a talk in a seminar titled *“(Social) Memory, Movements*

*and Messaging on Tulsi Pipe Road: “seeing” public wall art in Mumbai’* on November 23, 2016.

**Prof. Sandhya Devesan Nambiar**, Jesus and Mary College, New Delhi gave a talk in a seminar titled *“Becoming Minor”: Reading Deleuze and Felix Guattari”* on December 1, 2016.

**Prof Indrani Sanyal**, Calcutta University, Kolkata gave a talk in a seminar titled *“All that Matters is Reason Unfolded”* on December 2, 2016.

**Dr. Kuntala Lahiri Dutt**, Australian National University, Canberra, Australia gave a talk in a seminar titled *“Extractive peasants produce diverse meanings of material resources and livelihoods”* on December 9, 2016.

**Dr. Jon Keune**, Michigan State University, USA gave a talk on *“Politics of Inclusion: Linguistic and Social Diversity in the Varkari Canon”* on December 23, 2016.

### Centre for Policy Studies and Department of Humanities and Social Science

**Dr. Neelanjan Sircar**, Centre for Policy Research, N Delhi and **Prof. Uttara Sahasrabudde** of the Department of Political Science of

the Mumbai University gave a talk on *“Beyond Trump – Understanding US electoral verdict and its aftermath”* on November 21, 2016.

**Prof. Manidipa Sanyal**, Calcutta University, Kolkata gave a talk in a seminar titled *“All that Matters is Reason Unfolded”* on December 2, 2016.

### Department of Civil Engineering

**Dr. Sangram Ganguly**, Research Scientist, NASA Ames Research Center/BAERI gave a talk in a seminar on *“High Performance Computing and Machine Learning Applications for Earth Science Big Data Analysis”* on December 2, 2016.

**Dr. Subhadeep Halder**, Indian Institute of Tropical Meteorology, Ministry of Earth Sciences, Pune gave a talk in a seminar on *“Land-climate interactions and its role in the prediction of the Indian summer monsoon”* on December 22, 2016.

### National Centre for Aerospace Innovation And Research

**Mr. Ashutosh Gunderia**, VP (Interim) Procurement at Honeywell Aerospace delivered a talk in a seminar on ‘Supply chain strategies for aerospace industry’ on December 30, 2016

## Conferences / Workshops

### SciPy India 2016

Free and Open Source Software for Education (FOSSEE) organized SciPy India 2016 at IIT Bombay from December 10-11 2016. SciPy India conference aimed at providing opportunities to spread the use of the Python programming language in the Scientific Computing community in India. It provided an unique opportunity to interact with the “Who’s who” of the Python for Scientific Computing fraternity and learn, understand, participate, and contribute to Scientific

Computing using Python. The conference objective was to combine education, engineering, and science with computing through the medium of Python. The conference featured a variety of workshops and invited speakers lectures. Dr. Ajith Kumar, Scientist working with the IUAC and Mr. S. Anand, Chief Executive Officer at Gramener were the keynote speakers at the conference.

## WRCB Clinical Day on Cancer Precision Medicine



A one day inhouse symposium, WRCB Clinical Day on Cancer Precision Medicine at IIT Bombay

The Department of Biosciences and Bioengineering, IIT Bombay organized a one day in-house symposium, WRCB Clinical Day on “Cancer Precision Medicine” on December 5, 2016. Dr. Sanjeeva Srivastava, Convener (Department of Biosciences and Bioengineering) delivered an inaugural talk followed by an WRCB introduction by Dr. Pramod Wangikar, Professor-In-charge, WRCB. The symposium witnessed a motivating talk by director of Tata Memorial Centre, Dr. Rajendra Badwe and many eminent doctors and experts from Tata Memorial Centre and other hospitals and interactive session.

## Sixth International Conference on Asian Current Research on Fluid Inclusions (ACROFI VI)

The Department of Earth Sciences, IIT Bombay organized an International Conference on “Asian Current Research on Fluid Inclusions VI” (ACROFI VI) from November 22-27, 2016 to provide an international forum for exchange of latest research results and ideas between geoscientists from universities, government and industry from Asian countries and other nations focusing on studies of fluid and melt inclusions. Scientists from 11 countries participated in the event. The conference featured several oral and poster thematic sections.

Prof. H S Pandalai and Prof. G N Jadhav from the Department of Earth Sciences, IIT Bombay were Organizing Chairman and Organizing Co-Chairman respectively of the event.

Plenary Speakers included Prof. Larryn W. Diamond, Geochemistry and Petrology, Institute of Geological Sciences, University of Bern, Switzerland, Prof. Alexander Sobolev, Chair of Excellence, Institute of Earth Sciences, University Joseph Fourier, Grenoble, France, Prof. Simon George, Organic Geochemistry,

Department of Earth and Planetary Sciences. The Australian Hearing Hub, Macquarie University. Prof Pavel Plechov, Professor of Volcanology, Moscow State University and Prof Maria-Luce Frezzotti, Professor of Igneous Petrology and Volcanology, University of Biococca, Milan.

The conference was preceded by a three-day “ACROFI VI Short-Course on Fluid and Melt Inclusions” attended by Indian and foreign participants. The ACROFI VI events concluded with a field visit to see critical geologic features of the Deccan Volcanic Province.

## 3rd International Conference on Emerging Electronics

The 3rd International Conference on “Emerging Electronics” (ICEE 2016) was held at the IIT Bombay during December 27 – 30, 2016. ICEE 2016 was jointly organized by IIT Bombay and IISc Bangalore and technically co-sponsored by IEEE Electron Devices Society. The

conference featured plenary and keynote talks from world renowned experts in diverse areas of electronic materials, devices and systems along with Panel discussions, contributed Presentations, and poster Sessions involving experts from

the Government, Industry and Academia. Prof. Saurabh Lodha, Department of Electrical Engineering, IIT Bombay and Prof. Srinivasan Raghavan, IISc Bangalore were the General Chairs of the conference.



### Computational and Experimental Studies of Microtubules and Microtubule based Motor Proteins

*“Computational and Experimental Studies of Microtubules and Microtubule based Motor Proteins”* a one day international symposium supported by a mini-grant from Biophysical Society (USA), Department of Biotechnology (Government of India) and Department of Biosciences and Bioengineering of IIT Bombay was organized on December 14, 2016. Prof. Ambarish Kunwar,

Department of Bioscience & Bio-engineering, IIT Bombay was the organizer of the symposium. This symposium aimed to bring together Indian researchers, postdocs, students and selected international researchers working in the fields of microtubule and microtubule based motor proteins. This event also provided a platform for many young

researchers, postdocs and students to discuss their work and explore collaborations and networking with leading national and international researchers in the field. The symposium included invited keynote speaker Mr David Sept, University of Michigan at Ann Arbor, USA followed by numerous invited and local speakers.

### 3rd Indo-Austrian Symposium on Materials Engineering

3rd Indo-Austrian Symposium on *“Advances in Materials Engineering”* (AME 2016) was jointly organized by Indian Institute of Technology Bombay (IITB), Indian Institute of Metals (IIM) Mumbai Chapter and Nonferrous Technology Development Centre (NFTDC) during December 19-20, 2016. The aim of this symposium was to address the challenges,

where knowledge in materials engineering becomes an important tool to solve problems in the fields related to structural applications, protection of materials, energy storage and health care, primarily in India and Austria. To facilitate the same, AME 2016 brought together scientists, researchers and engineers from research

institutes, universities and industries to a common forum. Prof. Amartya Mukhopadhyay from Department of Metallurgical Engineering and Materials Science, IIT Bombay was the Convener of AME 2016. Plenary, Keynote and Invited Speakers included both from both Austria and India

### International Conference on Organic Synthesis (ICOS)

The International Conference on *“Organic Synthesis (ICOS)”*, a biennial event, initiated in 1976 by IUPAC as a platform for the exhibition of new and upcoming topics in the field of organic chemistry, brings together a plethora of new ideas and more importantly catenates new scientific minds. 21st International

Conference on **Organic Synthesis** was held during December 11-16, 2016 at IIT Bombay. Prof. Krishna P. Kaliappan, Department of Chemistry, IIT Bombay, Organizing Chair of ICOS 21 along with Dr. Srivari Chandrasekhar, CSIR-IICT Hyderabad, Organizing Secretary

ICOS 21 CSIR-IICT Hyderabad coordinated event. The six-day-long conference comprised of special lectures (Mr. Goverdhan Mehta, University of Hyderabad and A V Rama Rao, Founder, Chairman, AVRA) followed by plenary lectures, invited lectures and short talks.

### International Conference on 12<sup>th</sup> Transportation Planning and Implementation Methodologies for Developing Countries

The 12<sup>th</sup> International Conference on *“Transportation Planning and Implementation Methodologies for Developing Countries (TPMDC)”* by Transportation Systems Engineering (TSE) Group of Civil Engineering Department, IIT Bombay was organized from

December 19 – 21, 2016. The Organizing Committee included Prof. Gopal R Patil, Chairman and Prof. P Vedagiri, Secretary along with the other faculty members of Department of Civil Engineering, The conference covered wide

range of topics in the area of transportation engineering. This conference served as an ideal platform to share the findings on transportation related issues of the developing countries.

Student News

IIT Bombay's underwater vehicle wins national competition



Mr. Varun Mittal (second from right), Department of Mechanical Engineering, team leader of AUV-IITB, along with the other team members

The autonomous underwater vehicle Matsya made by the Indian Institute of Technology (IIT-B) Bombay has bagged the first position in the National Institute of Ocean Technology's (NIOT) Student Autonomous Underwater Vehicle (SAVe) competition held in Chennai on December 14, 2016 inspite of multi faceted problems caused due to the Cyclone in Chennai.

This year, it was a debut at this competition. The competition was held at the national level and the main objective of this competition was to motivate student teams across India to build AUVs and make them proficient enough to compete with the best student teams across the world at San Diego, California where the International Robosub Competition is held annually. A total of 14 teams from across the country participated in the competition.

## Annual Business Festival Avenues 2016

AVENUES, the International Business festival of IIT Bombay was organized during October 21 – 23, 2016 by Shailesh J. Mehta School of Management, IIT Bombay. Over the years, Avenues has seen an exponential growth with a participation from 100+ top business schools with a total reach of 15000+ registrations. It is an amalgamation of nerve-cracking events encompassing domains like operations, consulting, HR, finance, marketing, systems and sports. This year, Avenues took a leap forward and discovered the difference in this ever-changing business world.

Alankar is the Global Leadership Summit of IIT Bombay and the flagship event of Avenues. This mammoth event invites illustrious individuals from



Film and television actor Sushant Singh Rajput said he always aspired to study in IIT

various walks of life to share their experiences and knowledge with the youth. It is rightly said, “Success isn’t just about what you achieve in life but about what you inspire others to do”. Alankar aims to energize and encourage young leaders to dream big and work hard to achieve bigger and better. With an impressive line-up of eminent personalities, Alankar promises to be an enriching journey for those who will lead in the future.

Avenues has evolved to become a platform that brings together industry leaders, budding entrepreneurs, inspiring personalities and motivated students to discuss, debate and re-think business and society



Author, mythologist and illustrator Devdutt Pattanaik spoke about his new book



Film and stage actor Tisca Chopra interacted with students

Other News

Inauguration of New Post Box design



Mr. Vinay Sheel Oberoi, Secretary, Higher Education, Ministry of Human Resource Development (MHRD) inaugurated the new Post Box designed and developed for India Post on September 27, 2016 at IITB campus. This is a part of the Design Innovation center initiative. The new design was an improvement in the shape to bring back the round top for better recall and recognition of the postbox.

Mr. Vinay Sheel Oberoi, Secretary, Higher Education, MHRD, inaugurating the new Post Box, Designed for India Post at IIT Bombay Campus

Apeksha Fernandes : Star performer in School Aquatics



Ms. Apeksha Fernandes 13 years, IIT Bombay swimming club swimmer and daughter of Prof. B G. Fernandes, Professor and Head of the Department of Electrical Engineering won the individual champion trophy winning 2golds, 2silvers and 2bronze medals in the Greater Mumbai Aquatic Association Inter-School/ Junior Colleges Swimming championships, hosted by Mandpeshwar Civic Federation at their swimming pool at Borivali held on November 12, 2016.

Apeksha Fernandes, IIT Bombay swimming club swimmer bagged individual champion trophy in the GMAAA Inter-School/ Junior Colleges Swimming championships

## Awards and Distinctions

**Prof. Avik Bhattacharya**, Centre of Studies in Resources Engineering (CSRE) has been appointed as the Associate Editor of IEEE Geoscience and Remote Sensing Letters (GRSL). Dr. Bhattacharya has also been appointed as the Guest Editor of a Special Issue on "Applied Earth Observations and Remote Sensing in India" in IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing (JSTARS).

**Prof. Gopal Dixit**, Department of Physics has been selected for the Max-Planck Society's India Mobility grant for the years 2017-2020.

**Prof. R. Murugavel**, Department of Chemistry, has been appointed as honorary Professor of JNCAR Bangalore for a period of two years.

**Prof. Debabrata Maiti**, Department of Chemistry, has been invited to become an Associate Editor of "The Journal of Organic Chemistry"

**Prof. R.B. Sunoj**, Department of Chemistry has been invited to become a Member of the Editorial Advisory Board of an ACS journal "Organic Letters" for a period of three years from January 2017.

**Prof. Nina Sabnani**, Department of Industrial Design Centre, film "We make Images" produced and directed by her won the following awards recently:

- (1) SIGNS 2016, Kerala: Jury's Special Mention Award Oct 2nd 2016
- (2) MAMI 2016, Mumbai: Silver Gateway Award for short film (Half Ticket category) 27th October 2016
- (3) Aadhar, Heritage Film Festival, Ahmedabad 2016: Best Animation Film in Professional category 4th November 2016

**Prof. Sudesh Balan**, Department of Industrial Design Centre, film "Boundaries of Memory", written, shot and directed by Prof. Sudesh Balan is among the 21 non-feature films has been selected in the Indian Panorama section in this year's *The International Film Festival of India*. This film is a part of his academic research (SEED grant project) on making cost-effective films for delivering social messages without losing cinematic value.

**Prof. Amit Agrawal**, Department of Mechanical Engineering has been appointed as an Editor of the journal "Experimental Thermal and Fluid Science". Prof. Agrawal has joined the Editorial board of the Journal "Nature Scientific Reports".

**Prof. Manoj Prabhakaran**, Department of Computer Science and Engineering has joined the editorial board of the "Journal of Cryptology," an official journal of the International Association for Cryptologic Research (IACR).

**Prof. A S Khanna**, Dept of Metallurgical Engineering & Materials Science has been selected for the award "Skoch Order-of-Merit". The award will be conferred during the 46<sup>th</sup> Skoch Summit on December 15, 2016 at Delhi. **Prof. Khanna**, has also been chosen by CIA World Magazine for the award "Innovation in New Building Products" for a project submitted by Prof. Khanna.

**Prof. Alok Porwal**, Centre of Studies in Resources Engineering has been invited to co-edit a special issue of the journal "Ore Geology Reviews" devoted to "Applied Geologic Remote Sensing and Spectroscopy: A Mineral Exploration Perspective".

**Prof. Souvik Mahapatra**, Department of Electrical Engineering research collaboration with the Synopsys has resulted in the release of a Sentaurus TCAD Model for NBTI Reliability Simulation of Advanced Transistors.

**Prof. Ramgopal Rao**, Department of Electrical Engineering, IIT Bombay (currently is the Director at IIT Delhi) has been elevated to the **Fellowship** of the IEEE Society for his contributions to CMOS System-on-Chip technologies.

**Prof. Surya Durbha**, Centre of Studies in Resources Engineering) has been awarded the the NVIDIA Innovation Award 2016 in recognition of his work in the area of Image Information Mining and High Performance Computing (HPC) carried out along with his Ph.D. students Mr. Kuldeep Kurte and Ms. Ujwala Bhangale.

**Prof. S. Sudarshan**, Department of Computer Science and Engineering has been chosen to receive the Distinguished Alumnus Award for the year 2017 by IIT Madras

**Prof. Rajesh Gupta**, Department of Energy Science and Engineering along with his UK academic partner won the Research Excellence Award 2016 by the Confederation of Indian Industry (CII) and the British Council under India-UK collaboration in higher education.

The award has been given in a ceremony under UK-India Tech Summit, which was held in New Delhi during

the recent visit of UK Prime Minister Theresa May with her high level delegation team.

**Prof. Avik Bhattacharya**, Center of Studies in Resources Engineering (CSRE), students **Arnab Muhuri, Shaunak De, Surendar M**, Univ. of Erlangen-Nuremberg; **Swinky Dhingra, Debanshu Ratha, Abhishek Maity** presented a paper entitled “Novel Scattering Power Decomposition from Full and Compact Polarimetric SAR Data” at the National Symposium on “Recent Advances in Remote Sensing and GIS with Special Emphasis on Mountain

Ecosystems” & Annual Conventions of Indian Society of Remote Sensing and Indian Society of Geomatics held during December 7 – 9, 2016 at Dehradun has been adjudged for Best Poster Presentation Award (Student Category)

### Other Awards

**Prof. Kaivan Munshi**, Alumnus, Department of Civil Engineering, IIT Bombay has been awarded the Infosys Prize 2016 for Social Sciences (Economics) in recognition of his research.

### Publications

**Prof. Rohit Srivastava** and Mr. Piyush Kumar, Department of Bioscience and Bioengineering book “Nanomedicine for Cancer Therapy” has been published by Springer (<http://www.springer.com/gp/book/9783319458250>)

**Prof. Mukund Madhav Varma**, Department of Physics, **Prof. Ravi Boraskar**, Department of Computer Science and Engineering, and **Prof. Sudha Shastri**, Departments of Humanities and Social Sciences

published a paper titled, “Are you watching closely?’ A study of Christopher Nolan’s engagement with structure, chronology and motif” in Film International, Vol. 14, Issue 2, 2016, pp. 127-145.

**Prof Sudha Shastri**, Dept of Humanities and Social Sciences, presented a paper titled “Will Shakespeare has a play. I have a theater’: Market, Production and Circumstance in \_Shakespeare in Love” at the Asian Shakespeare Associations Biennial Conference All the worlds his stage: Shakespeare today, at the Indira

Gandhi National Centre for Arts, New Delhi, December 1-3, 2016.

**Prof. Deepankar Choudhury**, Department of Civil Engineering has published a book titled “Foundation Systems for High-Rise Structures” with his German collaborators from Technical University Darmstadt, Germany.

**Prof. L. M. Bhole (Retired)**, Department of Humanities and Social Sciences published a book titled “*Educational Philosophy Of Mahatma Gandhi And Vinoba Bhawe*”

### Appointments

**Prof. Mazhar Kamran**, Department of Industrial Design Centre has been appointed as Associate Professor w.e.f. November 9, 2016



### Prof. Jayadipta Ghosh,



Department of Civil Engineering has been appointed as Assistant Professor w.e.f June 20, 2016.

### Retirements on December 31, 2016

**Shri Suresh S Katre**, Helper (SG), Estate Office retired after 38 years of service



### Retirements on November 30, 2016

**Dr. Anish Modi**, Department of Energy Science and Engineering has been appointed as Assistant Professor w.e.f. December 15, 2016



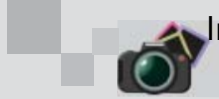
### Shri Thaneshwarpratap S. Singh,



Security Guard (SG), Security Section retired after 36 years of service

**CEP courses scheduled during January and February 2017**

No.	Course Title	Course Coordinator / Department	Duration
1	Energy Recovery from Solid Wastes	Prof. Anurag Garg Centre for Environmental Sci. and Engg.	January 30 – February 3, 2017 (5 days)
2	Research Techniques and Methodology in Selected Disciplines	Prof. V.M. Gadre Department of Electrical Engineering	January 30 – February 3, 2017 (5 days)
3	Biology for Engineers	Prof. Ambarish Kunwar Dept. of Biosciences and Bioengg.	February 1–4, 2017 (4 days)
4	Mechatronics: Fundamentals and Hands	Prof. Prasanna Gandhi Department of Mechanical Engg.	February 1–5, 2017 (4 days)
5	Optimization Models, Techniques and	Prof. Jayendran Venkateswaran Industrial Engg. & Operations Research	February 3–10, 2017 (8 days)
6	Biology for Engineers	Prof. Ambarish Kunwar Dept. of Biosciences and Bioengg.	February 6–9, 2017 (4 days)
7	Hot Rolling Of Steels	Prof. I. Samajdar Department of Metallurgical Engineering ( 5 days ) & Materials Science	February 6 - 10, 2017
8	RF and Microwave Design	Prof. Girish Kumar Department of Electrical Engineering	February 6 – 10, 2017 (5 days)
9	Technology Driven Innovation & Entrepreneurship	Prof. Krish Sankaran Department of Electrical Engineering	February 8–12, 2017 (4 days)
10	Expo Creative Design Methods and Innovation	Prof. Ravi Poovaiah Industrial Design Centre	February 9–11, 2017 (3 days)
11	Urban Drainage Management: State-of-The Art 2017	Prof. Kapil Gupta Department of Civil Engineering	February 9 – 11, 2017 ( 3 days)
12	Urban Drainage Management: State-of-The Art 2017	Prof. Kapil Gupta Department of Civil Engineering	February 14 – 18, 2017 ( 5 days)
13	Technology Driven Innovation & Entrepreneurship	Prof. Krish Sankaran Department of Electrical Engineering	February 15–19, 2017 (5 days)
14	Power Electronics And Application to Renewable	Prof. Vivek Agarwal Department of Electrical Engineering	February 17- 22, 2017 ( 6 days)
15	Design of Experiments and Data Analysis	Prof. S.S. Joshi Department of Mechanical Engineering	February 17 -21, 2017 (5 days)
16	Introduction to Research	Prof. Sachin C. Patwardhan Department of Chemical Engineering	February 18-20, 2017 (3 days)
17	Energy Efficiency and Management	Prof. Santanu Bandyopadhyay Department of Energy Science & Engg.	February 19-21, 2017 (3 days)
18	3D Printing: A Disruptive	Prof. K.P. Karunakaran Department of Mechanical Engineering	February 20- 21, 2017 ( 2 days)
19	Solar Photovoltaics: Fundamentals, Technologies and Applications	Prof. Chetan S. Solanki Dept. of Energy Science and Engg.	February 21 – 25, 2017 (5 days)
20	Technology Driven Innovation & Entrepreneurship	Prof. Krish Sankaran Department of Electrical Engineering	February 22–26, 2017 (5 days)
21	Advances in Control System	Prof. Ravi Gudi Department of Chemical Engineering	February 25–27, 2017 (3 days)
22	Electromagnetic Wave Propagation	Prof. Raghunath K. Shevgaonkar Department of Electrical Engineering	February 27 – March 3, 2017 (5 days)



In the Wilderness



**Photo Credit :**  
**by Mr. Batu S Kamble**  
*IIT Hospital*

### SAIT'N PEPPER

by Dr. Arun Inamdar



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BOOK POST

