

# Campus diary

November - December 2017

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INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

## IIT Bombay Celebrates Its Annual Alumni Day



Alumnus Mr. Milind Mhaskar receiving Distinguished Service Award

The Indian Institute of Technology Bombay celebrated its annual Alumni Day on December 24, 2017. The function started with a warm welcome by Prof. Ravi Sinha, Dean (Alumni & Corporate Relations), IIT Bombay.

Prof. Devang Khakhar, Director, 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 from strength to strength. *“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 and we need continued support from our alumni to realize this dream,”* he said.

As a part of the function, Distinguished Service Awards were bestowed on two 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.



The Silver Jubilee batch of 1992 handing over a cheque of Rs. 9.4 crore towards the Legacy Project

This year, the award was conferred on Mr. Milind Mhaiskar and Mr. Saket Gadia.

The first batch of 1962 completed their 55 years of graduation and were felicitated by the Director on the occasion.

The Silver Jubilee Batch (class of 1992) has pledged a sum of Rs. 9.4 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 pledges for the Legacy Project. They would be looking at deploying these funds in a number of projects largely related to student well being, including scholarship programs for deserving students, upgradation of study facilities across the hostels, supporting the ongoing institute efforts, student counselling amongst other things.

Ms. Ashwin Rathod from the Decennial Batch (Class of 2007) also spoke during the Alumni Day function. Several fun-filled activities were held during the alumni meet which included start talks, departmental tours, hostel visits, cultural performances, student-alumni interactions, musical evenings and so on.



The first batch of 1962 being felicitated by the Director Prof. Devang Khakhar



## Minister Of State For HRD Dr. Satya Pal Singh Visits IIT Bombay

Hon'ble Minister of State for Human Resource Development, Water Resources, River Development and Ganga Rejuvenation Dr. Satya Pal Singh visited Indian Institute of Technology Bombay for the first time on December 2, 2017. He was welcomed by Prof. Devang Khakhar, Director, IIT Bombay.

During his interaction with media, he assured that the government is devoted to promoting the quality of higher education by investing in infrastructure and faculty, promoting academic reforms, improving governance and institutional restructuring to create world-class institutions.



Dr. Satya Pal Singh visiting Industrial Design Centre

Highly impressed with the recent achievements and progress made at IIT Bombay, Dr. Singh acknowledged that institutes of higher education need funds and promised all possible help. *“Under the new project launched by Ministry of Human Resource Development (MHRD), we hope to create ‘Institutes of Eminence’ and IIT Bombay too has applied for the same. The government is committed to the holistic development of Indian education system,”* he said.

Congratulating IIT Bombay for obtaining 9th position in Quacquarelli Symonds BRICS ranking, Dr. Singh informed that excellent work is being done in various fields of engineering and nanotechnology in IIT Bombay. Prof. Devang Khakhar was accompanied by Prof. A. K. Suresh, Deputy Director (Academic and Infrastructural Affairs), Prof. P. M. Mujumdar, Deputy Director (Finance and External Affairs) and other Institute officials including Deans and the Registrar.



Dr. Satya Pal Singh with Director Prof. Devang Khakhar and students of Team Shunya

Dr. Singh spoke about the new Education Policy for the country to be framed through an inclusive, participatory and holistic approach. *“The Government of India would like to bring out a National Education Policy to meet the changing dynamics of the population’s requirement with regards to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with the necessary skills and knowledge and to eliminate the shortage of manpower in science, technology, academics and industry,”* he informed.

Stressing that the exercise was going through wide consultations, he said, *“It will ensure that the quality of education improves and research and innovation are facilitated. MPs and MLAs of all parties, educationists and teachers, those who run schools, parents and grandparents — all have offered lakhs of suggestions. Their inputs are being considered for this policy. The draft will be discussed and promptly implemented.”* Dr. Singh visited the Industrial Design Centre and interacted with students.

## Mood Indigo 2017: The Carnival Fest

The 47th edition of Mood Indigo started off on December 22, 2017 in pompous colours with hordes of students thronging the venues at IIT Bombay with gusto. With infectious enthusiasm and bright spirits ostensible in the air, Asia's largest college cultural fest left a mark on everyone.

The theme of this year was **La Fête Carnaval**, or quite simply, **Carnival-fest**. The campus was decorated with multicolored streamers, balloons and

installations. Throughout the campus and at the 'Themed Arena', students were seen soaking in the spirit of celebration as they delightfully engaged in carnival-themed activities-cum-events.

The overall event marked the successful end of the 47th edition of Mood Indigo, IIT Bombay's annual cultural extravaganza. Few glimpses of the mega event are here:



Bollywood star Mr. Akshay Kumar attended the fest to promote his upcoming film Pad Man. Mr. R. Balki, the director of the film and Mr. A. Muruganatham, the real-life inspiration behind the film, also accompanied him

A panel discussion between renowned actor Mr. Manoj Bajpayee and film director Mr. Neeraj Pandey was moderated by Ms. Kubbra Sait. The event ended on a cheerful note. Fans had interesting interaction with the guests



Eloquence panel discussion featuring Infosys co-founder Mr. N. R. Narayana Murthy along with former Union Minister for Finance Mr. P. Chidambaram was moderated by Ms. Faye D'Souza, the Editor of Mirror Now

The audience at Humorfest was in splits as Ms. Mallika Dua of Tinder Aunty fame took over the stage and engaged the audience in roar-inducing humour







A session hosted by noted comedian Mr. Cyrus Broacha was attended by political personalities Ms. Shazia Ilmi and Mr. Sanjay Jha from the BJP and the Congress parties respectively. After a welcome filled with echoing applause, Ilmi and Jha proceeded to talk on politics. They asked students to make informed choices and work on issues together



The Kutle Khan Project is a Rajasthani folk act led by the multitalented and multi-instrumentalist Mr. Kutle Khan. His seductive yet complex melodies left the audience with the whiff of desert and the flavour of Rajasthan



In a panel discussion with moderator Atika Farooqui, multi-faceted Bollywood personality Mr. Madhur Bhandarkar shared the prospects of a career in film and media. He then proceeded to talk about his experiences with production houses, and of the film situation then versus now. In another session, film director Rakeysh Omprakash Mehra spoke about his experiences while making superhits like Rang De Basanti



The Mime Time finals saw the contestants rise up to the challenge of telling stories without uttering a word



The fest ended with fireworks as people thronged the Gymkhana ground for Popular Nite, the fourth and the biggest of the Pro Nites, that was headlined by Mr. Amit Trivedi, the versatile singer, composer and lyricist

## Techfest 2017 Sets A Benchmark

The 21st edition of Techfest, Asia's largest science and technology festival, was held from December 29 to 31, 2017. It was a hugely successful festival which attracted a large crowd and impressed one and all with its grandeur. It has always been an ideal platform for each and every tech-savy person, irrespective of whether the person wishes to display his expertise or gain from the intricate details about the technology on display.

This year, Techfest achieved a record footfall of 1,75,000 with an outreach to 2500 national colleges and 500 international ones. In the process, Techfest also garnered 5,00,000 likes on its Facebook page and retained the tag of most-liked college fest of India. The themes of the festival are digitalization, sustainability and biotechnology. Technological advancement in these segments need to be stressed upon considering the current nation's scenario and the world at large.

The fest comprised of a series of lectures, summits and competitions at the Institute campus as well as exhibitions by students from institutes around the world. Techconnect exhibited the development and research activities of IIT Bombay's students. The festival witnessed exhibitions, war of robots, sessions, talks on advancement of science and technology, gaming competitions and a display of various creations and experiments.



The annual science and technology festival witnessed the advancements in robotics as the first humanoid robot Sophia attended the fest along with other robots from different countries of the world. The robot Sophia based on Artificial Intelligence (AI) interacted with attendees



Mr. Manohar Parrikar, former Defence Minister and the present Chief Minister of Goa, inaugurated the International and DRDO exhibitions. He spoke on 'Make in India in defence sector and the significance of engineers in establishing smart cities'. He attributed his political finesse to the man-handling skills he honed at IIT Bombay



Mr. Jayant Sinha, Minister of State for Civil Aviation, delivered a speech about the 'Opportunities and challenges faced by the youth in Indian economy'. He strongly appealed for a brake on the brain-drain and pressed that Powai, IIT Bombay is the place rather than Silicon Valley to derive solutions



*As part of most distinguished segment of the Lecture Series, Bitcoin and Blockchain expert Mr. Patrick Dai, co-founder of Qtum, CTO at Bitse group, Director of Mei link China delivered a keynote on Bitcoin Technologies. Lecture Series is a platform for both the brilliant and the blooming to interact with unparalleled personalities and to bridge the gap between industry, academia and students*



*Mr. Juan Pablo, Illusionist, performed during the event*



*In the exhibition, the Moon Rover from Hungary was displayed. It is a prototype by Team Puli to be launched in Atlas 5 on the moon*



*NAO robot was displayed during exhibition. It is a humanoid robot from Japan, developed with an aim of educational, enjoyment and old-age care*



## IIT Bombay Wins The Overall General Championship At The 52nd Inter-IIT Sports Meet



IIT Bombay contingent with the trophies

IIT Bombay trounced all competition to emerge victorious at the 52<sup>nd</sup> Inter-IIT General Championship hosted by IIT Madras. The mega-event spanning over thirteen sports drew to a close on December 23, 2017, having witnessed participation by over 2500 athletes from 23 IITs across the country. The IIT Bombay contingent had taken an unassailable lead with a day to spare and went on to grab the men's General Championship and the women's Runners' Up trophy. Having amassed a mammoth 103 points, they were crowned overall champions ahead of IIT Madras and Kanpur.

The IIT Bombay athletics team had begun their relentless assault on the very first day and ended up clinching the gold medal in the men's category; but not before their star Pawan Dahiya gave record-breaking performances in the 100, 200 and 400m events to win the Best Player Award. Karunya Bhaskar, too managed to best the standing record in women's high jump. The

women's teams decimated all opposition, romping home with gold medals in lawn tennis and volleyball, and a hard-fought bronze in badminton, with contingent leader Dhruti Shah (tennis) and Ksiphra Naik (volleyball) emerging as the best players. Riding on exemplary performances by Karan Rawat (squash) and Ratan Kirti (table tennis), the men's teams comprehensively won gold in squash and table tennis, silver in basketball and bronze in volleyball. Earlier an impressive show at the aquatics meet, with silver-medal finishes for both the men and women, had helped Bombay steal a march on their rivals.



IIT Bombay students with General Championship Trophy



## IIT Bombay Celebrates National Education Day



Release of IIT Bombay's updated research brochure 'Glimpses of Research'

Khakhar, Director, IIT Bombay. The welcome address and a brief about the event was delivered by Prof. Petety V. Balaji, Dean (R&D).

Research awards for 2016 in five 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. Samir K. Maji, Department of Biosciences and Bioengineering
- \*\* Prof. Raghavan B. Sunoj, Department of Chemistry
- \*\* Prof. Deepankar Choudhury, Department of Civil Engineering
- \*\* Prof. Bikash Kumar Dey, Department of Electrical Engineering
- \*\* Prof. Dinesh Kabra, Department of Physics

**ii) Impactful Research Award:** This award was given to Dean (Faculty Affairs) Prof. Abhay Karandikar, Department of Electrical Engineering, in recognition of research results which have had a tangible impact on practice through Gram Marg for Rural Broadband.

**iii) Research Dissemination Award:** This award was given in recognition of outstanding efforts to disseminate research through monographs, books, review chapters, review papers to:

- \*\*Prof. Sambasivarao Kotha, Prof. Ashoke Chandra Deb, Prof. Kakali Lahiri and Prof. Ethirajan Manivannan, Department of Chemistry
- \*\*Prof. S. V. Kulkarni and Prof. S. A. Khaparde, Department of Electrical Engineering

**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. Anirban Banerjee, Department of Biosciences and Bioengineering
- \*\* Prof. Rajarshi Chakrabarti, Department of Chemistry
- \*\* Prof. Rajneesh Bhardwaj, Department of Mechanical Engineering
- \*\* Prof. Aftab Alam, Department of Physics

**v) Prof. Krithi Ramamritham Award:** This award for creative research, started from this year, was instituted at IIT Bombay by Prof. Jayant Ramaswamy Haritsa, Indian Institute of Science, Bengaluru. This is awarded for highly creative and original research contribution made primarily at IIT Bombay by a faculty member in any engineering

Industrial Research and Consultancy Centre organised "National Education Day Programme" on November 13, 2017 to felicitate winners of Research awards 2016 and release of updated IIT Bombay research brochure 'Glimpses of Research'. This brochure is a compilation of representative research work carried out by some of the Institute faculty members over a period of time.

Mr. Arun T. Ramchandani, Vice President, Defence (Guns, Missiles & Armoured Systems), Larsen & Toubro Limited was the chief guest on the occasion and the programme was chaired by Prof. Devang V.



Chief Guest Mr. Arun T. Ramchandani, Prof. Devang V. Khakhar along with awardees

discipline. Prof. Shivaram Kalyanakrishnan, Department of Computer Science and Engineering, was conferred Prof. Krithi Ramamritham Award, in recognition of his significant research contributions in the area of 'Theoretical analysis of policy iterations for Markov decision problem'.

The Chief Guest appreciated the Institute's efforts in identifying significant research activities, acknowledging it and motivating the researchers by giving awards. The vote of thanks was delivered by conveyed by Prof. Anil M Kulkarni, Associate Dean (R&D).

The recipients of IIT Bombay Research Awards 2016 gave short presentation of their research work to the IIT Bombay academic community on October 26 and 30, 2017, and November 1 and 7, 2017.

## Inter IIT Cultural Meet

The second edition of the inter IIT cultural meet was held in IIT Kanpur during December 29-30, 2017. With as many as 34 events spread across 7 genres in 2 formats and 18 competing institutes, the meet was the biggest platform for the best brains in India to show their creative talent. Being the current reigning champions, the preparation for the meet begun well in advance in IIT Bombay as the stakes were even higher this year. The trials for the meet started in September and went on till late October. Once the final contingent was made, preparations were in full swing as the students slogged off till late hours in the months of November and December with the title defence on their minds. The day of reckoning soon arrived on December 26, 2017 when the contingent finally embarked on their journey from the Western coast deep into the hinterlands of the country.

**On Day 1** of the meet, IIT Bombay had a good start, winning the duet dance competition, second in stand-up comedy and third in sci-tech quiz while also getting

fifth position in solo singing and costume designing.

**Day 2** proved to be even better as IIT Bombay clinched the pole position in group dance, second position in painting, third position in MELA quiz and duet singing, fourth position in sports quiz and fifth in live sketching. On the last day, the results of all the online and offline events were announced and IIT Bombay received first position in street art, online graphic design, 48 hour film making and short film making, second position in online photography and dance battle, third position in stage play, mono acting, turn coat debate, wordgames and online photo-story, fourth in parliamentary debate and photoshop.

The genre trophies film and photography, fine arts and design and dance went into the kitty of IIT Bombay. Overall IIT Bombay stood second. Keeping all stood the achievements and trophies aside, this meet was a great learning opportunity for the students and helped a lot in bringing people from various art forms together for a singular goal.



IIT Bombay contingent bagged many trophies



## IIT Bombay Breaks Into Top 10 QS BRICS University Rankings 2018 List At 9th Position

The latest Quacquarelli Symonds (QS) ranking of BRICS universities for 2018 brought a mixed bag of news for the country. BRICS stands for the emerging economies of Brazil, Russia, India, China and South Africa.

For the first time, IIT Bombay broke into the Top 10 list by bagging the ninth position (overall). IIT Bombay improved its rank by four positions from last year among institutes in BRICS nations. It was also the best-ranked among Indian universities.

Since its last appearance in 2016/17 in the rankings, the Institute has moved up 4 places. IIT Bombay's overall score is 83.6 out of 100. The Institute has a score of 98.1 in academic reputation, 99.7 in employer reputation, 47.8 in faculty student ratio, 96.9 in staff with PhD, 53.6 in citations per paper, 95.4 in papers per faculty, 15.4 in international faculty and 7.6



Prof. Dinesh Sharma, SJM School of Management, receiving QS BRICS University Rankings certificate



Certificate awarded to the Institute by QS

in international students, all scores out of a maximum of 100. Among these ten parameters, Employer Reputation indicated the strongest one for IIT Bombay with a rank of 8 in BRICS.

On this significant achievement, Prof. Devang Khakhar, Director, IIT Bombay said, *“The ranking is a reflection of the excellent progress being made by the Institute in its core areas of work: teaching and research. I am grateful for the sincere efforts of faculty, staff, students, alumni and well-wishers of the Institute”*.

The Institute performed among the top 3% in the QS BRICS Region University Rankings. Considering there are approximately 9,000 universities regionally, this made IIT Bombay one of the top 1.0% universities in BRICS rankings.

## Indo German Dialogue On Youth Innovation



Mr. Apoorva Mahendru, Deputy Director, DAAD, and the India representative of Technical University of Munich, addressing the gathering

Indo-German Dialogue on Youth Innovation was organized at IIT Bombay on November 18, 2017 by IIT Bombay in collaboration with German House for Research and Innovation (DWIH) - New Delhi and Technical University Munich (TUM).

It was a half day event and featured a group of young researchers, leaders and entrepreneurs from India and Germany who presented their award winning and impactful work. The topics were slated to be multidisciplinary with a larger technical and social context to it. The event provided a platform for both the speakers and the audience, for a dialogue and exchange of ideas.

## IIT Bombay Team Wins ASME's Student Design Competition

IIT Bombay student team and mentor Prof. Abhishek Gupta, Department of Mechanical Engineering, has won the world finals of this year's American Society of Mechanical Engineers (ASME) Student Design Competition (SDC) held at Tampa, USA on November 5, 2017. This team had earlier won the Asia-Pacific leg of the competition en route to the finals.

ASME SDC provides a platform for engineering students to present solutions to a range of design problems ranging from everyday household tasks to groundbreaking space exploration. Each team is required to design, construct and operate a prototype meeting the requirements of an annually determined problem

statement.

This year's problem statement was a robot pentathlon i.e., building a remotely controlled device that competes in five events viz., lift, sprint, climb, throw and hit.

IIT Bombay team's robot secured first place in sprint, lift and hit events, second place in the throw event and third place in the climb event. It was placed first overall in a pool of 8 best teams from Asia-Pacific, North America and South America. The robot of the U of Mississippi team was the runner-up.

The team operated under the umbrella of Mr. Umesh Mashruwala, Innovation Cell (UMIC). The team got most of the funding from IRCC. IITBHF funded a part of the travel cost.

Team members:

- Akash Kishore (Final year, ME), Team Leader
- Ravi Jain (Final year, ME)
- Anjan Kumar Patel (Final year, ME)
- Deepak (Third year, AE)
- Ayush (Third year, ME)
- Pravin (Second year, MEMS)
- Atharva (Second year, ChE)
- Ritesh (Second year, EE)
- Nishit (Second year, CE)
- Manik (Second year, ME)

Earlier this year, another team from UMIC had won the 25th Intelligent Ground Vehicle Competition (IGVC), Oakland University, Michigan, the biggest unmanned ground vehicle competition in the world for university students.

A UMIC team is now focusing on the '**Mahindra Rise Driverless Car Challenge**' to be held soon. They are also targeting the International Aerial Robotics Challenge in August 2018.



ASME's Student Design Competition winning team from IIT Bombay with organizers



## Celebration Of Rashtriya Ekta Diwas And Run For Unity



Registrar Dr. R. Prem Kumar administering Unity Pledge to the IIT Bombay officials and staff members

IIT Bombay organized 'Run for Unity' in the campus on October 31, 2017 as part of Rashtriya Ekta Diwas or the national day for unity to commemorate the birth anniversary of Sardar Vallabhbhai Patel. One of the founding fathers of the Republic of India, popularly referred to as the Iron man of freedom struggle, he was known for protecting the unity of the country. On this occasion, people of all ages come together across the length and breadth of the country to participate in a 'Run for Unity'.

The noble cause attached to the physical endeavour made it a grand event with a far-reaching impact. At IIT Bombay, staff and students turned up in large numbers to run and help foster the spirit of harmony and brotherhood. Participants took a determined oath to keep the unity of the motherland above all else, before the short timed run that lasted 30 minutes. Early in the morning, the picturesque campus came alive as the runners, imbued with a sense of purpose, ran amidst the greenery and the crisp breeze to celebrate the heritage of oneness left to us.



Students participating in the 'Run for Unity'



Campus School of IIT Bombay taking a pledge during morning prayer session

Also on this occasion, IIT Bombay staff pledged to dedicate themselves to securing the unity and integrity of the nation and to ensure national security of the country. This pledge was inspired with the vision and actions of Sardar Vallabhbhai Patel and his efforts for the unification of the country.

## Vigilance Awareness Week Celebration



Mr. K. V. Reghuthaman, Dy. Registrar (Admin-II) administering pledge on the occasion of celebration of Vigilance Awareness week

During Vigilance Awareness Week, observed from October 30 to November 4, 2017, “My Vision - Corruption Free India” was chosen as the theme for Vigilance Awareness Week this year by the Central Vigilance Commission. IIT Bombay staff took a pledge to promote probity in public life and to achieve corruption-free society on October 30 in the main building of the campus. IIT Bombay staff pledged to foster a culture of honesty and integrity and remain committed to good corporate governance-based transparency, accountability and fairness.

As a part of the Vigilance Awareness Week, the Vigilance Cell of the Institute organized an essay competition inviting participation of the students and employees of the Institute. The topic of the essay was “My Vision: Corruption Free India”. Prof. Nand Kishore, CVO of the Institute, delivered a lecture on “**Vigilance Overview**” on November 3, 2017 during Vigilance Awareness Week.

The winners of the Composition Competition:

### Students category:

- First Prize : Mr. Subrat Kumar Patro (DD, ME)  
 Second Prize: Ms. Anamika M P (MTech, CTARA)  
 Namita Sawant (MTech + PhD, CTARA)  
 Third Prize: Ms. Sanika Juneja  
 (Class 7, KV IIT Powai)

### Faculty and Staff category:

- First prize: Ms. Vaishali Bahulkar, Hindi Cell  
 Second prize: Prof. B. L. Tembe, Chemistry  
 Third prize: Ms. Shivani Manchanda  
 (Student Wellness Center) and  
 Mr. Narendra Rajput  
 (SJMSOM)

The winners of the “Cartoon Competition” conducted during Vigilance Awareness Week 2017 :

- Prof. Arun Inamdar (CSRE)  
 Mr. K. Sankara Rao (EE)  
 Ms. Rajeshree Shinde (Chemistry),  
 Mr. Santanu Dutta (IDC)



## 'Avenues 2017' Annual International Business Festival Celebration

'Avenues' is the annual International business festival organized by Shailesh J. Mehta School of Management, IIT Bombay. Alankar is the global leadership summit, where leaders share their success stories to motivate the young students.

The 2017 edition of Alankar, held from October 27 to 29, kickstarted with an interactive session with actor and producer Ms. Raveena Tandon. Her passion and humour seemed contagious. She inspired the students with her life choices, stories and her work in myriad fields. *"It is time we stop sugar quoting,"* she said about making movies like *Mitr* that disturb and shake up the crowd. Pertinent issues such as rape, social stigma and deforestation were also addressed.



Actress Ms. Raveena Tandon during a panel discussion in Avenues 2017

The actress spoke about the power of brain and how one can achieve if we don't give up.

Raveena Tandon filled the crowd with enthusiasm and made them believe that every person can make a difference, regardless of the resources they own. She further urged the students to start a chain, spread it around so that it makes a full circle.

Noted journalist Mr. Rajdeep Sardesai delivered a candid and awe-inspiring speech. He spoke about the evolution of journalism since the quieter age of newspaper reporting. He was sanguine about India's aspirations and emphasized it as the driving factor behind success. A cricket enthusiast himself, Mr. Rajdeep Sardesai shared insightful analogies which have been an integral part of his life and also the theme of his new book.

He further emphasized on the capacity of people to overcome adversity. While imparting the audience about three kinds of happiness, he urged them to enjoy the happiness that emanates from grabbing the moment in the journey of life. He encouraged students to see people as individuals, pay less heed to issues which divide the society and start addressing the real problems of the society.

The second day of Avenues 2017 saw the organisers as well as students immersed in a series of events, fun activities and sports. Alankar, the Global Leadership Summit, started with a spirited session with the passionate and talented choreographer Terence Lewis. The session was dotted with anecdotes, stories and humour while emphasising on the path to sidestep comparison.

Terence advised the students to either do something very well or to leave it. He urged the students to be in touch with reality, explaining how it is pertinent to have a goal, breaking it down to small goals and adding a method to it. He left the audience with a thoughtful quote to help them make their choices, *"If you can say no, then do it."*

The session concluded with a free-spirited dance of Terence Lewis with the rejuvenated audience.

Alankar session continued with the dedicated and determined Ms. Apurva Purohit, the President of Jagran Prakashan Ltd. that owns publications like Dainik Jagran, Mid-Day and Radio City. She explained how women, men and organization are three equal points of the triad of diversity. She further stressed on hard work and the 5Ps for success: Process, Purpose, Perseverance, Positivity and Personal Accountability.

## SoULS-IIT Bombay Organises One-Day Workshop For Students

SoULS (Solar Urja through Localisation for Sustainability), IIT Bombay organised a workshop for 400 students of Jawahar Navodaya Vidyalaya, Nizampur, Raigad, Maharashtra on November 4, 2017. With this workshop, SoULS aims to create awareness about solar energy among the most active growing members of the community.

India boasts of receiving ample sunlight throughout the year and can use this clean and sustainable source of energy in the day to day life. According to a recent report by International Energy Agency (IEA), India's renewable energy capacities will more than double by 2022. The present Indian government is also working towards its target of installing 100 GW of solar power by 2022.



A day-long workshop at Navodaya School to train students from Class VI to XII students in technical testing and solar study lamp assembly

SoULS put together a day-long workshop at Navodaya School to train students from Class VI to XII students in technical testing and solar study lamp assembly.

*“We want to take solar technology to the masses and create awareness about its use and advantages. With this workshop, we wanted to reach the young and growing community and thereby create student solar ambassadors. SoULS is working to set up a solar lab here. It will motivate students to put to use and understand the true potential of solar energy,”* said Prof. Chetan Solanki, Energy Science Department, IIT Bombay and Principal Investigator, SoULS.

IIT Bombay will help set up a solar lab for students for the repair and maintenance, lab experiments and testing of solar products. Two equipments will be made available for the lab experiments — Solar PV training kit and Solar PV simulator. Teachers will be also be trained by experts on how to use the equipments.

*“Solar lamp assembly workshop is a way to make the young minds aware about the importance of solar technology. However, it does not end here. We expect the students to make use of the solar lab facilities to conduct experiments. This is just a beginning,”* said Prof. Jayendran Venkateswaran, Industrial Engineering and Operations Research, IIT Bombay and Principal Investigator, SoULS.



The students also received a certificate of participation from IIT Bombay for attending the workshop. *“Such workshops will give a boost to the use of solar energy. If students use solar energy in their day-to-day lives, we will be able to witness a cut down in the electricity bill. The student solar ambassador can help spread the word about solar among others. Our students are very excited to know more about this clean energy,”* said P. K. Narayanan, Principal, Jawahar Navodaya Vidyalaya, Raigad.

The training sessions included: Introduction to Energy and Electricity, Why Solar Energy is Better than Electricity? Benefits and usage of Solar Energy, Introduction to Toolkit Components, Familiarisation of Components and Physical Testing, and Technical Testing of the Technical components.



Research In Focus

Advanced Numerical Methods For Modeling Complex Physics On Supercomputers

For more than 2 millennia, science has progressed primarily by experimental observations and development of theories. These two methods work perfectly in conjunction with one another in developing our understanding of the physical world around us. In the past few decades, a third significant methodology employing powerful computers and computational science for simulations has greatly added to our scientific capability and understanding.

Computational science involves recreating or simulating the physical phenomena on interest using a combination of mathematical modelling and very fast arithmetic on modern computers. Let us take the example of the engineering problem of designing the wings of an aircraft, the optimal design being the one which gives the best performance under operating constraints.

Computational science, more specifically computational fluid dynamics in the case of this application, allows engineers to simulate the performance of an aircraft wing design on computers efficiently and reach the optimal design at much lower costs. This process known as numerical methods helps convert complex mathematical equations which represent the physics of the experiment into a set of arithmetic ones. These arithmetic equations then are solved by a computer. A typical home computer or laptop today can solve the equivalent of a few hundred billion additions, subtractions, multiplication or divisions in just one second. The fastest supercomputer in the world today can perform a mind boggling 93 million billion arithmetic operations in a second!

As computational science becomes more pervasive, more and more complex phenomena and problems are being simulated by researchers. Weather, coastal flooding from storm surges and tsunamis, flows in fuel injectors, biological phenomena like blood flow through arteries, protein formation, interaction of galaxies and stars etc., form just the tip of the iceberg for simulation capabilities. The increase in complexity of the problems demand a continual increase in the computing power required.

Today's modern supercomputers consist of several million processors which compute simultaneously. In a very crude sense they are essentially several million desktops / laptops put together through some smart engineering and then the problem to be solved is appropriately divided among these smaller computers which are the building blocks of the supercomputers. As problem sizes increase, the use of more of these building blocks is required and soon the 'numerical method', which enables the computers to use their fast arithmetic, starts hitting a wall of scalability. If a problem is divided into 100 equal parts and given to 100 different computers to solve one would expect the problem to be solved 100 times faster than a single computer calculating the whole problem by itself. In reality when the 'numerical method' divides the problem up, there are several overheads, one of those being communication, which do not permit the perfect linear scalability of the problem being solved 100 times faster on 100 computers. These overheads are characteristics of these 'numerical methods'.

My research group is working on developing new methods which aim to greatly reduce overheads which enable simulating complex physics (not hundreds but rather millions of times faster), thus utilizing the maximum capabilities of the current fastest supercomputers in the world and also saturating any computing machine for the next couple of decades.

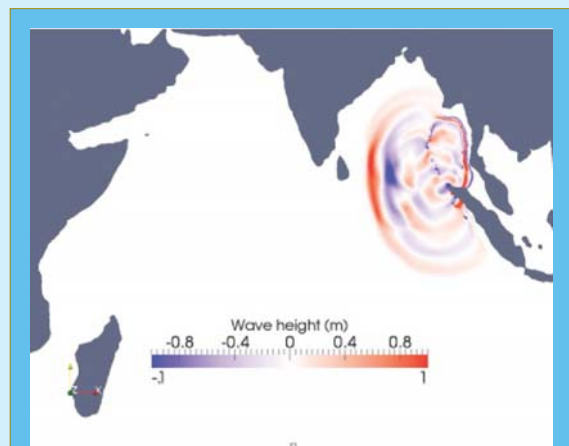


Figure 1. Simulation of 2004 Indian Ocean Tsunami

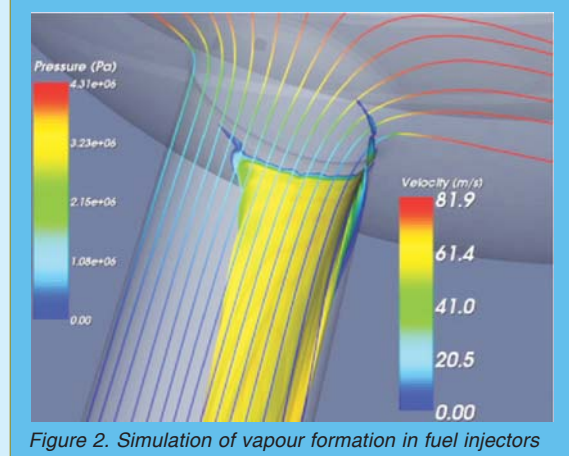


Figure 2. Simulation of vapour formation in fuel injectors

**Prof. S. Gopalakrishnan**  
 Department of Mechanical Engineering, sgopalak@iitb.ac.in

## IIT Bombay And NCTU, Taiwan Sign Agreement

IIT Bombay and National Chiao Tung University (NCTU), Taiwan signed an agreement for joint supervised PhD during the visit of President Prof. Mau-Chung Frank Chang along with Senior Vice-President Prof. Edward Yi Chang to IIT Bombay on December 1, 2017. NCTU, Taiwan is providing scholarship for the co-supervised students.



President of NCTU  
Prof. Mau-Chung Frank Chang  
with Director Prof. Devang Khakhar

## Inauguration Of Gulmohar Garden Cafeteria At IIT Bombay

Gulmohar Garden Cafeteria was inaugurated by Prof. Devang Khakhar, Director, IIT Bombay on November 22, 2017 at IIT Bombay campus. Prof. B.V.S. Vishwnatham, Dean (Infrastructure Planning and Support), Prof. S.V. Kulkarni, Associate Dean (Infrastructure Planning and Support-II) and Mr. N. S. Dabholkar, Chief Manager, Hospitality were also present during the occasion.



Director Prof. Devang Khakhar inaugurating the Gulmohar Garden Cafeteria

## Inauguration Of New Guest House And Rooftop Solar Panels



Director Prof. Devang Khakhar inaugurating the new Guest House Padma Vihar

New Guest House Padma Vihar and rooftop solar panel above the Lecture Hall Complex was inaugurated at IIT Bombay on December 19, 2017 by the Director Prof. Devang Khakhar. Prof. A. K. Suresh, Deputy Director (Academic and Infrastructural Affairs), Prof. Prasanna Mujumdar, Deputy Director (Finance and External Affairs), Prof. B.V.S. Vishwanadham, Dean (Infrastructure Planning and Support), Prof. Ravi Sinha, Dean (Alumni and Corporate Relations), Prof. Soumyo Mukherji, Dean (Student Affairs), Prof. S.V. Kulkarni, Associate Dean (Infrastructure Planning and Support-II) and Dr. R. Premkumar (Registrar) also graced the occasion.



## Lectures On Nobel Prizes 2017

Industrial Research & Consultancy Centre (IRCC), IIT Bombay, has been organising lectures on Nobel Prizes from 2009 onwards annually. The lecture series is called as “*Aisa kya kiya in logo ne?*”.

The lectures focussed on the significance of the work leading to the award of this coveted prize and are pitched at a level accessible to lay literate audience. Lectures on Nobel Prizes 2017 were organized on October 25, 2017 in the Institute. Prof. Petety V. Balaji, Dean (Research and Development) gave introductory remarks about the program. The following experts delivered lectures this year :

Category	Nobel Laureate (Prof.)	Speaker
Chemistry	Jacques Dubochet, Joachim Frank & Richard Henderson	Prof. Prasenjit Bhaumik, Department of Biosciences and Bioengineering, IIT Bombay
Economics (Sveriges Riksbank Prize)	Richard H. Thaler	Prof. Neha Gupta, Department of Humanities & Social Sciences, IIT Bombay
Literature	Kazuo Ishiguro	Prof. Sudha Shastri, Department of Humanities & Social Sciences, IIT Bombay
Physics	Rainer Weiss, Barry C. Barish & Kip S. Thorne	Prof. Archana Pai, Department of Physics, IIT Bombay
Physiology / Medicine	Jeffrey C. Hall, Michael Rosbash & Michael W. Young	Dr. Amitabha Majumdar, National Centre for Cell Science, Pune

A large number of faculty members, students and staff members attended the programme. Prof. Anil M. Kulkarni, Associate Dean (R&D) delivered vote of thanks.

## IIT Bombay Participates In FICCI Higher Education Summit

IIT Bombay participated in the Research and Development Exhibition organised by the Federation of Indian Chambers of Commerce and Industry (FICCI) in partnership with Ministry of Commerce and Industry, Government of India (GoI) in conjunction with the 13<sup>th</sup> FICCI Higher Education Summit 2017, a global conference and exhibition at the India Exposition Centre, Greater Noida, Delhi-NCR during November 9-11, 2017. The event was inaugurated by Mr. Sudhanshu Pandey, Joint Secretary, Ministry of Commerce and Industry, GoI. The theme for the summit was ‘*Leapfrogging to Education 4.0: Student at the Core*’. The event had around 150 exhibitors from top of the line Indian and foreign education Institutions. It attracted a large number of participants from India and abroad, more than 200 International delegates from about 65 countries, 120 universities, institutes and technical companies.



Dr. V. Arumugam, IRCC and his team at IIT Bombay stall at the summit

IIT Bombay exhibited general posters giving a glimpse of the research and development activities at IIT Bombay, academic programmes, industry interactions, tech transfers, etc.; posters on technologies developed in the Institute, and videos. Brochures like ‘R&D Highlights’, ‘Partner with Us’, ‘Academic Programs’, ‘Glimpses of Research’ and ‘Research Facilities’ were also distributed to visitors for information dissemination. The stall attracted an overwhelming response and the posters/brochures were very well received. IIT Bombay exhibition was organised by Dr. V. Arumugam, IRCC and his team members Ms. Rusheeda Rajamohanam and Mr. Pradeep S. Hiwale.

## SciPy India 2017



SciPy India 2017 team

Free and Open Source Software for Education (FOSSEE) organized SciPy India 2017 at IIT Bombay during November 29-30, 2017. The FOSSEE Project promotes the use of the FOSS tools to improve the quality of education and research. SciPy India conference aimed at providing opportunities to spread the use of the Python programming language in the Scientific Computing community in India. The conference objective was to combine education, engineering, and science with computing through the medium of Python. The conference featured a variety of workshops, invited talks, and paper presentations. Prof. Prabhu Ramchandran, Department of Aerospace Engineering, IIT Bombay, Co-Chair of SciPy India 2017 co-ordinated the event. The conference witnessed an informative talk by keynote speaker Dr. Nelle Varoquaux (Dept. of Statistics at UC Berkeley and a BIDS data science fellow). Dr. Ajith Kumar (RF & Electronics Lab, IUAC), invited speaker, also presented a talk.

## International Workshop On “Modern Biophysical Tools and Techniques”

An international workshop on “Modern Biophysical Tools and Techniques” was organized during December 11-15, 2017 by Department of Biosciences and Bioengineering in IIT Bombay. Students and early career researchers were main beneficiaries of the workshop. Prof. Ambarish Kunwar, Department of Bio-sciences and Bio-engineering was the convener of workshop.

The horizon of modern bio-sciences and bio-engineering has been rapidly expanding due to development of various new biophysical manipulation and measurement techniques. This served as an objective of the workshop.

It was partly supported by Biophysical Society (USA). The topics covered in the workshop included Fluorescence microscopy, Confocal microscopy, Super-resolution microscopy, Fluorescence Resonance Energy Transfer (FRET), Fluorescence-Activated Cell Sorting (FACS), Optical Tweezers, Bio-AFM, NMR and microfluidics.

## International Conference on Information Systems Security (ICISS-2017)

International Conference on Information Systems Security (ICISS-2017) was held during December 16-20, 2017 at IIT Bombay. International Conference on Information Systems Security (ICISS), held annually in India, provides a forum for disseminating the latest research results in information and systems security.

The conference was an annual gathering of systems security researchers. This year's 13th edition of the conference had 6 technical sessions themed around cryptography, privacy, identity, analysis and attacks on systems. The paper “The Challenge of Aadhaar” bagged this year's best-paper award. There were keynotes delivered by eminent personalities working in information security domain. Prof R.K. Shyamasundar (JC Bose National Fellow, Department of Computer Science and Engineering) presided over as general chair of this conference and Prof Virendra Singh (Dept of Electrical Engineering) organised the conference as program co-chair.

The conference was preceded by Applications of mathematics to cybersecurity and software safety (by Prof Suresh Kothari, Iowa State University), and Recent advances in access control and future directions (by Prof Shamik Sural, IIT Kharagpur).

As a part of conference, an advanced workshop on “Blockchain Technology” was co-ordinated by Prof. R.K. Shyamasundar, Dept. of Computer Science and Engineering and Prof. N.V Narendra Kumar (IDRBT Hyderabad).



## Yogastha Organizes Talk By Dr. R. Nagarathna On 'Importance Of Yoga In Modern Life'



Dr.R Nagarathna with Prof. Ashish Pandey and members of Yogastha club

"Yoga helps to calm the mind and then enjoy the state of happiness," said Dr. Nagarathna Raghuram, the Chief Yoga Therapy Consultant and Dean of the Division of Yoga and Life Sciences at SVYASA Bangalore. She delivered a talk titled 'Importance of YOGA in Modern Life' at IIT Bombay on November 16, 2017. The talk was organized by the Yogastha Wellness Club, IIT Bombay.

In her talk, Dr. Nagarathna said that the origin of various diseases is our own mind i.e. the *manomaya kosha*. "The modern medical science has accepted this fact but is still to find a way to control the mind in order to control various diseases," she said. She emphasized on the ancient science of Yoga, asserting its usefulness in calming the mind.

She compared the human mind with a drunk monkey, who is restless and wanders around. The human mind

has a tendency to repent on past events or worry on the future. This wandering of the mind builds up stress, unhappiness, anxiousness, restlessness and anger. This increases negativity in a person. A trained mind, however, can enjoy the present. "The mind can be trained and brought into control by implementing proper breathing techniques (*pranayama*), postures (*asanas*), mantra chanting and meditation (*dhyana*)," she explained.

Dr. Nagarathna appraised the efforts of Mr. Chandra Pratap (Manager, Yogastha) and the Yogastha team for organizing various yoga camps and free yoga workshops in IIT Bombay throughout the year. She also congratulated Prof. Soumyo Mukherji (Dean Student Affairs), Prof. Ashish Pandey, SJM School of Management and Prof. E. P. Rao on their initiatives to spread awareness about Yoga in IIT Bombay campus.

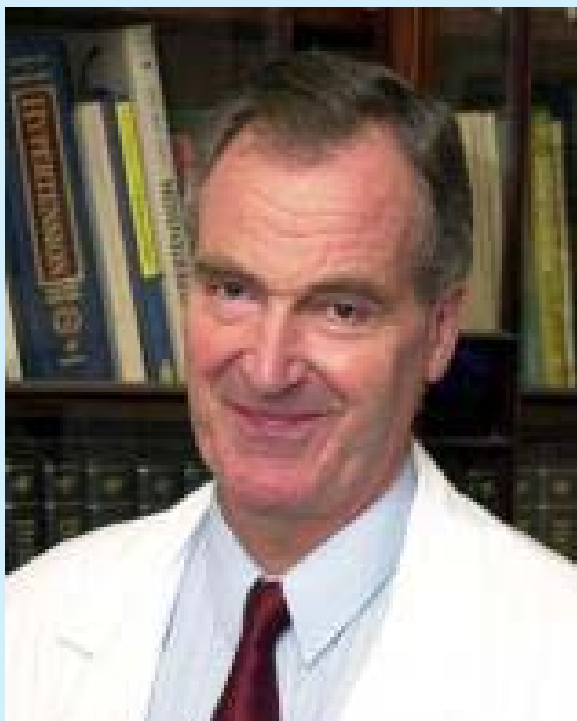
Institute Colloquium /  
Lectures



**Retd. Ambassador Suresh K. Goel**, Indian Foreign Service (Retd.), Ministry of External Affairs (MEA) Former Director, General, ICCR delivered an Institute Distinguished Lecture on *“UN Reforms: Myth or Reality”* on November 3, 2017



**Dr. Amit Biswas**, Executive Vice President, Integrated Product Development, Dr. Reddy's Laboratories delivered an Institute Distinguished Lecture in memory of Prof. C.V. Seshadri on *“Challenges and Opportunities for Chemical Engineers To Sustain the Global Impact of the Indian Pharmaceutical Industry”* on November 23, 2017



**Prof. Graham MacGregor**, Professor of Cardiovascular Medicine, Wolfson Institute of Preventive Medicine delivered an Institute Lecture on *“Everyone worth their salt should know this!”* on November 12, 2017



**Prof. Nobuhiro Tsuji**, Professor, Kyoto University delivered a steel colloquium on *“Ways to Fabricate Ultrafine Grained Steels”* on December 11, 2017



## Departmental Lectures / Talks

### Department of Bioscience and Bioengineering

**Prof. Anatoly Kolomeisky**, Department of Chemistry, Department of Chemical and Biomolecular Engineering and Centre for Theoretical Biological Physics, Rice University, Houston, Texas gave a talk in a seminar on “*How to Understand the Formation of Signaling Profiles in Biological Development*” on November 7, 2017

**Dr. Peter Banks**, Scientific Director, BioTek Instruments Inc., USA gave a talk in a seminar on “*Quantitative Microscopy of Fixed and Live Cells*” on November 9, 2017

**Dr. Kashyap Dave**, Post-Doctoral Researcher, Karolinska Institutet, Stockholm, Sweden, gave a talk on “*Delineating MYC enhancers in gene regulation and tumor development*” on December 19, 2017

### Department of Chemical Engineering

**Dr. Amit Biswas**, Executive Vice-President, Integrated Product Development, Dr. Reddy's Laboratories gave a talk on “*Particle Science & Engineering for Drug Delivery*” on November 24, 2017

**Dr. Abhinav Malasi**, StudyFox, Luxembourg gave a talk in a seminar on “*Symbiotic plasmonic nanoparticles*” on November 28, 2017

**Prof. Noshir Pesika**, Tulane University, USA gave a talk in a seminar titled “*Tuning Surface Forces and Interactions – from Mosquito Adhesion to Reversible Potential Dependent Friction*” on November 30, 2017

**Dr. Girish Rao**, Shell Bitumen R&D Manager, Shell, Bangalore, gave a talk on “*Innovation from the Refinery to the Road*” on December 13, 2017

### Department of Chemistry

**Dr. Doron Naveh**, Bar-Ilan University, Israel, gave a talk on “*2D Materials Optoelectronics: From Graphene to Black Phosphorus*” on December 7, 2017

**Prof. Peter H. Seeberger**, Director, Max-Planck Institute for Colloids and Interfaces, Potsdam, Germany, gave a talk on “*Preventing and Fighting Infectious Diseases: Carbohydrate Vaccines and Flow Chemistry*” on December 15, 2017

### Department of Civil Engineering

**Prof. Adam H. Sobel**, Columbia University, USA, gave a talk on “*Assessment of tropical cyclone risk, and application to Mumbai*” on December 14, 2017

### Department of Energy Science and Engineering

**Dr. Debajit Palit**, Senior Fellow & Associate Director, Rural Energy & Livelihood Division, the Energy & Resources Institute (TERI) gave a lecture on “*Rural Electrification in India: The evolution and future models*” on December 8, 2017

### Department of Electrical Engineering

**Prof. Vijay Vittal**, Ira A. Fulton Chair Professor, Arizona State University gave a talk on “*Arizona State University - Learn to Thrive*” on November 27, 2017

**Dr. Héctor J. De Los Santos**, Distinguished Lecturer, IEEE, Electron Device Society gave a talk on “*Theory of Nano-Electron-Fluidic Logic (NFL): A New Digital Electronics Concept*” on November 29, 2017

**Dr. Vaibhav Katewa**, University of California, gave a talk on “*Security and Privacy in Cyber-Physical Systems*” on November 29, 2017

**Prof. Anant Agarwal**, Ohio State University, IEEE Fellow, gave a talk on “*The Revolution in Wide Band Gap (WBG) Power Devices*” on December 12, 2017

**Prof. Karu Esselle**, Distinguished Lecturer, IEEE Antenna and Propagation Society, gave a talk on “*Leaky-wave antennas: from niche applications to mass market*” on December 13, 2017

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**Dr. Ujjwal Das**, Institute of Energy Conversion (IEC), University of Delaware, gave a talk on “*Advanced Si solar cells: fundamentals and manufacturing issues*” on December 18, 2017

**Dr. Victor Mukherjee**, Postdoctoral Researcher, Weizmann Institute Of Science, gave a talk on “*Dynamical control in quantum technologies*” on December 19, 2017

**Prof. Vincenzo Piuri**, Università degli Studi di Milano, Italy, gave a talk on “*Dependable and Resilient Cloud Computing*” on December 19, 2017

**Prof. Vishal Misra**, Columbia University, gave a talk on “*Internet Economics: Competition and Cooperation*” on December 20, 2017

### Department of Humanities and Social Sciences

**Dr. Sanam Roohi Reddy**, delivered a talk on “*Giving Back: Diaspora Philanthropy and the*”

*Transnationalisation of Caste in Guntur*” on November 7, 2017

**Dr. Simon Evnine**, University of Miami, gave a talk in a seminar on “*Internet Memes*” on November 22, 2017

**Dr. Nirupama Kulkarni**, Research Director, CAFRAL, Research Department delivered a talk on “*Creditor Rights and Allocative Distortions – Evidence from India*” on December 4, 2017

**Prof. Amlan Dasgupta**, Jadavpur University, gave a talk on “*Anecdote & Musical History*” on December 15, 2017

**Prof. Sathyajit Gubbi**, University of Groningen, Netherlands, gave a talk on “*Does Advisor Network Position Facilitate Cross-Border Acquisitions By Emerging Market Enterprises?*” on December 21, 2017

#### Department of Metallurgical Engineering & Materials Science

**Prof. Michal Piasecki**, Theoretical Physics Dept, Institute of Physics, J. Dlugosz University, Czestochowa, Poland gave a lecture on “*New chalcogenide and halide materials for optoelectronic and thermoelectric applications*” on November 16, 2017

**Dr. Manish K. Mundra**, Northwestern University gave a talk on Dramatic Effects of Nanoconfinement on “*Thermophysical Properties of Thin and Ultrathin Polymer Films and 1D Patterned Polymer Nanostructures (Fundamental Research)*” and “*Sustainable Wire and Cable Technologies (Applied Research)*” on December 4, 2017

**Mr. Sanjay Sampath**, Center for Thermal Spray Research, Stony Brook University, Stony Brook, NY delivered a talk on “*Thermal Spray as an Additive/Layered*

*Manufacturing Technology for Energy Related Applications*” on December 28, 2017

#### Department of Mechanical Engineering

**Dr. Saurabh Nene**, University of North Texas, USA delivered a talk in a seminar on “*High Entropy Alloys: new era in Materials*” on December 13, 2017

#### Department of Physics

**Prof. Sebastian Wuster**, MPIPKS Dresden and IISER Bhopal gave a talk in a seminar on “*Towards quantum simulations of chemical and biological processes using ultra-cold Rydberg atoms*” on November 3, 2017

**Dr. Sourabh Lahiri**, BIT Mesra, Ranchi gave a talk in a seminar on “*Fluctuation Theorems, measurement errors and optimal protocols*” on November 6, 2017

**Dr. Manish Jaiswal**, JNCASR India gave a talk on “*Mechanically Stiff & Elastomeric Hydrogels using Zero and Two-dimensional (0D & 2D) Nanomaterials*” on November 8, 2017

**Dr. Koushik Saha**, Weizmann Institute of Science, Israel delivered a lecture on “*Time evolution of excited molecules*” on November 9, 2017

**Dr. Sandip Kaledhonkar**, Columbia University Medical Centre, New York delivered a lecture on “*Structural Dynamics of Biomolecules Captured By Time-resolved Cryo-Electron Microscopy*” on November 16, 2017

**Prof. Sreemoyee Sarkar**, Centre for Excellence in Basic Sciences, Mumbai delivered a lecture on “*Exploring exotic interior of Neutron star through Transport Phenomena*” on November 17, 2017

**Dr. Bithika Jain**, ICTP-SAIFR gave a talk on “*On the Validity of the Effective Potential and the Precision of Higgs Self Couplings*” on November 27, 2017

**Ms. Deepthi Gorthi**, University of California, gave a lecture on “*Building an FFT Correlator for the Hydrogen Epoch of Reionization Array*” on November 29, 2017

**Dr. Vincent Pohl**, Freie Universitaet Berlin gave a lecture on “*Electronic Motion in Molecular Systems: From the Hydrogen Molecular Ion to Nanostructures*” on December 7, 2017

**Prof. Manu Paranjape**, Université De Montréal, Canada, gave a talk on “*The Black Hole Graviton Laser Time Bomb*” on December 18, 2017

#### Centre for Policy Studies

**Dr. Ragnath Mashelkar**, Director General, CSIR, gave a talk on “*The Science Communication Dialogue for New India*” on December 12, 2017

#### Centre of Studies in Resources Engineering (CSRE)

**Prof. Yoshio Yamaguchi**, Niigata University, Niigata, Japan delivered a talk on “*Polarimetric Radar Remote Sensing*” on November 24, 2017

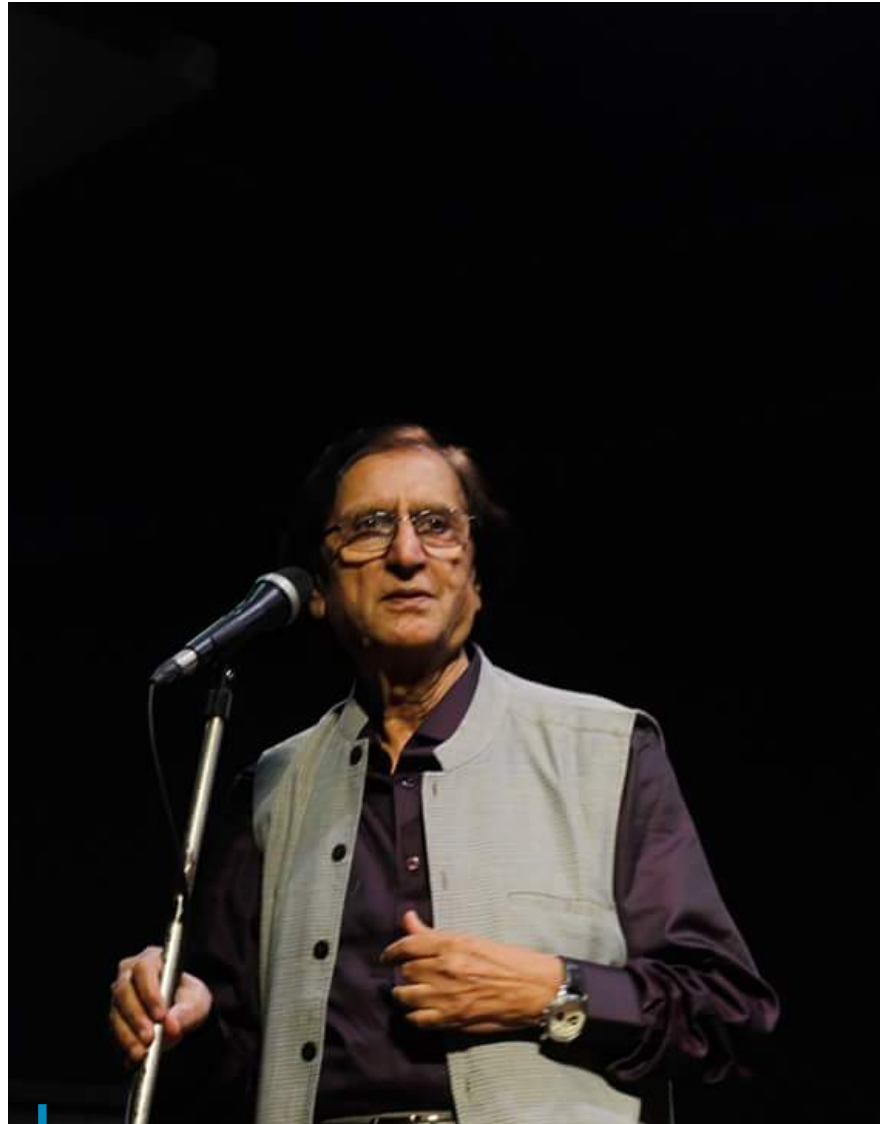
#### Research Scholars Forum

A team consisting of Dr. Thomas Hesse, Deputy Secretary General & Ms. Diane Fischer (Dept. Sponsorship and Network Asia Division) from AVH Foundation, Germany visited IIT Bombay on November 21, 2017 and delivered a seminar on “*New Opportunities for Post-Doctoral Fellowships for PhD students*”

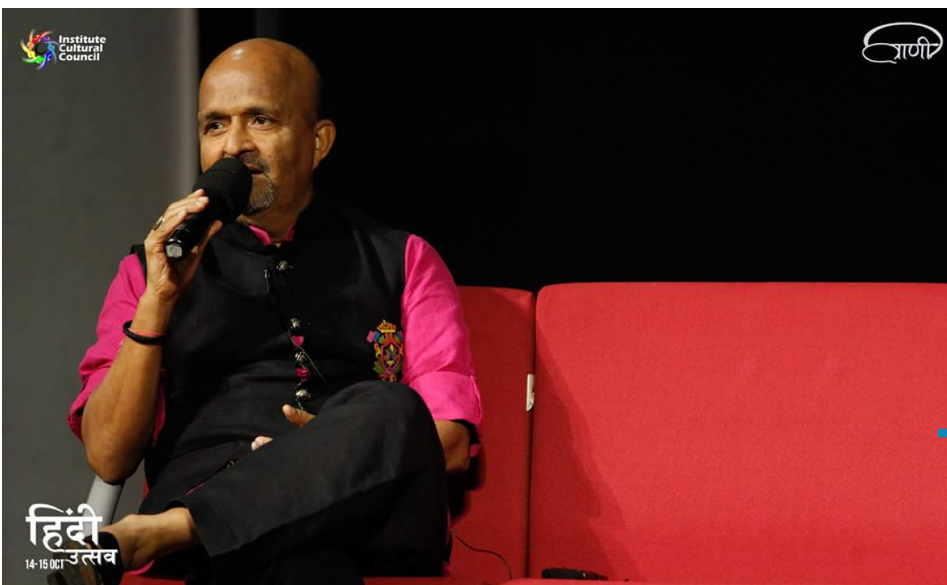


## Kavi Sammelan

This year's Hindi Utsav was grand and stressed upon the importance of Hindi and other regional languages. The two-day flagship event held on October 14-15, 2017 comprised of four events. The first event was Chhatra Kavi Sammelan, a poetry competition. Mohinder Pratap Singh, co-author of Dhoni: The Untold Story was the judge. It featured over 35 students. On the same day, a Kavi Sammelan featuring the likes of great Urdu Shayar Waseem Barelvi along with other poets like Madhyam Saxena, Aman Akshar and Abhay Singh was held. The second day started off with an interactive session with Sameer, a star lyricist of the 90s era. He has won three Filmfare awards and is a Guinness Book Record Holder. He shared his thoughts on the Bollywood industry and the music being composed nowadays. A stand-up comedy night with Akash Gaurav Singh and Piyush Sharma was also held. Overall, this year's flagship event was a huge success.



Renowned Urdu poet Mr. Waseem Barelvi addressing the audience



Lyricist Mr. Sameer interacting with the audience

## Awards and Distinctions

**Prof. A. K. Suresh**, Department of Chemical Engineering, has been selected for CSIR-CSMCRI Chemcon Distinguished Speaker Award 2017 by the Indian Institute of Chemical Engineers (IICChE)

**Prof. S. Bhargava**, SJM School of Management, has been selected for the award of Outstanding Contribution to Education for 2017 by Silver Jubilee edition of B- School Affaire

**Prof. Rajesh Gupta**, Department of Energy Sciences and Engineering has received NDT Best Paper Award 2017 in Industrial applications

**Prof. Abhay Karandikar**, Department of Electrical Engineering, has been featured in a cover story "Architects of Digital India" came out in Voice and Data magazine of December 2017 issue

**Prof. Shamik Sen**, Department of Bioscience & Bioengineering, has been selected for the prestigious SwarnaJayanti Fellowship Award for the year 2016-17, in the field of Life Science

**Prof. Saurabh Lodha**, Department of Electrical Engineering, has been selected for the prestigious SwarnaJayanti Fellowship Award for the year 2016-17, in the field of Engineering Science

**Prof. Suryendu Dutta**, Department of Earth Sciences, has been selected for the prestigious SwarnaJayanti Fellowship Award for the year 2016-17, in the field of Earth and Atmospheric Sciences

**Prof. Parinda Vasa**, Department of Physics, has been awarded 'B.M. Birla Science Prize' and has been elected as a member to the 'International Union of Pure and Applied Physics (IUPAP) Commission on Laser Physics and Photonics (C17)' for the period 2018-2000

**Prof. Ronita Bardhan**, Centre for Urban Science and Engineering,

has been awarded the prestigious 'Charles Wallace India Trust Fellowship' (2018-19) at the University of Cambridge - CRASSH, Wolfson College

**Prof. Sourav Pal**, Department of Chemistry, has been nominated as a member of the Editorial Advisory Board of Journal of Physical Chemistry (JPC) for 3 years

**Prof. Debabrata Maiti**, Department of Chemistry, has been invited to join the International Advisory Board of "Chemistry", an Asian Journal, one of the flagship journals of Wiley-WCH

**Prof. Bijnan Bandyopadhyay**, Systems and Control Engineering (SysCon) has been selected as IEEE Fellow for his contributions in the field of discrete-time, multi-rate, output feedback sliding-mode control

**Prof. Rohit Srivastava**, Department of Biosciences and Bioengineering research work carried out by him and his group on "Degradable NIR responsive plasmonic nanoshells for photothermal cancer therapy and diagnosis" has been given the prestigious "Cancer Research Foundation, India (CRFI) Best Research Award 2018"

**Prof. Abhishek Gupta**, Department of Mechanical Engineering and his team has won the world finals of this year's "American Society of Mechanical Engineers (ASME)", students design competition held at Tampa, Florida, USA

## Publications

**Prof Anirban Sen**, Department of Physics and his group have co-authored a paper which has appeared in Nature Communications (with impact factor of 12+). This work is on certain self shaping material called colloidal membrane. Upon crystallisation the membrane buckles and forms a surface with

tunable curvature and roughness. Furthermore, during crystallisation, the membrane shows interesting domain structure, which Prof. Sen has been able to model successfully using theory of liquid crystals

**Prof. Mani Bhushan and Prof Chandra Venkataraman**, Department of Chemical Engineering have co-authored the paper entitled "Aerosols cause intra-seasonal short-term suppression of Indian Monsoon rainfall," and has appeared in scientific reports (Nature Publishing Group).

The paper can be accessed at: [www.nature.com/articles/s41598-017-17599-1](http://www.nature.com/articles/s41598-017-17599-1) <<http://www.nature.com/articles/s41598-017-17599-1>>

The study makes important linkages between air pollution and climate change, in regard to regional monsoon rainfall

## Student News

The following awards were won by PhD students of Chemistry department, IIT Bombay. Mihir Kumar Jha won the best poster award at the "School on clean and renewable energy technologies via chemical route" jointly organised by I2CAM, University of California at Davis and JNCASR, Bengaluru between 27 Nov - 2nd Dec, 2017. The award carries a certificate and prize money of Rs. 4000

2. Sudeshna Mondal won the Nanoparx competition and was adjudged the best nano-based socially relevant and innovative project at the Bengaluru-India Nano 2017 held on 7 - 8th Dec, 2017. She received the award certificate and prize money of INR 50,000/-the award from Prof. A. K. Sood, IISc



## REVA - India's Largest Fest For Underprivileged Children



Children participating in painting competition during REVA event

Since 2010, more than 2000 kids have participated in Right to Education and Vision (REVA). It is now India's largest event for underprivileged kids, with more than 3 cities of India hosting it every year. The event not only provides the stage for children to showcase their talent but also improves the leadership qualities amongst the volunteers.

This year REVA was organized at IIT Bombay on November 25-26, 2017. It witnessed the participation of students from various schools. Children enjoyed

the two-day festival and attended workshops on clay modeling, waste management, painting, essay writing, sports and the cultural events. Talent showcased by children in this 2-day fest left everyone awestruck. The hard work they put in was indeed commendable. This year, they launched the Mentor-Mentee program. This will help establish a bond between students and children. One learning everyone took from this festival was, "While we try to teach our children all about life, our children teach us what life is all about".

### Notification

**Prof. Suvarn Kulkarni**, Department of Chemistry has been appointed as Warden of Hostel No. 3 w.e.f. October 1, 2017

**Prof. Samir Maji**, Associate Professor, Department of Bioscience and Bioengineering has been appointed as Associate Warden w.e.f. October 1, 2017

**Prof. J. Adinarayana** has been appointed as the Head, Centre of Studies in Resources Engineering w.e.f. October 24, 2017

**Prof. Nagamani Jaya Balila**, Assistant Professor, Department of Metallurgical Engineering and Materials Science has been appointed as the Associate Warden, Hostel No. 15 w.e.f. October 31, 2017

**Prof. K.G. Suresh** has been appointed as the Head, Department of Physics w.e.f. November 29, 2017

**Prof. T.L. Eldho** has been appointed as the Head, Department of Civil Engineering w.e.f. December 4, 2017

**Prof. D. Parthasarthy**, Department of Humanities and Social Sciences, has been appointed as Convener, Climate Studies (IDP) w.e.f. December 12, 2017

## Appointments

### Prof. Achintya Kumar Dutta,



Department of Chemistry, has been appointed as Assistant Professor w.e.f. December 4, 2017

### Prof. Amrita Bhattacharya,



Department of Metallurgical Engineering and Materials Science, has been appointed as Assistant Professor w.e.f. December 7, 2017

### Prof. Krishnendu Haldar,



Department of Aerospace Engineering, has been appointed as Assistant Professor w.e.f. December 15, 2017

## Retirements on November 30, 2017

### Ms. Sivakami Sundaresan,



Assistant Registrar, Dean R&D Office, has retired after 34 years of service

### Ms. Soumini Soman,



Assistant Registrar, Accounts Section, has retired after 34 years of service

### Mr. M. S. Krishnakumar, Jr.



Technical Supdt., Administration, has retired after 35 years of service

### Ms. Darly Paul, Jr. Supdt.,



Accounts Section, has retired after 41 years of service

### Mr. Prashant M. Gupte, Jr.



Supdt., Estate Office, has retired after 24 years of service

### Mr. Dilip T. Hadkar, Jr. Technical



Supdt., Department of Aerospace Engineering, has retired after 30 years of service

### Mr. Deepak P. Bhandare, Sr.



Helper, Materials Management Division, has retired after 36 years of service

### Ms. Dhondabai D. Nikalje,



Cleaner, Public Health Office, has retired after 30 years of service

### Mr. P. V. Ranade, Jr. Technical



Supdt., Printing Press retired voluntarily on 30.11.2017 (F/N)

## Retirements on December 31, 2017

### Ms. Surekha A. Uthale,



Superintendent, Accounts Section, has retired after 35 years of service

### Mr. Chandrashekhar V. Jakka, Sr.



Mechanic, Department of Mechanical Engineering, has retired after 32 years of service

### Mr. Chandrakant B.



Mahadeshwar, Sr. Messenger, Publications & Public Relations, has retired after 34 years of service

### Mr. Surendra D. Pol, Messenger



(Gr.I), Administration Section, has retired after 26 years of service

### Mr. Madhukar S. Dodave, Helper,



Administration Section, has retired after 38 years of service



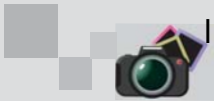
**IIT Bombay Project Receives “Digital India Excellence Award 2017”**



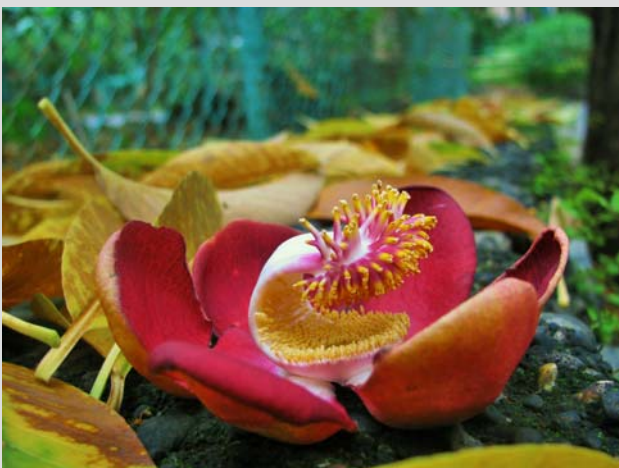
Prof. D. B. Phatak, Department of Computer Science and Engineering

The “Train 10,000 Teachers” (T10KT) project implemented jointly by IIT Bombay and IIT Kharagpur has been awarded the “Digital India Excellence Award 2017” in the category “Education” by the Pan-IIM World Management Conference. Prof. D. B. Phatak, Department of Computer Science and Engineering, is the Professor In-Charge of this MHRD-funded project. This project will positively impact the education sector in the country.

The award was presented by the Hon’ble Minister for Human Resource Development Mr. Prakash Javadekar at a function in December 2017 at IIM Lucknow.



In the Wilderness

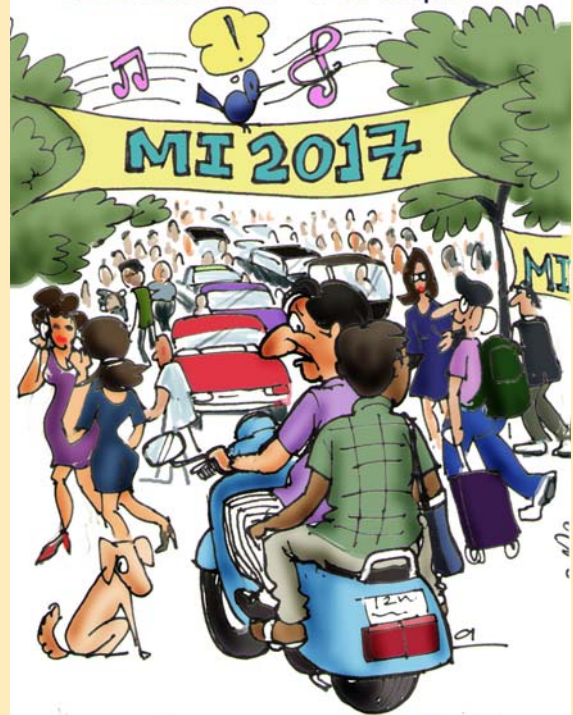


**Photo Credit :**  
**by Neha Bhargava,**  
PhD Student,  
Department of Electrical  
Engineering

**salt'n pepper**

by Prof. Arun Inamdar

"..Back then, it used to stand for 'MOOD INDIGO' ..now it's nothing but 'MAJOR INCONVENIENCE' to all campusites.."



**CEP courses scheduled during January-February 2018**

Starting Date	Duration	Course Name	Faculty	Department
<b>Open Programmes :</b>				
30-1-2018	7 days	Speciality Glazes And Colour Development	Prof. Raja Mohanty	Industrial Design Centre
<b>GIAN Courses :</b>				
30-1-2018	7 days	Speciality Glazes And Colour Development	Prof . Raja Mohanty	Industrial Design Centre
<b>Open Programmes :</b>				
5-2-2018	14 days	Operational Excellence	Prof. T T Niranjan	SJMSOM
7-2-2018	4 days	Strategies For Organizations Growth	Prof. Atanu Ghosh	SJMSOM
12-2-2018	5 days	Entrepreneurship, Innovation And Incubators	Prof. Milind D. Atrey	Mechanical Engineering
12-2-2018	5 days	E-Mobility And Innovations In Sheet Metal Forming	Prof. Prashant P. Date	Mechanical Engineering
12-2-2018	5 days	Design Methods For Creativity And Innovation In Product Development	Prof. Ravi Poovaiah	Industrial Design Centre
16-2-2018	3 days	Information Technology For Non-IT Managers	Prof. Rajendra M. Sonar	SJMSOM
18-2-2018	11 days	Advanced Executive Program In Management	Prof. Dinesh Sharma	SJMSOM
19-2-2018	5 days	Management Of Technology, Innovation And R&D	Prof. Kirankumar S. Momaya	SJMSOM
24-2-2018	2 days	Knowledge Automation Using Knowledge- Based Systems	Prof. Rajendra M. Sonar	SJMSOM
26-2-2018	5 days	Introduction To Aircraft Flight Mechqanics: Flightmech_18	Prof. Ashok Joshi	Aerospace Engineering
26-2-2018	2 days	3D Printing	Prof. K.P. Karunakaran	Mechanical Engineering
<b>GIAN Courses :</b>				
12-2-2018	5 days	Design Methods For Creativity And Innovation In Product Development	Prof. Ravi Poovaiah	Industrial Design Centre

Campus Diary is edited and published by  
Public Relations Officer,  
IIT Bombay, Powai, Mumbai - 400 076.

Printed at IIT Bombay Printing Press

**For Private Circulation Only.**

Material for publication in Campus Diary  
should reach PPR section by the 25th of  
every month

(email : campusdiary@iitb.ac.in)

BOOK POST

