

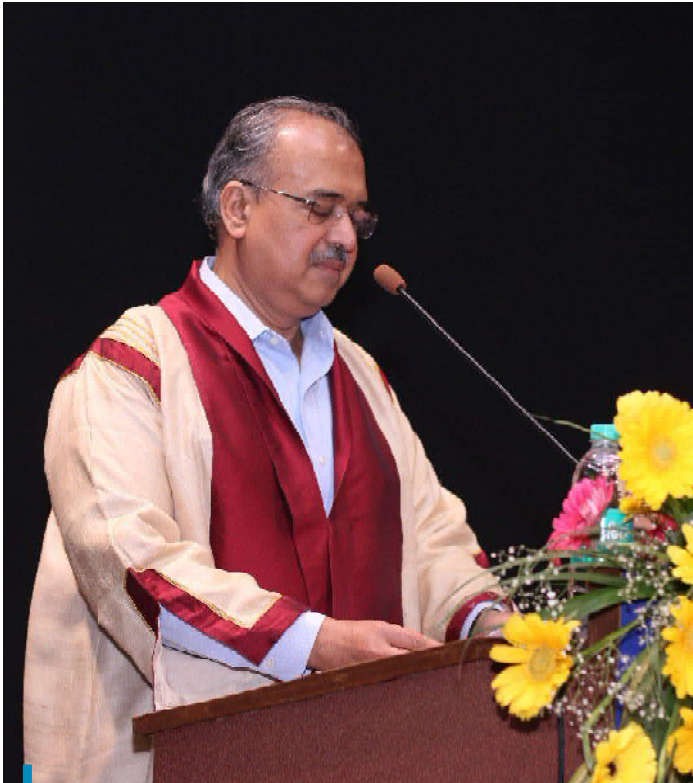
IIT Bombay Celebrates 55th Interim Convocation Ceremony



Chairman of Board of Governors of IIT Bombay Mr. Dilip Shanghvi was the Chief Guest at the 55th Interim Convocation held in the PC Saxena Auditorium. Also seen in the photograph are Director of IIT Bombay Prof. Devang Khakhar, Dean of Olin Business School in Washington University in St. Louis Prof. Mark Taylor, Deputy Director of Finance and External Affairs Prof. P. Mujumdar, Associate Dean of Academic Programmes Prof. Avinash Mahajan, Registrar Dr. R. Premkumar and other Institute functionaries

The Indian Institute of Technology Bombay awarded degrees to 158 students at its 55th Interim Convocation on February 25, 2017. The total degrees awarded were 179, which included 110 PhD, 42 Dual Degrees which were awarded to 21 students and 27 EMBA degrees. The joint E-MBA degrees, in association with Washington University in St. Louis (WUSTL), were conferred by Prof. Mark Taylor, Dean, Olin Business School, Washington University in St. Louis.

The degrees were conferred upon those PhD students who have completed all the requirements during the period from August 2016 to January 2017 and have requested for the degree to be awarded earlier than the 55th Convocation. The function was presided by Mr. Dilip Shanghvi, Chairman of Board of Governors, IIT Bombay and Prof. Devang V. Khakhar, Director of IIT Bombay among others.



Chairman of Board of Governors of IIT Bombay Mr. Dilip Shanghvi

Congratulating the graduating students, Director of IIT Bombay Prof. Devang Khakhar said, *"The education that you get at IIT Bombay is comparable to the best in the world. These are exciting times as there is immense opportunity across sectors as everyone is understanding the need of research activities. Let the motto of IITB be your guiding light. Though you will be leaving the Institute today, you all as alumni of the Institute are important stakeholders and we intend to maintain strong ties with all of you."*

While conferring the degrees upon the Executive MBA students, Dean of Olin Business School in Washington University in St. Louis Prof. Mark Taylor said, *"The partnership of IIT Bombay with Washington University in St. Louis is very important to us. I urge all the graduating students to think globally and apply their skills. This is an interesting time in the world when usual rules do not apply. Hence, a flexible approach is required. A student's objective should be to remake the world."* Apart from the students and faculty members of the Institute, the ceremony was attended by the families and friends of the students.

There is a steady increase in the number of Ph.D. students at IIT Bombay. While there were only 771 Ph.D. students on roll in the academic year 2001-02, today the number of Ph.D. students at the Institute has increased to 2894 in 2015-16.

On the occasion, Chairman of Board of Governors of IIT Bombay Mr. Dilip Shanghvi said, *"As you look back at the time you spent at IIT Bombay and look towards the future, each one of you is now an ambassador of IIT Bombay in the wider world. Of the various factors which result in quality students entering into the programs of an Institution such as IIT Bombay, perhaps the most important is the publicity given by alumni to the good learning experience they had while at the Institute."*



Prof. Mark Taylor, Dean, Olin Business School, Washington University in St. Louis at the 55th Interim Convocation Ceremony, IIT Bombay

IIT Bombay Celebrates 68th Republic Day Of India



Prof. Devang Khakhar, Director of IIT Bombay unfurled the flag during Republic Day celebration

IIT Bombay celebrated the 68th Republic Day of the nation on January 26, 2017. It was on this day in the year 1950 that the constitution of India came into effect, thereby, cementing India's status as a sovereign socialist secular democratic republic. The day began with the unfurling of flag by the Institute's Director Prof. Devang Khakhar at the Gymkhana Grounds. It was followed by a march past by the students of Campus School and Kendriya Vidyalaya, Security team, NCC cadets and guides.

As part of the Republic Day celebrations, awards and cash prizes were distributed to meritorious staff, students of IIT Bombay, Campus School, Kendriya Vidyalaya, KG School and Aman Day Care Centre. Students of Campus School dedicated their new school band, with great pride, to IIT Bombay. This band comprises of young students of Std VI and VII. They practiced rigorously and within a short span of five months, they created this wonderful band under the guidance of their teacher Ms. Valsala Kumari. The band of Kendriya Vidyalaya followed with gusto.

Director of IIT Bombay Prof. Devang Khakhar addressed the gathering. He also released the 'Statistics Booklet' published by the office of Publications and Public Relations. This booklet provides a glimpse of the Institute, its strength and achievements.

The NSS volunteers of IIT Bombay presented a skit 'Awaaz', which emphasized the importance of being environment-friendly. Students of Kendriya Vidyalaya performed zumba. Students of Campus School performed a skit on the importance of educating girl child while a puppet show was presented by the children of Aman Day Care Centre.

Joint SFU-IIT Bombay Program Targets International Student Exchange



Memorandum of Understanding was signed between SFU's Faculty of Applied Sciences and IIT Bombay

Simon Fraser University and the Indian Institute of Technology Bombay furthered their long partnership by signing a Student Mobility Agreement on January 18, 2017. The signing builds on an Memorandum of Understanding between SFU's Faculty of Applied Sciences and IIT Bombay and sets the framework to exchange undergraduate and graduate students on study, research and co-op placements.

"We are pleased to have signed this agreement with IIT Bombay, a premier institute for technology in India, and are excited about the opportunities it presents to further SFU's vision to engage the world," said Joy Johnson, SFU's Vice-President, Research and International.

SFU will commit two graduate student assistantships per year of \$18,000 each to be assigned to two IIT Bombay PhD students who complete a one-year exchange at SFU under this agreement.

"This important partnership builds on previous collaborations between our two institutions and will facilitate exchanges that allow IIT-B students to visit SFU and SFU students to visit IIT Bombay for extended visits to pursue their studies and research," said Faisal Beg, Associate Dean of Applied Sciences and an undergraduate alumnus of the IIT system.

"IIT Bombay consolidates its partnership with SFU, Canada," said Prof. Rajiv Dusane, Dean (International Relationships), IIT Bombay.

The agreement follows numerous collaborations between SFU and IIT Bombay. The two institutions co-organized the first-ever research workshop between Canada and India in clean energy technology in 2013. Furthermore, an Memorandum of Understanding was signed the following year with the intent to explore areas of potential collaboration related to advancing research and development activities in clean

energy, material science and engineering, computing sciences, nanotechnology, biomedical engineering and health technology and climate change.

About Simon Fraser University

As Canada's engaged university, SFU is defined by its dynamic integration of innovative education, cutting-edge research and far-reaching community engagement. SFU was founded 50 years ago with a mission to be a different kind of university—to bring an interdisciplinary approach to learning, embrace bold initiatives, and engage with communities near and far. Today, SFU is Canada's leading comprehensive research university and is ranked one of the top universities in the world. With campuses in British Columbia's three largest cities – Vancouver, Burnaby and Surrey – SFU has eight faculties, delivers almost 150 programs to over 35,000 students, and boasts more than 145,000 alumni in 130 countries around the world.

IIT Bombay Sets Up New Facility At Central Library For Visually-Impaired Students



Prof. Devang V Khakhar, Director, IIT Bombay inaugurated the new facility at Central Library, IIT Bombay

IIT Bombay has opened a new facility at the Central Library for visually-impaired students. This facility was inaugurated by Prof. Devang Khakhar, Director of IIT Bombay, on January 4, 2017 in the Central Library in the presence of Prof. P. Mujumdar, Deputy Director, Prof. Soumyo Mukherji, Dean of Student Affairs, Prof. Yogesh Desai, Dean of Administrative Affairs, Prof. Avinash Mahajan, Associate Dean (Academic Programmes), Prof. P. Ramadevi, Convener of Library Committee, Prof. D. Parthasarathy, Head of Department of HSS and Dr. Ranjit Kumar Das, In-Charge of Central Library.

Disability should not impede visually-challenged students from pursuing education or research. With this aim in mind, the Institute has procured modern aids and appliances such as JAWS - screen reading software (latest version), PLEXTALK Pocket DAISY player and recorder, PERKINS SMART BRAILLER, BRAILLE EMBOSSER/printer, KUZWEIL or OPEN BOOK scan and read software (latest version), ZOOM X or PEARL - document camera-works as instant reader, SANGEETA SOFTWARE - software which convert txt files into mp3 files, Eye-PAL ROL - portable scanner and reader and PERKINS STANDARD BRAILLER.

Prof. Devang Khakhar, Director, IIT Bombay said, *"This is a positive move towards social inclusion. I urge the library authorities to keep track of newer technology and better software versions so that the facility is up to date. The Institute should also explore the possibility of individual facilities for each visually-challenged student in the future. We want talented students to join the Institute and ensure them all possible support to flourish .*



Visually-challenged student Savitri operating the new software

First Off-Grid Solar Module Manufacturing Plant To Be Set Up In Rajasthan



Solar PV module manufacturing plant completely owned and operated by tribal women to be set up in Dungarpur, Rajasthan

For the first time in India, a solar module manufacturing plant fully owned and operated by local tribal communities is being set up in Dungarpur, Rajasthan. The foundation stone laying ceremony was held recently.

Considering the importance of renewable energy in India, IIT Bombay had already started a Department of Energy Science and Engineering and established a National Centre for Photovoltaic Research and Education. In order to identify and tackle the challenges in implementation and dissemination of renewable energy technology in society, IIT Bombay has lead projects which provide solar lamps to school students across India. The Institute has already distributed 1 million solar lamps and has been given the responsibility to plan and execute distribution of 7 million more such lamps.

IIT Bombay believes that the sustainability of solar solutions can come only when local communities are involved in various operations of solar technology implementation and distribution. To take this forward, IIT Bombay has begun promoting local manufacturing of solar products in rural areas. The Institute has helped implement this first-of-its-kind solar PV module

manufacturing plant, which will be completely owned and operated by tribal women in Dungarpur, Rajasthan.

On this occasion, the Director of IIT Bombay Prof. Devang Khakhar said, *"IIT Bombay is taking significant steps to contribute positively in energy scenario of the country not only through academics but also by undertaking scientific and social projects"*.

"It is a proud moment for IIT Bombay. This first-of-its-kind manufacturing plant will be a game changer in off-grid solar power scenario of India. This project will boost the confidence of people in solar PV technology by not only creating jobs for local people but also enabling long-term sustenance of solar products," said Prof. Chetan Singh Solanki, principal investigator of the Million SoUL Project at IIT Bombay.

IIT Bombay will provide hand-holding support to the community till they become fully capable of technical and business operations. A corpus amount exceeding 24 lakhs was collected for set-up of the manufacturing plant by the tribal women. Additional funds were provided by Idea Cellular. The plant is expected to be operational within 4 to 5 months and will focus mainly on off-grid solar market.

The district administration under Mr. Surendra Solanki, Collector and DM Dungarpur went out of the way to support the project by providing land, all regulatory support and even promised help in raising funds.

The foundation ceremony was attended by Chief Guest Mr. Sushil Katara, Honourable State Minister for Public Health Engineering, Ground Water and Chairperson Mr. Harshvardhan Singh, Hon. Member of Parliament (Rajya Sabha).



The foundation stone is a historic moment not only for Dungarpur but also for India. Livelihood generation in remote areas will move from farming and animal husbandry to industrialisation and localisation. It is hoped that this will set in motion a trend of decentralised manufacturing in India to reverse the course of rural poverty and urban migration. The effect of this project on the morale of the local community and on national policies is expected to be tremendous.

“It is a great initiative for women empowerment. I hope that the women will take it forward. Rajasthan government will always be there to support them,” said Mr Rajeev Singh Thakur, State Mission Director Rajeevika and Secretary Rural Development. Rajeevika has played the important role of catalysing the formation of Cluster Level Federation and built the capacity of the community to start taking such initiatives.

The district administration of Dungarpur, Rajasthan invited IIT Bombay to start its programme of solar study lamp distribution (Project Million SoUL) in remote areas of the district by forming partnership with cluster level federations (CLFs) of Rajeevika (Rajasthan Grameen Ajeevika Vikas Parishad). IIT Bombay had already distributed a million solar study lamp by that time in various other parts of India.

Women self help groups (SHG) from CLFs were trained and mentored to locally assemble and sell the lamps. The most important part of the project was that local women were trained to provide repair and maintenance to the lamps by setting up solar shops so that regular maintenance was available for these lamps. This was a unique initiative that empowered local women, from tribal and one of the most backward blocks of Rajasthan, to earn their livelihoods by becoming solar entrepreneurs and a roaring success for Rajeevika entrusted with the task of generating livelihoods.



During this project, it was envisioned that part of the income earned by the CLF will be used to set up a module manufacturing unit in Dungarpur and take the lamp assembly process to the next level of local manufacturing. SHG members who had toiled to raise the corpus amount are elevated about the prospects when they would be owning their own company and be their boss. For

these women from backward areas, it has been very difficult to bridge the gap from being unemployed semi-literates to become first class solar entrepreneurs.

E – Summit 2017 Draws Students From Near And Far



Entrepreneurship Summit 2017, an annual flagship event of IIT Bombay, was held from January 28-29, 2017. Along with the who's who of the entrepreneurial world, this summit also played host to a number of IIT Bombay alumni. IIT Bombay is fast becoming an innovation hub.

Some of the highlights of the E-Summit 2017 were:

****Eureka:** The finals of Eureka, Asia's largest Business Model Competition was held on the first day of the E-Summit. This year, E-Summit received 10,000+ entries. The prizes for the competition were worth INR 5 million.

****Innovation Conclave**

This Entrepreneurship Summit brought together the nation's best speakers and a few leading Indian innovators.

****The 10 Minutes Million:** Let's face it – Getting financial backing is difficult. For most, it's not a pleasant experience. The summit is trying to revolutionize this by exposing students to panelists who might back you with INR 1.5 Million in just 10 minutes.

****I-Hack**

I Hack 2017 brought together India's best coders, developers, designers, innovators, creators and entrepreneurs. I Hack was designed for those who are passionate about building, designing and innovating.

****Startup Expo**

Start-up Expo provided a platform for innovative startups from all over the country to get in touch with thousands of potential customers and investors. It also

provided an opportunity for the attendees to learn about the new entrepreneurial techniques that these startups have employed to become successful in their journey.

****LeanStartup Workshop:**

Lean Startup workshop was an intensive two-day workshop which taught entrepreneurs and innovators how to build disruptive products using Lean Startup methodologies.

****Internship and Job fair**

The Internship and Job fair aimed at connecting start-up enthusiast graduates / undergraduates to help them get relevant experience in their desired field.

****Informal eve:** A novel addition to the summit, the best of humor and entrepreneurship is packed into one fun night with rising talents.

****Business Conclave:** It was a confluence of marketing, HR, Tech, finance and operations meet-ups. It's a good platform for professionals to remain updated in their sector and second, It promotes intra-networking among them.

****Panel Discussion, workshops and competitions:**

Amitabh Kant (CEO, NITI Aayog), Rajat Sharma (Founder & CEO), Dhiraj Rajaram (Founder, Mu Sigma), Ronnie Screwvala (Founder, UTV Group), and many more speakers delivered the keynote address comprising of both students and professionals. Workshops Competitions were held for participants.

Matribhasha Diwas Helps Preserve Linguistic Diversity



As per directives of Ministry of Human Resource Development, IIT Bombay celebrated Matribhasha Diwas (Mother Tongue Day) on February 21, 2017 to promote the use of mother tongue in the educational institution.

The inaugural ceremony of Matribhasha Diwas commenced with lighting of lamp by the chairperson of the function Prof. Soumyo Mukherji, Dean (SA), Chief Guest Prof. Malhar Kulkarni, Department of Humanities and Social Sciences, Dr. R Premkumar, Registrar, Ms. Vaishali Bahulkar, Hindi Officer & Mrs. Varsha Kosta, Teacher, Campus School.

Prof. Soumyo Mukherji briefed about the importance of "Matribhasha Diwas" & elaborated the historical background of the International observance of the day. Prof. Malhar Kulkarni highlighted the significant value of our mother tongue.

On this occasion, the various language associations of the Institute viz. Utkal Cultural Association, Kannada Sangh, Kairalee Kala Samithi, Tamil Cultural Association, Telugu Cultural Association, Bengali Cultural Association, Marathi Sanskritik Mandal, Hindi Parishad presented the social, cultural, historical, literary diversity of their mother tongue.

Faculty members, students & staff participated in the event with lot of enthusiasm.



Nina Sabnani Narrates Stories Of Indigenous Art



Passing through the many corridors of IIT Bombay, Prof. Nina Sabnani arrived at Industrial Design Center, IIT's Design school. A filmmaker, illustrator and researcher in ethnography of numerous indigenous artist communities across India, Sabnani, in spirit, is a storyteller. She tells real stories through her short documentary animation films.

"I was always interested in animating other people's art – not my own. If I look back, two things have really guided me in some sense. One is working with communities and the other is retelling of stories in a current context," said the 60-year-old.

Her own story started in Baroda at a fine-arts college. After this, she spent 26 years studying and teaching at National Institute of Design in

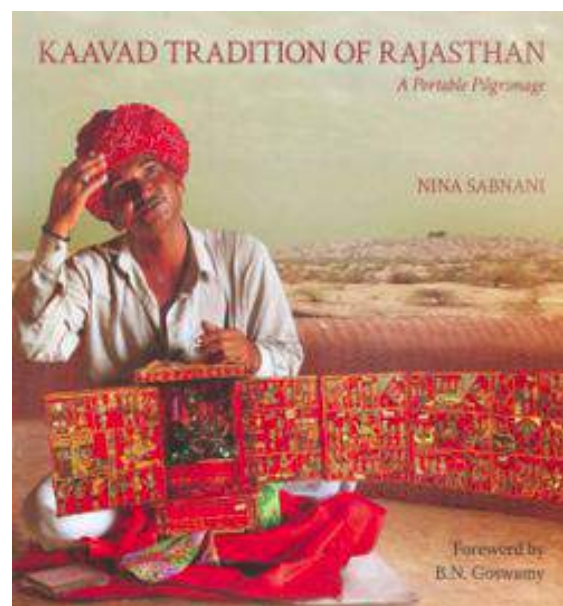
Ahmedabad. She did her masters much later from Syracuse, USA. *"That opened my mind to new technologies. I was introduced to new media and things like that,"* she said.

The fascination of vibrant art created with painstaking hours of handiwork by artist communities in India pushed forward by strong culture and traditions never left Nina. *"My time abroad liberated me from this dichotomy of hand versus machine. In my work, they really come together,"* she said adding, *"I'm now able to animate with traditional crafts and still retain the aesthetic and the tactile...sensorial part of the crafts that I like very much."*

Her films are the equivalent of a research paper for Nina, much more accessible and a lot more colourful. Her first film was based on a series of four Madhubani paintings she bought at an exhibition in 1981. The fact that the art was themed on an anti-dowry sentiment struck her. Her second film titled Mukand and Riaz was an ode to her father.



Research that empowers communities



Nina came from a background where new media and non-linearity was an emerging field of study. *“I started looking at old traditions, storytelling traditions as non-linear kind of modes. I attempted to connect my excitement for new media with my passion for older traditions,”* she said.

Phad art introduced her to the tradition of Kaavad – a portable shrine that opens up its many layers to retell old legends, carried forward by a community of artists and storytellers from Rajasthan. Nina then organised a storytelling conference to showcase her own creation – an interactive Kaavad. The response from viewers pushed her to learn more about Kaavad tradition and the community. Accepted at IIT as a 50-year-old PhD student, she spent the next 5-6 years with Kaavad artists and storytellers in a village called Bassi in east Rajasthan.

The film ‘It’s the Same Story’ encapsulates the reasons the Kaavad is carried in the first place and dwells deeper into how different versions of the same story are told by different storytellers. Her aim has been to bring the true context and inspiration behind traditional art into her films to reach out to people.

Her most recent film ‘We Make Images’ retells a myth of the Bhil people of Jhabua district in Madhya Pradesh. It examines the artist community with the question: Why do the Bhil paint? With moving and pulsating Bhil paintings by Bhil artists themselves, the film unravels the community’s fixation with painting trees on walls, pots and pretty much everything so that the rains don’t stop pouring down and the prophecy laid down by their Badvaji (shaman) continues to be fulfilled.

Nina took the Participant Observation method of ethnography to the next level. Animation allows for a clear tangible outcome (a film) to be produced in collaboration between the researcher and the subject. She looks at animation as a way of empowering communities also. As Professor of Visual Ethnography at IIT, Nina continues nurturing her own research process and that of her students. Some of the topics she is involved in through her PhD students include the notion of domesticity in hindi cinema, using images as prompts instead of words in the classroom to elicit essay writing and the non-formal art training that children of Bhil artists get in their lifetime.

Learning, for Nina, is a lifelong journey. *“We made a pitch for an open design school at the [HR and Education] ministry recently and we have been given a year to work on two courses, which will be online. They are based on blended learning so partly you come to a place of study and partly you learn on your own, at your own pace.”*

This article is an extract from <https://thelifeofscience.com/2016/12/06/2407/>

Industry-Academia Meet For Solar Industry



Industry leaders from solar industry and academicians met at IIT Bombay

An Industry-Academia Meet was organized at IIT Bombay by the National Center for Photovoltaic Research and Education (**NCPRE**) on January 13, 2017. NCPRE is now considered one of the leading research centers in India conducting basic and applied research in Solar Photovoltaics. The center has been conducting an industry affiliate program to increase its interaction with solar industry.

The main objective of the meet was to bring the solar industry in India closer to the research community. The meet was attended by 40 participants including representatives from Indian solar manufacturers, system integrators and project developers. Industry participants included large organizations like Waaree Energies, E I DuPont India and RenewSys as well as medium/small enterprises like Sowin Power and BigSwitch along with some startups.

The solar industry in India has faced many challenges. In order to help sustain and grow the industry, NCPRE is offering a platform to jointly work on most critical problems facing the industry, particularly relevant to India. The Industry Affiliate Program started in 2012 is one such channel for interaction between the industry and NCPRE.

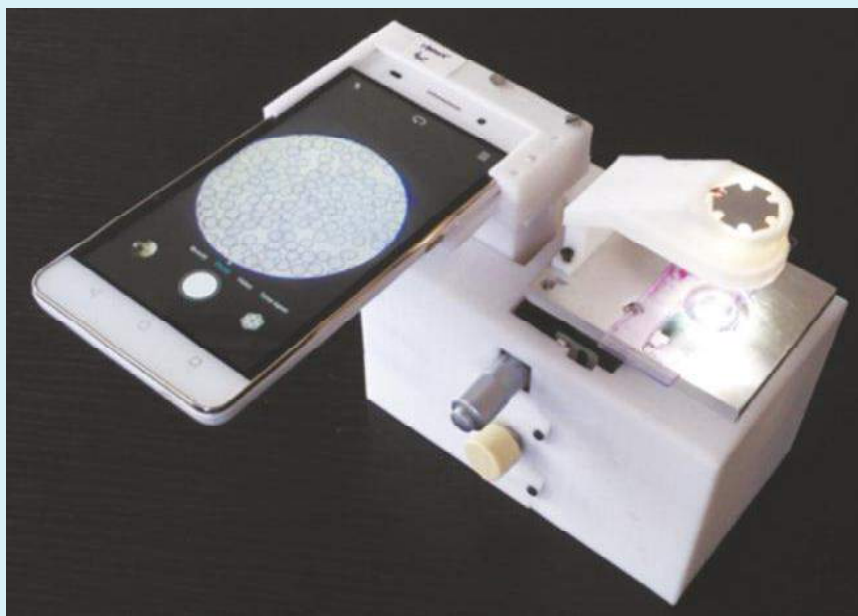
Prof. Suryanarayana Doolla, who heads the Industry Affiliate Program said, “NCPRE is offering the IAP members usage of its facilities at reduced rate and also many other benefits like knowledge sharing from experts, ability to sponsor research projects etc.”

“We have collected extensive data from our field surveys of solar modules installed in various climatic zones in India. The techniques we have developed can help ensure good quality and performance of modules,” said Prof. Vasi, who heads the Module Reliability Program at NCPRE.

Industry veteran Mr. Bhupendra Rawat (Head – Business Development, RenewSys) commented, “We definitely need systematic studies to assess impact of transportation and packaging of module on its field performance and degradation.” During the industry-academia meet, participants were given a tour of NCPRE lab facilities and many have expressed interest in taking up collaboration projects.

Research in focus

A Mobile Phone Microscopy And Microfluidic Platform For Sickle Cell Disease Screening



Sickle cell disease is an inherited blood disorder that affects the red blood cells (RBCs). A mutation alters the hemoglobin present inside the RBCs. As a result, normally biconcave and deformable RBCs become stiff and sickle-shaped leading to blockage of blood vessels, recurrent pain, and other related complications. Since there is no cure at the moment, patients have to learn different techniques to manage the disease. Detecting sickle cell disease at an early stage, ideally at birth, helps in better management and control.

Our research group has developed an affordable cell phone microscopy-based diagnosis platform that can identify individuals with sickle cell disease in about 30 minutes. The platform consists of a battery-operated portable microscope and a microfluidic chamber for imaging. The microscope is small and light to be carried to any remote location. The use of the microfluidic chamber ensures that a few drops of blood (e.g. taken from a finger prick) are sufficient to perform the diagnosis in a short time.

Blood is mixed with a chemical oxygen scavenger and immediately loaded into the microfluidic chip for imaging. If the blood sample has sickle hemoglobin, most of the RBCs in the field of view of the microscope become sickle shaped within the next few minutes. This helps in immediate and specific identification of an individual with sickle hemoglobin (i.e. trait or disease). Next, the phone camera captures an image of the RBCs and image processing is used to extract different boundary parameters of the sickled cells. These boundary parameters are then used to further classify these individuals as sickle cell carriers or sickle cell disease patients. This classification scheme relies crucially on the optimized concentrations of the oxygen scavenger initially mixed with blood and the design of the microfluidic chip. We are currently working on developing the entire detection protocol in such a way that the healthcare workers can use it in the field to make a confirmed diagnosis.

This project was initially funded by a phase 1 Grand Challenges Explorations grant from the Bill and Melinda Gates Foundation through their IKP-GCE program, and has now received translation funding from the Tata Centre for Technology and Design, IIT Bombay. We have collaborated extensively with the Valsad Raktadan Kendra (Gujarat) to test leftover blood samples from sickle cell carriers and patients. Our group also has had helpful technical discussions with the National Institute of Immunohematology (Mumbai) during the course of the project. The inverted mobile microscope design has been licensed to MedPrime Technologies, an IIT Bombay start-up company for commercialization.

Prof. Debjani Paul,
Department of Biosciences and Bioengineering

Please visit :- http://www.ircc.iitb.ac.in/IRCC-Webpage/rnd/PDF/GlimpsesITBResearch_A_MOBILE_PHONE_MICROSCOPY_AND_MICROFLUIDIC_PLATFORM_FOR_SICKLE_CELL_DISEASE_SCREENING.pdf

Student News

Jellow Communicator, An Android-Based App Developed By IIT Bombay Students For Children With Speech Disabilities



Jellow Communicator, an android-based app

In order to help children with speech difficulties, a team from IDC School of Design from IIT-Bombay launched Jellow Communicator, an Android-based app, last week. Talking about the genesis of the app, Sudha Srinivasan, post-doctoral fellow at IDC, said, *"In 2015 for the first six months a research study was conducted where I interviewed over 30 children who have speech difficulties, and I also spoke to a therapist. The research work helped to understand the problems that children would face while navigating the app. We wanted to make the data easily available and icons recognisable for the children. The next six months, we conducted a detailed testing of the app. Slowly, it was developed with nine main categories of icons in the home page and over 800 sub-category icons."*

Shruti Gupta, second year student at IIT-B, who developed the software, said, *"The unique feature of Jellow is that the content of the app has been developed keeping in mind the socio-cultural context of India. The challenge is in optimising the app for three different screen sizes."*

The app can work offline. You can download it on your tablet or mobile phone. Also, users can switch between two languages — English and Hindi — to speak through the app. The app has approximately 8,200

inbuilt sentences, and a serial keyboard in case the user wants to write sentences, which are not already mentioned.

Jellow Communicator can be used by children suffering from cerebral palsy, autism, Down's Syndrome, and brain injury. It can also be used by adults who have lost their speech following a stroke.

The groundwork for the app began in 2004, and the updated app was launched last week. According to the team, it was conceptualised for a project with Microsoft Design Expo, and they were not able to practically implement the app, more than a decade ago as technology was not so advanced.

Ravi Poovaiah, IIT Bombay Professor, said, *"We restarted the work on the app one-and-a-half-year back. The new technology like touch-screen mobiles, tablets have helped us to practically execute the app which is simple to access and can be used anytime. The cost of these technologies have also reduced."*

Microsoft Design Expo and the e-kalpa project sponsored under National Mission on Education through ICT by Ministry of Human Resource Development supported the development of Jellow.

Team Shunya To Compete In Solar Decathlon China In 2017



Team Shunya successfully competed in Solar Decathlon Europe 2014

Team Shunya of IIT Bombay is a successful collaboration of 70 interdisciplinary students with an aim to produce a sustainable yet marketable house for the country. The team has successfully competed in Solar Decathlon Europe 2014 where it incorporated passive solar technologies for natural ventilation, lighting and temperature control, solar oven, clothes dryer based on waste heat recovery and encouraged solar energy for community cooking. The use of these technologies made the house 'net positive', which means it created more energy than it consumed.

Once again, Team Shunya has been selected to compete in Solar Decathlon China in 2017, to showcase India's technological advancement in solar housing. Designed for the upcoming city Amravati in Andhra Pradesh, 'Project Solarise' is an amalgamation of traditional

architecture with contemporary designs. The project intends to cater to the housing needs of government officials, corporate employees and industrialists. The modular house with habitable area of about 2000 sq. ft. would be easy to erect, commission, decommission and even transport.

This project would give birth to an entirely new industry and generate new employment opportunities. The team aims to achieve this by collaborating with industry players and individuals working in different sectors who would be interested in contributing to creating a commercial end to end solution for energy efficient and sustainable housing.

The Solar Decathlon is an international student competition taking place every two years. This competition was launched in 2002 by the U.S. Department of Energy

in order to develop the transmission of the knowledge and the research in the field of the green buildings, in particular solar energy. It challenges collegiate teams around the globe to design, build and operate the most attractive, effective and energy-efficient solar-powered house. The winner of the competition is the team that offers the best solution by blending the following concepts into one unit: affordability, consumer appeal and design excellence with optimal energy production and efficiency. Solar Decathlon has an enormous media reach with more than 2 billion media impressions all around the world before and during the competition. Team Shunya is the first and the only team from India to participate in Solar Decathlon competitions. As a matter of fact, Team Shunya is one of the 22 selected teams for Solar Decathlon China 2017 out of 47 entries from several international universities

Internet Of Things For Dharavi



Shops that are part of the experiment have been given a poster

In an exemplary attempt to bridge the barrier between emerging technology and emergent users through a bottom up approach, students of the Industrial Design Center (IDC) in IIT Bombay, in collaboration with Swansea University in UK, have developed a 'physical web' for residents of Dharavi in Mumbai to help them promote their business. This is part of Google's Internet of Things Technology Research Award.

As part of the project, 100 devices called 'beacons' provided by Google are being deployed in Dharavi. In the first phase of this plan, 30 shops in Dharavi's markets are being connected to the physical web through these beacons.

Customers having smart phones are advised to keep bluetooth, location and internet data 'On' and turn on the physical web/ nearby settings in the Chrome browser. When a customer is in the proximity of any such beacon-enabled shop, the customer will get a notification in his smart phone via bluetooth. They can then browse through all the products available there through an interactive interface. Thus, the customer gets an overview of the products that all

the shops in Dharavi have. This will help the customer make an informed choice.

This enhanced shopping experience hopes to not only boost the customer-seller relation but also attract more buyers to the markets of Dharavi. In the greater scheme of things, this will bring a change in the way Dharavi is perceived.

Dharavi, once considered a slum with narrow lanes, has now blossomed in to a self-sustained informal economy. The dense population of around one million generates a guesstimated USD 1 billion annually! Industries that work in the domain include leather, garment, recycling, pottery, etc.

Student Chinmay Parab (under the guidance of Prof. Anirudha Joshi, Department of IDC School Of Design and Prof. Matt Jones, Head, College of Science Swansea University, UK) explained, "Most new technologies, at inception, are exclusive and cater to only those who can afford the technology. We questioned 'Can we use technologies that cater to the wealthy for ones who really need it? This technology of 'Internet of Things' will provide the population in the resource-constrained environment of Dharavi an exposure to vast possibilities .

The Google IoT Research Award gives students access to 100 beacon devices designed to allow any smart device to interact with real-world objects — in this case, shops in Dharavi —without having to download specific applications. The IoT Research Award was announced in February 2016. Prof. Matt Jones of Swansea University and Prof. Anirudha Joshi of IDC had applied for this topic as a collaborative project. This project, in the month of May, was selected for the pilot for the research award, wherein we conduct an experiment on a small scale.

For conducting these experiments in Dharavi, Google has been providing the hardware support in the form of BLE Beacons (Quantity 100). Once the experiments have been conducted, team members will submit feedback and report. Follow-up grants and in-kind support is expected from Google. This research award is to explore the possibilities in the domain of Internet of Things with the help of platforms and protocols developed by Google. (<https://research.googleblog.com/2016/02/announcing-google-internet-of-things.html>)

"Shops which are part of the deployment are given a poster that asks people to turn on bluetooth to experience the physical web".

Eminent Personalities Grace Abhyuday



Praveen Tyagi, known as "Young Age Dronacharya" addressed the audience at the Abhyuday Social Festival 2017



Sindhu Tai Sapkal, Mother of orphans and Indian social worker, social activist being felicitated by the students

Abhyuday, the social activities body of IIT Bombay, had organized its annual social festival on January 21 and 22, 2017. This year, the theme of the festival was 'I am not disabled, I am differently abled'.

The social festival kicked off with a motivating lecture by former Indian Army Captain Vinod Shankar Nair. Noted plastic surgeon and the man behind Oscar winning documentary "Smile Pinki" Dr. Subodh Kumar Singh talked about his team having performed more than 17,000 free cleft surgeries.

Mr. Praveen Tyagi, also known as "Young Age Dronacharya", enthralled the audience with the inspiring story of his life. He provides free IIT-JEE coaching to 50 girls every year who are picked from rural areas of Maharashtra.

In a setting, where entrepreneurship as an employment choice is gaining popularity for many

students, a panel discussion on 'The future of social entrepreneurship', rang the right bells as speakers like Sandeep Rai (Senior Director, Teach for India), Elsa Marie D'Silva (Founder & CEO, Safecity), Mandar Shinde (Director, Door Step School NGO) and Manjula Jagatramka (Founder Director of VAITARNA) talked about the practicalities, the courage, the risks and the passion that go behind venturing into social entrepreneurship.

The day concluded with a blindfolded movie screening which was made in principle for visually impaired people and gave a novel insight to all into the life of those for whom the world is devoid of colors.

Day two of the fest saw eminent personalities like Sindhutai Sapkal, affectionately known as 'mother of orphans', and former DGP of Maharashtra Mr. Praveen Dixit.

Another highlight of day two was the final rounds of the nationwide Annual Social Entrepreneurship competition 'Action Plan'. This panel consisted leading names such as Manju Vyas, CEO of Apne Aap Women's Collective, Ms. Elsa Marie D'Silva, Founder & CEO of SafeCity, Mr. Praveen Singh, Assistant General Manager of C.R.Y., Mr. Mandar Shinde, Associate Director of Door Step School NGO, Mr. Jayanth N, Co-Founder & Director of Sampurn(e)arth Environment Solutions Pvt. Ltd. as well as representatives from SINE, IIT Bombay, Idein Ventures and Scale Minds.

Exhibitions at Abhyuday IIT Bombay is the combo of social start-ups like Barrier Break and Jaipur foot, and NGOs working for the betterment and reconstitution of physically challenged.

IIT Bombay Students Developing Driverless Car Technology For India



Autonomous Ground Vehicle-SeDriCa, made by Innovation Cell of IIT Bombay secured 4th position in IGVC Competition 2016

Unmesh Mashruwala Innovation Cell IIT Bombay, founded by Prof. C. Amarnath, aims to foster an atmosphere of creativity, innovation, discovery and exploration on the campus. Over the years, it has evolved from nurturing small hobby projects to solving complex industrial challenges.

Last year, the Autonomous Ground Vehicle – SeDriCa, made by Innovation Cell, made IIT Bombay proud after securing 4th position globally in the **Intelligent Ground Vehicle Competition (IGVC) 2016**. The team stood 4th in the Basic Auto-Nav Challenge and 5th in the Advanced Auto-Nav Challenge beating teams from top ranked universities like CMU, Virginia Tech. and 30 other universities. This has been the best performance till date by any Asian team in this competition.

IGVC is an annual international robotics competition for teams of undergraduate and graduate students co-sponsored by Association for Unmanned Vehicle Systems International (AUVSI). It is held every year at Oakland university, Rochester hills in place every year since 1993. The involves navigating a track obstacles, staying between the given gps points accurately. Teams of completing several such



Sedrica was the only vehicle to Basic AUTO-NAV challenge on vehicle with sensors. Lean Startup workshop which teaches to build disruptive products using Learn how to execute ideas that world. mounted on the vehicle for Vehicle has a GPS (global (inertial measurement unit) and wheel encoders to localize itself in the environment. The vision system detects the lanes and LiDar (Light Detection and Ranging) is used to detect the static obstacles. The Innovative path planning and decision making codes finally processes all the collected information to successfully complete the challenge.

have successfully cleared the Day 1. The team built an electric workshop is an intensive two-day entrepreneurs and innovators how Lean Startup methodologies. You make a difference to the real sensing the environment. The positioning system), an IMU

Mahindra E20

After this performance, the team is preparing for Mahindra RISE Driverless Car Challenge. With Prof. Ramesh Kumar Singh and Prof. S.N. Merchant as the Faculty Incharges and 4th year B. Tech. students Rishabh Choudhary and Ankit Sharma as leaders of the Software and Mechanical sub-systems respectively, the team has cleared 3 out of 5 phases of the RISE challenge. The next task is to autonomously maneuver Mahindra's electric car, Mahindra E20, on Indian roads. Participating in IGVC helped in benchmarking their performance since it was a competition with established teams in North America, Australia and Europe who have been working in this area for a long time.



Team Sedrica

IIT Bombay Students Map Trees, Record 40 Species In Phase 1



NSS students of IIT Bombay identified species of trees on campus

To make the residents and even outsiders visiting the campus aware of the diversity in the species of trees found here, students of IIT Bombay enrolled in National Service Scheme (NSS) decided to identify and name the species of trees present on one side of the main road of the campus. This is just the beginning, the students said as they wish to continue the exercise across the campus to make more people aware about the rich biodiversity in the campus. The first phase was carried out by the students on February 17, 2017.



Students tag a tree on the IITB campus

A report of World Wide Fund For Nature named “Study of Biodiversity of IIT Bombay Campus” from 2008-09 was used as the starting point. More than 200 trees of 40 different species were identified by the students. Mr. Raman Garase from the Institute’s nursery helped the students verify the identification. Low-cost placards were made and tied to the trees featuring their common name, botanical name and their specialty/ uses. A database was also made wherein the details regarding the exact location has been recorded.

Campus residents were surprised at the number of unique species of trees the campus boasted of. Shreerang Kaore, a third year mechanical engineering student said, *“I’ve spent three years in the campus but never cared to pay attention to such diversity. I always thought that all trees are similar. Only on seeing the placards and learning about the different features and uses of each tree did realization dawn upon me. It’s fascinating to see that the campus is so rich in the variety of species.”* Similar responses were received from faculty and staff members who have spent decades in the campus.

Spoken Tutorial Project Of IIT Bombay Gets A Boost

The Spoken Tutorial project of IIT Bombay launched an IT training program at the V.G. Vaze Arts and Science College in Mulund, Mumbai on January 31, 2017. For this training, laptops have been sponsored by the Mumbai based spatial technologies firm, Cybertech Systems and Software Ltd.

IIT Bombay Spoken Tutorial Project is the initiative of the National Mission on Education through Information and Communication Technology, launched by the Ministry of Human Resource Development, Government of India. The purpose of this initiative is to provide IT training to all students in India so as to improve their employment potential and to make them do well in their studies. The Spoken Tutorial project uses open source software to achieve this end.



Spoken Tutorial Project of IIT Bombay launched an IT training program at the V. G. Vaze College, Mumbai

The new facility is envisioned to increase the IT awareness and to contribute towards skill development for students from non-IT background. The lab will provide computer training to the three year degree students of V. G. Vaze College, as well as students from other institutions. The Spoken Tutorial project of IIT Bombay will train the faculty of V.G. Vaze College, who in turn will help provide an effective training programme for students. IIT Bombay has signed MOUs with CyberTech and V.G. Vaze College for this purpose.

Using Spoken Tutorials, which are essentially a collection of ten minute long audio-video tutorials, students will be trained to use various open source software. The focus of this training is to help them understand core concepts in various subjects (**Physics, Chemistry, Biology/Biochemistry, Mathematics, Arts, Commerce, Animation, Graphics**, etc.). Using these tutorials, students can also learn programming languages, office tools, and graphic and circuit design tools, in a simple and interesting manner.

The spoken part of the audio-video tutorials is dubbed into most Indian languages. The software content includes 3D-Visualization software for chemistry and macromolecules (**Jmol Application, GchemPaint, Avogadro, UCSF-Chimera**), software for doing basic physics and electronics experiments (**ExpEYES, Arudino**), interactive geometry and algebra software (**Geogebra**), process diagram editor for drawing gene-regulatory and biochemical networks (**CellDesigner**), accounting and commerce (**Frontaccounting**), and animation and graphics (**Blender, Inkscape, Synfig**).

CyberTech is a leader in Enterprise Spatial Analytics with two industry leading platforms for smart cities. GeoCivic is India's leading smart city platform for property tax digitalization and GeoShield is a highly successful public safety and law enforcement platform.

Institute Colloquium / Lectures

Visit Of Minister President Of Baden - Wuerttemberg, Germany



The Minister President of the State of Baden-Winfried Kretschmann, Wuerttemberg, Germany and a delegation visited IIT Bombay on January 27, 2017. The visit aimed at having an understanding about India's economy, research and university landscape, country's Smart City Mission and to strengthen ties between the state of Maharashtra and Baden-Wuerttemberg. During the visit, IIT Bombay hosted a series of thematic discussions on Entrepreneurship, Smart Cities & Urban Challenges, and Energy. Minister-President of the State of Baden-Wuerttemberg Winfried Kretschmann delivered a keynote address on *"The Future Of Mobility And Energy"*.



Prof. Tuula Teeri, President, Aalto University, Finland, delivered an Institute Lecture on *"Universities And Innovation-Driven Growth: The Case Of Aalto University"* on February 23, 2017.



Dr. Gururaj "Desh" Deshpande, Trustee of Deshpande Foundation, President and Chairman of Sparta Group LLC and Chairman of Tejas Networks delivered a distinguished lecture on *"The Global Opportunity For Indian Institutions And Entrepreneurs"* on January 12, 2017.



Prof. Madhu Sudan, N.R. Kamath Chair Professor at IIT Bombay, Gordon McKay Professor of computer Science, Harvard John A. Paulson School of Engineering and Applied Sciences delivered the Fourth N.R. Kamath Chair Colloquium lecture on *"Proofs And Computation"* on January 4, 2017.



Prof. Roger Doherty, Professor Emeritus of Materials Science and Engineering, Drexel University, USA delivered the lecture of the "Steel Colloquium Series" on *"Role Of Science In Metallurgical Technology"* on January 5, 2017.



Mr. Vikram Raghavan, Lead Counsel and Senior Legal Advisor, World Bank in Washington, DC delivered a department Lecture on *"Why Do Our Constitutional Debates Matter?"* on January 11, 2017.



Dr. Tiziano Camporesi, Senior Physicist, CERN, Geneva, Switzerland delivered an Institute Lecture on *"The Future Of Elementary Particle Physics"* on February 10, 2017.

Departmental Lectures

Department of Aerospace Engineering

Prof. Kyle Mandli, Columbia University gave a talk in a seminar on *"Computational Methods for Storm Surge Modeling"* on January 10, 2017.

Department of Industrial Design Centre

Prof. Emeritus Gabriela Goldschmidt, Faculty of Architecture and Town Planning at Technion-Israel Institute of Technology, Israel gave a talk on *"Linkography: Unfolding the design process"* on January 23, 2017.

Department of Humanities and Social Sciences

Dr. Dinyar Patel, University of South Carolina, USA gave a talk on *"Dadabhai Naoroji and the Genesis of Swaraj"* on January 4, 2017.

Dr. Murali Ramachandran, Univ. of Witwatersrand, South Africa, gave a talk on *"The Paradoxes of Confirmation – No Cause For Concern"* on January 5, 2017.

Prof. Ebrahim E. I. Moosa, Notre Dame University, USA, gave a talk in a seminar on *"Rethinking Muslim Ethics : Issues and Challenges"* on January 10, 2017.

Mr. Vikram Raghavan, World Bank, Washington DC, USA gave a talk on *"Why Do Our Constitutional Debates Matter"* on Jan 11, 2017.

Prof. Bruce Seely, Michigan Technological University, USA gave a talk on *"Can Society Get the Technology it Wants? A Historian's View on How Technology Happens"* on January 16, 2017.

Dr. Khevana Desai, Mithibai College, Mumbai gave a talk in a seminar titled *"Disappearing daughters in Vadodara: reassertion of normative construction of girl child in Gujarat"* on Jan 18, 2017.

Dr Dhrubajyoti Ghosh, Institute of Social Sciences, Kolkata, delivered a talk on *"Ecology of Wetlands and Urban Planning: Lessons from East Kolkata Wetlands"* on January 25, 2017.

Prof. Vinod Goel, Toronto, Canada, gave a talk on *"The reasoning brain"* on February 8, 2017.

Prof. Leonard Lawlor, University of Memphis gave a talk on *"A Bird as Rare upon the Earth as a Black Swan": The Dream of an Unusable Friendship in Derrida's Politics"* on February 14, 2017.

Dr. Soumyabrata Choudhury, Associate Professor at the School of Arts and Aesthetics at Jawaharlal Nehru University gave a talk in a seminar on *"What is virtual citizenship? A question of performance and Identity"* on February 14, 2017.

Dr. Shilpaa Anand, Maulana Azad National Urdu University, Hyderabad gave a talk in a seminar on *"Urdu University, Hyderabad Punishing Forms: Tracing the Nonti in the Time of Disability Poetics"* on February 23, 2017.

Prof. Karamjit S. Gill, Emeritus, University of Brighton, UK gave a talk in a seminar on *"From Data to Judgement: beyond the dream of the exact language"* on February 23, 2017.

Department of Metallurgical Engineering and Materials Science

Prof. Kazhuri Nagata, Tokyo Institute of Technology gave a talk on *"The Metallurgy of ancient ironmaking- How to construct the tall pillar in India in 4th century"* on February 22, 2017

Department of Computer Science and Engineering

Dr. Tanmoy Chakraborty, University of Maryland gave a talk on *"Permanence and Community Analysis in Complex Networks"* on January 10, 2017.

Mr. Ayush Dubey, Cornell University gave a talk on *"Weaver: A High-Performance, Transactional Graph Database Based on Refinable Timestamps"* on January 17, 2017.

Prof. Li Huan, Beihang, Beijing University, China delivered a talk on *"VeShare: Intelligent Vehicle Networked Systems"* on January 18, 2017.

Centre for Urban Science & Engineering (C-USE)

Dr. Sohail Ahmad, Alexander von Humboldt Research Fellow Mercator Research Institute on Global Commons and Climate Change, Berlin gave a talk in a seminar on *"Inclusive and Sustainable Urban Development in Indian Cities: Empirical Evidences"* on January 10, 2017

Centre for Technology Alternative in Rural Area (CTARA)

Dr Sangeeta Kohli, Professor,, IIT Delhi, gave a talk on *"Back to the Basics to March Ahead"* on January 27, 2017.

National Centre for Aerospace Innovation and Research

Dr. Sumit Pratihar, Director, Pratihar Aerospace Limited, UK gave a talk in a seminar on *"Structural Integrity Assessment of Aircraft Wing"* on January 16, 2017

Annual Policy Dialogue on "Coping with COP 21 - life after Paris

The Centre for Policy Studies with the Centre for Environment Science and Engineering (CESE) at IIT Bombay is organised Annual Policy Dialogue on *"Coping with COP 21 - life after Paris"* on January 21, 2017.

The dialogue was in the nature of a conversation between technologists and social scientists on the given topic so as to arrive at a syncretic view of the matter.

Prof. D.K. Sharma And His Team Felicitated By The Election Commission Of India



(second from right) Prof. D K Sharma, Department of Electrical Engineering, being felicitated by the Honorable President of India Pranab Mukherjee

Prof. D.K. Sharma, Department of Electrical Engineering, IIT Bombay, along with Prof. D.T. Shahani and Prof. Agarwala of IIT Delhi and Prof. Rajat Moona, Dir. Gen. CDAC received special felicitation from the Election Commission of India as members of its technical experts committee on Voters' Day, January 25, 2017. The award was given by the Honorable President of India Shri Pranab Mukherjee in a function organized at the Maneckshaw centre in New Delhi.

Prof Sharma has served on the Technical Committee of Election Commission for many years now. As a member of the committee, he has contributed significantly to the design of new Electronic Voting

machine (including the one with paper trail). Apart from this, he has made several invaluable contributions to resolve technical issues related to conduct of various elections. Overall, Prof Sharma along with his team members have made a huge impact at the national level. We are proud that these efforts have been recognized by the government.

Conferences / Workshops / Seminars

Seminar On Value Addition & Management Of Solid Waste In The Indian Iron & Steel Industry



This Seminar was Organized by the Center of Excellence in Steel Technology, Department of Metallurgical Engineering and Materials Science, Indian Institute of Technology Bombay. Prof. A.K. Suresh, Deputy Director, Indian Institute of Technology Bombay was the convener. It was inaugurated by Dr. Aruna Sharma, Secretary (Steel), Ministry of Steel, Government of India. Almost 50 delegates representing the entire cross-section of the Indian Iron & Steel Industry attended the seminar. There were 14 speakers, four from IITB and rest from the Industry.

The programme commenced on a talk on '*Leaching and carbonation possibilities of Iron & steel making slags*' by Prof. A.K. Suresh, Deputy Director (AIA), IIT Bombay. The goals all Solid Waste Management techniques is to Identify potential applications of solid waste within the steel plant process, Identify potential applications of solid waste other than the Process, devise suitable technologies to (economically) remove toxic substances, devise suitable technologies for (economically) concentrating the valuable constituents.

Workshop On “Unmet Needs In Drug Delivery Technologies”



Indian Institute of Technology Bombay jointly with Indian Drug Manufacturers' Association & Organisation of Pharmaceutical Producers of India is organised a one-day workshop on '*Unmet Needs In Drug Delivery Technologies*' on Feb 25, 2017 at IIT Bombay Campus.

Mr. Dipak Himatsingka, IIT Bombay Alumni was the Convenor of the workshop. Padma Vibhushan Dr. R.A. Mashelkar, National Research Professor (NCL) & Former Director General Council of Scientific & Industrial Research was the Guest of Honour on the occasion. Prof. Samir Mitragotri, N.R. Kamath Chair Professor at IIT Bombay delivered the keynote address. The Co-convenors of the Workshop were Prof. Pramod P. Wangikar,

Department of Chemical Engineering, IIT Bombay, Mr. Daara B. Patel (Secretary General, IDMA), Mr. Vivek Padgaonkar (Director Project & Policy – OPPI) and Dr. George Patani (Director -Inga Laboratories Pvt Ltd) followed by numerous invited and local speakers

The main objective of the workshop was to identify the gaps and challenges in drug delivery technologies, Industry academia interaction and collaboration on potential commercializable technologies.

Conference On “Environmental Governance In The Post-Liberalization Phase In India



The Department of Humanities and Social Sciences of IIT-Bombay organized a two days national conference on the theme "*Environmental Governance in the Post-Liberalization Phase in India: Challenges for Sustainability and Social Justice*" during 23-24 January 2017. Prof. Sarmistha Pattanaik, Dept. of Humanities and Social Sciences was the convener of the conference. This conference was funded by the Indian Council of Social Science Research (ICSSR), Delhi.

The focus of the conference was to examine the constraints posed by the principles of liberalisation to environmental governance process and to discuss the ways in which

the liberal economy which has become a part and parcel of Indian deny citizens, and particularly some of the most vulnerable communities, their equitable rights to ownership, access, use and distribution of resources. There were many distinguished participated from all over India who had participated and delivered various interesting talks in various keynote as well as technical sessions. The inaugural lecture was being delivered by the veteran environmental economist Prof. Gopal K. Kadekodi, the public lecture was delivered by the eminent scholar and sociologist Prof Anand Kumar and the valedictory address had been given by Dr. Usha Ramanathan, the internationally recognized expert on law and poverty. The various technical sessions were conducted by the eminent scholars and practitioners.

Awards and Distinctions

Prof. Sanjeeva Srivastava, Department of Bioscience and Bioengineering has been invited to be the Editor of a special issue of the journal PROTEOMICS - Clinical Applications (Wiley) devoted to neglected and tropical diseases.

Prof. Preeti Rao, Department of Electrical Engineering, has been appointed as a member of the editorial board of the Journal of New Music Research.

Prof. R B Sunoj, Department of (Chemistry has been elected as a Fellow of the Indian Academy of Sciences.

Prof. D. N. Singh, Department of Civil Engineering has been invited to become Fellow of the Institution of Civil Engineers (ICE), London by a Presidential Invitation.

Prof. Prasenjit Ghosh, Department of Chemistry has been invited to be a member of the Editorial Advisory Board of Organometallics.

Prof. B. Ravi, Department of Mechanical Engineering, **Prof. B.G. Fernandes**, Department of Electrical Engineering, **Prof. Chandra Venkataraman**, Department of Chemical Engineering have been inducted in the Indian National Academy of Engineering

Prof. Vivek Borkar. Department of Electrical Engineering received the INAE Lifetime Contribution Award in Engineering.

Prof. Santanu Banerjee, Department of Earth Sciences has been selected to receive the National Geoscience Award-2016 in Basic Geosciences.

Prof. Pushpak Bhattacharyya, Department of Computer Science and currently Director IIT Patna has been awarded "the Eminent Engineer Award" by the Institute of Engineers (India).

Prof S A Khaparde, Department of Electrical Engineering, has been awarded "The Eminent Engineer Award" by the Institution of Engineers (India) for his valuable contributions in the field of Electrical Engineering.

Prof Alok Porwal, Centre of Studies in Resource Engineering (CSRE) has been appointed as Associate Editor of the international journal "Arabian Journal of Geosciences".

Prof D Parthasarathy, Department of Humanities and Social Sciences has been elected as a Board Member of the Commission on Legal Pluralism, a part of International Union of Anthropological and Ethnological Sciences (IUAES)

Prof. Nina Sabnani, Department of Industrial Design Centre has been invited to be a jury member for Indie-AniFest 2017 to be held in September 2017 in Seoul Animation Center. The film "We Make Images" of Prof. Nina Sabnani has been invited to be screened in the Indie Ani Tour to be held in Japan.

Prof. Rinti Banerjee, Dept. of BioSciences and Bioengineering, has been appointed as Associate Editor of ACS Biomaterials Science & Engineering published by the American Chemical Society.

Prof. Souvik Mahapatra, Department of Electrical Engineering research work on reliability methodology in simulation CAD tools for advanced CMOS process development has been mentioned in First Quarter 2017's earning call of Synopsys, a leading CAD tool company. This methodology would impact design of VLSI chips that would go into future electronics products such as smartphones.

Prof. Milind Atrey, Department of Mechanical Engineering, has been awarded Fellowship by the Indian Cryogenics Council in recognition of his notable contributions to the field of Cryogenics.

Publications

Prof. U. A. Yajnik, Department of Physics presented a paper "Stability, longevity and all that : False vacua and topological defects" at the international conference on "Aspects of Gravity and Cosmology" at IUCAA Pune, February 7 - 9, 2017

Mr. Amar Kundu, PhD Scholar, Department of Industrial Design Centre received the Best Paper Award in HWWE2016 for presenting his paper entitled "Design a headgear for Jalaai Workers in Traditional Brick Making Industry, India" Dhara Prateen, Kundu Amar and Ray G.G

NOTIFICATION

Prof. A.K. Suresh, Department of Chemical Engineering has been appointed as Deputy Director (Academic & Infrastructure Affairs) w.e.f. January 16, 2017.

Prof. Abhay Karandikar, Department of Electrical Engineering has been appointed as the Dean (Faculty Affairs) w.e.f. February 9, 2017.

Prof. Sridhar Iyer, Department of Computer Science has been appointed as the Head, Centre for Distance Engineering Education Programme (CDEEP) and Convener, Interdisciplinary Programme in Educational Technology (IDP-ET) w.e.f. February 10, 2017.

Prof. S. Umasankar, Department of Physics has been appointed as Acting Head, Department of Physics during 2.1.2017 to 5.5.2017.

Prof. Pradipta Banerjee, Department of Civil Engineering has been appointed as the Head, Centre of Urban Science & Engineering (C-USE) w.e.f. February 28, 2017.

Prof. Prasenjit Bhaumik, Department of Biosciences and Bioengineering has been appointed as the Chairman (Cultural Affairs) w.e.f. October 6, 2017

Appointments



Prof. Purushottam Kaushik, Desai Sethi Centre for Entrepreneurship has been appointed as Adjunct Associate Professor w.e.f. January 9, 2017



Mr. Bontha Venkata Ravi Shankar has been appointed as Training and Placement Officer in the Placement office. w.e.f. February 8, 2017.



Prof. Seetha Narayanan, Centre for Environment Science and Engineering (CESE) has been appointed as Assistant Professor w.e.f. January 9, 2017.



Ms. Shivani Manchanda has been appointed as Part-Time Counselor in the Office of Dean (SA) w.e.f. February 9, 2017.



Prof. Ragavan K, Department of Electrical Engineering has been appointed as Associate Professor under Faculty Exchange Scheme w.e.f. January 3, 2017.



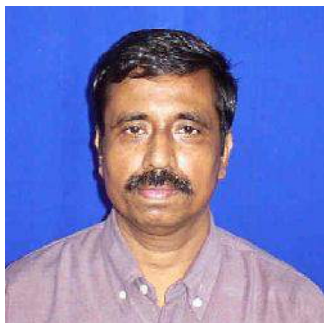
Shri. Pramod Sukhadev Shingade, Gymkhana has been appointed as Assistant Sports Officer w.e.f. February 14, 2017

Retirements on January 31, 2017

Ms. Alokia M. Francis, Superintendent, Earth Sciences, retired after 33 years of service.



Mr. Shekhar Dey, Jr. Superintendent, Department of Mechanical Engineering retired after 41 years of service.



Mr. Dattaram B. Bihari, Attendant (SG), Department of Metallurgical Engineering & Materials Science retired after 37 years of service.



Mr. A. K. Bhaumik, Messenger (SG), N.C.C, retired after 35 years of service.



Retirements on February 28, 2017

Prof. Gaur G. Ray, Department of Industrial Design Centre retired after 37 years of service



Dr. S. Vijaya Lakshmi, Research Scientist, Centre for Research Nanotechnology & Science (CRNTS), retired after 35 years of service.



Ms. Girija M. Iyer, Library Information Officer, Central Library, retired after 33 years of service.



Mr. Ashwini Kumar Yadav, Sr. Tech. Supdt, Electrical Maintenance Division, retired after 32 years of service.



Ms. Laxmi C Bohat, Cleaner, Hospital, retired after 27 years of service



CEP courses scheduled during March - April 2017				
Starting Date	Duration	Course Name	Faculty	Department
Open Programmes :				
16-3-2017	6 days	Selected Topics in Signal Processing	Prof. Vikram M. Gadre	Electrical Engineering
20-3-2017	6 days	Automotive Styling and Design	Prof. Nishant Sharma	Industrial Design Centre
30-3-2017	3 days	Theory and Technology of Silicon Solar Cell	Prof. Anil Kottantharayil	Electrical Engineering
In House Programmes :				
17-3-2017	4 days	Advanced Multivariable Control	Prof. Sachin C. Patwardhan	Chemical Engineering
17-3-2017	3 days	Principles of Electromagnetics	Prof. S.V. Kulkarni	Electrical Engineering
17-3-2017	3 days	Analysis of Research Problems Through Design of Experiments	Prof. Suhas S. Joshi	Mechanical Engineering
17-3-2017	5 days	System Approaches to Green Engineering via Optimization at Design and Operational Control	Prof. Ravi Gudi	Chemical Engineering
18-3-2017	4 days	Orientation Course in Chemical Engineering for Young Officers	Prof. Ranjan Kumar Malik	Chemical Engineering
19-3-2017	3 days	Energy Efficiency and Management	Prof. Santanu Bandyopadhyay	Energy Science and Engg.
20-3-2017	3 days	3d Printing : A Disruptive Technology of This Era	Prof. K. P. Karunakaran	Mechanical Engineering
20-3-2017	4 days	School of Bioscience & Bioengineering	Prof. Ambarish Kunwar	Biosciences and Bioengg.
23-3-2017	3 days	Advances in Control System	Prof. Ravi Gudi	Chemical Engineering
25-3-2017	3 days	Data Analytics for Process Monitoring Soft Sensing Controller Performance Assessment	Prof. Mani Bhushan	Chemical Engineering
29-3-2017	3 days	Solar Photovoltaics: Fundamentals, Technologies and Applications	Prof. Chetan S. Solanki	Energy Science and Engg.
Open Programmes :				
6-4-2017	2 days	Assessing Performance of PV Modules in the Field	Prof. Juzer M. Vasi	Electrical Engineering

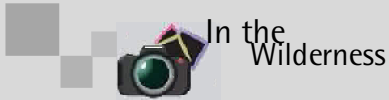


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by Mr. Batu S Kambale
IIT Hospital

SALT 'N PEPPER

by Dr. Arun Inamdar

