

Hon'ble Vice President of India Shri Jagdeep Dhankhar Visits IIT Bombay



Hon'ble Vice President of India Shri Jagdeep Dhankhar addressing the audience

The Hon'ble Vice President of India **Shri Jagdeep Dhankhar** visited IIT Bombay and addressed the students, faculty and staff members of the Institute on November 6, 2023. On the occasion, he also planted a sapling in the Institute campus.

He delivered a lecture titled '**Role of Youth in Nation Building**' as part of **Viksit Bharat @ 2047**.

In his address, Mr. Dhankhar remarked on the emergence of AI as one of the most significant production shifts since the industrial revolution. Emphasising the transformational potential of AI, he said that the world is on the cusp of a technological revolution that will fundamentally alter the way we live, work and interact and that it presents an opportunity as well as a challenge.

During his interaction with students, the Vice President of India called upon them to engage in research and innovation and to use technology for societal causes that benefit the people of India and the global community.

Recognising the importance of women's empowerment and gender equality, the Vice President commended the recent passing of the women's reservation bill in parliament as an epochal development that will have far-reaching societal changes.

Highlighting the importance of economic nationalism, Shri Dhankhar expressed concern over the outflow of raw materials from India without value addition, which deprives young people of job opportunities and entrepreneurship.

Recognising the alumna of IIT Bombay and their immense contributions in varied disciplines, the Vice President proposed to create a body comprising alumni associations of all IITs to utilise their experience, expertise and exposure in policy-making and execution.



Hon'ble Governor of Maharashtra Shri Ramesh Bais addressing the audience

Shri Ramesh Bais, Hon'ble Governor of Maharashtra, was the Guest of Honour on the occasion. **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs), IIT Bombay; **Prof. K.V.K. Rao**, Deputy Director (Finance and External Affairs), IIT Bombay, students, faculty members and other dignitaries were present at the event.



Vice President Shri Jagdeep Dhankhar and Governor of Maharashtra Shri Ramesh Bais planting a sapling in the Institute campus

IIT Bombay Celebrates Alumni Day 2023

- Distinguished Service Award bestowed on one alumnus
- Chapter Service Awards bestowed on four alumni
- The Silver Jubilee batch (Class of '98) pledged Rs. 57 crores towards the Legacy Project
- The Golden Jubilee Batch (Class of '73) pledged a total of Rs 7.15 crores
- Alumni appreciation and gratitude programme
- Launch of IIT Bombay's annual fundraiser 'GO-IIT Bombay' campaign



Awardees along with Prof. S. Sudarshan, Deputy Director (Academic and Infrastructural Affairs) (first from right), Prof. KVK Rao, Deputy Director (Finance and External Affairs) (second from left) and Prof. Ravindra Gudi, Dean (Alumni and Corporate Relations), IIT Bombay (first from left) during Alumni Day

The Indian Institute of Technology Bombay (IIT Bombay) celebrated its annual Alumni Day on December 24, 2023, at VMCC on the campus. The event began with a warm welcome by **Prof. Ravindra Gudi**, Dean (Alumni and Corporate Relations), IIT Bombay. This was followed by an address by **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs) and **Prof. K.V.K. Rao**, Deputy Director (Finance and External Affairs), IIT Bombay, highlighting the Institute's progress over the years.

In his address, Prof. Sudarshan said, "The success of our alumni in every aspect of life has made us proud, and enhanced IIT Bombay's reputation all over the world. Our alumni have also been giving back in multiple ways, including record-breaking donations, serving on numerous advisory boards in IIT Bombay, helping make connections between our faculty/ students and industry, and some are contributing directly as faculty, professors of practice and other roles. We are very grateful for the wonderful support we are getting from our alumni, which will help build IIT Bombay's infrastructure to a level we can be justifiably proud of, and help us take IIT Bombay to even greater levels of excellence in the years to come".

This year's **Distinguished Service Award** (instituted in 1999) was bestowed on **Mr. Gajanan Vithal Gandhe**, B.Tech., 1986, Civil Engineering. Besides being an achiever in his own chosen domain, Mr. Gandhe has made a significant and enduring contribution to the advancement of the Institute. The award consists of a certificate, a memento and an uttaria.

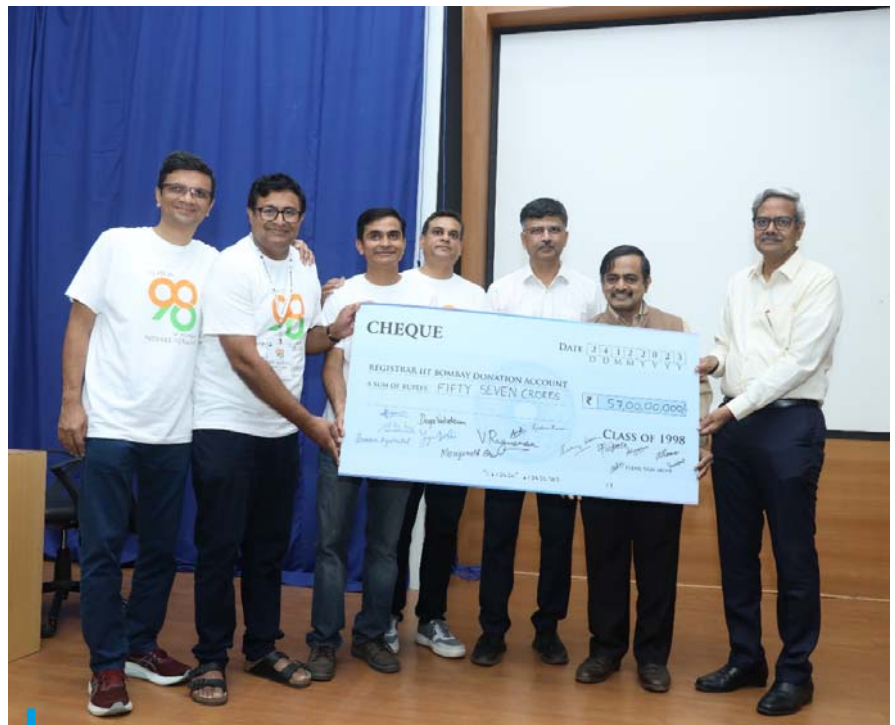
The **Chapter Service Awards** (instituted during the Diamond Jubilee year celebrations) are given to select alumni who have contributed consistently to the progress of their Chapters and the Institute. The awardees for this year include **Mr. Kicha Ganapathy, B.Tech., 1967, Electrical Engineering (Chapter: New York)**; **Mr. Deepak Digambar Thite, M.Tech., 1996, Mechanical Engineering (Chapter: Pune)**; **Mr. Amit Gupta, B.Tech., 2002, Chemical Engineering (Chapter: Japan)**; and **Ms. Tarana Gupta, M. Design, 2009, IDC (Chapter: New York)**.

In his address, **Mr. Ravishankar Gedela, CEO of IIT Bombay-DRF**, celebrated the achievements of its alumni community and recognized their continued support and giving back to the Institute. IIT Bombay also recognized its **top donors of 2023 by unveiling a Donor Wall** on the occasion. The Donor Wall acknowledges their generosity and sustained philanthropic support for various causes to their beloved alma mater. IIT Bombay's commitment to excellence permeates every aspect of its academic and research endeavours.

With a vision of ranking amongst the top universities worldwide, IIT Bombay **launched the 3rd edition of its annual fund-raising campaign 'GO-IIT Bombay' for the year 2023-2024**. The theme of this year's campaign is *'Invest in Excellence. Shape Tomorrow'*. The campaign is a concerted effort by the Institute to engage a wide spectrum of its alumni community. The Institute aims to harness the power of collective giving and welcomes all contributions - substantial or modest - towards the various causes that will propel IIT Bombay on its continued journey of excellence. The core causes for this year's GO IITB campaign include Student Scholarships, Project Evergreen (hostel infrastructure) and the Institute Development Fund.

The Silver Jubilee Batch (class of 1998) has pledged a sum of Rs. 57 crores towards its Legacy Project. The Legacy Project is a way for alumni to come together with their batchmates to give back to their alma mater and leave behind a lasting legacy and remembrance of their milestone reunions. The Class of 1998's contribution exceeded the significant donation of Rs 41 crore made by the Class of 1971 during their Golden Jubilee celebrations at the Institute in 2022.

The funds raised by the Class of 1998 will help the Institute support key academic projects and the research landscape at IIT Bombay. They include Project Evergreen, which aims to create sustainable and eco-friendly hostels for students; Makerspace labs to foster scientific and technological innovation and creativity; and Student Aid initiatives (including Scholarships) to fuel the aspirations of the next generation of students at the Institute. The funds raised will also help drive IIT Bombay's ambitious 2030 vision of ranking among the world's top 50 universities and fostering a legacy of excellence on the global stage.



The Silver Jubilee Batch (Class of 1998) has pledged Rs. 57 crores towards the Legacy Project

Alumni members from the 1998 batch **Mr. Amit Khandelwal, Mr. Apoorv Saxena, Mr. Ashutosh Gore, and Mr. Sharad Geonka**, spoke on behalf of their class and said, *"We are a very diverse batch, with people spread across 100+ cities across the world and are involved in startups to corporates, social causes and non-profits. But we all share some great memories and timeless bonds that were forged during the formative years of our lives and sustained through many family visits and connections over the years. This year when we got together there was another big focus for us: the spirit of giving back inspired by alumni such as Nandan Nilekani and previous silver jubilee batches. We are glad all this came together in this record raise supported by all the donors and the volunteers. We hope this helps to make IIT Bombay one of the premier global universities in the coming years and inspires other alumni to give back as well"*.

The Golden Jubilee Batch (class of 1973) has pledged a total of Rs 7.15 crores to support two causes: C1973 EV Power Train Laboratory and C1973 Faculty Awards for Excellence in Research.

Setting up the C1973 EV Power Train Laboratory will allow IIT Bombay to leverage its exceptionally talented pool of faculty, globally competitive scientists, researchers, entrepreneurs, and innovators, to take the lead in the indigenization of EV research and technology. While it will initially focus on 2-wheelers, 3-wheelers, small cars, and light commercial vehicles (which account for the lion's share of EV sales in India), the Lab will also support India's journey toward becoming a worldwide hub for small EVs.

C1973 Faculty Awards for Excellence in Research

The awards will promote and recognize original research from IITB's young faculty and encourage them to conduct and publish impactful and viable research in peer-reviewed and globally reputed academic journals. This will help increase the visibility of IIT Bombay as a premier research-driven Institute in the world, even as the impact of its practical research will help in nation-building.

Speaking on behalf of their class, **Mr. Deepak Gupte and Mr. Rajendra Bhinge**, alumni members from the **Golden Jubilee batch (1973)**, said, "Our batch meticulously reviewed various ongoing projects at the institute to determine the best fit for their legacy initiative. After careful consideration, the EV Power Train Lab and Faculty Award for Research Excellence emerged as the chosen projects due to their potential impact. This pivotal step marked a significant stride in recognizing and encouraging outstanding research within the institute. This strategic choice not only aligns with our commitment to excellence but also sets the stage for a transformative era of innovation and academic achievement at the institute".

Several Institute functionaries, alumni and their family members, faculty, staff and students attended the function. They served as a testament to the Institute's profound legacy and the steadfast dedication of its alumni. The collaborative spirit among the attendees transformed the occasion into a genuinely memorable and enriching experience.



The Golden Jubilee Batch (Class of 1973) has pledged Rs. 7.15 crores in supporting Institute causes



Group photo of the Silver Jubilee Batch (Class of 1998)

Institute Celebrates National Education Day



Awardees of Industrial Research Consultancy Centre (IRCC) Research Awards - 2022 along with Chief Guest Dr. N. Kalaiselvi, Director General, Council of Scientific & Industrial Research and Secretary and Department of Scientific & Industrial Research (C); Prof. S. Sudarshan, Deputy Director (Academic and Infrastructural Affairs) (center) and Prof. Sachin Patwardhan, Dean (Research and Development) (center)

To commemorate the birth anniversary of India's first Education Minister **Maulana Abul Kalam Azad**, IIT Bombay celebrated **National Education Day** on November 10, 2023. **Dr. N. Kalaiselvi**, Director General, Council of Scientific & Industrial Research and Secretary, Department of Scientific & Industrial Research was the Chief Guest on the occasion.

As part of the celebration, the **IRCC Research Awards - 2022** were conferred on select faculty during the programme. These awards have been instituted for the last several years to recognize the R&D efforts of our faculty members and are given in various categories. The awards are selected based on a call for nominations every year and following a selection process by a committee. Each award consists of a citation and a cash prize of Rs. 50,000. The Prof. Krithi Ramamritham Award for Creative Research – 2022 carries a citation and a Rs. 1,00,000 cash incentive. In addition, the awardees will be invited to submit a research proposal to the IRCC for possible funding of up to Rs. 5,00,000. Chief Guest, Dr. N. Kalaiselvi, presented the Research Excellence Awards to the awardees.

Following are details about the Research Excellence Awardees:

Research Publication Awards - 2022

Prof. Rochish M. Thaokar,
Department of Chemical Engineering

Prof. Prabhakar Naraga,
Department of Earth Sciences

Prof. Suvarna S. Kulkarni,
Department of Chemistry

Prof. Shaibal K. Sarkar,
Department of Energy Science and Engineering

Prof. Krishna Shankara Narayanan,
Department of Computer Science and Engineering

Prof. Sudhir R. Ghorpade,
Department of Mathematics

Research Dissemination Award – 2022

Prof. Avik Bhattacharya,
Centre of Studies in Resources Engineering

Prof. Gopalan Rajaraman,
Department of Chemistry

Prof. Rodney A. Fernandes,
Department of Chemistry

Early Research Achiever Award – 2022

Prof. Karthikeyan Lanka,
Centre of Studies in Resources Engineering

Prof. Arnab Dutta,
Department of Chemistry

Prof. Ankit Jain,
Department of Mechanical Engineering

Prof. Krithi Ramamritham Award for Creative Research – 2022

Prof. Swatantra Pratap Singh,
Department of Environmental Science and Engineering

Prof. Biswabandan Panda,
Department of Computer Science and Engineering

Institute Holds Lecture Series



The Institute's Research and Development (R&D) Office organized lectures series of the IIT Bombay Research Awards 2022 recipients to present their research works on October 25 and November 1, 2023.

The following award recipients presented their talk during the lecture series:

Research Publication Awardees 2022	
Speaker	Talk Title
Prof. Rochish M. Thaokar, Department of Chemical Engineering	<i>Can electrohydrodynamics of droplets assist diverse applications: Petroleum refining to lab-on-chip devices?</i>
Prof. Suvarna S. Kulkarni, Department of Chemistry	<i>Expeditious synthesis of rare-sugar containing bacterial glycoconjugates for vaccine development</i>
Prof. Krishna Shankara Narayanan, Department of Computer Science and Engineering	<i>Regular Transducer Expressions: Bridging the gap between programs and machines</i>
Prof. Prabhakar Naraga, Department of Earth Sciences	<i>Tectonothermal evolution of the Great Indian Proterozoic Fold Belt</i>
Prof. Shaibal K. Sarkar, Department of Energy Science and Engineering	<i>Development of high efficiency perovskite solar cells</i>
Prof. Sudhir R. Ghorpade, Department of Mathematics	<i>How many zeros can multivariable polynomials have in a finite universe?</i>

Research Dissemination Awardees 2022	
Speaker	Talk Title
Prof. Avik Bhattacharya, Centre of Studies in Resources Engineering	<i>Radar Remote Sensing for Agricultural Applications</i>
Prof. Rodney A. Fernandes, Department of Chemistry	<i>"Serendipity" in Organic Synthesis: Development and Applications of New Synthetic Reactions</i>
Prof. Gopalan Rajaraman, Department of Chemistry	<i>Molecular Modeling's Magic Ingredients to Engineer Molecular Nano Magnets</i>

Early Research Achiever Awardees 2022	
Speaker	Talk Title
Prof. Karthikeyan Lanka, Centre of Studies in Resources Engineering	<i>"How dry is the soil?": Perspectives of soil-plant-atmosphere interactions</i>
Prof. Ankit Jain, Department of Mechanical Engineering	<i>Atomistic Thermal Transport in Solids</i>
Prof. Arnab Dutta, Department of Chemistry	<i>Bio-inspired catalyst design strategy for sustainable H₂ production in water</i>

Talk By Shanti Swaroop Bhatnagar 2022 Awardee



Prof. Debabrata Maiti (Department of Chemistry), the **awardee** of the **Shanti Swarup Bhatnagar Prize (SSB) for Science and Technology 2022** for his significant contributions to developing transition metal catalysis for transforming organic molecules to prepare value-added materials by site-selective functionalization, leading impact on agrochemicals and pharmaceuticals industry, delivered an inspiring talk on October 18, 2023. Faculty members and students across the Institute attended the talk.

IIT Bombay Observes Ek Tareekh Ek Ghanta - Shramdaan Program

On October 1, 2023, IIT Bombay observed **Swachhata Pakhwada 2023 (Ek Tareekh Ek Ghanta - Shramdaan program)** from 10-11 am. The event saw the active participation of 800 individuals who cleaned an area of 61,427 sq.m. and collected 2587 kgs of waste.

Waste Segregation	Waste collected (in kgs)
Wet waste	1119.5 kgs
Dry waste	1124 kgs
Garden waste	313 kgs
Scrap waste	20 kgs
Glass waste	10 kgs

The **Horticulture Section** of IIT Bombay collected dry-cut wood branches, cut grass and dry leaves and disposed 119 cubic meters of horticulture dry/ green

waste. They also planted 90 saplings (above 6 ft in height) in the hostels.

As part of the event, activities such as collection of tree branches and trunks, segregation and collection of dry-wet waste, collection of scrap and junk (unclaimed), identification of material to be written-off, cleaning of residential area, cleaning of department and hostel terrace area and shifting of unwanted and unclaimed material, were carried out.

The **Public Health Office** provided masks, hand gloves, brooms and garbage bags (blue and white). All waste collected in garbage bags was shifted to a central location after segregation, weighing and quantifying the data. Round-the-clock vehicles were deputed at designated locations to shift the collected waste. The **Estate Office** provided spades and other tools for the purpose. The event was a huge success with the collective consciousness of all participants.



Remembering Mahatma Gandhi and Lal Bahadur Shastri



(From L-R) IIT Bombay Deputy Directors Prof. S. Sudarshan and Prof. KVK Rao paying floral tribute to Mahatma Gandhi and Lal Bahadur Shastri on their birth anniversaries

IIT Bombay paid homage to the Father of the Nation, **Mahatma Gandhi** and the second Prime Minister of the nation, **Lal Bahadur Shastri**, during a function held at P.C. Saxena Auditorium on October 2, 2023.

IIT Bombay functionaries including Deputy Director (Academic and Infrastructural Affairs) **Prof. S. Sudarshan**; Deputy Director (Finance and External Affairs) **Prof. KVK Rao**; Dean (Infrastructure Planning and Support) **Prof. Tom V. Mathew**; Associate Dean-III (IPS) **Prof. Anurag Garg**; Dean (Student Affairs) **Prof. Suryanarayana Doolla**; Associate Dean (Student Affairs) **Prof. Atul Srivastava**; Registrar **Mr. Ganesh Bhorkade** and other dignitaries lighted the lamp and paid floral tributes to Gandhiji and Shastriji during the function.

The Institute community present on the occasion took the **Swachhata pledge**. Students of Campus School, Kendriya Vidyalaya and IIT Bombay received appreciation certificates for various competitions held as part of **Swachhata Pakhwada 2023**.

The faculty, staff and students of IIT Bombay enthralled the audience with musical performances on the occasion.



(From L-R) IIT Bombay functionaries Prof. KVK Rao, Deputy Director (Finance and External Affairs); Prof. Tom Mathew, Dean (Infrastructure Planning and Support); Prof. S. Sudarshan Deputy Director (Academic and Infrastructural Affairs) and Prof. Suryanarayanan Doolla, Dean (Student Affairs) along with others during the Swachhata pledge



Musical performances by Institute members during the event



IIT Bombay Deputy Directors Prof. S. Sudarshan and Prof. KVK Rao during felicitations of Swachhata Pakhwada 2023 competition winners

IIT Bombay Celebrates Hindi Pakhwada 2023

To encourage the use of Hindi in official work amongst officers/ employees of the Institute, IIT Bombay celebrated '**Hindi Pakhwada**' during September 14-29, 2023, beginning with the All-India Official Language Conference at Pune.

During the Hindi Pakhwada, various competitions, including essay writing, Rajbhasha Hindi quiz competition and antakshari competition, were held for the staff members. Competitions such as Hindi dictation, Hindi handwriting, Hindi poetry reading, elocution, poster making and slogan writing were organised for the students of Campus School. The competitions witnessed an overwhelming response from the students, staff and faculty alike. A total of 69 winners of these competitions were awarded with cash prizes and certificates.

An exhibition of Hindi books was organised by the Institute **Central Library** during September 18-22, 2023. The exhibition was inaugurated by **Mr. Jagdish Ram Pauri**, Joint Director, Official Language, Ministry of Education, in the presence of IIT Bombay functionaries **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs), **Mr. Ganesh Bhorkade**, Registrar, **Dr. Manju Naika**, Chief Library Officer and **Ms. Vaishali Bahulkar**, Hindi Officer.



Mr. Jagdish Ram Pauri, Joint Director, Ministry of Education (C); IIT Bombay officials Prof. S. Sudarshan, Deputy Director (Academic and Infrastructural Affairs) (R); Dr. Manju Naika, Chief Library Officer, Central Library (first from left) and Ms. Vaishali Bahulkar, Hindi Officer (L) while inaugurating the book exhibition at Central Library



Mr. Jagdish Ram Pauri, Joint Director, Ministry of Education interacting with Prof. Subhasis Chaudhuri, Director, IIT Bombay during his visit to Institute for Hindi Pakhwada

A two-member team from the Ministry of Education conducted the official language inspection at IIT Bombay on September 18, 2023. **Mr. Jagdish Ram Pauri**, Joint Director, Ministry of Education and **Mr. Inder Raj**, Senior Translation Officer appreciated the efforts being made towards the implementation of the official language in the Institute and also guided further on the progressive use of the Hindi language. Mr. Pauri also held a workshop on the subject of official language implementation.

Hindi Pakhwada concluded with the prize distribution ceremony on September 29, 2023. **Mr. Sheetla Prasad Dubey**, President, Maharashtra Hindi Sahitya Academy, was the chief guest. **Mr. Ganesh Bhorkade**, Registrar, IIT Bombay; **Prof. Nand Kishore**, Dean (Administrative Affairs), IIT Bombay and the Chief Guest presented cash awards and certificates to the competition winners.

Ashirwaad, one of the social, cultural and literary associations in Mumbai, presented an award to IIT Bombay for its in-house magazine '**Kshitij**'- **G20 Special** issue.

The list of the competition winners is as follows:

Hindi Dictation Competition

Std. III			Std. IV		
No.	Names	Position	No.	Names	Position
1	Mast. Arush Kamble	I	1	Mast. Akshat D. Pandey	I
2	Mast. Siddhart Navgire	II	2	Mast. Rudra L. Chauhan	II
3	Miss. Shweta Jagtap	II	3	Miss. Anshika S. Ohra	II
4	Miss. Darshita Chauhan	II	4	Miss. Ankita V. Tikudave	Consolation
5	Miss. Aradhya Dhele	III			
6	Miss Dhruvika Madaikar	Consolation			

Hindi Handwriting Competition

Std. III			Std. IV		
No.	Names	Position	No.	Names	Position
1	Miss. Samruddhi	I	1	Mast. Akshat Pandey	I
2	Miss. Khushi Tribhuvan	II	2	Miss. Anshika Ohra	II
3	Miss. Advika Shekhar Ohal	III	3	Mast. Adarsh Nirmal	III
4	Miss. Aradhya Dhele	Consolation	4	Mast. Zaraar Shaikh	Consolation

Hindi Poetry Reading Competition

Std. III			Std. IV		
No.	Names	Position	No.	Names	Position
1	Miss. Shweta N. Jagtap	I	1	Mast. Akshat D. Pandey	I
2	Mast. Arush G. Kamble	II	2	Miss. Anshika P. Rai	II
3	Mast. Siddharth S. Navgire	III	3	Miss. Avani S. Patekar	III
4	Miss. Samruddhi V. Ukali	Consolation	4	Mast. Kabir V. Jagtap	Consolation
5	Miss. Aditi D. Gawai	Consolation	5	Mast. Zaraar Z. Shaikh	Consolation

Antakshari Competition

No.	Names	Award	No.	Names	Award
1	Dr. Varsha Mahesh Koshta	First	7	Mr. Ashish Barnawal	Third
2	Mr. Deepak Singh	First	8	Mr. Suresh Ravaji Paradkar	Third
3	Ms. Shikha Gupta	First	9	Mr. Santosh Gaud	Third
4	Mr. Dharmendra Chaurasia	Second	10	Ms. Prajakta P. Sarafdar	Consolation
5	Ms. Aarti Bhagat	Second	11	Mr. Mahendra Kumar Palsania	Consolation
6	Mr. Rahul Gaikwad	Second	12	Mr. Shekhar Singh	Consolation

Elocution Competition for Std. XI and XII:

No.	Names	Std.	Position
1	Mast. Vibhuti Thakur	XI	I
2	Miss. Namita Wankhade	XII	II
3	Mast. Rehan Shaikh	XII	III
4	Miss. Ankita Yadav	XII	Consolation
5	Miss. Bhagyashree Shinde	XI	Consolation

Poster Making Competition for Std. IX and X:

No.	Names	Std.	Position
1	Miss. Purnimadevi Dubey	IX	I
2	Miss. Ishita Wankhade	IX	II
3	Miss. Riya Gade	X	III
4	Miss. Bhumi Thorat	X	Consolation

Slogan Writing Competition for Std. V to VIII:

No.	Names	Std.	Position
1	Miss. Gauri Kale	VI	I
2	Mast. Nihal Patekar	VII	II
3	Mast. Harshwardhan Thopate	VI	III
4	Miss. Pallavi Thopate	VIII	Consolation
5	Miss. Ananya Singh	VII	Consolation

IIT Bombay Observes Vigilance Awareness Week and Rashtriya Ekta Diwas



IIT Bombay staff taking the 'Rashtriya Ekta Diwas' and 'Integrity' pledges on occasion of National Unity Day and Vigilance Awareness Week

On the occasion of **Vigilance Awareness Week** observed during October 30 - November 5, 2023 and **National Unity Day (Rashtriya Ekta Diwas) 2023**, the Institute employees undertook the *Integrity and Rashtriya Ekta Diwas pledges* on October 31, 2023, at the Maj. Gen. A.K. Dasgupta Seminar Room 002, Ground Floor, VMCC.

Both pledges were administered to employees of IIT Bombay in Hindi by Dean (Administrative Affairs) **Prof. Nand Kishore** and in English by Ex Joint Registrar - Human Resources, HR-2 (HCM) Section, IIT Bombay **Dr. K.V. Reghuthaman**.

The **Vigilance Cell of IIT Bombay** has also organised an essay-writing competition for the campus community on the theme "Say no to corruption; commit to the Nation".

In A First, IIT Bombay Setups A 'Recharge Zone' For Students



In a pioneering move, the outreach vertical of **Student Wellness Centre (SWC)** at IIT Bombay launched a "**Recharge Zone**" as a unique stress-relief initiative with innovative avenues to unwind and rejuvenate during the high-pressure placement season.

For the first time in any IIT, the Recharge Zone offered various stress-buster stations, including pet

therapy, foot spas, art therapy and Yoga, allowing students to choose personalized methods for relaxation.

With increased demand for counseling during the critical period of placements, IIT Bombay took a proactive step in prioritizing students' mental well-being through this groundbreaking initiative, reinforcing its commitment to holistic student welfare.

IIT Bombay Conducts Lectures On Nobel Prizes 2023



(From Top L-R) Prof. Arindam Chowdhury (Department of Chemistry), Prof. Parinda Vasa (Department of Physics), Prof. Kiran Kondabagil (Department of Biosciences and Bioengineering) with Prof. Upendra Bhandarkar, Associate Dean (Research and Development) and Prof. Sachin Patwardhan, Dean (Research and Development)

The **Industrial Research and Consultancy Centre (IRCC)** annually organizes lectures on Nobel Prizes. These lectures focus on the significance of the work leading to the award of this coveted prize and are presented at a level accessible to a literate audience. The first session of **Nobel Prizes 2023** lectures was held on November 29, 2023.

Prof. Sachin Patwardhan, Dean (Research and Development), gave introductory remarks about the programme.

Category	Laureate(s) [Prof.] and Awarded work	Speaker
Chemistry	Moungi G. Bawendi, Louis E. Brus and Aleksey I. Yekimov "for the discovery and synthesis of quantum dots"	Prof. Arindam Chowdhury , Department of Chemistry
Physics	Pierre Agostini, Ferenc Krausz and Anne L'Huillier "for experimental methods that generate attosecond pulses of light for the study of electron dynamics in matter"	Prof. Parinda Vasa , Department of Physics
Physiology/ Medicine	Katalin Karikó and Drew Weissman "for their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19"	Prof. Kiran Kondabagil , Department of Biosciences and Bioengineering

The lectures were well-attended by faculty members, students and the staff. Prof. Patwardhan delivered vote of thanks to all the speakers and participants of the programme.

QS Asia University Rankings 2024: IIT Bombay Ranks 1st In India

The Indian Institute of Technology Bombay (IIT Bombay) secured the **first position in India** and **40th** rank this year in the **QS Asia University Rankings 2024**. The results were released on November 8, 2023, by QS, a British company.

IIT Bombay secured an overall score of 67.2 out of 100. The Institute has scored 83.5 in academic reputation, 96 in employer reputation, 9.3 in citation per paper, 14.8 in faculty-student ratio, 100 in staff with PhD, 95.7 in papers per faculty, 66.3 international research network, 11.1 in international faculty ratio, 3 in international students ratio, 2.1 in inbound exchange and 4.1 in outbound exchange all scores out of a maximum of 100 points. Among these 11 indicators, staff with PhD indicated the strongest one for IIT Bombay with a rank of 18 regionally.

In the 2024 edition of regional rankings, the Institute performed among the top 5% in the QS Asia University Rankings 2024.



IIT Bombay secured **second place in India** and is ranked **303rd overall globally** and **50th in Asia**, in the **QS Sustainability Ranking 2024**. The Institute is ranked 218th in the 'Environmental Impact Performance', 439th in the 'Social Impact Performance' and 655th in the 'Governance' category of the QS Sustainability Ranking 2024. The results were released on December 5, 2023.

IIT Bombay Receives National IP Award 2023

The **Office of the Controller General of Patents, Designs & Trade Marks (CGPDTM)** has conferred the **National IP Award 2023** to **IIT Bombay**, under the **category of Best Indian Academic Institution for Patents Filing, Grant & Commercialization**, for its efforts towards protection and deployment of its intellectual property.

The award ceremony was held on October 13, 2023, at Vigyan Bhawan, New Delhi. The trophy and prize money of Rs. 1,00,000 was presented by **Mr. Piyush Goyal**, Hon. Minister of Commerce and Industry. It was received by **Mr. P. Prashant**, Technical Officer, Office of Dean (Research and Development), IIT Bombay on behalf of the Institute. **Prof. Abhay Karandikar**, Secretary, Department of Science and Technology (DST) also graced the occasion.



Mr. P. Prashant, Technical Officer, Office of Dean (Research and Development), IIT Bombay (C) while receiving National IP Award '23 from Mr. Piyush Goyal, Hon. Minister of Commerce and Industry (C) and Prof. Abhay Karandikar, Secretary, Department of Science and Technology (L)

IIT Bombay Receives 'Chandrayan-3' Honour

IIT Bombay has been acknowledged with the '**Chandrayan-3 honour**' in profound recognition of its extraordinary contribution to the Chandrayan-3 mission. **Prof. Prasanna Gandhi** (Department of Mechanical Engineering) received the trophy from **Dr. Pawan Goenka**, Chairman IN-SPACe in the presence of **Mr. J.D. Patil**, Chairman Indian Space Association and **Lt. Gen. A.K. Bhat (Retd.)**, Director General, Indian Space Association.

Prof. Gandhi and his team's work in collaboration with **Prof. Ananthkrishnan** at IIT Bombay started around 2003 as a humble beginning oblivious to its future utility. A technology of novel 2DOF pilot slosh rig and know-how completed its development around 2007 for the characterization of slosh disturbance of liquid fuel tanks used in various rocket engines. Based on this know-how, Liquid Propulsion Systems Centre (LPSC) and ISRO developed a twenty-five times scaled version of the rig preserving the novel aspects that enhanced accuracy. The rig has been in use since 2011 and is helping in the accurate estimation of slosh phenomena in several launch vehicle propellant tanks including that of Chandrayan-2,3. The rig was used extensively in the iterative design of baffles for the Vikram lander in Chandrayan-3.

IIT Bombay has been working in close association with ISRO through their Space Technology Cell (STC) since 1984. STC, IIT Bombay has facilitated the completion of more than a hundred projects contributing to a generation of knowledge useful to various missions of ISRO including Chandrayan 3.



Prof. Prasanna Gandhi (Department of Mechanical Engineering), IIT Bombay (L) while receiving the 'Chandrayan-3 honour' from Dr. Pawan Goenka, Chairman IN-SPACe

Mr. Rajesh Gopinathan Joins As Head Of TRE At IIT Bombay



IIT Bombay is pleased to appoint **Mr. Rajesh Gopinathan**, former CEO and MD of TCS, as **Head, Translational Research and Entrepreneurship (TRE), and Professor of Practice**, at IIT Bombay. IIT Bombay has been pioneering multiple initiatives to advance applied research and entrepreneurship, such as India's first deep tech incubator, SINE, which has helped create multiple startups, the upcoming IITB research park, India's first school on entrepreneurship, and multiple industry specific applied research initiatives for e.g. in biotech, medical devices and AI. A translational research centre to support transition of IP from lab to industry has also been created recently. The new position of Head, Translational Research and Entrepreneurship has been created to further accelerate these initiatives.

Commenting on the appointment, IIT Bombay's Director, **Prof. Subhasis Chaudhuri** said, "We have a tradition of active involvement of industry leaders in shaping our plans. As we look to advance our ambitious agenda of applied research and entrepreneurship, we are delighted to welcome Mr. Rajesh Gopinathan. His global exposure and experience in the rapid scaling up at TCS will play a pivotal role in taking our agenda to the next level".

Mr. Gopinathan said, "I am very excited and happy with the opportunity to contribute to the growth of such an iconic national institution. IIT Bombay's research infrastructure and globally-respected faculty and talent pool position it uniquely to play a leadership role in shaping the innovation agenda in India and globally. I look forward to working with the IIT Bombay team in charting the next leg of this journey together".

Dr. Samir V Kamat Lays The Foundation Stone Of New Building At IIT Bombay



Dr. Samir V Kamat, Secretary, DDR&D and Chairman DRDO (C) and Prof. Subhasis Chaudhuri, Director of IIT Bombay (C) along with other Institute functionaries during foundation stone laying ceremony of DRDO-Industry-Academia Centre of Excellence (DIA-CoE) at IIT Bombay



Dr. Samir V Kamat, Secretary, DDR&D and Chairman DRDO (C) and Prof. Subhasis Chaudhuri, Director, IIT Bombay (C) along with other Institute functionaries during launch of model of Akash missile

The foundation stone of the new building for the **DRDO-Industry-Academia Centre of Excellence (DIA-CoE)**, a joint Centre between IIT Bombay, IIT Madras and DRDO with its headquarters at IIT Bombay, was laid by **Dr. Samir V Kamat**, Secretary, Department of Defence Research & Development (DDR&D) and Chairman Defence Research and Development Organisation (DRDO) and **Prof. Subhasis Chaudhuri**, Director, IIT Bombay on November 16, 2023.

The seven-storied building will also house the Department of Aerospace Engineering and BETiC (Biomedical Engineering and Technology Innovation Centre). Several dignitaries from DRDO, IIT Bombay functionaries, faculty members and staff attended the foundation stone ceremony. Such Centres are expected to significantly increase research collaborations between DRDO, academia and relevant industries.

A life-size model of the **Akash missile** was also unveiled by Dr. Kamat on the day. The model is installed at the NCC ground next to the IIT Bombay Gymkhana grounds.

IIT Bombay SemiX Launches Its First Annual Summit



SemiX, the Centre for Semiconductor Technologies (SemiX) at IIT Bombay launched its first annual summit at the Institute campus on November 27, 2023. The theme of the summit was ***“Inventing Our Semiconductor Future Together”***.

The Summit included keynote addresses, a plenary session and three tracks: Research, Workforce Development and Entrepreneurship. The Research track had five parallel sub-tracks including Memory Devices and Circuits, Logic Technologies, Analog Mixed Signal Design, Flexible Electronics & Sensors and Power & ESD. Workforce Development focused on Fab Technology, Packaging, IC/ System Design and Test. Industry leaders and academicians participated as panelists in both these tracks.

The entrepreneurship track included a discussion on the state of the semiconductor industry in India and worldwide, a “pitch fest” where nine Indian semiconductor startups presented to ten investors and a workshop on how SemiX in partnership with the investors and industry can address challenges faced by the startups in India.

In the keynote address, **Mr. S. Krishnan**, Secretary, Minister of Electronics and Information Technology stated, *“I am very excited about what is being attempted at SemiX for collaboration between academia, industry and government, which is very important at the moment. We would like this to grow to other institutions as well. We are at a historical cusp. This initiative would grow with the rest of the semiconductor industry in India”*.

In the second keynote address, **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs), IIT Bombay stated, *“SemiX as a Centre is playing a significant role in helping to understand the challenges and ultimately driving government policies in ways that will help R&D and Industry. SemiX is starting at very high base and I expect it to fly even higher”*.

“So how can IIT Bombay contribute to the success of India’s semiconductor mission?” asked **Prof. Subhasis Chaudhuri**, Director, IIT Bombay. *“We have created the Center for Semiconductor Technologies or SemiX to integrate key resources and talent in all disciplines of the semiconductor domain and to build a platform that propels India’s semiconductor aspirations towards global leadership,”* Prof. Chaudhuri added.

In his presentation, Professor-in-Charge **Udayan Ganguly** used a child learning to walk as a metaphor for SemiX, emphasizing that it will take a village of well-wishers, including government, industry, academia, investors and alumni to help SemiX succeed. He added that SEMIX has a synergistic mission with India Semiconductor Mission to enable India’s leadership in semiconductors.

The first annual Summit of SemiX concluded on November 29, 2023, with more than 350 attendees representing almost 67 companies from the semiconductor and related industry, 10 venture capital companies and 15 academic institutions.

IIT Bombay Inaugurates INOX Cryogenics Research Lab



Prof. Subhasis Chaudhuri, Director, IIT Bombay and Mr. Siddharth Jain, Director of INOX Group during ribbon-cutting ceremony of INOX Cryogenics Research Lab launch



Mr. Siddharth Jain, Director of INOX Group and Prof. Milind Atrey, INOX Chair Professor of Cryogenics (C) along with other Institute functionaries during launch of INOX Cryogenics Research Lab

IIT Bombay inaugurated the **INOX Cryogenics Research Lab** on October 5, 2023. This event was graced by **Prof. Subhasis Chaudhuri**, Director of IIT Bombay; **Prof. Milind Atrey**, INOX Chair Professor of Cryogenics; **Mr. Siddharth Jain**, Director of INOX Group; **Mr. Parag Kulkarni**, Executive Director of INOXCVA and other dignitaries.

Mr. Siddharth Jain, Director, INOX Group said, “With the inauguration of INOX Cryogenics Lab at IIT Bombay, we are excited about being part of a journey towards advancement of research in the Cryogenics space, which would not only aid innovation in various manufacturing sector industries but would also open up new research domains in the field of healthcare, space and green energy transition”.

Adding to this, **Prof. Atrey** said, “It is heartening to see industries like INOX come forward to support

research in an academic Institute and this will go a long way in encouraging the community to take up more applied and challenging projects in this area”.

Supported generously by the INOX Group, this lab will provide students with the opportunity to perform experiments, understand the concepts and processes and perform cutting-edge research in Cryogenics. The objective is to enable hands-on, experiment-based learning that can equip students to deal with real-world industrial setups.

This partnership between IIT Bombay and the INOX Group forms an integral part of the Institute’s goal of leveraging academia-industry partnerships to foster research and academic excellence.

Russian Delegation Visits IIT Bombay



Russian delegation while interacting with IIT Bombay Director Prof. Subhasis Chaudhuri during their visit to the Institute

The **Office of Dean International Relations at IIT Bombay** hosted a delegation of 21 senior members from **Saint Petersburg, Russia** on September 27, 2023. **Prof. Vladimir Kniagninin**, the Vice-Governor of Saint Petersburg, led the delegation. The delegation interacted with Institute Director **Prof. Subhasis Chaudhuri**, Ex Dean (International Relations) **Prof. Amit Agrawal** and Associate Dean (Research and Development) **Prof. Upendra Bhandarkar**.

As part of the visit, the delegation also toured the Nanofabrication facility and the Society for Innovation and Entrepreneurship at IIT Bombay. The aim of the visit was to explore new collaboration opportunities and to strengthen existing cooperation between IIT Bombay and universities in Saint Petersburg.

IIT Bombay Hosts 10th SATU Presidents' Forum Steering Committee Meeting



Participants at the 10th SATU President's Forum Steering Committee Meeting at IIT Bombay

Indian Institute of Technology Bombay (IIT Bombay), India and National Cheng Kung University (NCKU), Taiwan, jointly hosted the **10th Steering Committee Meeting of SATU Presidents' Forum** during November 17-18, 2023, at IIT Bombay.

The Steering Committee members representing 11 universities from 7 countries attended the meeting. **Prof. Subhasis Chaudhuri**, Director; **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs); **Prof. KVK Rao**, Deputy Director (Finance and External Affairs); **Prof. Sachin Patwardhan**, Dean (Research and Development); and **Prof. Amit Agrawal**, Ex Dean (International Relations) represented IIT Bombay.

During the afternoon session, two keynote speeches were lined up. The first speech was delivered by **Prof. Abhay Karandikar**, Secretary of DST, Govt. of India on '**Towards Building Indian S&T Ecosystem: DST's Initiatives**'. The second speech was delivered by **Prof. Mohd. Fadhil Md Din**, Director of UTM, Malaysia on '**Challenges and Strategy in Sustainability and Green Campus Agenda**'.

The participants witnessed some of the cutting-edge facilities at IIT Bombay during the Lab visit. The meeting was an excellent opportunity for networking and exchanging ideas with participants from various universities.

Sony Delegation Visits IIT Bombay

On November 24, 2023, a senior delegation led by **Dr. Hiroaki Kitano**, Chief Technology Officer of *Sony Group Corporation*, visited IIT Bombay to explore new collaboration opportunities and strengthen the existing cooperation. During their visit, they interacted with IIT Bombay Officials, including **Prof. S. Sudarshan**, Deputy Director (Academic and Infrastructural Affairs) and Acting Director; **Prof. Sachin Patwardhan**, Dean (Research and Development); **Dr. Rajesh Gopinathan**, Head of Translational Research and Entrepreneurship for IIT Bombay; **Prof. Swaroop Ganguly**, Professor-in-Charge, IIT Bombay Research Park as well as other faculty experts.



Sony Delegation with IIT Bombay Deputy Director Prof. S. Sudarshan (C), Prof. Sachin Patwardhan, Dean (Research and Development) (first from right), Dr. Rajesh Gopinathan, Head of Translational Research and Entrepreneurship for IIT Bombay (first from left) along with other members

The Sony delegation included **Dr. Michael Spranger**, COO, Sony Research; **Ms. Erica Kato Marcus**, Executive Director – Partnership and Communications, Sony Research; **Dr. Nirmesh Shah**, Sr. Research Scientist, Sony Research India; and **Mr. Arithy MV**, Manager - Strategy and Partnership, Sony Research India. The delegation later visited the Institute's cutting-edge Nanofabrication Facility and interacted with faculty members working in the area of large language models.

IIT Bombay Wins Smart India Hackathon 2023

Team Avlokan from IIT Bombay won the first prize in its problem statement '**Drone based Intelligent Magnetic sensing system and Metallic anomaly detection system**' in **Smart India Hackathon (SIH) 2023**, an annual nationwide technology innovation oriented competition for students, sponsored by the Ministry of Education's Innovation Cell in collaboration with AICTE.

Avlokan is developing a reliable, robust, modular and cost-effective solution for long-range maritime reconnaissance by aerial magnetometry to bolster national security. The team designed a Quadplane VTOL aircraft with long endurance range and a boom deployable magnetic anomaly detection suite for detection of submarine's magnetic signature. Using this technology, one can employ swarm technology and deploy multiple UAVs to provide better aerial reconnaissance.



Team Avlokan comprised **Ameya Marakarkandy (Team Leader)**, **Yashodhan Tingne**, **Arkadeep Saha**, **Anupsa Swain**, **Abhishek PM** and **Kanak Dudi**, students of Departments of Aerospace Engineering and Electrical Engineering.

Participation of various IIT Bombay student teams was facilitated by **Prof Krishna P. Kaliappan**, Dean (Strategy), IIT Bombay.

IIT Bombay Signs MoU With Synopsis

On October 16, 2023, **IIT Bombay** signed a Memorandum of Understanding (MoU) with **Synopsys Inc.** towards establishing a **Synopsys Semiconductor Lab for Virtual Fab Solutions** at the Institute. The vision of this initiative is to foster a globally competitive semiconductor ecosystem in India.

This Lab will be set up at IIT Bombay's Department of Electrical Engineering under the aegis of the Center for Semiconductor Technologies (SemiX). In addition to contributing to this goal, the lab will provide engineering students with software solutions to cultivate knowledge on developing new technologies that will help advance semiconductor process technology development.

Dignitaries from Synopsis, including **Mr. Shankar Krishnamoorthy**, GM, EDA Group, Synopsis and an alumnus of the Institute and **Mr. Aavek Sarkar**, VP, Synopsis, were present during the MoU signing.

"We are excited to collaborate with IIT Bombay on nurturing the next generation of engineers to unlock the semiconductor industry's full potential," expressed **Mr. Krishnamoorthy** during his keynote address.



Mr. Shankar Krishnamoorthy, GM, EDA Group, Synopsis and Prof. Subhasis Chaudhuri, Director of IIT Bombay during signing of the MoU

IIT Bombay Collaborates With Meta For AI-based Project



Prof. Pushpak Bhattacharyya, Department of Computer Science and Engineering, IIT Bombay (third from left) along with members of National Law School of India University (NLSIU), Department of Consumer Affairs (DoCA) and Meta during announcement of collaboration

Social media company **Meta** (parent company of Facebook, Instagram and WhatsApp) has announced a **research collaboration** with **IIT Bombay**, the **National Law School of India University (NLSIU)** and the **Department of Consumer Affairs (DoCA)**.

IITB and NLSIU will assess how large language models (LLM) can be used for building public solutions for enhancing efficiency in India's consumer grievance redressal system. Both will also release a white paper explaining the risk mitigation approaches implemented and how responsible design principles have been deployed at every layer of the stack.

The research project will explore the feasibility of leveraging Llama2 in creating and evaluating a proof

of concept of a citizen-centric chatbot and a decision-assist tool in the area of consumer law.

Prof. Pushpak Bhattacharyya, Department of Computer Science and Engineering, is leading the project for IIT Bombay. Speaking on the collaboration, he said, *"LLMs, of which Meta's Llama 2 is a shining example, is the most exciting development in AI today with immense potential for social benefit. The trinity of domain-task-language, e.g., Law-Chatbot-English or Agriculture-Sentiment-Marathi, is set to be tackled in an unprecedented way through LLMs. With our long and deep expertise in NLP, ML and LLM we are excited to work with Meta, NLSIU and DoCA on the very impactful problem of question answering and search in consumer law domain"*.

IIT Bombay Signs MOU With WIPO



Prof. Sachin Patwardhan, Dean (Research and Development), IIT Bombay (second from left); Mr. Daren Tang, Director General of WIPO (third from left); Dr. N. Kalaiselvi, Director General-Council of Scientific & Industrial Research (CSIR) and Secretary, Department of Scientific & Industrial Research (DSIR) (fourth from left); Dr. Jitendra Singh, Hon'ble Minister of Science and Technology (C); Dr. Abhay Karandikar, Secretary of the Department of Science & Technology (DST) (seventh from left); Dr. Rajesh S. Gokhale, Secretary of the Department of Biotechnology (eighth from left) and others during signing of the MoU

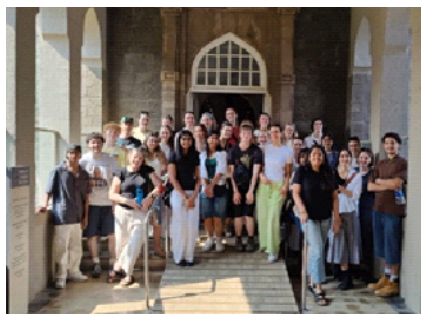
IIT Bombay signed a Memorandum of Understanding (MoU) between the **World Intellectual Property Organization (WIPO)**, **Department of Biotechnology (DBT)** and **IIT Delhi** on October 12, 2023.

The MoU will focus on fostering the development of intellectual property (IP) knowledge through IP-related course materials within the Biodesign Program. It also includes the **establishment of a WIPO-supported Global Health Innovation Fellowship Initiative**, enabling international Fellows to participate in the program.

The DBT Biodesign Centres will implement these fellowships at IIT Bombay, Hinduja Hospital, Nanavati Hospital, Mumbai, IIT Delhi and AIIMS, New Delhi. This monumental initiative is a significant stride towards promoting intellectual property and public health, symbolising our shared dedication to enhancing institutional collaboration.

The Institute congratulates **Prof. Rohit Srivastava** and his team for their invaluable collaboration and unwavering support. This partnership signifies a positive step towards addressing global health challenges and nurturing young innovators.

IIT Bombay Hosts GiG India Program



The IITB-Monash Research Academy, in collaboration with the **Department of Economics at IIT Bombay**, hosted the **Global Immersion Guarantee Program (GiG) India Program**. This year marked the 7th cohort of GiG at IIT Bombay.

The program at IIT Bombay aimed to expose students to diverse local contexts and educate them on addressing human impact on the environment while balancing environmental protection, sustainability, economic development and social progress.

In the most recent edition (2023-24), Block 1 took place from November 18 - December 2, 2023, with participation of 54 students and faculty/ staff

members. IIT Bombay provided substantial support, including accommodation, seminar venues, medical facilities and active involvement from the Department of Economics, contributing to the success of the program. The themes for the year included sustainable development, waste management, recycling, energy security and climate change.

During their time in Mumbai, students participated in seminars, workshops and direct engagement with local responses to waste management, urbanization, climate change, water and food security and more.

FedEx Grants Nearly USD 5 Million To IIT Bombay

IIT Bombay collaborated with **FedEx Express (FedEx)**, a subsidiary of FedEx Corp. (NYSE: FDX) and one of the world's largest express transportation companies, to develop innovative technologies addressing key challenges in supply chain logistics industry. This association will focus on reducing cost and enhancing operational efficiency using advanced quantitative models and solution technologies in supply chain network design and planning. This collaboration is poised to redefine logistics



IIT Bombay Director Prof. Subhasis Chaudhuri (C), Mr. Raj Subramaniam, President and CEO of FedEx Corporation (C) along with other IIT Bombay functionaries and FedEx members during the launch of "IITB-FEDEX Centre For Advanced Logistics and Analytics"

industry standards by synergizing technology and India's talent pool and address the complexities of cross-border logistics through innovation and the seamless integration of digital intelligence. The multinational conglomerate has committed nearly **USD 5 million** in corporate social responsibility grants to IIT Bombay.

This association will leverage IIT Bombay's research expertise and its robust entrepreneurial ecosystem to support the development of technologies, the incubation of promising start-ups and the creation of a highly skilled talent pool. As an integral part of this initiative, a globally recognised **"Centre of Excellence"** will be established at the IIT Bombay campus. This Centre will also play a catalytic role in the Institute's undergraduate discipline (B.Tech.) in Industrial Engineering and Operations Research (IEOR), commencing at the beginning of the next academic year.

MoU With Class of 1997

On October 6, 2023, **IIT Bombay** signed a Memorandum of Understanding (MoU) with the graduating batch of 1997, marking their substantial support to the batch's legacy project. This batch has pledged a record-breaking **Rs. 26.5 crores**, the highest ever by a silver jubilee batch.

The commitment of the 1997 graduating batch is directed towards enhancing the academic and social experience for students. They are contributing significantly to **'Project Evergreen'**, which involves the construction of a new hostel complex (Hostel 7, 8 and a girls' hostel – Hostel 21) and a modern Café within this complex.



Furthermore, they are supporting the **Young Faculty Award program** to attract top faculty globally. They are also contributing to the **Retired Faculty Wellness Fund**, initiated by the Class of 1984 as 'Gurudakshina' for teachers who retired before 2004.

This contribution is part of IIT Bombay's longstanding tradition of alumni giving and the Institute is deeply grateful to the Batch of 1997 for their generosity.

MoU With Jindal Steel For Chair Professorship

On October 6, 2023, **IIT Bombay** signed a Memorandum of Understanding (MoU) with **Jindal Stainless** to establish a Chair Professorship at the Institute towards supporting and enhancing research in industrial processes and product technologies in the stainless steel sector.

The event, held at the IIT Bombay campus, was attended by **Mr. Abhyuday Jindal**, Managing Director, *Jindal Stainless* and **Prof. Subhasis Chaudhuri**, Director, IIT Bombay.

During his keynote address, **Mr. Jindal** expressed that *"partnering with IIT Bombay will further Jindal Stainless' goal of emulating and creating new benchmarks in durable and sustainable infrastructure"*.



IIT Bombay Director Prof. Subhasis Chaudhuri along with Mr. Abhyuday Jindal, Managing Director, Jindal Stainless during signing of the MOU

Prof. Chaudhuri said, *"We are happy to partner with India's largest and globally acclaimed stainless steel manufacturer for the promotion of research and development in this area"*.

The Chair professor will lead the integration of courses in stainless steel as well as special steel into IIT Bombay's B.Tech. and M.Tech. programmes; promote metallurgy-related research at the PhD level and develop short-term courses and training modules to enhance stainless steel applications in engineering applications. In addition, the Chair will facilitate industry-academia research collaborations that will help pave the way for innovative stainless and special steel technologies, offering solutions to industrial challenges.

MoU For Chair Professorship In Semiconductor Technology

IIT Bombay has signed a Memorandum of Understanding (MoU) with alumnus **Mr. Anand Inani** (*B.Tech., Electrical Engineering, 1997*) towards establishing a named chair professorship in the area of Semiconductor Technology. The Chair set up through the generous contribution of Mr. Anand will be named **'Inani Chair in Semiconductor Technology'**.

The Chair Professorship will facilitate cutting-edge research in various aspects of semiconductor technology, including materials, processes, design and equipment, amongst others. This initiative will also play a key role in enabling IIT Bombay to build research collaborations with industry, explore licensing technologies for industry use and leverage government support. Through this partnership, IIT Bombay is fully committed to advancing the semiconductor industry to reduce the dependence of India on imports, bolster its manufacturing capabilities and stimulate innovation.



IIT Bombay Director Prof. Subhasis Chaudhuri along with Mr. Anand Inani (*B.Tech., Electrical Engineering, 1997*) during signing of the MOU

IIT Bombay Hosts Tech RnD Expo 2023



The **Institute Technical Council (ITC)** of IIT Bombay hosted its flagship event, the **Tech RnD Expo**, during November 4-5, 2023.

This two-day event showcased a variety of technical projects, ranging from innovative summer projects by freshmen and sophomores to cutting-edge endeavours by Tech teams involving rockets, satellites, racing cars, drones and underwater vehicles.

The Expo featured ongoing Department projects, startups under the Centre of Excellence at IIT Bombay and various company stalls, offering a comprehensive display of technological expertise.

Students of IIT Bombay and other colleges, along with distinguished dignitaries from the Institute, entrepreneurs, alumni, mentors and angel investors, all participated in the event.

One of the highlights of the Expo was the impressive showcase of real-life drones by ideaForge.

Other interactive zones included VR gaming, F1 simulators, crime scene investigation and laser mazes.

The **BioX Club**, a part of the Institute Technical Council, set up an artificial bio-research lab for the interactive zone called '*The Crime Scene Investigation*'. Participants had to come in groups of three and find the murderer and motive behind the murder of the virtual scientist. The participants had 15 minutes to complete the task with all the clues present in the artificial lab.

The first-year students at IIT Bombay created a 10x10x3m **LaserMaze** that was guided by **Tinkerers Lab**, the innovation hub of the Institute. They achieved multiple innovations, including a 3D-printed model of the Institute, which amazed the Deans and their peers.

The ITC also organized an Olympiad test at the senior and junior levels, which was attempted by a large number of visiting students. The winners of this Olympiad will have the opportunity to work on a project under the guidance of IIT Bombay experts.

Overall, the Tech RnD Expo was a remarkable convergence of innovation, collaboration and technological prowess. It was a celebration of passion, creativity and limitless possibilities in the ever-evolving landscape of technical excellence.

IIT Bombay Cyclothon 2023 Returns After A Three-Year Hiatus!



IIT Bombay Techfest, the largest science and technology festival in Asia, held the 6th edition of its flagship event, the **Cyclothon**, after a three-year break on November 5, 2023, in its beautiful campus, with a 15-kilometre track traversing scenic locations.

This year's event theme was "**Pedal for the Planet: Join the Sustainable Revolution**". Over 1800 cyclists from across Mumbai participated in the event, including school children and senior citizens aged 50 and above.

The event was flagged off by **Dr. Viswanathan Iyer**, the *Bicycle Mayor of Mumbai*, appointed by BYCS, a non-profit organization based in Amsterdam. His presence added significance to the event and encouraged all participants to continue promoting sustainable transportation solutions.



The event culminated with a '**Zumba Fitness Workshop**' for all participants, led by a professional Zumba trainer, which was a vibrant and fun way to celebrate their achievements.

The event's immense success highlights the growing interest in cycling and sustainability in Mumbai. It is a shining example of how communities can come together to promote a greener and more active future.

Stalwarts Visit TechConnect 2023



Mr. Harish Mehta, co-founder and the first elected Chairman of NASSCOM; Prof. Subhasis Chaudhuri, Director, IIT Bombay; and Prof. Sachin Patwardhan, Dean (Research and Development), IIT Bombay during ribbon-cutting ceremony of TechConnect 2023

TechConnect 2023, the research and development outreach event of IIT Bombay, showcasing research to the public, including students, industries and academia, was held during December 27–28, 2023, at the Institute campus.

The event was inaugurated by **Mr. Harish Mehta**, co-founder and the first elected Chairman of NASSCOM, founder of the *Onward Group*, and author of *“The Maverick Effect,”* along with **Prof. Subhasis Chaudhuri**, Director, IIT Bombay.

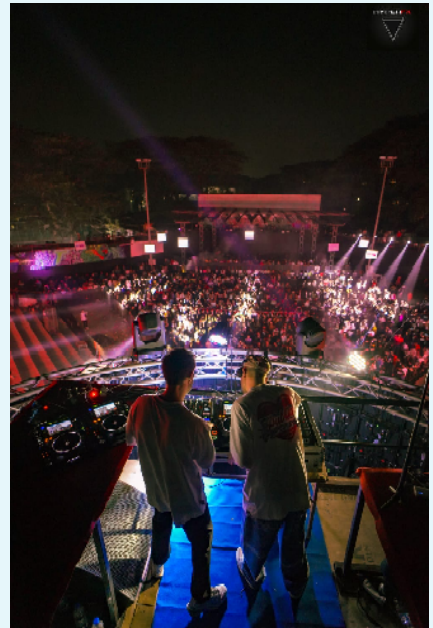
During the event, Mr. Mehta delivered a lecture titled *“The Maverick Effect: The Secret Sauce Behind India’s IT Revolution”*, where he explained how researchers and students could create their own Maverick Effect by tapping into the potential of symphonic collaboration that can propel the industry and national growth forward. He also visited various exhibits accompanied by faculties, interacted with participants and offered his insights.

On the second day of the event, **Dr. S. Somanath**, Chairman of the *Indian Space Research Organisation (ISRO)*, visited the exhibits that displayed several technical projects focusing on hardware technologies in rockets, rovers, satellites and other projects of interest to ISRO. He interacted and shared his thoughts with the participants, who were thrilled to have this opportunity to receive his valuable insights.



Mr. Harish Mehta, co-founder and the first elected Chairman of NASSCOM interacting with students at TechConnect 2023 Expo

TechFest 2023 Draws Huge Crowds



IIT Bombay hosted the **27th edition of Techfest**, the annual science and technology festival, during December 27-29, 2023, at the Institute campus. The event saw a staggering attendance of over 1,75,000 participants and pan-India reach across 500+ colleges.

Exhibitions:

In a ground breaking event, nature-inspired robotics, defence advancements, and holographic innovation converged globally, wherein the highlights included Swiss Magnecko's gravity-defying climb, the University of Michigan's open-source Bionic Leg, Switzerland's soaring Robotic Bird, the USA's mesmerising PROTO Hologram, and Hong Kong's Clearbot addressing environmental concerns. The Defense Research and Development Organization (DRDO) showcased an impressive fusion of technology and nature with an Advanced Weapon and K9 Skill Display, marking a new standard for global technological progress.

Lectures:

Mr. Akash Ambani, fulfilling his long-standing aspiration of visiting IIT Bombay, graced the Institute campus as a guest speaker with an inspirational lecture, captivating the audience while reflecting on the future vision of **Mr. Mukesh Ambani**.

Indian Space Research Organisation (ISRO) Chairman **Dr. S. Somnath** graced IIT Bombay, unveiling a bold vision for the future following the triumphant success of Chandrayaan-3. With a strategic roadmap extending till 2047, Somnath

envisioned groundbreaking achievements, including developing a space station, human lunar missions and establishing lunar-based economic initiatives. These initiatives will cement ISRO's position as a pioneer in global space exploration.

At the forefront of the groundbreaking symposium were three stalwarts of the Indian defence forces - former Chief of Naval Staff **Admiral Karambir Singh (Retd.)**, former Chief of Army Staff **General (Dr.) Manoj Mukund Naravane (Retd.)** and former Chief of Air Staff **Chief Marshal Rakesh Kumar Singh Bhadauria (Retd.)**

This rare convergence delved into the realms of strategy, leadership, and the future of defence in the nation, offering a unique perspective on the advancements and challenges in the defence sector, making it into a truly insightful lecture.

Highlighting the cutting-edge advancements in defence technology, **Bofors** unveiled India's formidable **40mm Automatic Gun L/70 equipped with Fwcs Radar**, an advanced automatic anti-aircraft cannon. This state-of-the-art system signifies Bofors' commitment to delivering innovative solutions for enhanced security and defence capabilities, showcasing a significant leap forward in air defence technology.

DRDO's Laser Science & Technology Centre (LRDE) was another pivotal contributor to the symposium, addressing the Services' requirements in Radars, Communication Systems, and related technologies. LRDE's focus on innovation reinforces

DRDO's commitment to advancing critical technologies for the Indian Armed Forces, solidifying its role as a cornerstone of India's defence capabilities.

Adding a thrilling dimension to the symposium was the **National Security Guard (NSG)**, who displayed their **advanced weapons and K9 skills**. As an elite counter-terrorism force for federal contingency, the NSG's deployment in worst-case scenarios is reserved for exceptional situations, showcasing its unparalleled expertise in handling high-risk situations.

International Robowars Finale:

Techfest organised India's largest Robot Combat Competition featuring international battle bots in a fierce arena, competing for the Robowars Champion Title and a prize pool of INR 12,50,000. With the country's largest arena, 100+ teams from 20+ countries participated and **Brazil's Riobotz** emerged as the winner in this thrilling competition.

Auto Expo

Techfest led a groundbreaking collaboration, showcasing automotive innovation at AutoExpo by seamlessly integrating global advancements in electric vehicles, autonomous driving and cutting-edge technology. This event served as a unique platform for enthusiasts and industry professionals, marking a new era in automotive exhibitions and

reinforcing Techfest's commitment to pushing innovation boundaries and shaping AutoExpo's future.

Technoholix

Techfest's three-day extravaganza seamlessly unfolded with the **Tron Boys Crew's** awe-inspiring **Indoor TechX showcase** at the IIT Bombay Convocation Hall, followed by a special appearance from director **Nag Ashwin** and the **"Kalki"** team on December 28th, offering an exclusive glimpse into their much-anticipated project. The grand finale on December 29th featured an electrifying **EDM Night**, showcasing a stellar lineup including **Roan Shenoy**, **Nina Suerte** and headliners **Matisse & Sadko**. Each day presented a unique dimension to the overall experience, highlighting Techfest's commitment to diverse and cutting-edge entertainment.



Mood Indigo 2023

The 53rd edition of IIT Bombay's cultural fest **'Mood Indigo'** was organised in the campus spanning four days during December 18-21, 2023, on the theme **'A Rewired Reality'**.



The dynamic duo Salim and Sulaiman mesmerized the audience with their spectacular performances at the popular nite concert



Actors Aditya Roy Kapoor, Abhishek Bachchan and Pankaj Tripathi at Mood Indigo's Eloquence



Bollywood singer Mohit Chauhan enthralled the audience with his enchanting melodies at Mood Indigo Euphonic Nite



Glimpses of vibrant moods
and performances at
Mood Indigo 2023

“Jal Shakti Abhiyan: Catch the Rain” 2023

The **Ministry of Jal Shakti** launched a nationwide campaign “**Jal Shakti Abhiyan: Catch the Rain**” (**JSA: CTR**) focusing on saving and conserving rainwater with the theme “*Source sustainability for drinking water*” during March 4-November 30, 2023.

The key focus of JSA: CTR - 2023 was to ensure source sustainability in 150 water-stressed districts of the country, identified by Jal Jeevan Mission. The campaign was launched by the Hon'ble President of India **Smt. Droupadi Murmu** alongside “*Swachh Sujal Shakti Samman*”, an event of the Department of Drinking Water and Sanitation, Ministry of Jal Shakti.

As a participating Institute in this campaign, IIT Bombay organized various competitions, including slogan writing, poster making and essay writing during May to November 2023 under the leadership of **Prof. Pennan Chinnasamy**, Centre for Technology Alternatives for Rural Areas (CTARA). The Institute students enthusiastically took part in all these competitions.

Winners of each category received a certificate and a cash prize.



An Evening Celebrating Poetry



Vaani - The Indian Languages Club of IIT Bombay organised ‘*Mushaira-Kavi Sammelan*’ where the likes of **Shariq Kaifi, Azhar Iqbal, Shikha Pachouly, Charagh Sharma, Ayush Charagh** graced the occasion during **Izhaar** - the annual flagship event on October 28, 2023.

IIT Bombay US Roadshow 2023



The **IIT Bombay Heritage Foundation** and the chapter leaders organised a **US Roadshow 2023** edition across four cities during October and November to build and nurture a strong community of alumni that has been an integral part of IIT Bombay's pursuit of excellence.

Institute leadership, including Director **Prof. Subhasis Chaudhuri** and Dean (Alumni and Corporate Relations) **Prof. Ravindra D. Gudi**, connected with alumni in **New York, Detroit, Atlanta and San Francisco**. They shared an overview of progress by IIT Bombay in its strategic initiatives and vision to emerge as a global leader in engineering education and research with alumni.

The alumni meetings also witnessed talks and presentations on diverse topics, including sustainability and climate change, entrepreneurship and the automotive industry, among others. Some of the prominent speakers included **Dr. Arun Majumdar**, Dean of the Stanford Doerr School of Sustainability; **Mr. Salil Donde**, Chief Executive Officer and Board Member at Ventiv Technology Inc.; **Mr. Amarnath Thombre**, Advisor, Match Group; and **Dr. Deepa Ramaswamy**, Chief Engineer, Ford Motor Company EV Programme, among others.

It was a week of reconnecting, nostalgia, celebration and a collective spirit! IIT Bombay is grateful to alumni for their gracious presence and for making the US Roadshow 2023 eventful and memorable!

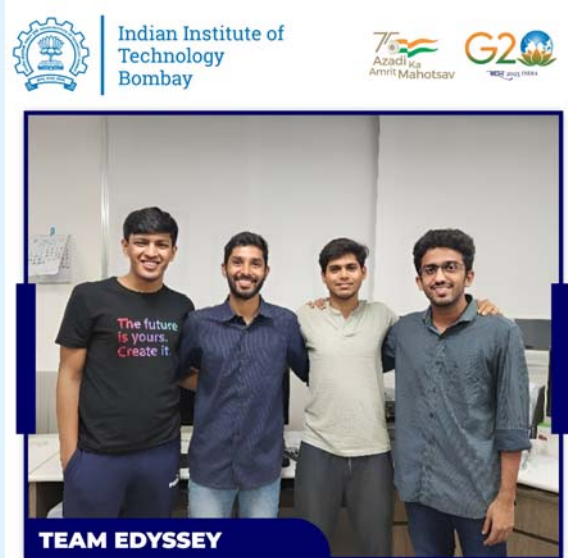
Celebrating National Engineer's Day



On September 15, 2023, the Engineers' team of the **Electrical and Maintenance Division (EMD)** at IIT Bombay celebrated **National Engineer's Day** in honour of the birth anniversary of **Bharat Ratna Dr. Mokshagundam Visvesvaraya**.

The team organised a training session on Harmonics Mitigation and Modernization of electrical systems as part of the celebration. The EMD Team highlighted the significance of engineering as a profession and its role in the nation's progress, including the recently executed and upcoming technology-oriented, energy-saving projects.

ACCESS Awards 2023 Announced



IIT Bombay is delighted to announce the **winners of ACCESS (ACcelerating Climate, Energy & Sustainability Solutions) Awards Initiative**. Supported through the generous contribution of our alumni **Ms. Vinaya Kapoor** (B.Tech., Chemical Engineering, 1992) and **Mr. Samir Kapoor** (B.Tech., Electrical Engineering, 1992), these awards reward some of the trailblazing ideas aimed at addressing the pressing challenges of climate change.

The winning teams are:

Team Athira: For creating COOL plaster/blocks (CO₂ LIME) from air lime to absorb CO₂ and keep indoor spaces comfortable, reducing energy consumption.

Team Edyssey: For developing a groundbreaking machine-learning model to predict solar irradiance, a game-changer for assessing and forecasting solar potential in India.

Team Beat the Heat: For introducing Solar Cooling Centres for heat-resilient urban public infrastructures, addressing escalating heat waves due to climate change.

Team Jalviks: For creating a climate service portal connecting farmers and state governments.

Institute Colloquium / Lectures



Dr. N. Kalaiselvi, Director General, Council of Scientific and Industrial Research, Secretary, Department of Scientific and Industrial Research, delivered the Institute talk titled *“Energy Technologies: National Missions, CSIR Research and Collaboration Opportunities”* on November 10, 2023



Prof. Vikram Jayaram, FASc, FNASc, FNAE, Honorary Professor, Department of Materials Engineering, Indian Institute of Science Bangalore, delivered the Institute lecture titled *“The early history of irreversible thermodynamics and thermoelectricity”* on November 29, 2023



Dr. Anil K. Rajvanshi, Director, Trustee and Hon. Secretary, Nimbkar Agricultural Research Institute (NARI), Phaltan, delivered the Institute Colloquium titled *“Innovative Water Technologies – Possibilities for Rural Applications”* on December 4, 2023

Notifications:

Prof. Sudarshan Kumar, Department of Aerospace Engineering, has joined as Dean at the International Relations (IR) Office, IIT Bombay w.e.f. January 4, 2024

Prof. Surya S. Durbha, has been appointed as Head, Centre of Studies in Resources Engineering (CSRE) w.e.f. November 1, 2023

Prof. Vijayanthi Sarma, Department of Humanities and Social Sciences, has been appointed as the Convener of the Gender Cell w.e.f. October 3, 2023



Obituary

Mr. Suraj Singh, Technical Superintendent in the Department of Energy Science and Engineering, passed away on December 8, 2023, after a long fight with leukaemia.

He was known for his helping attitude and played a key role in setting up the MSc teaching lab, overseeing the XRD facility of DESE and planning fume hood ducting in the new DESE-ESED building. Our thoughts are with his family and loved ones during this difficult time.

Grand Spectacle Marks Opening Ceremony Of 56th Inter-IIT Sports Meet Hosted By IIT Bombay



IIT Bombay recently played and hosted the prestigious **56th Inter-IIT Sports Meet**, a highly anticipated event that brought together all IITs across India. The sports meet encompassed an array of thrilling competitions, including badminton, basketball, hockey, table tennis, volleyball, weightlifting, showcasing an intense series of tough fights and immense talent and competitive spirit among the participating teams.

The event commenced with a grand opening ceremony graced by the esteemed presence of Chief Guest **Venkatesh Prasad**, adding a touch of eminence to the occasion. The ceremony kicked off with a mesmerising march past, where teams from each IIT paraded with pride and vigour, displaying their unity and determination. IIT Bombay emerged victorious in the march past, setting the stage for a spirited competition ahead. The ceremony unfolded against a backdrop of vibrant cultural performances, with a fusion of traditional and contemporary elements capturing the essence of India's diversity.

Addressing the enthusiastic crowd, Venkatesh Prasad expressed his admiration for the dedication and passion exhibited by the IIT community. He emphasized the importance of sports in shaping character and fostering teamwork, inspiring the participating athletes to strive for excellence.

The competition fervour was palpable as athletes from different IITs clashed in various disciplines, each vying for supremacy and glory. The badminton courts witnessed intense rallies, the basketball courts echoed with thunderous cheers and the hockey fields were adorned with skillful manoeuvres. Simultaneously, the ping-pong tables saw lightning-fast exchanges, while the volleyball courts showcased incredible teamwork. Weightlifters exhibited sheer strength and determination, captivating audiences with their remarkable performances.

One of the highlights of the event was the enthralling

display of tough fights, where teams fiercely contested, leaving spectators on the edge of their seats. The raw intensity and competitive spirit showcased the dedication and training these athletes had undergone to represent their respective IITs. The Inter-IIT Sports Meet not only celebrated athleticism but also fostered camaraderie and sportsmanship among the participants. Beyond the competitive arena, the event served as a dynamic platform for students to bond, forge new friendships and strengthen the unity among IITs. In addition to the exhilarating sporting events, a gala dinner was meticulously organised, providing a relaxed atmosphere for participants to unwind and celebrate their hard work and sportsmanship. This convivial gathering offered an invaluable opportunity for athletes to interact, share experiences and build lasting connections beyond the confines of the sports arena.

The successful culmination of the 56th Inter-IIT Sports Meet at IIT Bombay not only showcased exceptional talent but also highlighted the significance of sports in fostering unity, teamwork and healthy competition among the brightest minds of the nation. It served as a testament to the dedication, passion and sportsmanship ingrained within the IIT community, leaving a legacy of athletic excellence and camaraderie.

The performance of IIT Bombay in the Inter-IIT Sports Meet 2023 is as follows:

- o Basketball – (Men) Gold & Women (Silver)
- o Hockey – Silver
- o Volleyball – (Women) Silver
- o Table Tennis – (Men) Bronze
- o Badminton – (Women) Silver
- o Football – Silver
- o Lawn Tennis – Fourth
- o Chess – Fourth
- o Squash – (Women) Silver
- o Athletics – 1 Silver, 2 Bronze & 3 Fourth position

28TH INTER-IIT STAFF SPORTS MEET 2023 AT IIT GANDHINAGAR



A 71-member contingent (61 men and 10 women) represented Indian Institute of Technology Bombay in the **28th Inter-IIT Staff Sports Meet 2023** held at IIT Gandhinagar from December 24-29, 2023.

IIT Bombay fielded its team in all the events that were part of the meet (badminton, basketball, cricket, tennis, table tennis, volleyball, football, athletics and squash in men's category and badminton, table tennis and athletics in women's category). **IIT Bombay women's contingent won General Championship for Women and Men contingent finished Third. The IIT Bombay Staff contingent won overall General Championship for 2023.**

Silver medal was also won in Athletics by **Mr. N.G Jadhav** (100 mts.), **Mr. R.N. Singhade** (1500 mts.) and by the 4 x 100 mts. Relay quartet of the men's team. Our women's relay team also secured third place and won Bronze medal in 4 x 100 mts. relay.

Though there is ample scope for improving the performance in the coming years, the overall performance of the staff contingent was highly impressive across all disciplines and was also exemplary in terms of sporting behaviour on and off the field.

The performance of IIT Bombay Staff in the Inter-IIT Sports Meet 2023 is as follows:

Badminton (M) - Gold
Badminton (W) - Bronze
Cricket - 4th Place

Football - Silver
Table Tennis (W) - Gold
Tennis - Gold



Research in focus

Western Ghats Region At Risk From Rapid Soil Erosion



A landslide in the Central Western Ghats resulting in soil erosion. Photo: H.S.Sudhira

The first-of-a-kind study has used remote sensing data to quantify long-term soil losses across the entire Western Ghats region.

The Western Ghats Region (WGR) is a unique landscape found in India along the western part of the Indian subcontinent, right from the south of Gujarat in the north to Kerala and Tamil Nadu in the south. It is recognised as a UNESCO World Heritage Site and represents one of the Earth's 36 biodiversity hotspots. However, given the pressures of unsustainable and unplanned activities, the region is facing numerous challenges.

A recent study by **Prof. Pennan Chinnaasamy and Ms. Vaishnavi Honap**, at the Indian Institute of Technology Bombay (IITB), has revealed rapidly increasing soil erosion in the WGR. Some parts of the WGR have seen soil erosion rates rise by 94% between 1990 to 2020. The first-

of-a-kind study uses remote sensing data to quantify long-term soil losses across the entire WGR. The study not only confirms a progressive increase in soil erosion rates but also reveals alarming state-wise increase in soil erosion.

"The Western Ghats is a biodiversity hotspot that harnesses multiple lifeforms. It is a very unique spot in the world, however, the management of this ecosystem needs more focus. Water and soil forms the core for life in this region and since soil erosion is not monitored we quantified the soil losses," says **Prof. Pennan Chinnaasamy** as the motivation behind this study.

To arrive at quantitative estimates of the soil loss, the researchers have used the Universal Soil Loss Equation (USLE) method. There have been numerous studies that have employed USLE, given that most data

needed to run this is open source and can be derived using GIS.

The USLE provides a convenient framework for assessing erosion and its factors. The key factors that USLE considers are rainfall, topography, soil erodibility, land cover management and prevailing conservation practices. They are represented as process-based equations which are used to predict the extent of soil loss in terms of sediment yield and concentration. In the present study, the use of USLE for the WGR is novel and perhaps the first time such an assessment is carried out at this scale (temporal and spatial).

"The USLE equation has many parameters and some of them have to be assumed as per literature. This work was done with limited support for conducting physical tests and hence some parameters were assumed based on published literature. Future studies should

aim to augment these data with field-based measurements,” adds **Prof. Pennan Chinnasamy** as the limitation and forward directions of this study.

Using the available data from the 90’s and subsequent decades, the researchers have quantified the soil loss from 1990 to 2020. The study revealed that the average soil loss for the region was 32.3, 46.2, 50.2 and 62.7 tons per ha per year for the years 1990, 2000, 2010 and 2020 respectively. The figures reflect a shocking net increase of 94% in soil erosion, a trend that is detrimental to the region’s globally important biodiversity.

Given the scale of the Western Ghats, the researchers had to process large datasets. *“With the use of advanced computing facilities at IIT Bombay we were able to process the datasets with fewer challenges. We also broke up the work into multiple parallel jobs to address this challenge,”* remarks **Prof. Pennan Chinnasamy**.

Prof. Pennan Chinnasamy further adds, *“The major challenge was to get the study area boundary for the Western Ghats. Since WGR is transboundary between states, each state had their boundary and was not available freely for us to use. So we had to digitise multiple maps to get the consolidated boundaries of the Western Ghats.”*

After analysing the results, among the WGR states, the study notes that the state of Tamil Nadu recorded the highest

soil loss rate in WGR, a staggeringly high increase of 121% from 1990 to 2020. Kerala, which had a net increasing trend in soil losses (90% increase from 1990 to 2020) and Karnataka, which showed an increase of 56%, are also witnessing unsustainable rates of soil erosion.

The situation is equally dire for the WGR in Goa and Gujarat, with Goa showing an increase of 80% in soil erosion from 1990 to 2020 and Gujarat showing an alarming 119% increase for the same period. Maharashtra has also seen its soil losses surge by 97%.

These drastic rates of soil erosion pose a substantial threat to the ecosystem, biological diversity and the communities that depend on the WGR. The region supports unique biophysical processes and species, the continuity of which is critically threatened by the loss of fertile soil. Such alarming levels of soil erosion can lead to lower agricultural productivity, reduce water quality and impact freshwater sources, posing significant ecological and socioeconomic challenges besides affecting the biodiversity of the region.

The situation poses unique challenges for the policymakers to address. **Prof. Pennan Chinnasamy** notes that the *“State agencies should work on the region of influence or administration and conserve soil by taking measures to prevent soil erosion. Regional zones have smaller offices that can focus on the local administration to*

manage soil. Researchers at IIT Bombay can partner with them to give inputs to focus management activities.”

Critically, the study points towards the escalating impact of climate change, combined with land mismanagement, as key contributors to the rising soil erosion. Strategies focussed on reducing human disturbance and increasing conservation activities need urgent implementation. The present study also makes a compelling case for the physical monitoring of soil loss and erosion at multiple locations across the WGR to scientifically validate the remote sensing data.

Increasing soil conservation activities in the WGR and reducing anthropogenic disturbances can not only mitigate climate change impacts but also avert the imminent erosion-induced damage to this fragile ecosystem.

As a way forward, **Prof. Pennan Chinnasamy** notes that, *“future works include developing scientifically validated and data driven best management plans (BMPs) based on the regional hotspots for soil loss. State agencies will be approached to use these vulnerability maps and BMPs and joint activities can be envisaged to keenly monitor and manage soil. Joint proposals can be funded by the government and bilateral agencies that focus on ecosystem health and soil conservation.”*

Article written by: Sudhira H. S.

Link to published work: <https://link.springer.com/article/10.1007/s12040-023-02098-x>

Awards and Distinctions

Prof. Sarika Mehra, Department of Chemical Engineering, has been invited to join the Editorial Advisory Board of the American Chemical Society (ACS) journal *ACS Infectious Diseases*

Prof. Mahesh S Tirumkudulu, Department of Chemical Engineering, has been selected for **INAE-SERB, DST Abdul Kalam Technology Innovation National Fellowship**

Prof. Subimal Ghosh, Department of Civil Engineering, has been elected as a **Fellow (FNASc) of The National Academy of Sciences, India (NASI)**, Prayagraj

Prof. Suparna Mukherji, Environmental Science and Engineering Department, has been elected **Fellow (FNASc) of The National Academy of Sciences, India (NASI)**, Prayagraj

Prof. K. G. Suresh, Department of Physics, has been elected as a **Fellow (FNASc) of The National Academy of Sciences, India (NASI)**, Prayagraj

Prof. Vivek Agarwal, Department of Electrical Engineering, has been elected as a **Fellow (FNASc) of The National Academy of Sciences, India (NASI)**, Prayagraj

Prof. Anirban Banerjee, Department of Biosciences and Bioengineering, has been invited to serve as an Editorial Board member for the *Journal of Bacteriology*

Prof. Himanshu Burte, Centre for Urban Science and Engineering, has been invited to join the editorial board of the leading scholarly Journal, *Urban Studies*, as International Corresponding Editor

Prof. R. B. Sunoj, Department of Chemistry, has been inducted as an Associate Editor of one of the most prestigious organic chemistry journals, *J. Org. Chem.* published by the American Chemical Society

Prof. Subhananda Chakrabarti, Department of Electrical Engineering, has been elected **Fellow of OPTICA (formerly OPTICAL SOCIETY OF AMERICA (OSA))**

Prof. Subhimal Ghosh, Department of Civil Engineering, has been selected for the **European Geosciences Union Alexander Von Humboldt Medal 2024**

Prof. Deepankar Choudhury, Department of Civil Engineering, has been awarded the “**Best Teacher of Geotechnical Engineering Award**” by the Indian Geotechnical Society (IGS), New Delhi

Prof. Ruchi Anand, Department of Chemistry, has been asked to join the Editorial Advisory Board of one of the most prestigious American Chemical Society journals, the *Journal of American Chemical Society (JACS)*

Prof. B. V. S. Viswanadham and Dr. Ahmad Rajabian (former Ph.D. student), Department of Civil Engineering) have been awarded the **IGS-Shri R.N. Prasad Biennial Award - 2023** for their paper “*Centrifuge Study of a Retrogressive Seepage-Triggered Landslide in Silty Sand Slopes*” published in *Indian Geotechnical Journal*

Prof. B. V. S. Viswanadham and Dr. Pankaj Kumar (former PhD student), Department of Civil Engineering) have been awarded the **IGS – Mr. H.C. Verma Diamond Jubilee Award – 2023** for their “*Innovative Instrument Design*” on “*Design and Development of an In-flight Hybrid Loading Simulator for Geotechnical Centrifuge*”

Prof. Deepankar Choudhury and Dr. Chaidul Haque Chaudhuri (former PhD student), Department of Civil Engineering, have been awarded the **IGS – YGE Best Paper Biennial Award – 2023** for their paper titled “*Buried Pipeline subjected to Static Pipe Bursting Underneath: a closed-form Analytical Solution*” published in *Géotechnique*

A textbook on **Natural Language Processing (NLP)** by **Prof. Pushpak Bhattacharyya** Department of Computer Science and Engineering, co-authored with **Mr. Aditya Joshi**, has been published by *Wiley*

Prof. S. Akshay, Department of Computer Science and Engineering, has received **Google Research India Award 2023** for his research project titled “*MDPs as distributional transformers: Verification and Strategy Synthesis*”

Prof. Rajesh Zele, Department of Electrical Engineering, will be joining the Editorial Board as Associate Editor for the *IEEE Open Journal of Circuits and Systems (OJCS)* for the next two years (24-25)

Prof. Nutan Limaye, Department of Computer Science and Engineering, has been selected to receive the **ACM India Outstanding Contributions in Computing by a Woman (OCCW) 2023 Award**

Prof. Siddavatam Ravi Prakash Reddy, Department of Energy Science and Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Azizuddin Khan, Department of Humanities and Social Sciences, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Bellie Sivakumar, Department of Civil Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Shiladri Chakraborty, Department of Electrical Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. S. Akshay, Department of Computer Science and Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Srineesh VK, Department of Civil Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Zakir Hussain Rather, Department of Energy, Science and Engineering, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Parinda Vasa, Department of Physics, has been selected for the **AUA Scholars Award Program 2023-2024**

Prof. Samir Maji and his team, Department of Biosciences and Bioengineering, has been discussed in the article ***“How high-impact papers from Indian researchers are shaping science”*** that is a part of *Nature Spotlight: India*. The link to the publication: <https://www.nature.com/articles/d41586-023-03913-7>

Prof. Samir Maji, Department of Biosciences and Bioengineering, has been selected for the **J.C. Bose Fellowship**

Workshops/ Conferences Summit

To ensure the well-being of the IIT community, **Yogastha - the wellness club of IIT Bombay**, organised a series of workshops aimed at helping individuals find a healthy work-life balance, including

1. A one-day training on ***‘Meditation: Meaning, how to Meditate and its effects on the Mind and Body’*** by renowned **Doctor Nita Kamat**, MBBS, MD in Paediatrics and a fellowship in paediatric neurology and epilepsy on October 7, 2023
2. A two-day workshop on ***‘NriyaYogsutra for Stress Management and Physical Health’*** by **Dr. Sangeeta Pethkar** during October 28-29, 2023
3. A workshop series on ***‘Rhythmic Breathing and Your Health’*** by the Institute’s NSO Yoga instructor **Dr. Deepak Parmar** (PhD in stress management [Yoga]) on October 7, November 3 and November 10, 2023, respectively

Department of Economics, IIT Bombay organized a **conference** on ***“Pathways to Sustainable Economy: A Banking and Finance Perspective” (SEBF)*** during October 12-13, 2023. The conference focused on the critical role of financial innovation in shaping the future of the financial ecosystem and exploring innovative banking and finance solutions for a more sustainable world. HoD **Prof. K Narayanan** and **Prof. Puja Padhi** were the organisers

IIT Bombay organized a **half-day workshop** on ***“Mera Yuva Bharat (MY Bharat)”***, an initiative of the Ministry of Youth Affairs and Sports, Government of India at the Institute campus on October 26, 2023. The initiative is an autonomous body, set up to empower Indian youth through social mobility, educational equity and practical skills. The objective of this workshop was to carry out a thought experiment to help support this initiative. **Prof. Kannan Moudgalya**, Project Incharge, FOSSEE (Free/Libre and Open Source Software for Education), IIT Bombay hosted the workshop

The **Student Wellness Centre at IIT Bombay** organized an insightful talk on ***“Health and Wellness”*** in celebration of ***“Janjatiya Gaurav Diwas”*** on November 3, 2023. The speaker for the event was **Dr. Yogesh Vasandii**, a prominent Mumbai-based physician who conducts diverse therapy and workshop sessions both in India and abroad on a wide range of topics, including stress management, self-empowerment, self-hypnosis, emotion management and more

The Fire and Safety Section, Office of Dean (IPS) at IIT Bombay organised a workshop on ***Safety Aspects in Residential Technical Institutions and Best Practices*** during November 3-4, 2023

The **Department of Chemical Engineering and Wadhwani Research Centre for Bioengineering** organized the **IIT Bombay Biopharma Summit 2023** during November 23-24, 2023 at VMCC, IIT Bombay. The Summit featured several expert talks and panel discussions on the emerging technologies in biopharma R&D and the opportunities and challenges in clinical translation of these advances for advancing healthcare. **Prof. Pramod Wangikar**, Department of Chemical Engineering, was the convenor of the event

The **Department of Economics** organised the **16th Annual International Conference of the Forum for Global Knowledge Sharing** on the theme ***“Technology, Economy and Sustainability”*** during November 24-25, 2023 at IIT

Bombay. HoD **Prof. K Narayanan** was the organiser

The **Educational Technology, IIT Bombay** and **EdTech Society, India** organized the **International Conference on Technology 4 Education (T4E 2023)** during November 24-26 at VMCC IIT Bombay. T4E 2023 focussed on Technology /for, of, in, across / education, reflecting 4 perspectives on the connection between technology education. **Prof. Sahana Murthy** was the General Chair for the T4E 2023 event

Central Library, IIT Bombay organised a Wiley Author workshop titled ***‘Secrets of getting published in high-impact-factor journals’*** on December 7, 2023. Mr. Yateendra Joshi, a former Indian Council of Agricultural Research (ICAR) Scientist hosted the workshop

IIT Bombay in collaboration with **HSBC India**, conducted a one-day workshop on **Green Hydrogen** on December 2, 2023. The workshop comprised breakout sessions on significant and diverse topics, including Hydrogen Storage, Hydrogen Utilization and Transport, and Hydrogen Generation and the pivotal role each of these aspects play in realising the potential of green hydrogen. **Dr. Ashish Lele**, Director, National Chemical Laboratory was the plenary speaker at the workshop

IIT Bombay conducted a **workshop** under the **IOE initiative** on ***Environmental Geotechnology*** during December 4-6, 2023. **Prof. D.N.Singh**, Department of Civil Engineering was the organizer of the event

Water Innovation Centre: Technology, Research and Education (WICTRE), IIT Bombay hosted the **Third International Conference on Water Technologies (ICWT 2023)** in collaboration with the **Asian Universities Alliance and The International Society for Optics and Photonics (SPIE)** during December 4-7, 2023. **Profs. Shobha Shukla** and **Sumit Saxena** from the Department of Metallurgical Engineering and Materials Sciences, were the coordinators of ICWT-2023

The Environmental Science and Engineering Department, IIT Bombay, hosted a workshop on “**Biomimetic and Electroactive Membranes (BMEM2023)**” during December 7-8, 2023 at the Institute campus. The workshop collaborated with the University of Texas at Austin and focussed on advanced membrane technology. **Prof. Swatantra Pratap Singh**, Environmental Science and Engineering Department was the convenor

IIT Bombay and 3D Graphy jointly organised a **3D-GEM Conference** about 3D printing during December 9-10, 2023. The two-day event included a poster presentation, an exhibition and a conference with

scientific talk sessions focused on various 3D technologies in the engineering and medical sectors. Director of IIT Bombay **Prof. Subhasis Chaudhuri**, was the Chief Patron of this event

The Department of Energy Science and Engineering (DESE), IIT Bombay organized and hosted the **9th International Conference on Advances in Energy Research (ICAER)** during December 12-14, 2023, at the Institute campus. **Prof. Sankara Sarma V Tatiparti** and **Prof. S. Srinivas** were the organising secretaries of this conference
Department of Economics, IIT Bombay hosted a **three-day**

workshop on **(BREW ESA2023)- Behavioral Research in Economics** co-organized with the Economic Science Association (ESA) during December 15-17, 2023. **Prof. Subrato Banerjee** and **Prof. Neha Gupta** were the organizers

The Systems and Control Engineering Group, IIT Bombay organized a workshop on **‘Large Scale Learning and Control’** during December 16 - 17, 2023 at VMCC, IIT Bombay. The workshop focused on the niche area of research activity at the intersection of learning theory and control. **Profs. Avishek Ghosh** and **Debasish Chatterjee** were the organizers of this event

Student News

A student team from the Centre for Technology Alternatives for Rural Areas (CTARA) at IIT Bombay emerged as winners from over 600 participant teams in the prestigious **National Grand Onion Challenge** initiated by the Ministry of Consumer Affairs and Public Distribution, Government of India. The team comprised of two M.Tech. students, **Mr. Yashwanth Nandi** and **Mr. Om Agrahari** and a Ph.D. student **Mr. Nilesh Vadgave**, mentored by **Prof. Amit Arora**, CTARA.

The winning solution from the IIT Bombay team was an innovative technology titled

‘Converting existing Open Ventilated storage structure into Climate Smart storage for improving the shelf life of onions’. This groundbreaking approach holds immense potential for onion farmers, enabling them to preserve their harvest for long periods and secure better returns.



(From L to R): Mr. Nilesh Vadgave, Mr. Yashwanth Nandi, Justice Mr. A.P. Sahi (President, NCDRC), Mr. Rohit Singh (Secretary, Ministry of Consumer Affairs), Mr. Om Agrahari and Prof. Amit Arora

Dr. Gaurav Misuriya, a former PhD student of **Prof. T. I. Eldho**, (Department of Civil Engineering), has been selected for the award of the **“Indian Society of Hydraulics Best PhD Thesis Award”, 2023**, for PhD thesis titled **“Turbulent Flow and Scour Characteristics Around Bridge Piers over Gravel Bed”**, given by Indian Society for Hydraulics (ISH).



Dr. Seelam Naga Poojitha, a PhD student of **Prof. V. Jothiprakash**, (Department of Civil Engineering), has been selected for the **‘Prof. U.C. Kothiyari - ISH Best PhD thesis Award for the year 2023** for PhD thesis titled **“Metaheuristic Algorithms Coupled With Chaos for Design and Analysis of Water Distribution Networks”** given by Indian Society for Hydraulics (ISH).



Ms. Amreen Khan was selected for **“Young Scientific Talents Week: Sports and Science”** among 37 international young talented scientists from 22 countries. The Institut Français en Inde, Embassy of France-India and Universcience – Cité des sciences et de l’industrie. She studies under **Prof. Rohit Srivastava** and **Prof. Jayesh Bellare**.



Appointments

Prof. Siddavatam Ravi Prakash Reddy, has been appointed as Assistant Professor Grade I in the Department of Energy Science and Engineering w.e.f. September 16, 2023



Prof. Abhijeet Kumar, has been appointed as Assistant Professor Grade I in the Department of Mechanical Engineering w.e.f. September 22, 2023



Dr. Shrinidhi Shrikant Pandurangi, has been appointed as Assistant Professor (Grade I), in the Department of Mechanical Engineering w.e.f. December 26, 2023



Retirements on October 31, 2023

Prof. Jagarlapudi Adinarayana, Centre of Studies in Resources Engineering, retired after 37 years of service



Mr. Avinash Y. Patil, Assistant Administrative Officer, Materials Management Division, retired after 34 years of service



Ms. Sulbha H. Birade, Administrative Associate, Electrical Maintenance Division, retired after 33 years of service



Mr. Thekkel Bhaskaran, Sr. Cook, Hostel No - 03, retired after 22 years of service



Prof. Shripad P. Mahulikar, Department of Aerospace Engineering, retired (voluntarily w.e.f. 21.10.23) after 23 years of service



Retirements on November 30, 2023

Mr. Deepak H. Ghorpade, Sr. Multiskilled Assistant, Academic Section, retired after 34 years of service



Mr. Dharmik D. Gamare, Technician (Medical), IIT Bombay Hospital, retired after 36 years of service

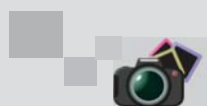


Ms. Lissy Vinu, Administrative Associate, Internal Audit and Grievance Redressal Section, retired after 26 years of service



Retirements on December 31, 2023

Prof. Prasanna Majumdar, Department of Aerospace Engineering, retired after 37 years of service



In the
Wilderness



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CEP courses scheduled January and February 2024			
January 2024			
No.	Course Title	Course Coordinator/ Department	Duration
Open Programmes :			
1	Cyber Security: What, Why and How	Prof. Kameswari Chebrolu, Department of Computer Science and Engineering	January 20, 2024 (2 days)
GIAN Courses:			
2	Advances In Mixed-Integer NonLinear Optimization	Prof. Ashutosh Mahajan Industrial Engineering and Operations Research	January 15, 2024 (10 days)
3	Public Policy-Making, Organisational Choices Through Game Theory	Prof. Saptarshi Ghosh (Other)	January 27, 2024 (6 days)
February 2024			
Open Programmes:			
4	Batch Distillation - Design, Simulation And Operation	Prof. Sujit Jogwar Department of Chemical Engineering	February 12, 2024 (2 days)
5	Advances in Proteomics Technologies Hands-On Workshop	Prof. Sanjeeva Srivastava Department of Biosciences and Bioengineering	February 17, 2024 (2 days)
6	Competitiveness For Leaders In Digital X Era	Prof. Kirankumar Momaya Shailesh J. Mehta School of Management	February 17, 2024 (5 days)

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