DEAN'S MESSAGE



Dear Alumnus,

Warm greetings from IIT Bombay.

Our former President and teacher-par-excellence A. P. J. Abdul Kalam once said that,

"Teaching is a very noble profession that shapes the character, calibre, and future of an individual. If the people remember me as a good teacher that will be the biggest honour for me."

For most of us, teaching is not what we do or just a career path we chose for ourselves. It is who we are. It is a calling. And as we celebrated the 64th Teachers' Day on September 5, 2022, on

campus, the Institute acknowledged the key roles that teachers

play in shaping the lives of young students and honoured some of our colleagues who have excelled in this role.

Please join me in congratulating Prof. A.K. Suresh from the Department of Chemical Engineering for his exemplary service to IIT Bombay. He was bestowed with the Professor S.C. Sahasrabudhe Lifetime Achievement Award of IIT Bombay in recognition of his myriad contributions to the Institute over the years. Prof. Suresh is truly a worthy recipient of this prestigious award named after one of IIT Bombay's most beloved teachers, Prof. S.C. Sahasrabudhe.

Please also join me in congratulating Prof. Debjani Paul and her team, from the Department of Biosciences and Bioengineering for winning the Dr. P. K. Patwardhan Technology Development Award (2021) in recognition of their innovative R&D work on "ShapeDx: A high-accuracy, point-of-care sickle cell test."

A big round of applause to the recipients of the Prof. S.P. Sukhatme Excellence in Teaching Award as well as the students who were felicitated for their superlative academic performance. Please look for their names in the News section of this newsletter.

It was indeed a memorable day to honour our faculty members who are the fulcrum of our Institute.

September also saw the launch of the IITB Trust Lab, a foundational initiative that will strengthen the country's digital environment and make it more trustworthy. The Lab is the brainchild of the Institute's alumnus, Mr. Shridhar Shukla (B. Tech, EE, 1983). A big thank you to Shridhar for his philanthropic donation that has allowed the Institute to set up this timely and important technological lab on campus.

The Institute honoured and celebrated the exceptional achievements of 30 of its illustrious women alumnae with a special event, the 'IIT Bombay Gen Zero Women Initiative,' on September 23, 2022. A coffee table book, 'Her Story- IIT Bombay Gen Zero Women,' and a podcast series, highlighting the inspiring journeys of these accomplished women from diverse fields, were launched during this inspiring occasion. Padma Shri awardee and former captain of the Indian Women's Cricket Team, Ms. Diana Edulji, and Founder & CEO, Nykaa, Falguni Nayar, presided over the event. The evening was vibrant with energy as our accomplished women alumnae and many illustrious guests, faculty, and students interacted with one another. I would like to congratulate all the alumnae honoured, and would also like to thank Ms. Edulji and Ms. Nayar for presiding over the occasion.

Please look for longer Special Reports on both the launch of IITB Trust Lab and the IIT Bombay Gen Z Initiative in the newsletter.

The Institute paid homage to its illustrious professor, the late N.R. Kamath, by hosting its annual 'Prof. N. R. Kamath Memorial Webinar,' in hybrid mode on September 28, 2022. The topic for this year's webinar was 'Sustainable Urban Mobility.' I am very grateful to the key speakers at this event and whose talks and interactions with the audience made it a huge success: Prof. Madhu Vinjamur- Head of the Department of Chemical Engineering at IIT Bombay; Prof. K. V. Krishna Rao, Deputy Director, Finance and External Affairs, and Professor, Department of Civil Engineering, IIT Bombay; Prof. Ram Pendyala, School Director (ACD) &

Professor, School of Sustainable Engineering and the Built Environment, Arizona State University, and Mr. Shekhar Chandrakant Deshpande, Chief, Town and Country Planning, MMRDA.

I would now like to share some accolades and other key events that took place last month.

- Our own IIT Bombay alumnus, Prof. Mayuresh Kothare (B.Tech, 1991, Chemical Engineering), currently the R. L. McCann Professor, Department of Chemical & Biomolecular Engineering at Lehigh University, PA, USA, has won the very prestigious High Impact Paper Award from the International Federation of Automatic Control (IFAC) for 2023 for his article "Robust constrained model predictive control using linear matrix inequalities." Congratulations to Mayuresh on this extraordinary achievement.
- Prof. Chandra Venkatraman, Faculty in Chemical Engineering, has been appointed on the Scientific Advisory Panel of the Climate and Clean Air Coalition (CCAC) of the United Nations Environment Program. Please join me in congratulating and wishing Prof. Chandra Venkatraman all the very best towards her contributions on this panel.
- A highly distinguished jury panel consisting of Dr. K Vijayraghavan (Former PSA), Dr. Ramgopal Rao (Former Director, IITD), Dr. S Chandrashekhar (DST Secretary), and Dr. Jayati Murthy (Dean, UCLA & President-Designate of Oregon State University), assessed the nominations the Institute received for the 'IIT Bombay International Award for Excellence in Research in Engineering and Technology' and declared Dr. Santosh Ansumali the winner. Santosh is a Professor, Engineering Mechanics Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) Bangalore, and is the first-ever recipient of this prestigious award. The award was instituted at IIT Bombay by the generous donation of Mr. Sandeep Naik and the Institute's distinguished alumnus Mr. Shantanu Rastogi. The award carries a cash prize of Rs 10 lakhs and a citation. Hearty congratulations to Santosh.
- I am delighted to announce that India's first gene therapy, CAR-T cell therapy, developed at IIT Bombay, has had a medical breakthrough as it was found to be safe and showed promising early signs of efficacy in a Phase I trial conducted at the Tata Memorial Hospital (TMH), Mumbai. Dr. Rahul Purwar, Associate Professor, IIT Bombay, developed the gene therapy platform, CAR-T, and first patented the anti-CD19 CAR-T product (HCAR19). In 2021, the HCAR19 product entered Phase 1 clinical trials at TMH, Mumbai. Congratulations to Rahul on this outstanding accomplishment.
- Hearty congratulations to the IITB Mars Rover Team who won the 'Best Navigation Award' in the European Rover Challenge, Remote Formula 2022 (ERC 2022). While 28 international teams registered for the competition, 11 (including IITB) made it to the finals. The team from the Institute won the 'Best Navigation Award' given to teams for outstanding activity/appearance during a specific challenge in the competition.
- A big round of applause to our very IITB faculty member, Prof. Arpita Mondal, who is the only faculty member from IIT Bombay to be featured in the book, 'She Is: 75 Indian Women in STEAM.' This is indeed an outstanding accomplishment by Prof. Mondal!
- I want to congratulate our Ph.D. student, Ms. Shruti Kanitkar, who is pursuing her Ph.D. in the Humanities and Social Sciences Department. Shruti composed a Mahakavya (long poem) titled श्रीमतीचरित्रम् śrīmatīcaritram for which she won the Young Poet Award (Sanskrit) for 2022 from the prestigious Sahitya Academy.
- Hearty congratulations to 17 IITB professors who, over the past few months, have won awards, published papers in esteemed journals, and more, and brought accolades to themselves and the Institute. Please look for a detailed list outlining the names of our esteemed professors and their accomplishments in the News section of this newsletter.
- The staff members at IIT Bombay took the Swachhata Pledge at the foyer of the Main Building (ground floor) on September 2, 2022. The Institute will also observe Swachhata Pakhwada 2022

between September 1-15, 2022, by organising various activities and events to create awareness for cleanliness. Let's all make a commitment to keeping our home and our surroundings clean and 'swacchh' and contribute to a cleaner and better India.

As we bid goodbye to September, I want to applaud your always-spirited support of your alma mater. It is not an exaggeration when I say that a significant part of IIT Bombay's success is because of our alumni such as yourself who continue to always rally around us. I trust that this connection between the Institute and our alumni continues well into the future as well.

As always, I want to sign off by inviting you to drop by your alma mater and see all the changes on campus, many of which are courtesy of the generosity of alumni such as yourself. See you soon.

Sincerely,

Prof. Ravindra D. Gudi, Ph.D., FNAE and FIIChE

Dean - Alumni and Corporate Relations

Institute AI & ML Chair Professor

GIVING

This Issue's Theme - Young Faculty Awards

IIT Bombay is growing rapidly, and for the Institute to become globally competitive, it needs to attract and retain exceptionally talented faculty members and researchers performing cutting-edge and disruptive research. Over the past decade, the Institute, with the generous support of our alumni, has successfully attracted some of the very best faculty members by instituting the Young Faculty Awards (YFA).

The YFA program offers outstanding young faculty from all over the world the opportunity to join IIT Bombay's prestigious faculty body, provides an ecosystem for them to engage in trailblazing research, reduces the financial burden they face, and facilitates their smooth transition to IITB from industry and/or their stints at foreign universities, and more. Hiring these extraordinary young faculty enhances the learning experience of students at the Institute, which, in turn, results in the overall growth of IIT Bombay.

The YFA was initially a Legacy Project for the Class of '82 and has been awarding incoming faculty members since 2010. Since then, it has been supported by every subsequent batch and has been entirely alumni-funded up to now. We request our alumni to donate generously to the YFA program and help us attract the crème-de-la-crème of faculty members to the Institute by clicking on the DONATE button below.

Read on to hear from the many recipients of the YFA program and the substantial long-lasting impact the YFA is already having on the Institute and its young faculty.



Prof. Janani Sree Muralidharan,

Assistant Professor, Mechanical Engineering

Prof. Janani Sree Muralidharan is an Assistant Professor in the Mechanical Engineering department. Her research is in computational fluid dynamics, and modelling of fluid flows, specifically in heat transfer and blood flow analysis, all of which are at a micro-scale. For Prof. Muralidharan, the YFA and the seed grant she received helped her set up an experimental lab for microscale measurements which will support the computational predictions both on heat transfer for space applications and blood flow analysis. She has also set up experiments for nuclear energy-based heat transfer for space applications and blood flow analysis.

She has also set up experiments for nuclear energy-based heat transfer studies with the hope that she can extend this to micro-scale blood and medical devices-based studies in the future.

Prof. Muralidharan is deeply grateful to the alumni of IIT Bombay who have helped create and run the YFA program and says, "The grant that we received has helped us stabilise very quickly into these very complex fields which are not easily possible without funding. So, thank you!"





Prof. Sumiran Pujari

Assistant Professor, Physics Department

Prof. Pujari is deeply grateful for the support, and, in particular, the seed grant and the YFA, which helped him get set up in IIT Bombay as soon as he joined the Institute. Prof. Pujari works in the area of condensed matter theory and hopes to design the next generation of devices and computational equipment. The YFA and seed grant allowed him to get his research on the ground very quickly. He says, "I also hope to get new equipment in the future and contribute to the next generation of solid-state devices. Thank you to the alumni for your support."

Prof. Debjani Paul

Associate Professor, Department of Biosciences and Bioengineering

Prof. Debjani works in the area of microfluidic technology and her research involves developing diagnostic devices using the same. She says that receiving the YFA has been a blessing for someone like her who runs an experimental research lab. She is grateful that the nature and the quantity of the funding make it very flexible. She says, "When you are just starting out with your own lab you need to buy things quickly and buy them from vendors you are very comfortable with." Prof. Paul is very grateful to the alumni of IIT Bombay for their generosity towards the current faculty members and hopes that other Institutes all over the

country will be inspired by IIT Bombay and start similar programs for their own faculty members.



Professor Albert Thomas

Assistant Professor, Department of Civil Engineering

Prof. Thomas teaches construction management-related courses at IIT Bombay. His research involves developing computational-based frameworks to assist sustainable and lean construction. He is grateful not just for the financial aspect of the YFA but also for the psychological validation it gave the research he pursued. He is also thankful that the YFA helped him settle down in an expensive city like Mumbai. He is deeply appreciative of IITB's alumni for their support of the YFA program and hopes that it will continue well into the future.



Prof. Nagamani Jaya Balila

Associate Professor, Metallurgical Engineering and Materials Science

Prof. Balila joined IIT Bombay in October 2016. She works in the domain of Micromechanics of Materials, an area that looks at mechanical behaviour through a very small lens like microns and at nanometre dimensions. An increasing degree of miniaturisation in today's age makes it imperative to look at mechanical behaviour at these lens scales of applications that are in service.

Prof. Balila is also keenly interested in designing materials that are damage free. For example, semiconductor devices require damage-

tolerant materials for structural applications including high temperatures, extreme environments, and so on. Since cracks and defects are always seen in these materials, there is an urgent need to maximise their resistance to cracks. Prof. Balila's research also looks at developing techniques for measuring these kinds of properties and then integrating them with the design and development of structures.

Of the YFA program, Prof. Balila says, "I'd like to thank the alumni for instituting the YFA program." While she was already thrilled to be recruited to teach at such a prestigious institute as IIT Bombay, she felt even more welcome when she received the award, especially from alumni members who were formerly students at the Institute. As she says, "You get the feeling that the students themselves are welcoming you into the institution."



Prof. Chandramouli Subramaniam

Associate Professor, Department of Chemistry

Prof. C. Subramaniam says that apart from the monetary benefit of getting Rs. 1 Lakh per year, the YFA program suggests that IITB's alumni care very deeply about their alma mater and regard the faculty members to be the main resources for the Institute. He is extremely grateful to the alumni and says, "Thank you very much for making me a recipient of the YFA. I request the alumni to continue extending their support to the Institute with which IITB will climb a lot of ladders in the future."



FACULTY INTERVIEW

Professor Urjit Yajnik: Wearing Multiple Hats with Elan!

Professor Urjit Yajnik is an experienced professor of Physics with a demonstrated history of leadership in higher education. His Physics, Quantum Science, Computation, and R&D skills are beyond stellar. He is the Institute Chair Professor, Department of Physics, and Convener, Centre for Advanced Study. He has also been a visiting professor with McGill University, Montreal, and the University of California, Irvine.

We are delighted to speak with Professor Yajnik for the Dean ACR Newsletter.

Prof. Yajnik, can you quickly take us through your academic and career trajectory?

After Fellowship School and Jai Hind College in Mumbai, I joined IIT

Bombay for the 5-year integrated M. Sc. Physics program in 1975. I pursued my Ph.D. from the University of Texas at Austin under the guidance of Prof. E. C. G. Sudarshan from 1980-86. In 1986, I was a Postdoctoral Associate with Prof. Steven Weinberg. I joined the Tata Institute of Fundamental Research (TIFR), Mumbai in 1987 and then joined IIT Bombay as a faculty member in 1989.

You specialize in areas of unification of fundamental forces and cosmological impact of spontaneous parity breaking. Can you please explain your research in layman's language and its implications for the world?

Nature is not symmetrical between the forces governing the left-handed and right-handed rotations. This was one of the great surprises of the 20th century. But there are hints that the left and right-handed forces might be on par with one another, just that this is not visible at low energies. The mirror forces will be visible at high energies like in the Large Hadronic Collider or other future colliders. Also, they would have been active in the hot Big Bang Universe. Such new mirror forces can explain our very existence. We and our world are made up of matter. So, where is all the anti-matter? The mirror forces with a new right-handed partner of the neutrino can explain this asymmetry through an event in the Big Bang Universe.

The absence of mirror symmetry or Parity in the low energy weak nuclear force was first deduced as a law called the "V minus A" theory by E. C. G. Sudarshan in 1957. Then Steven Weinberg, Abdus Salam, and Sheldon Glashow, independently, came up with a complete theory. This Electroweak theory predicted the

existence of the Higgs Boson which was finally observed in 2012. But developments in neutrino physics suggest that Parity may be restored at high energies.

You have recently published a paper titled 'Evolution of black hole shadow in the presence of ultralight bosons' that explores the ideas of black holes throwing light on dark matter. Can you tell us more about this extremely intriguing concept?

The Event Horizon Telescope opened up a direct view of the supermassive Black Hole at the centre of our galaxy. Some ultra-light particles called axions have been proposed as part of the Dark Matter hypothesis. There's a possibility that axions might get created and expelled from the supermassive Black Hole. We pointed out the possible slowdown of the rotation of the Black Hole, for axions in a certain mass range. This slowdown can be seen in future telescopes.

In academia, they say it's 'publish or perish.' You are an experienced and seasoned researcher and have published many academic articles in reputed journals. Can you take us through the process of publishing a scholarly research article in a reputed journal? Do you have any tips for our student researchers who wish to publish?

This is a real dilemma that I managed to ignore. I stuck to publishing only if I saw originality and high quality in my work. For the sake of training Ph.D. students, we have undertaken simpler problems that are still innovative enough to be acceptable in the top journals. Also, IIT Bombay provides the framework, opportunities, and brilliant B.Tech and M.Sc. students who may not garner academic publications but who go on to pursue front-rank theoretical physics worldwide.

To jump into research, you do not need to know everything, and do not be pressured to work on fashionable things – this was Weinberg's mantra. The tip to publishing is to identify a phenomenon that fascinates you and whose methods of attack are accessible to you. You do not need to know everything, nor do your findings need to be exhaustive. One just needs to be innovative and, sometimes, also develop collaborations.

You have served as the Dean of two IITs, Dean of Student Affairs, IIT Bombay, and before that at IIT Gandhinagar. Can you take us through those experiences? Are there any highlights from your tenure that you'd like to share with us?

I was sent to set up the new IIT Gandhinagar as Dean of Student and Dean of Academic Affairs. This was an exciting and successful venture. Later I was asked to take up the Dean of Student Affairs position, fondly referred to as DOSA, when I rejoined IIT Bombay. During my student days at IIT Bombay, I had grown up in an environment of student self-governance. As Dean, I delegated duties and responsibilities seamlessly between the administration and student layers. This experiment with student self-governance became overwhelmingly successful at IIT Gandhinagar. There are many interesting anecdotes about this available on a 2015 AMA on Quora. During my tenure, Blithcron - the student festival at IIT Gandhinagar, and Scitech vertical STAB, the Tinkerer's Lab, and social services vertical Abhyuday - at IIT Bombay, all came up spontaneously.

During the Golden Jubilee of Inter-IIT Sports, the new Gymkhana building, and covered basketball/volleyball courts were created. I was also privileged to host the visits of Dr. A. P. J. Abdul Kalam, Mr. J. R. D. Tata, and two Padma Vibhushan awardees, Prof. C. N. R. Rao and Mr. Sachin Tendulkar. This was in addition to the many inspiring luminaries who came to the TechFest lecture series.

Also, another contribution I consider important was the conceptualisation and setting up of the Student Wellness Centre.

You have been a professor in the Physics department at IIT Bombay since 2001. How has the Institute changed over the past two decades?

Until 1999 the concept of a sabbatical for professors did not exist. But from 2000 onwards IIT Bombay actively developed a research-oriented profile, and overseas conferences and collaborations became the norm. This was also strongly supported by our alumni worldwide.

The student body underwent a sea change in composition as we began to have more postgraduate (PG) students than undergraduate (UG) students after 2000. In that decade the number of graduating PhDs crossed 150. The downside is that we could not upgrade and increase hostel infrastructure to keep pace.

Over the past two decades, IIT Bombay has developed many new disciplines such as Energy, Environment, Biosciences, Nanoscience, and Quantum Information. In Astro-Cosmo-Gravity our new faculty member, Prof. Archana Pai, was the co-author of the primary paper which was cited for the Nobel Prize in 2017.

You got your Ph.D. from the University of Texas Austin and were a visiting professor at McGill University in Montreal, Canada, and the University of California, Irvine, USA. In your experience, how different is the research environment in the US/Canada as opposed to India? Are we ahead or lagging behind them? If the latter, how can we get more research-centric?

The core of science is curiosity and the core of innovation is an impulse to try out ideas. Academia has to be free of all hindrances to undertake these initiatives. Secondly, the lack of resources creates a negative attitude towards the failure of any kind. With improving research funding in the past two decades the situation has improved.

Nobel Laureate Prof. Cohen-Tannoudji told us during his visit to campus that his accomplishments were enabled by technicians who kept his laboratory working in prime condition. Our universities need to cultivate a high calibre of technical and administrative cadres who understand the compulsions of research.

Do you have any final words of wisdom for our young students at IIT Bombay?

My one basic piece of advice is that all words of wisdom have their limitations! Be your own destiny.

That was some real practical advice from Prof. Yajnik that all of us can benefit from and a wonderful way to end this conversation! Professor Urjit Yajnik's commitment to IIT Bombay, his students, and his general joie-de-vivre is truly inspiring. We'd like to thank Prof. Yajnik for taking the time to speak to us.

SPECIAL REPORT



The IIT Bombay Trust Lab

Digital: Secure: Responsible

We now live in a predominantly digital world. Every time we sign into our bank accounts, make money transfers, pay bills, buy groceries, book holidays for our families, and connect with family and friends on social media – increasingly, it is all happening online. And while a digital world is a convenient borderless world, it also brings with it many safety and security issues.

Towards this end, the Institute took a huge step forward in its mission of creating world-class research ecosystems in key technology areas with the launch of the 'IIT Bombay Trust Lab' on September 15, 2022. This foundational initiative will strengthen the country's digital environment and make it more trustworthy, and work toward a secure and more responsible Digital India.

The IIT Bombay Trust Lab is the brainchild of the Institute's alumnus, Mr. Shridhar Shukla (B. Tech, EE, 1983). The Lab will be situated in the Department of Computer Science and Engineering at IIT Bombay and will be spearheaded by Prof. Manoj Prabhakaran, the Vijay and Sita Vashee Chair Professor, at the Institute.

The lab was inaugurated with a special ceremony held on campus. Prof. Tal Rabin, Rachleff Family Professor of Computer Science at the University of Pennsylvania, and a consultant to the Algorand Foundation delivered the keynote address. The vibrant event culminated with the launch of the logo as well as the website for the 'IIT Bombay Trust Lab.' The event was attended by several distinguished personalities from the government, the industry as well as academia, in addition to several of our alumni.

Prof. Subhasis Chaudhuri, Director, IIT Bombay, was extremely delighted with the launch of the Trust Lab and said, "With digital experiences rapidly becoming an integral part of our lives, security, privacy, population-scale access and usability, citizen empowerment, etc. become fundamental enablers for a safe and prosperous society and nation. The establishment of the 'IIT Bombay Trust Lab' will allow the Institute to take the lead in the digital trust domain and support nation-building significantly. We are deeply grateful to Dr. Shukla for his

generosity that has enabled the Institute to take a huge step forward in this direction and accelerate its mission of playing a key role in solving national and global challenges".

Dr. Shridhar Shukla spoke about the importance of establishing the Trust Lab at his alma mater and said, "India is leading the world in going digital at population scale. As we do that, Digital Security becomes as critical as food, energy, and border security. The IITB Trust Lab is all about building a strong foundation for Digital Security and more broadly Digital Trust".

Prof. Manoj Prabhakaran who will spearhead the Trust Lab said, "A trustworthy digital world is a grand challenge for our times, involving domains ranging from silicon to civilization. One of the primary thrust areas at the Trust Lab is to develop a 'Science of Trust' that can also span this vast range, by bringing experts from different disciplines together under one roof. We are also sensitive to the immediate needs of the industry and the users and will work on building new technologies and on strengthening the digital trust ecosystem in India".

IIT Bombay has always led from the front when it comes to solving challenges of national and global importance through innovative and impactful solutions. The setting up of the Trust Lab is a monumental step forward in the Institute's mission to continue fulfilling this role in the area of digital trust. Apart from providing practical resolutions to cyber security concerns, the IITB Trust Lab is an essential cyber security initiative that will set a benchmark for other such initiatives in the future.

About IITB Trust Lab

The Trust Lab will focus on 'trust' issues in our digital environment including security, privacy, accountability, and the trustworthiness of the environment. The core mission of the Lab is to excel in the field of digital trust through several initiatives including:

1. Attract and nurture world-class researchers to build a globally competitive research program.

2. Create a deep societal impact in the area of digital trust, through collaborations with industry and government agencies in the form of joint research projects, expert consulting, providing policy inputs, developing and curating resources like state-of-the-art free and open-source software (FOSS), incubating start-ups, and more.

3. Develop and implement an educational framework related to all aspects of digital trust.

With the establishment of this lab, IIT Bombay's objective is to develop processes for seamlessly translating science to technology, commercialising the technologies, and responsibly deploying the technologies in society. Through the Trust Lab's initiatives, the Institute will develop synergies between various pockets of excellence already present in the country to help create a solid foundation of digital trust that can support society and the economy in the coming years. With the Lab's TrustNet initiative, the Institute will create coursework stacks that can form the basis for degrees in digital trust around the country and abroad.

For more information on the IIT Bombay Trust Lab, check out their website at: https://trustlab.iitb.ac.in/



IIT Bombay Gen Zero Women Initiative

The Institute Honours Its Women Alumnae in A One-of-a-kind Event

IIT Bombay honoured and celebrated the exceptional achievements of 30 of its women alumnae with a special event, the 'IIT Bombay Gen Zero Women Initiative,' held at the IIT Bombay campus on Friday, September 23, 2022. The Institute felicitated its women alumnae who represent the initial years of IIT Bombay since its

establishment in 1958. A coffee table book 'Her Story – IIT Bombay Gen Zero Women' and a podcast series highlighting the inspiring journeys of these accomplished women from diverse fields such as research, business, academia, technology, public service, and more were launched during this inspiring occasion.

Padma Shri awardee and former captain of the Indian Women's Cricket Team, Ms. Diana Edulji, and Founder & CEO, Nykaa, Falguni Nayar, presided over the event. The occasion culminated with a lively and spirited Q&A session as the young, curious, and bright minds of IIT Bombay interacted with Ms. Edulji, as well as the Institute's women alumnae achievers.

IITB's distinguished alumnus, Mr. D.C. Agrawal, who has sponsored the entire initiative joined the celebrations, as well. The Institute is indebted to his generous support, passion, and foresight toward gender equality which was the starting point for this initiative. While IIT Bombay has always been at the forefront of the gender equality movement, the evening ensured that the IITB will be even more committed to promoting women empowerment at the Institute.

A proud Prof. Subhasis Chaudhuri, Director, IIT Bombay, said, "With their extraordinary accomplishments, our alumnae have inspired the present and future generations at the Institute to break more glass ceilings and we are extremely proud of their dedication, commitment, and resilience. The Institute is dedicated to the cause of gender equality and hopes that more women will be inspired by these trailblazing alumnae and pursue STEM (Science, Technology, Engineering, Mathematics) fields. Also, this initiative is the brainchild of our alumnus, Mr. D.C. Agrawal, and I thank him for his generous support. I also want to thank Ms. Edulji and Ms. Nayar for joining us today for this transformative event. Now more than ever, IIT Bombay is determined to produce women leaders who will make our country and the world proud."

Having broken many glass ceilings herself, Ms. Falguni Nayar was extremely gratified with the event and said, "It is heartening to see the progress we have collectively made towards true equality – at the workplace and everywhere else. I believe women can do anything they set their minds to. Don't let others dictate your path. Trust your gut and take calculated risks. Take the plunge into whatever it is you choose to do, at whatever point of your life. No matter what the switch, your previous experience will always bring with it transferable skills and connections that you can use as stepping stones."

Equally elated at IITB's Gen Z initiative, Ms. Diana Edulji, who made her way in what had been traditionally a male bastion said, "For the longest time, cricket was perceived as a gentlemen's game. As someone who loved cricket, I had to break many barriers and find my own way to get past that mindset. Since then, my aim has been to encourage and support more women to pursue the sport. It is only when we all come together – collectively as a society – that we will be able to bridge the gender disparities that exist globally, not just in sports but in various other fields as well. The 'IIT Bombay Gen Zero Initiative' celebrates the power of women and is a cause that holds a special place in my heart. I firmly believe that more of these initiatives will encourage women to believe that nothing is impossible and allow them to follow their dreams."

IITB alumnus, Mr. D. C. Agrawal, was overwhelmed by the successful launch of the event and said, "It is important that we make the IIT Bombay women alumnae 'visible to the world' and learn from their unique experiences, opportunities taken, challenges overcome, and accomplishments achieved. IIT Bombay can only become the top Institute in the world when we fully recognise the experiences and achievements of not only our male graduates but also all our women graduates."

Coffee Table Book: Her Story - IIT Bombay Gen Zero Women

The coffee table book 'Her Story – IIT Bombay Gen Zero Women' profiles the Institute's 30 women alumnae who have not just broken the glass ceiling and created a path for themselves but also paved the way for the next generation of women engineers to come. A book like 'Her Story – IIT Bombay Gen Zero Women' is timely and essential. While the world slowly takes strides toward gender equality, there is still a significant divide in many fields, including within STEM in academia.

The book was thoughtfully curated by Ms. Rashmi Bansal who penned the inspirational stories of IITB's women alumnae. The book illustrates the journeys taken by these women over the past few decades by having in-depth and one-on-one conversations with each of them. It documents their lives – from the successes and challenges they faced on campus, to their subsequent professional and personal lives. It also explores how their educational journeys and networking experiences on campus, especially the personal connections with their hostel batch mates, enriched their lives and made them into the powerful women they are today.

IIT Bombay is extremely proud of all its illustrious alumnae celebrated during the event, and thankful to all the esteemed women dignitaries who graced the occasion and supported the 'IIT Bombay Gen Zero Women Initiative.'

DONOR INSTITUTED CHAIR PROFESSORSHIPS



Prof. Vinish Kumar Kathuria appointed the Shailesh J. Mehta Chair Professor

About the Donor:

IIT Bombay distinguished alumnus, Mr. Shailesh J. Mehta (B.Tech, Mechanical Engineering, 1971), established the Chair Professorship with a vision to nurture intellectual capital by leveraging research, teaching, consultancy, and collaborations within the IIT Bombay eco-system and beyond.

About the Appointee:

Prof. Vinish Kumar Kathuria, Professor, Economics, Shailesh J. Mehta School of Management

Professor Vinish Kumar Kathuria is currently the Shailesh J. Mehta Chair Professor at IIT Bombay.

Prof. Kathuria's stellar academic background includes receiving his B.Tech from the Regional Engineering College (now NIT), Kurukshetra, 1989, followed by his P.G. Diploma (International Marketing) from the Delhi School of Economics, Delhi University, Delhi, 1993, and a P.G. Diploma (Development Policy) from the Indira Gandhi Institute of Development Research (IGIDR), 1994.

He received his Ph.D. (Economics) from IGIDR, 1998, and his Post-doc (Environmental Economics) from the University of Gothenburg, Sweden, 2001.

Prof. Kathuria's research interests include Economics of Regulation, Productivity Measurement, FDI and Technology Transfer, and Renewable Energy.

Over the years, Prof. Kathuria has received multiple awards and accolades. He won the Outstanding Reviewer Award (2020) by Emerald Publisher for their "International Journal of Developing Issues." He won the Top Researcher in Economics award among all business school researchers in the country (Omega, 2016 (https://www.sciencedirect.com/science/article/pii/S0305048316000359). He won the Distinguished Alumni Award (2015) from his alma mater, NIT Kurukshetra. The Indian Econometric Society, TIES, presented him with the Mahalanobis Memorial Medal-National Award 2010 in Quantitative Economics. He was a Fulbright Senior Researcher at the Department of Economics, the University of Colorado at Boulder, Colorado, USA, between 2006-2007. He won the prestigious UNESCO Ph.D. Thesis Award in 2001. His Ph.D. thesis was among 8 theses selected by the Scientific Steering Committee of UNESCO for their 'Management of Social Transformation (MOST)' program for the year 2000-01.

Prof. Kathuria was also the Visiting Chair Professor (Contemporary India) at the International Business division, University of Sydney, Sydney, Australia, in 2017, and was an Adjunct Professor at Jiangsu University, PR China, in 2014.



Prof. Manoj M. Prabhakaran appointed the Vijay and Sita Vashee Chair Professor

About the Donor:

IIT Bombay alumnus, Mr. Vijay Vashee (B. Tech, Electrical Engineering, 1974) established the Vijay and Sita Vashee Chair Professorship to

promote faculty development and excellence in research in Computer Science Engineering.

About the Appointee:

Prof. Manoj Prabhakaran, Professor, Department of Computer Science and Engineering

Prof. Manoj Prabhakaran is the Vijay and Sita Vashee Chair Professor in the Department of Computer Science and Engineering at IIT Bombay.

Prof. Prabhakaran graduated from IIT Bombay with a B. Tech in Computer Science and Engineering in 2000 and received the Institute Gold Medal. He obtained his Ph.D. in Computer Science from Princeton University in 2005.

Before joining IIT Bombay, he was an Assistant/Associate Professor of Computer Science at the University of Illinois, Urbana-Champaign (2005-2016).

His research interests span theoretical cryptography, information security, and various subjects in theoretical computer science and information theory.

Over the years he has received many accolades which include the IBM Ph.D. Fellowship, an NSF CAREER award, a Beckman Faculty Fellowship, and a Ramanujan Fellowship. He is also an Associate Editor of the Journal of Cryptology, a member of the steering committees for the Theory of Cryptography Conference and the Information Theoretic Cryptography Conference, and a member of the ACM India Cybersecurity Task Force.

Prof. Prabhakaran will also spearhead the recently launched IIT Bombay Trust Lab. Click the link here for the Trust Lab website: <u>https://trustlab.iitb.ac.in/</u>

STUDENT SUCCESS STORIES



Amal Matthew, a B. Tech student (Engineering Physics Department) from IIT Bombay has just got accepted for his Ph.D. at the very prestigious Stanford University

We are delighted at Amal's amazing achievement and are eager to learn about how he pulled off this amazing accomplishment.

Amal, congratulations on getting into Stanford University. It's one of the toughest colleges to get into. Tell us how you felt when you received the acceptance letter from Stanford University.

The acceptance letter arrived at midnight when I least expected it. It was 2 a.m. when I saw it and I just sat for 5 minutes in complete disbelief.

Then the excitement kicked in and I went knocking on my friends' rooms, dragged them all out, gave them my amazing news, and then we sat together for another 5 minutes in shock. Finally, after processing this life-changing news, my friends hauled me off to the canteen for a treat! I barely slept that night but it was the best night of my life. In the morning I called my family and friends and gave them the good news as well.



Can you take us through your academic trajectory at IIT Bombay? Why did you choose Stanford University? What will you study at Stanford University?

During my first two years at IIT Bombay, I spent time exploring a variety of subjects including cryptography, game theory, etc. By the time I got to my third year, I knew that I wanted to pursue research in Condensed Matter Physics (CMP). I

took electives that covered advanced topics in CMP and also did research work on the same.

Apart from the sheer prestige aspect of Stanford, I applied there because a lot of the research work done by the program at Stanford aligned with my interests here at IIT Bombay. Not to mention, Stanford has some of the most cutting-edge facilities available in my field. And I figured it would be fun to live in California.

At Stanford, I will aim to gain experience in experimental methods and get acquainted with the machinery available there. I hope to continue my work in CMP, albeit in an experimental capacity.

Were you always interested in pursuing research? What motivated you to study Spintronics and Weak Value Amplification under Professor Bhaskaran?

Yes. I always wanted to pursue research as my career path. That's why I chose Engineering Physics as my major at IITB. My interest in spintronics was fuelled by several talks and seminars on the topic, organized by the MnP Club and the Physics Department.



For those of us who know nothing about these areas, can you tell us what they mean?

Spin is the magnetic property of an electron, just like how the charge is its electric property. While electronics deal with devices that manipulate electric current, spintronics is the study and manipulation of spin currents of electrons. Spintronic devices are being researched extensively for their potential to surpass existing technologies like MRAM, which is a spintronic alternative to the current DRAM.

On the other hand, the theory of weak value measurement is a fundamental quantum concept with applications in the field of quantum metrology.

Being able to connect these topics is a major milestone in our work.

Life at IIT Bombay can be hectic; how were you able to manage your coursework and pursue research at the same time?

It was indeed very hectic trying to balance both. Normally, I'd finish my coursework as early in the day as possible and then focus on my research projects at night. I liked to keep my weekends free to decompress. It helped that most of the electives I opted for were directly connected to and useful to my research projects, so I didn't have to spend extra time studying them.

How did IIT Bombay's ecosystem help you navigate your academic life and successes?

IITB provided me with many opportunities to pursue research in the area of my choice. It also gave me an amazing opportunity to learn from and work with professors such as Prof. Bhaskaran. I was also able to do a research project in Luxembourg through an internship that came through the Placement Cell at IITB, which further helped build my resume for Stanford.

Finally, what does the future hold for you, Amal? What are your plans after getting your Ph.D. at Stanford University?

To be honest, I haven't thought that far ahead. I'd like to keep my options open and take things as they come. While I'd like to continue in the same field in the future, I haven't made any specific plans beyond that.

Amal is a bright young man who knows exactly what he wants and how he plans to get it. The sky is the limit for this young man and we wish him the very best as he starts the next phase of his life in sunny California and Stanford University.

NEWS FROM IIT BOMBAY



IIT Bombay Hosts Prof. N.R. Kamath Memorial Webinar in Hybrid Mode

IIT Bombay hosted the 'Prof. N. R. Kamath Memorial Webinar,' in hybrid mode on September 28, 2022, at the Victor Menezes Convention Centre (VMCC) on campus. This webinar on 'Sustainable Urban Mobility,' is part of the annual webinar series conducted by the Institute in memory of the late Prof. N.R. Kamath, former Deputy Director of IIT Bombay and Head of the Department of Chemical Engineering.

The webinar began with a welcome address by Prof. Madhu Vinjamur- Head of the Department of Chemical Engineering at IIT Bombay- highlighting the tangible impact and the profound legacy that Prof. Kamath left behind.

The webinar then moved on to the first presentation delivered by Prof. K. V. Krishna Rao, Deputy Director, Finance and External Affairs, and Professor, Department of Civil Engineering, IIT Bombay. Prof. Rao's speech highlighted India's stand on sustainable urban mobility.

This was followed by a talk on 'Autonomous Vehicles and the Future of Mobility: Advancing a Sustainable Self-Driving Revolution,' by Prof. Ram Pendyala, School Director (ACD) & Professor, School of Sustainable Engineering and the Built Environment, Arizona State University.

The final presentation of the webinar was delivered by Mr. Shekhar Chandrakant Deshpande, Chief, Town and Country Planning, MMRDA, on the 'Sustainable Urban Transportation System for Mumbai Metropolitan Region.'

The three compelling presentations emphasised the role of sustainability and systematic planning of land use, demographic distribution, and the use of autonomous vehicles in the overall goal of achieving technology-driven enhancement of the quality of living in urban cities. The evening culminated with multiple Q&A sessions between the attendees and speakers.



IIT Bombay Alumnus, Prof. Mayuresh Kothare Wins the High Impact Paper Award from the International Federation of Automatic Control (IFAC) for 2023

IIT Bombay alumnus, Prof. Mayuresh Kothare (B. Tech, 1991, Chemical Engineering), currently the R. L. McCann Professor, Department of Chemical & Biomolecular Engineering at Lehigh University, PA, USA, has won the very prestigious High Impact Paper Award from the International Federation of Automatic Control (IFAC) for 2023 for his article "Robust constrained model predictive control using linear matrix inequalities." (Automatica, vol 32 (10), pp. 1361-1379, Oct 1996).

IFAC was founded in Paris in 1954 and promotes science and technology in automatic control of all systems. The High Impact Paper Award is presented by IFAC once every three years and includes several stringent measures to find the worthiest recipient of this award. These include

nominations of papers for the award that have high citations and measure the paper's impact over a 20-year span. Prof. Kothare's paper was measured during the period January 1993 – December 2014 in IFAC's journals (which include eight journals and conference proceedings). Dr. Kothare's paper currently ranks number 14 on the list of

the highest cited papers published in Automatica (considered among the best journals in the field of automatic control) since it was first published in 1964.

Prof. Kothare will receive the award during the Opening Ceremony at the 22nd IFAC World Congress in Yokohama, Japan, on Sunday, July 9, 2023.



India's First Gene Therapy, CAR-T Cell Therapy, Developed at IIT Bombay, was found to be Safe

India's first gene therapy, CAR-T cell therapy, developed at IIT Bombay was found to be safe and showed promising early signs of efficacy in a Phase I trial conducted at the Tata Memorial Hospital (TMH), Mumbai.



Rahul-Purwar

Dr. Rahul Purwar

Dr. Rahul Purwar, Associate Professor, IIT Bombay, developed the gene therapy platform, CAR-T, and first patented the anti-CD19 CAR-T product (HCAR19). In 2021, the HCAR19 product entered Phase 1 clinical trials at TMH, Mumbai.

Dr. Gaurav Narula

Dr. Gaurav Narula

Dr. Gaurav Narula, principal investigator of paediatric-Acute Lymphocytic Leukaemia (ALL), and Dr. Hasmukh Jain, principal investigator of adult B-cell lymphoma, started recruiting patients for the trials.

Both clinical trials are now concluded, and the safety and efficacy data presented thus far have proven to be encouraging. The participants received autologous

HCAR19 therapy. It was observed that there were no dose-limiting toxicities and only grade I/II Cytokine Release Syndrome (CRS) was seen in 40% of participants. None of the participants had Immune effector cellassociated neurotoxicity syndrome. Three out of ten participants had a complete response post-CAR-T cell therapy and none of the participants required ICU admission. There was no CAR-T treatment-related death, either. Dr. Hasmukh Jain avers that, overall, the novel humanized the HCAR19 tested in Phase I clinical trials for adult lymphoma and was found to be safe and has shown promising early signs of activity.

Dr. Gaurav Narula will present the results of the Phase I trial of paediatric B-ALL at the Asia-Pacific Blood and Marrow Transplantation 2022 meeting to be held over 4 days from October 6-9, 2022. The clinical trials will now enter Phase-II post approvals from the Central Drugs Standard Control Organisation (CDSCO) under the Directorate General of Health Services, Ministry of Health & Family Welfare, Government of India, and are expected to be available for commercial clinical usage in 2024.

IIT Bombay has licensed this technology to ImmunoACT, a clinical-stage cell and gene therapy company based in Mumbai, India.



IITB Professor, Arpita Mondal, featured in the Book, 'She Is: 75 Indian Women in STEAM.'

The Office of the Principal Scientific Advisor to the Government of India, in partnership with the Red Dot Foundation, the British High Commission, and FICCI FLO, commemorated India's 75th year of Independence by honouring 75 Indian women in STEAM (fields of Science, Technology, Engineering, Arts, and Mathematics) through the 'She Is' book series. The aim of the book series is to feature women achievers from different walks of life, ranging from academicians to entrepreneurs, and showcase their accomplishments as women role models for the youth of the country, make visible the leadership of women, and generate interest in the SDGs.

Prof. Arpita Mondal is the only faculty member from IIT Bombay to be featured in the book, 'She Is: 75 Indian Women in STEAM.' The book was launched by Mr. Alex Ellis, the British High Commissioner in India, and Prof. Ajay Sood, the Principal Scientific Advisor to the Government of India at the former's residence in New Delhi on September 21, 2022.

https://twitter.com/UKinIndia/status/1572911564889493504?ref_src=twsrc%5Etfw%7Ctwcamp%5Etweetembe d%7Ctwterm%5E1573020302170128384%7Ctwgr%5E567bd21ac149d2259792e9b0ddeb6ca51e55d9e8%7Ctw con%5Es3_&ref_url=https%3A%2F%2F10.199.4.220%2Fiitb-professor-arpita-mondal-featured-in-the-bookshe-is-75-indian-women-in-steam%2F

INSTITUTE HIGHLIGHTS



Teacher's Day Celebrated at IIT Bombay

IIT Bombay celebrated the 64th Teachers' Day on September 5, 2022, at the Institute campus. Prof Gagandeep Kang, FRS, Professor of Microbiology and Laboratory Director, Division of Gastrointestinal Sciences, Christian Medical College, Vellore, was the Chief Guest on the occasion.

The function began with a welcome address by Prof. Subhasis Chaudhuri, Director, IIT Bombay, followed by the inauguration of

the Gender Sensitization Programme – an online training programme for faculty and staff of the Institute.





The first-ever IIT Bombay International Award for Excellence in Research in Engineering and Technology (instituted by Mr. Sandeep Naik and Mr. Shantanu Rastogi) was conferred on Dr. Santosh Ansumali, Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, for his outstanding contributions to Research in Engineering and Technology.

Professor S.C. Sahasrabudhe Life Time Achievement Award of IIT Bombay was bestowed on Prof. A.K. Suresh from the Department of Chemical Engineering, in recognition of his contributions to the Institute.

The recipients of the Prof. S.P. Sukhatme Excellence in Teaching Award 2022 were:

- Prof. Sandesh Ramu, IDC School of Design
- Prof. Surya Durbha, Centre for Studies in Resources Engineering
- Prof. Rangan Banerjee, Department of Energy Science and Engineering
- Prof. Sumant Rao, IDC School of Design
- Prof. U. Anandavardhanan, Department of Mathematics
- Prof. Abhiram Ranade, Department of Computer Science and Engineering
- Prof. Sreedhara Sheshadri, Department of Mechanical Engineering
- Prof. Parag Kumar Chaudhuri, Department of Computer Science and EngineeringProf. Parag Bhargava, Department of Metallurgical Engineering and Materials Science
- Prof. Ravi Sinha, Department of Civil Engineering
- Prof. Usha Ananthakumar, Shailesh J. Mehta School of Management
- Prof. Varadraj Bapat, Shailesh J. Mehta School of Management
- Prof. Bernard Menezes, Department of Computer Science and Engineering
- Prof. Kishore Chatterjee, Department of Electrical Engineering
- Prof. Krishnaiyengar Narasimhan, Department of Metallurgical Engineering and Materials Science

The Dr. P. K. Patwardhan Technology Development Award (2021) was awarded to Prof. Debjani Paul and her team, Department of Biosciences and Bioengineering, in recognition of their innovative R&D work on "ShapeDx: A high-accuracy, point-of-care sickle cell test."

Prof. Subhasis Chaudhuri, Director, IIT Bombay, also felicitated around 60 students for their superlative academic performance.



Dr. Santosh Ansumali Awarded the First 'IIT Bombay International Award for Excellence in Research in Engineering and Technology'

On the occasion of Teacher's Day, IIT Bombay conferred the 'IIT Bombay International Award for Excellence in Research in Engineering and Technology" on Dr. Santosh Ansumali, Professor, Engineering Mechanics Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) Bangalore.

Dr. Santosh Ansumali is the first-ever recipient of this prestigious award. The award was instituted at IIT Bombay by the generous donation of Mr. Sandeep Naik and the Institute's distinguished alumnus Mr. Shantanu Rastogi. The award carries a cash prize of Rs 10 lakhs and a citation.

An esteemed jury panel consisting of Dr. K Vijayraghavan (Former PSA), Dr. Ramgopal Rao (Former Director, IITD), Dr. S Chandrashekhar (DST Secretary), and Dr. Jayati Murthy (Dean, UCLA & President-Designate of Oregon State University), assessed the nominations and declared Dr. Santosh Ansumali the winner.

The jury recognised Dr. Ansumali's contributions across several research fronts including the advancement of the Lattice Boltzmann Method (LBM) for the simulation of fluid flow, for the development of efficient computational techniques for large-scale computing platforms, and the translation of these techniques to commercial use through an innovative start-up company. Dr. Santosh's research also deepens our understanding of the spread of COVID-19 through innovative modeling and simulation techniques. His contributions to the development and deployment of mini pressure-swing adsorption (PSA) plants to provide oxygen in resource-constrained environments were also appreciated in the citation that accompanied the award salver.

Dr. Ansumali delivered an Institute-level Colloquium outlining his work on September 6, 2022



faculty and alumni of IIT Bombay.

IIT Bombay Announces the Distinguished Service Awards (DSA) and the Chapter Service Awards (CSA) for 2022

IIT Bombay announced the winners of the Distinguished Service Awards (DSA) for 2022. Instituted in 1999, the DSA recognises and applauds its alumni for their notable contributions to the progress of the Institute and is presented every year on IIT Bombay's Alumni Day. The awardees are chosen from the nominations received from various stakeholders including the

This year's DSA winners include Mr. Ajit Dawle (B.Tech, Civil engineering, 1977), Mr. Nitin Joshi (B.Tech, Civil Engineering, 1979), Mr. Nandkishore Nemade (B.Tech, Chemical Engineering, 1982), Mr. Suhas Mehta (B.Tech Civil Engineering, 1983), Mr. Mayur Sirdesai (B.Tech, Chemical Engineering, 1987), and Mr. Jignesh Patel (B.Tech, Chemical Engineering, 1992).



IIT Bombay also announced the winners of the Chapter Service Awards (CSA) for 2022. This award is bestowed upon select alumni for their significant contributions to the progress of their respective alumni chapters and is presented on IIT Bombay's Alumni Day. The awardees are chosen from the nominations received from various stakeholders including alumni and faculty of IIT Bombay. The winners of the CSA have worked tirelessly to build a strong connection between the Institute and its alumni.

This year's CSA winners include Mr. Rajendra Melville (B.Tech, Mechanical Engineering, 1974), Boston Chapter; Mr. Suhas

Deshpande (M.Tech, Mechanical Engineering, 1980), Pune Chapter; Mr. Rijas V. Shareef (M.Tech, Aerospace Engineering, 2015), Bangalore Chapter; and Mr. Vivek Barsopia (M.Tech, Operations Research, 2018), Japan Chapter.



IIT Bombay Professors Earn Accolades

1. Prof. Udayan Ganguly, (Department of Electrical Engineering) has been selected for the Abdul Kalam Technology Innovation National Fellowship.

2. Prof. Sudarshan Kumar, Head (Department of Aerospace Engineering) has been elected Fellow of the Indian National Academy of Engineering (INAE).

3. Prof. Subhananda Chakrabarti, (Department of Electrical Engineering) has been elected Fellow of the Indian National Academy of Engineering (INAE).

4. Prof. Pramod Wangikar, (Department of Chemical Engineering) has been elected Fellow of the Indian National Academy of Engineering (INAE).

5. Prof. Rodney Fernandes, (Chemistry Department) has been selected for the Chemical Research Society of India (CRSI) Bronze medal.

6. Prof. Prasanna Gandhi, (Department of Mechanical Engineering) has been selected for the Abdul Kalam Technology Innovation

National Fellowship.

- 7. Prof. Munukutla Radhakrishna, (Department of Earth Sciences) has been selected for the National Geoscience Award 2019 for his significant contributions in the field of Applied Geophysics.
- 8. Prof. Prakash Nanthgopalan and Ph.D. scholar Mr. Nabodyuti Das (Department of Civil Engineering) have been selected for the "NSG Counter-IED Innovation Awards-2022" for their outstanding contribution to the joint innovation of "Blast, Ballistic & Electromagnetic-Pulse Resistant Concrete (BBERC)." This award is given by the National Security Guard (NSG), Govt. of India.
- 9. Prof. U. A. Yajnik, (Department of Physics) has earned an Honorable Mention for the essay 'Gravitational Fields and Quantum Mechanics' accorded by the Gravity Research Foundation, USA.
- Prof. Jayesh Pillai and Mr. Abhishek Verma (alumnus of the IDC School of Design) directed an animated short film 'Manhole' which was chosen in the Official Selection at the 14th International Documentary and Short Film Festival of Kerala, 2022.
- 11. Prof. Naina Manjrekar, (Department of Humanities and Social Sciences) has been awarded a grant of 250,000 CHF by the Indo-Swiss Joint Research Programme for a period of 3 years for her joint project titled "Indian Overseas Migration and Global Anticolonial Networks, c. 1905-1950: Political Imaginaries, Social Composition and Local Entanglements" with Prof. Harald Fisher-Tine (ETH Zurich). The Programme is funded by the Swiss National Science Foundation and the Indian Council for Social Science Research.
- 12. Prof. Chandra Venkataraman (Department of Chemical Engineering and Interdisciplinary Programme in Climate Studies) has been nominated to the Science Advisory Panel of the Climate and Clean Air Coalition (CCC SAP) of the United Nations Environment Programme.
- 13. Prof. Venkata S. K. Delhi and his student, Dr. Tharun Dolla, (Department of Civil Engineering) received the Highly Commended Paper Award for their paper "Making BOT Great Again: Revisiting

the BOT standard concessions and exploring the expectations" presented in CIB World Building Congress (22nd triannual conference) under working commission W122 – Public Private Partnership at Melbourne, Australia, June 27-30, 2022.

- 14. Prof. Archana Pai, (Department of Physics) has been elected as the next LIGO-India Scientific Collaboration (LISC) PI/ Chair.
- 15. Prof. Dinesh Kabra, (Department of Physics) and his group were notably recognized for the work being done on the next generation optoelectronic materials for solar cells at the National Centre for Photovoltaics & Education (NCPRE-IITB) and display technologies at the Centre for Nanoelectronics (CEN-IITB) by Nature Journal.
- 16. Prof. Ashish Singh (Shailesh J. Mehta School of Management) has been invited to join the Editorial board of PLOS Global Public Health as an "Academic Editor."
- 17. Prof. Alok Porwal (Centre of Studies in Resources Engineering) has joined the Editorial Board of Frontiers in Earth Science: Economic Geology Section.



IIT Bombay launches e-Yantra Innovation Challenge: Rs 1 Crore Startup Seed Funding at Stake

The e-Yantra Innovation Challenge (eYIC 2022-23) was launched on September 1, 2022, by IIT Bombay to find solutions for inclusive urban infrastructure. Supported by the Ministry of Education, the CSE department of IIT Bombay is home to the e-Yantra project.

A prize pool of Rs 1 crore will provide seed money to the

winning teams that make it through the pitch round. The four stages of the e-Yantra Innovation Challenge include:

- Stage 1 is a training sprint when participants are introduced to the concept, trained in technologies, and assisted in articulating issues through instruction via MOOCs and in-person encounters with specialists.
- Teams participate in a prototyping sprint during Stage 2 to create a working model of the proposed solution under the guidance of an e-Yantra mentor.
- In Stage 3, which is an invention sprint, e-Yantra assists in creating a pitch for an incubator.
- Teams polish their Proof-of-concept (PoC) during an implementation sprint, which is the final stage, with the help of e-Yantra mentors.

For the finals at IIT Bombay, e-Yantra will provide the necessary tools, instruction, and support, as well as a travel stipend and boarding/lodging for the finalists. The IIT Bombay Incubator SINE will provide participants with a platform to create their own enterprises through the e-Yantra Innovation Challenge.





IIT Bombay Observes Swachhata Pakhwada

The staff members at IIT Bombay took the Swachhata Pledge at the foyer of the Main Building (ground floor) on September 2, 2022. The Institute also observed Swachhata Pakhwada 2022 between September 1-15, 2022, by organising various activities and events to create awareness for cleanliness.

IITB Student, Shruti Kanitkar, wins the Young Poet Award

IIT Bombay student, Ms. Shruti Kanitkar, who is pursuing her Ph.D. in the Humanities and Social Sciences Department with Prof. Malhar Kulkarni, won the Young Poet Award (Sanskrit) for 2022 from the prestigious Sahitya Academy. Shruti composed a Mahakavya (long

poem) titled श्रीमतीचरित्रम् śrīmatīcaritram.



IITB Mars Rover Team Wins Best Navigation Award

The IITB Mars Rover Team won the 'Best Navigation Award' in the European Rover Challenge, Remote Formula 2022 (ERC 2022). While 28 international teams registered for the competition, 11 (including IITB) made it to the finals. The group from the Institute won the 'Best Navigation Award' given to teams for outstanding activity/appearance during a specific challenge in the competition.

This was the first year the IITB Mars Rover team participated in the ERC, Remote Formula.

The IIT Bombay Mars Rover Team is a 12+-year-old team comprising 40+ undergraduate students who built the Mars Rover prototypes for competing in international rover competitions including URC, IRC (& IRDC), and ERC. This year's winning team was mentored by Prof. P.J. Guruprasad, from the Aerospace Department, IIT Bombay, and led by final-year undergraduate students, Liza Dahiya, Nishant Mittal, and Tejas Shintre.



UPCOMING EVENTS

Alumination 2022

The Student Alumni Relations Cell is back with its flagship event, Alumination 2022. Alumination is a two-day extravaganza where students learn more about their areas of interest and interact with and get guidance from successful alumni in similar domains.

Some of the events of Alumination 2022 include:

1. Mentoring sessions such as Group mentoring, Speed Mentoring, and Break the Ice

2. Mock Interviews and Group Discussions for students preparing for job placements

3. Shadow Programme to help students gain first-hand industry ips with alumni

experience as they go on field trips with alumni

4. Talks by various distinguished alumni during multiple sessions like Beyond the Horizon, CFC, CEO Connect, and Startup Talks

Day & Date: October 15 & 16, 2022 Time: TBA Venue: IIT Bombay Campus



Standup comedy GC

Standup Comedy GC is set to take place on October 12, 2022. It's where students from various hostels of IIT Bombay bring their witty sense of humour, come up with catchy slogans, and present their standup comedy to the audience. Each team is allowed a maximum of 4 minutes to perform, and their performance is evaluated on the quality of humour and creativity, clarity of thought, presentation or delivery, and overall impact.

Day & Date: October 12, Wednesday Time: 7:30 PM onwards Venue: LT-PCSA, IIT Bombay



Gyrations 2022

Gyrations is an Inter Hostel Group Dance General Championship that gives IITB students the chance to represent their hostels and showcase their dancing talent in a series of rounds and emerge victorious.



Aavhan IITB Half Marathon

Conceptualised in 2017, Aavhan is IIT Bombay's annual sports festival. Aavhan has grown in strength each year since it was first launched on campus. It's a platform that allows students to revel in victory even as it teaches them to learn from failures. Over the years Aavhan has become a symbol of hope and perseverance to IITB students.

This year, Aavhan, in collaboration with Fitizen India, is organising the 4th edition of the Half Marathon race. Aavhan's Half Marathon tests the participants'

endurance by having timed runs of 5 km, 10 km, and 21.1 km.

Day & Date: October 30, 2022 Time: TBA Venue: SAC, IIT Bombay