Top tech schools make progress in bridging gender gap

Synopsis
At least two in 10 students in first-year undergraduate batches at top engineering colleges including Indian Institutes of Technology (IITs) of Delhi, Hyderabad, Madras, Kanpur, Kharagpur and Roorkee, and National Institute of Technology (NIT) Jalandhar are women, a sharp improvement from 8% across all IITs in 2017.

The country’s top engineering schools are rapidly increasing enrolment of girl students even as companies look to hire more women at the entry level in science and technology fields to improve their overall gender diversity ratio.

At least two in 10 students in first-year undergraduate batches at top engineering colleges including Indian Institutes of Technology (IITs) of Delhi, Hyderabad, Madras, Kanpur, Kharagpur and Roorkee, and National Institute of Technology (NIT) Jalandhar are women, a sharp improvement from 8% across all IITs in 2017.

Some of these institutes have set targets of having 30-50% women in every batch in the coming years, their officials told ET.

IIT Delhi, for one, is striving to get an equal number of women and men in its classrooms across STEM (science, technology, engineering, and mathematics) and non-STEM courses.
"An ideal situation is where gender balance is restored without any interventions," said Rangan Banerjee, director of IIT Delhi. "For now, there are interventions needed to change the mindset and perspective of society towards women pursuing STEM to enable better representation of women in classrooms."

Directors of IIT Roorkee, IIT Hyderabad, and NIT Jalandhar said improved classroom diversity at engineering colleges is attracting more recruiters to these campuses.

"We have made significant progress in attracting female STEM talent over the past four years with targeted recruitment initiatives across India’s top engineering colleges, including IITs and NITs," said Deepika Banerjee, co-head of human capital management at Goldman Sachs in India. Currently, 46% of the investment bank and financial services firm’s engineering campus recruits in India are women, she said.

Ecommerce marketplace Flipkart hires from IITs of Madras, Bombay, Delhi, Varanasi, Kanpur, Kharagpur, Roorkee, Ropar, Mandi, Hyderabad, and many NITs with a focus on "harnessing a gender-neutral meritocracy", its chief people officer Krishna Raghavan said.

"The more opportunities you enable at the grassroots level (such as hiring more women at the early stages of their career), directly leads to building a pipeline of future women leaders," he said.

Its rival Amazon had last year introduced Amazon WoW, a networking platform for all women engineering students in India that connects them to leaders, recruiters, and the Amazon community. "As we think about hiring the best talent in the virtual environment, it is all the more important now to continue our efforts in creating a diverse and inclusive workplace," said Deepthi Varma, director HR, Amazon – APAC and Middle East.

Binod Kumar Kanaujia, director of NIT Jalandhar, said certain IT companies conduct special drives for recruitment of female students. The institute is looking to increase female ratio in its batches to 35% in the next five years, up from 23% in 2021, he told ET.

At IIT Roorkee, almost all the female students received job offers "on day one of the placement exercise" this year, its director Ajit Kumar Chaturvedi said. A total of 159 job offers were received by female students at the institute, almost double compared to 65 offers to female students in 2021.

At IIT Hyderabad, a female student bagged the highest package this placement season while 114 offers came for female students, its director BS Murty said. "Our female student ratio is quite impressive at 25%," he said.

IIT Madras has introduced two new programmes – ‘Women Leading IITM’ to support women students, faculty and staff, and ‘Women Leading India’ (WLI) to support women PhD students and faculty members to overcome gender-related issues through making grants, institute director V Ramakrishnan said.

The initial push to improve gender diversity scorecard came from the IIT Council back in 2018 through the creation of supernumerary seats for girls, said Shalabh, dean academic affairs, at IIT Kanpur, which was the organising institute to conduct JEE (advanced) that year.

IIT Delhi startup claims making 99.9% effective antiviral fabric

An IIT Delhi startup claims to have made an affordable and effective antiviral fabric which destroys 99.9% microbes within 30 minutes.

"After three years of rigorous research and development, Fabiosys Innovations, a deep-tech healthcare startup incubated at IIT Delhi, has developed an extremely affordable high-performance medical textile Fabium, which destroys ~ 99.9% of the bacteria and viruses within 30 minutes," says an official statement from the Indian Institute of Technology (IIT), Delhi.

Free from formaldehyde and metal nanoparticles this fabric, the startup says, is almost as breathable as regular fabrics, which makes it useful in applications like masks and PPE kits, where breathability is almost always an issue.

The startup says the fabric, made of Hi-PAT technology, starts working within seconds of contact with the pathogens and destroys them within 30 minutes. "Ordinary antimicrobial fabric products available in the market inhibit microbes in a span of 24 hours and that too with an unsatisfactory efficiency. This time span of 24 hours makes those antimicrobial fabric products impractical to be used in everyday life because a typical bacterium doubles itself in a span of around 20-30 minutes," it says.

“From a philosophical perspective, we are trying to break the public stereotype that high-quality products will always be expensive. We want to make our infection-proof products as easily available and affordable as a bar of soap. Our mission is to manufacture Fabium at large scale in India itself. We are very thankful to the Department of Biotechnology;
Principal Scientific Advisor to the Government of India; IIT Delhi and FITT, which supported this cause during this crucial moment of time,” said Professor Samrat Mukhopadhyay, mentor to Fabiosys.

So far, the team has successfully completed large scale manufacturing trials in collaboration with a textile industry partner in Delhi-NCR region to ensure that the large scale fabric manufacturing can be done while maintaining its high-efficiency and affordability.

“The affordability of Fabium is due to the technology behind it rather than cheap labour cost. A market research done by Team Fabiosys indicates that our cost-effective novel chemical formulation and unique textile processing technology make Fabium comparatively extremely affordable antiviral fabric. We are receiving encouraging response from the industry for manufacturing and distribution of Fabium products,” said Mr Yatee Gupta, Founder, Fabiosys Innovations.

**Chintel aged faster, needs detailed structural, quality testing : IIT Delhi preliminary report**


The residents have demanded arrest of builder claiming initial report found structural lapses

The three-member IIT team that conducted spot inspection of Chintel Paradiso collapsed tower has found the project aged faster than expected.
The revelation which has yet again emphasised poor quality of construction has got administration on toes. An urgent meeting of its enquiry committee headed by ADC Vishram Meena has been called.

The team shall review report, speak to builder and resident representatives, and decide on further course of action.

The residents, meanwhile, have demanded arrest of builder claiming that initial report has found structural lapses.

"It is felt that there is a possibility of the presence of issues related to the structural design, material quality, and construction quality in the structures. Each of these possibilities needs to be investigated through a detailed survey, testing, assessment on-and-off the site, and analysis programme," read the report.

The team also found significant corrosion of steel reinforcements in the debris of the tower where the ceilings of six floors collapsed on February 10 and observed rust marks during visual inspection.

"For this purpose, a recognised structural designer of the choice of the authorities, who would be available to work under the guidance of the Committee from IIT Delhi, may be engaged.

“In order to assess the possibility of deficiencies in material and construction quality in the structures, it is recommended that a detailed survey and testing programme be carried out. For this purpose, a structural survey and testing agency of the choice of the authorities, who would be available to work under the guidance of the Committee from IIT Delhi, may be engaged.

“Since the repair work that was in progress could also have had a role to play in the collapses, it is requested that the detailed repair procedure being followed in the buildings be informed in writing to the committee,” read the recommendations in the report.

IIT Delhi’s 7th SciTech Spins Lecture For School Students On March 26


Structure and Functions of Viruses will be the topic of IIT Delhi’s 7th SciTech Spins Lecture.
The upcoming session of SciTech, Indian Institute of Technology (IIT) Delhi’s lecture series for school students will be held on March 26. IIT Delhi’s Kusuma School of Biological Sciences Professor will be delivering the lecture. Professor Manidipa Banerjee will host the Lecture titled ‘Virus versus host: Warfare at nanoscale’ for high schoolers. During the lecture, students will be able to gain some knowledge on ‘what do viruses look like? How do they infect human cells in spite of our immune systems? How do vaccines protect against viral infections? How are new strains of viruses generated? And why can’t drugs against viruses be developed quickly?’ The event will be streaming live on the IIT Delhi’s official YouTube channel.

Students who study in classes 9 to 12, will be beneficial through the SciTech Spins lecture series is an academic outreach initiative by IIT Delhi. To nominate the students for the SciTech Spins lecture series, schools can reach out to Associate Dean, Academic Outreach & New Initiatives, IIT Delhi (adoni@iitd.ac.in; acadoutreach@iitd.ac.in). The Institute gives e-certificates to all registered students nominated by their respective schools who attend the lecture.

“As we live through the 3rd year of the ongoing COVID-19 pandemic, it is necessary to reflect on the structure and functions of viruses, which make them such lethal nanomachines capable of halting all human activities and causing major damage. During the SciTech Spins lecture for the school students, I will discuss the salient points in virus-host interaction at the molecular or nano-level,” Professor Ms Banerjee says.

Also, students who participated in the lecture will be invited to 'Open House', an annual intellectual fest organised by IIT Delhi. This event provides an ideal platform for school students to connect with some of the leading researchers in the field of science and technology.

IIT Delhi’s 6th SciTech Spins Lecture was held on February 12. It focused on the topic ‘From Light Waves to Images: Advancing Science with Pictures’.

Air Pollution Impacting Solar Panel Efficiency in India say IIT, Delhi researchers
Highlights:

The particulate matter in the air reduces the reach of direct sunlight on solar panels and deposit builds up on panels also reduces power generation capacity.

As per the calculations of the researchers, India is losing hundreds of millions of dollars every year due to air pollution only in the solar power sector.

A team of researchers from the Centre for Atmospheric Sciences (CAS) at the Indian Institute of Technology (Delhi) have found that air pollution is reducing energy output of solar panels in the country. The decline in solar power generation could be as high as 52%.

Sagnik Dey, Dilip Ganguly and colleagues have modelled the particulate pollution impact on solar irradiance for the period of 2001–2018. They found that air pollution is rising in almost all cities and towns of India. Each year, more cities join the league of most polluted ones on the world map. The CAS team says that solar panel efficiency is reduced by particulate air pollution in two ways. First, it causes atmospheric attenuation which means that the particulate matter in the air reduces the direct sunlight that reduces the efficiency of solar panels. Second, the particulate pollution causes soiling on the panels as its deposit builds up over time reducing efficiency yet again.

The team has also held that increased levels of aerosol in the air leads to more cloud formation, more cloudy days and again reduced solar energy output from the solar panels.

NASA’s Clouds and the Earth’s Radiant Energy System (CERES) supplied data to the CAS team to calculate India’s solar irradiance and also five power grids; but verified with other independent data. The particulate pollution impact on the sunlight has been calculated through NASA’s Moderate Resolution Imaging Spectroradiometer (MODIS).

A region wise impact was studied by CAS. The researchers concluded that the highest impact of both atmospheric attenuation and soiling found where India’s eastern power grid is located. The sunlight reduction in reaching the solar panels was 16% less.

The regions that host the northern grid and the western grid, witness 12% reduced sunlight on solar panels. The least effect was in the regions hosting the southern and the north-eastern grids where the sunlight reduction was calculated at 10% and 11% respectively. As per the calculations of the
researchers, India is losing hundreds of millions of dollars every year due to air pollution only in the solar power sector.

The team found that the air pollution effect on panels that are tilted or track the position of the Sun was higher. Eastern Grid’s dual-axis tracking panels received 52% less sunlight due to pollution. When calculated on an all India basis, the horizontal panels received 12% less sunlight and the dual-axis panels received 41% less sunlight.

**National Clean Air Programme**

The researchers have also held that if India can implement the National Clean Air Programme (NCAP) in letter and spirit, the solar power generation in the country could rise automatically between 6-16 TWh per annum.

The Central Government has launched NCAP as a long-term, time-bound, national level strategy to tackle the air pollution problem across the country in a comprehensive manner with targets to achieve 20% to 30% reduction in Particulate Matter concentrations by 2024 keeping 2017 as the base year for the comparison of concentration.

Under NCAP, 122 non-attainment cities have been identified across the country based on the Air Quality data from 2014-2018.

With current Solar capacity at ‘just 50 GW’, versus a target of close to 300 GW by 2030, India’s potential losses due to pollution could go up massively in just the solar sector. And this is without counting the health impact that will be exponentially higher. It is truly time to hold government’s accountable for the steps they take on the pollution front, starting with the air we breathe.

**IIT-Delhi to hold open house for design programme aspirants**


Indian Institute of Technology (IIT) Delhi’s department of design will organise an online open house for aspirants to the Bachelor of Design (BDes) programme on Wednesday. The BDes programme will be launched from the upcoming academic session.
Admissions to the programme will be based on Undergraduate Common Entrance Examination for Design. The four-year programme will have 20 seats and will be open to students from all streams, including science, arts and commerce, officials said.

At the online open house, aspirants will be able to interact with the faculty, clear doubts, raise questions and explore details about the department.

Officials added that the programme is intended towards bridging the supply gap of quality design professionals.

**IIT Delhi researchers list down factors to improve customers’ chatbot experience**


An IIT Delhi research team led by Professor Arpan Kumar Kar from the Department of Management Studies conducted a study.

The Indian Institute of Technology (IIT) Delhi researchers conducted a study and explained ways to improve the chatbot experience of customers.

An IIT Delhi research team led by Professor Arpan Kumar Kar from the Department of Management Studies and research scholars Amit Kumar Kushwaha and Prashant Sinha conducted the study.

The study listed out factors that play a key role in improving experience of customers who use Artificial Intelligence (AI)-based chatbots in their day-to-day life for various purposes like registering complaint or feedback, asking questions related to purchase etc and thus be taken into consideration while designing a chatbot, said an official statement.

For their study, the IIT Delhi researchers analyzed social media posts of over 2.5 lakh social users to understand the experience creation process in B2B businesses that use chatbots for marketing automation. Subsequently, the team applied text mining approaches to extract the parameters of a chatbot that may influence customers' experience.

“Predictability is a crucial feature of an AI-based chatbot. It mimics the customer's interaction to offer them a feeling of judgment,” said the IIT Delhi statement.

**IIT Delhi study**

The study recommended these factors to improve users’ chatbot experience:

The primary driving factor for a customer to use a chatbot is finding accurate information, which the chatbot designing team should consider the most crucial factor.

When the chatbot responds to the product information, the response should be graphically optimized like bulletin points to present products' features.

Some customers may enjoy exploring new products and services, so chatbot's ability to provide creative and easy processing help in building a good experience.
The language used by the chatbot needs to be descriptive, simple, and query oriented.

Trust is an essential constant while using chatbot services. So, firms need to specify privacy policy, safety precautions while using digital services.

Professor Kar said, “Besides predicting customer preference, a chatbot also needs to provide a user-friendly environment with a visual cue to capture customer information. The quality of service provided by chatbots must be satisfactory. So, businesses need to consider taking feedback from customers about chatbot services and moderate chatbot functionalities based on co-created strategies. It also increases customer loyalty as customers feel a remarkable presence and organization connect when their feedback is incorporated.”

Meet Dr. Sreedevi one of the 75 women in STEAM Recognised by the Office of the Principal Scientific Adviser, GoI


The world of science has indeed come a long way in terms of inclusion of women scientists, researchers and educators in the past few decades. In India too, women have been leading groundbreaking scientific research, they are also putting in much needed efforts towards sustainability and environmental conscience.

Dr. Sreedevi Upadhyayula, Department of Chemical Engineering, Indian Institute of Technology Delhi spoke with The Hans India on her work in converting CO2 (Carbon Dioxide) into renewable fuel, her journey as a women researcher and what lies ahead for women who wish to pursue science in the coming decades. According to the latest announcement by IIT Delhi, Professor Sreedevi is recognized as 75 women in STEAM (fields of Science, Technology, Engineering, Arts and Mathematics) by the Office of the Principal Scientific Adviser to the Government of India.

"We are working on integrated absorption and conversion of Co2 into renewable fuels. Co2 if it can be reduced it can be converted into renewable fuel such as ethanol... I am the Principal Investigator in this project," Dr. Sreedevi spoke on her latest work.
Upon asking about the current status of participation of women in the world of science and scientific research, Dr. Sreedevi believes that the contribution has come a long way and that inequality gap in the field has drastically shrunken over the years, however, the number of female researchers is quite low in India. She stated that the opportunity and treatments towards women has been at par in the field of science.

Dr. Sreedevi completed her PhD in 2001 jointly from National Chemical Laboratory (NCL), Pune and Indian Institute of Technology Kharagpur. She later did her post-doctoral research at University of Notre Dame, Indiana, USA, and then later joined the Department of Chemical Engineering at IIT Kharagpur as an Assistant Professor in January 2004. Prior to her PhD pursual, Dr. Sreedevi had also worked for BHPV Ltd., Visakhapatnam, subsidiary of BYNL group and APL, Chennai, subsidiary of PTE, Singapore.

On her experience as an educator at IIT, Delhi, Dr. Sreedevi said, "I teach Petroleum Refinery Engineering. So, there are quite a number of my students, at Masters level and B.Tech level, who are now employed in good organisations such as Indian Oil Corporation (COIL) or other industries like Reliance. Of late there have been a number of students who are floating their own start-up ventures. This I have seen quite a lot in recent times."

Dr. Sreedevi says that more women of science are getting into the fields of data analytics but their option of taking a lead in research, as educator or as an entrepreneur depends on their interest, not just because of the ongoing boom of the start-up ecosystem. Her own interest towards science grew with the influence and encouragement she received from her family. While her father is a mechanical engineer with an MBA, and worked for companies like BHEL and Bharat Heavy Plate and Vessels Ltd (BHPV) in Visakhapatnam. She received her early education in Visakhapatnam and did her B.Tech from College of Engineering, Andhra University.

"My mom was a mathematics and chemistry teacher. So, the campus that we grew up in (BHPV, Visakhapatnam) was very competitive and all were encouraged, girls and boys both. We had real tough competition with the boys, the number of girls in school was always less and ofcourse and at that time girls' option for engineering was less. Girls opting for higher education through MSc. and medicine were more," Dr. Sreedevi said.

"I always had a very supportive system. My mother always encouraged me and my father said that I'm supposed to stand on my feet. I will not marry you until you stand on your feet. My aunt, from my father's side, was a civil engineer and my father spoke highly of her. She retired from National Fertilizers Limited, Panipat. So, she was one of my inspirations to pursue science," she added.

Dr. Sreedevi joked that the other reason why she opted for engineering was that she disliked the sight of blood and hence did not wish to enter the field of medicine. She added that the interest of girls towards science has evolved amongst the current generation. She does, however, believe that there are too many distractions in today's time that might keep one away from pursuing science actively.

On scientific research and development towards clean energy, Dr. Sreedevi said, "Knowing that crude oil are going to deplete fast, alternate sources of energy need to be seen. So, that's why we are pushing into the energy sector. Also, the pollution as you can see in Delhi, needs to be dealt
IIT Delhi’s tech innovation hub ties up with US’ National Science Foundation for cobotics, AI research


IIT Delhi’s tech innovation hub IHFC has tied up with US’ National Science Foundation for cobotics and AI research.

I-Hub Foundation for Cobotics (IHFC), the Technology Innovation Hub (TIH) of IIT Delhi has collaborated with the National Science Foundation (NSF), USA to expand frontiers in research and development work related to Cobotics and associated technologies especially Artificial Intelligence (AI) and Machine Learning (ML).

The Department of Science and Technology (DST), Government of India, enabled this partnership in association with the Indian Embassy in Washington, USA, and the IHFC was identified as one of the most sought-after institutions for this collaboration.

Along with the NSF that has released its Dear Colleague Letter (DCL) disclosing the details regarding additional funding for research, the IHFC has also released a Dear Cobotics Research Colleague Letter (DCRCL) sharing the additional funding for their Grand Projects.

Details on the same can be found on the IHFC’s website: RD-NSF (ihfc.co.in)

**Which research areas will get IHFC funds?**
“I-Hub Foundation for Cobotics (IHFC), the TIH of IIT Delhi, as per a latest development will provide an additional INR 50,00,000/- towards the funding of the cobotics projects for research and development,” said Dr. SK Saha, Professor at IIT Delhi and Project Director, IHFC.

“The IHFC will fund researchers working in the area of medical simulations, drone technology and applications, healthcare robotics, rehabilitation robotics, human-robot interactions, intelligent sensing and secured communications, and industry 4.0 & beyond,” he added.

The partnering institutions, IIT Delhi and NSF, have strong expertise in engineering and have strong linkages with researchers in areas such cobotics/robotics, AI and ML.

It is noteworthy to mention that the IHFC is funded by the DST under its National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS).

Want to do something for NCR, like work on pollution: New IIT-Delhi director


Former IIT-Bombay Professor Rangan Banerjee took over as Director of IIT-Delhi on February 15.

Newly appointed director of IIT Delhi Rangan Banerjee

On February 15, former IIT Bombay Professor Rangan Banerjee took over as the Director of IIT Delhi. In an interview with The Indian Express, he spoke of plans for curriculum overhaul, the need for building caring institutes, a renewed focus on research, and the reopening of campus.

You took over on February 15. What have you done in the last three weeks?

Initially, and even now, the focus is on understanding stakeholder perspective, figuring out what they want and their vision. I also have a vision and a plan, but I want to talk about that after hearing extensively from stakeholders. If I talk about it right now, it completely biases things because I really believe that you have to take people along. On February 16, I spoke to faculty, it was an online session where around 450 members had joined. I told them about
my background, the issues close to my heart and the way I would like to proceed. On the 17th, I spoke to all the staff about their role in building the institute. I also had a meeting with student representatives and Heads of Departments on the 18th.

On Monday (21st), we had a senate meeting in which key decisions were taken. I’ve also done 12 selection committee interviews for recruitment and promotions. I’ve also gone around hostel rooms, messes and kitchens to see the situation first hand.

**What are your short- and long-term plans for IIT Delhi?**

The most important stakeholders are students. For them, we want to provide a transformative experience… The challenge now is that the attention span of the younger generation is shorter. They are the Twitter and Instagram generation, who have access to all kinds of information. So you need to do much more to excite them. The challenge is to create excitement in the classroom. We’re thinking of more learning by doing; have teams look at problems of relevance and people spending time in industries and other spheres.

When you look back at your school days, the good teachers actually knew each person, their strengths and weaknesses, and tried to build on it. So that kind of faculty advising system which builds on individual strength and tries to help people’s aspirations is difficult to do, but it is something we would like to try and do.

Outside the classroom, we want to enable conversation between faculty and students on a variety of curricular, co-curricular and other matters, to bridge the generation gap and work on how they see teachers as mentors and well-wishers. Different people have different skills and interests, specifically at the undergraduate level… This is the period when they are figuring out what to do, so we want to advise them accordingly. Also, different people learn at different paces, and in the Indian context we are so competitive, that we feel if someone has not finished a four-year course in four years, he or she has failed. That’s not necessary.

Someone may finish in five years at a slow pace, and do extremely well in life. So we want to focus on people with different paces of learning. This is not so easy to implement but it’s something I’d like to do.

Maybe if we do this in a way which is supportive with student mentors and faculty advising, maybe we can also generally improve the wellness on campus and the happiness and satisfaction levels, and maybe reduce the tendency for suicides.

**What about other structural changes?**

One of the things we are doing is embarking on a full-fledged curriculum review. We are doing this at IIT Delhi after 10 years. This is something for which we will have extensive stakeholder consultation, talk with external people, look at the curriculum in other IITs as well as other institutes in the world. We’ll also look at what those who are giving us jobs are saying, what the industry is saying. This will take about a year or so.

Overall, we are looking at two things – excellence in academics & research, and we’re looking at societal impact. For the latter, we want to take people with expertise in different
disciplines, put them together and solve some real-life societal problems. Some of this is already happening through the Centres of Excellence and interdisciplinary programmes but a lot more can happen.

We also want to do something more specifically for the NCR, like work on air pollution. We are also setting up an observatory at Sonapet. We have a Delhi cluster where we are working with the entire academic and research institutes in the NCR, and there we would like to have someone from JNU, DU etc. Maybe we will also look at the MSMEs in the NCR and provide them support. As an institution, we also have a role in society and that is in providing leadership of thought.

We want to create an enabling environment so that the faculty can fulfill their aspirations, and focus most of their time on teaching and research. But to create systems and processes to make that happen, to have the staff and ecosystem to make sure other things are taken care of – purchases, administrative activities – that’s a goal.

**Why the need for a curriculum review and what are your views on the NEP?**
The whole nature of knowledge is changing, so we need to keep reviewing curriculum. The tradeoff between fixed and variable – the whole nature of engineering in many cases has changed. So, I think it is required. Here we are looking at the structure of the B.Tech, M.Tech and PhD courses… We will probably start with an initial concept paper and then go from there.

Many of the things in NEP we are already doing like multi-disciplinarity and flexibility. We are quite conversant with it… The credits etc, we have to take it to our Senate. We are looking at working with AIIMS and we are looking at healthcare research. We are already aligned with the NEP so it’s not a big change for us.

**What are your views on rankings? Do you think more needs to be done on that front?**
We are going to focus on the things we feel we should anyway be doing, which is on excellence in research and academics, and societal impact and we believe that our rankings will anyway improve.

**IIT-Delhi had sent a proposal to the Education Ministry on setting up overseas campuses. What has happened to that?**
There’s a national-level committee which is looking at it, which the ministry has set up with several IIT directors. That committee report is going to come out, so maybe we should just wait for that report.

**Do you think it’s important to get more foreign students and faculty?**
I think that’s important for vibrancy on campus, but we have to figure out how to do that. As long as we can cater to the domestic students, it’s a good thing. We already have MoUs with the University of Queensland, and Taiwan. We have some joint degree programmes. We have some initiatives with the International Solar Alliance. Wherever we have MoUs,
we are trying to make it two way. Often they attract our students, but we want it to be two way. Foreign faculty is more tricky; for short term it is easier but for long term there may not be a large number.

**What is your stand on reservation in faculty recruitment, because there are arguments from some quarters that it will worsen faculty vacancy?**
As an institution, we are committed to following all the laws of the land. We are also committed to diversity for gender, or other categories. In student intake, we fully follow the reservation policy. We will follow the laws of the land and we will do this while maintaining our academic ecosystem. We are working together with the Ministry and seeing how this can be done.

**When will IIT re-open and how do you see education changing in a pandemic world?**
All students are allowed to come back, those who have hostel seats. We’re expecting students to be back by March 14. For first-year students, from March 24, their second semester will be offline. For other students who are currently in the middle of an online semester, we have left it open but their final exams will be offline… During this time, if faculty wants to take classes offline, they are welcome to do so. We are also looking at hybrid courses. But by April, all students should be back on campus.
Students are very excited to get back to the hostels and classrooms. But during this time, we have also learnt e-learning and how to use other tools. So some of that learning can help us in our classrooms… I hope we won’t see additional waves, but we will have to be careful. A lot of learning in education is not just about classroom teaching but about teamwork and interaction, but there are many things which online can help supplement. Like today, I can get someone from the US to take a class, but I wouldn’t have thought of this earlier.

**IIT-Delhi team inspects towers at Chintels Paradiso**


A three-member team from IIT-Delhi visited Chintels Paradiso in Sector 109 in the city, where a vertical collapse of five living rooms led to the death of two residents last month.

Over the next two weeks, the technical team, led by professor Sashank Bishnoi, is likely to make more such visits to the society. On Sunday, the IIT team inspected Tower D, where the cave-in took place, and looked for structural defects, if any. Members of the inquiry team constituted by deputy commissioner Nishant Yadav were also present.

“The team inspected the towers along with additional deputy commissioner Vishram Kumar Meena and other officials. They were there to ascertain if there were any structural defects or if the repair work on the 6th floor caused the collapse of ceilings,” a resident said.

The officials, he added, also spoke to residents of towers E, F, G and H, who have expressed safety concerns after the cave-in.
Meena, who is heading the inquiry committee, said the IIT team asked residents about structural defects in their flats and whether they had any photographs or documents related to them.

“We shared with the team some drawings and documents related to the structures that were sourced from the developer. The team will examine these documents and plan another visit accordingly,” he said.

The inquiry team has already served notices to the developer and other persons concerned and asked them to get their statements recorded. The IIT team is only concerned with the technical aspect of the probe.

Rakesh Hooda, the RWA president, said: “The IIT team inspected the flats in Tower G as well. We have shared our inputs with them and we hope the interim report will come out soon for deciding the further course of action. The residents should be involved with the inquiry process.”

**IIT Delhi collaborates with battery-tech start-up for research on battery, energy solutions**  

Advanced battery-tech start-up Log9 materials has collaborated with the Indian Institute of Technology (IIT) Delhi to promote superlative research and development in the areas of developing advanced battery and energy storage solutions, including battery packs for electric vehicles, according to a statement released on Thursday.

The strategic three-year collaboration between Log9 and the Centre for Automotive Research and Tribology (CART) at IIT Delhi has been established and finalised through an umbrella MoU (memorandum of understanding), which was recently signed between Delhi Science and Technology (S&T) Cluster and Log9 Materials Scientific Private Limited, it said. Delhi S&T Cluster is managed by the Delhi Research Implementation and Innovation (DRIIV) Foundation, which is an initiative of the office of the principal scientific adviser to the Government of India. As part of this initial pact, DRIIV has agreed to facilitate the long-term collaboration that is planned between CART and Log9, who will be working together on multiple academic and industry-oriented projects in the upcoming months and years, Log9 Materials said.

"We are proud to announce the strategic collaboration with a prestigious player like IIT-Delhi’s CART, which is facilitated and enabled with the active support of DRIIV. "With the electric mobility and energy sectors in India growing rapidly over the last few years, a dire need has been felt for industry-academia partnerships to promote innovation, research and talent in these sectors," Akshay Singhal, founder and CEO of Log9 Materials, said.

**DRDO & IIT Delhi scientists successfully test QKD between two cities 100 kilometres apart**  
For the first time in India, a team of scientists from the Defence Research and Development Organisation (DRDO) and the Indian Institute of Technology (IIT) Delhi successfully demonstrated a Quantum Key Distribution (QKD) link between Prayagraj and Vindhyachal in Uttar Pradesh, spanning over 100 kilometres.

This technological breakthrough was achieved using a commercial-grade optical fibre that was already on the market. With this breakthrough, the country has demonstrated its own secure key transfer method, which can be used to bootstrap a military-grade communication security key hierarchy.

**What is Quantum key distribution?**

Quantum key distribution is a secure communication technology that uses quantum physics to construct a cryptographic protocol. It allows two parties to generate a shared secret key that is only known to them and can be used to encrypt and decrypt messages.

**How will this help India?**

The QKD technology will enable India’s security agencies to plan a suitable quantum communication network with indigenous technology backbone.

In the recent tests run by DRDO and IIT Delhi scientists, the performance parameters for QKD have been measured and were found to be repetitively within the reported international standards at sifted key rates of up to 10 KHz.

Dr. G Satheesh Reddy, Secretary of Defense R&D and Chairman of DRDO congratulated the scientists and professors of DRDO and IIT Delhi on the successful demonstration of this technology.

In his message to the scientific community, the DRDO Chairman noted this as one of the shining examples of synergetic research between DRDO and Indian Institute of Technology, Delhi.

Professor Rangan Banerjee, Director of IIT Delhi, also commended the IIT Delhi faculty and DRDO scientists involved in this breakthrough for their dedicated efforts to improve the country’s technical capability.
DIAL joins hand with IIT-Delhi to improve efficiency

CEO-DIAL, Videh Kumar Jaipuriar and Dean, Corporate Relations, IIT Delhi Professor Anurag Rathore inked the agreement for five years.

DIAL members with IIT-Delhi team after signing the agreement on Monday.

The Delhi International Airport Limited (DIAL) on Monday signed an agreement with the Indian Institute of Technology Delhi (IIT Delhi) to enhance passenger experience and operational excellence by leveraging artificial intelligence-based predictive analytics.

CEO-DIAL, Videh Kumar Jaipuriar and Dean, Corporate Relations, IIT Delhi Professor Anurag Rathore inked the agreement for five years. IIT Delhi team, through the institute’s industrial interface body — Foundation for Innovation and Technology Transfer (FITT) — will carry out the analytics on identified areas of improvement and come up with next-level innovative solutions.

DIAL will be able to improvise allocation/utilisation of its operational resources on a dynamic basis in response to varied passenger load and requirements throughout daily and periodic fluctuations. It will also help in a better understanding of customer preferences through which DIAL can deliver more customised services for passengers flying through IGI Airport.

Jaipuriar said, “DIAL has decided to avail the services of IIT Delhi for securing research-based recommendations on further enhancement in operational excellence and passenger experience at IGI Airport. We continue to consistently upgrade our facilities to better respond to consumer preferences whilst providing world-class infrastructure and experience to all our passengers.”

Commenting on the agreement, Rathore said, “We are happy to be associated with DIAL and we look forward to exploring more collaboration channels of mutual interest that will fuel innovation and ideation of novel technologies and products.”
IIT Delhi start-up Nanoclean launches Naso95
March 1, 2022 https://indiamedtoday.com/iit-delhi-start-up-nanoclean-launches-naso95/

Naso95 is the world’s smallest wearable air purifier

IIT Delhi start-up Nanoclean Global has launched the world’s smallest wearable air purifier which is at par effective to an N95 grade face mask. The launch ceremony at IIT Delhi observed a gathering from doctors and government officials. Rajesh Kumar Pathak cadre, Secretary Technology Development Board, Government of India was the chief guest and Dr MC Mishra, Ex-Director AIIMS, Delhi was guest of honour.

Naso95 is an N95 grade nasal filter. It sticks to the user’s nasal orifice and prevents bacteria, viral infection and pollen and air pollution. It is at par effective with an N95 grade face mask. A person using Naso95 is more protected than a generic facemask or a loosely fitted face mask. The product has been tested and certified by national and international labs for its safety and efficiency. The product comes in different sizes i.e. Small, Medium, Large and Kids size.

The product can also be used by kids as they are more prone to airborne infections and air pollution.

Pathak praised the work done by Prateek Sharma and the team. He used the product Naso95 and found it convenient to use and comfortable. Shri Pathak mentioned that the product can be of great benefit to society and should be used by all age groups. Also, the Technology Development Board would like to support the start-up to take the product to the masses.

Dr MC Mishra, Ex, Director AIIMS, Delhi said, “Lung cancer remains the leading form of cancer and a product like Naso95 can effectively address the problem of respiratory illnesses in metro cities. During the pandemic, the product can especially come in handy at places where one has to pull down a mask for identification e.g. airports, security checks etc.”