The only thing that you absolutely have to know is the location of the library.

Albert Einstein
IIT-Delhi reaches out to students, teachers of Haryana Government institutes at Sonipat campus


An MoU between the Haryana Government and IIT-Delhi mandates the institute to mentor the state-run technical colleges and universities.

IIT-Delhi conducted an outreach programme for students and teachers of Haryana Government technical institutes at its Sonipat campus Saturday to show students the available facilities and encourage them to research.

An MoU between the Haryana Government and IIT-Delhi mandates the institute to mentor the state-run technical colleges and universities.

During the programme, IIT-Delhi researchers showcased their work on biomass pellet-based clean combustion device, Covid-19 rapid antigen kit, and development of multimodal endoscope for early-stage oral cancer screening, among other things and the students and teachers were taken to the campus’s Central Research Facility (CRF). Last year, the institute developed an online platform to allow researchers outside the institute to book instruments available in the CRF.

“We are excited about working with the students and faculty of Haryana. We are fortunate to have extension campuses at Sonipat and Jhajjar. At Sonipat we have created high-end research facilities that are accessible to all researchers across the country,” said Rangan Banerjee, Director, IIT-Delhi.

“At Jhajjar, we are planning to focus on healthcare and creating a bio hub that can work with the National Cancer Institute and AIIMS Jhajjar. Today’s outreach day is an initiative to reach out to the faculty and students of Haryana, showcase the facilities, and give a glimpse of IIT Delhi research and try to enthuse students to research,” added Banerjee.

“At IIT-Delhi’s Sonipat campus several state-of-the-art research facilities are functional, which the students and the faculty of various technical institutes of Haryana would like to use... The industry in the state can also utilise the facilities available here for their research works,” said Anand Sharan, Additional Chief Secretary of the Haryana Government’s Higher Education & Technical Education Department.

“The IIT-Delhi Sonipat campus is growing and I am hopeful that in the future it would benefit the technical institutes as well as the industry in the state a lot.”
Altair India Incubator Initiative Launches in Collaboration with FITT-IIT Delhi to Support Startups

Altair has announced the launch of the Altair India Incubator Outreach Initiative in collaboration with the Foundation for Innovation and Technology Transfer (FITT) at the Indian Institute of Technology Delhi (IITD) to equip startups with the latest cutting-edge technologies.

As part of the Altair Incubator Outreach Initiative, Altair collaborates with startup incubators to identify, support, and mentor budding startups and provide them with Altair’s simulation, optimization, and machine learning technologies. With these technologies and tools, startups gain access to high-fidelity, best-in-class product development tools and Altair’s industry experts for assistance and training. Additionally, Altair remains engaged with several pillars of India’s startup ecosystem like funding agencies, industry experts, homologation agencies, distinguished professors, and Startup India / Invest India, so startups can leverage external resources and increase their visibility.

“The startup ecosystem in India is buzzing with new ideas. Disruptive technologies like AI, machine learning, and additive manufacturing are rapidly transforming the way companies innovate,” said Vishwanath Rao, Managing Director, Altair India, and Gulf Coordination Countries (GCC). “We collaborate with startups to enable them to accelerate innovation with our simulation and machine learning technologies. I believe these startups will not only build an intellectual property-based economy for the country but also create an ecosystem of new industries to catalyze the vision of the ‘Make in India’ and ‘$5 trillion USD economy’ government initiatives.”

“This partnership will tremendously add to the repertoire of simulation tools with us to help innovators and start-ups in our incubation and accelerator set up,” said Dr. Anil Wani, Managing Director, FITT at IIT Delhi.
Indian Institute of Technology (IIT) Delhi is in the process of establishing a centre at its Sonipat campus, which will focus on drone technology. According to senior officials, the ‘drone technology park’ will be training pilots and imparting knowledge on the fundamentals of drone technology, how they can be controlled and so on.

Those wishing to test a technology will also be able to access the park as it will also act as a validation centre, officials said. The park will be under I-Hub Foundation for Cobotics (IHFC) – the technology innovation hub of IIT-D.

Elaborating on the project, Professor SK Saha, project director at IHFC, said, “At the drone technology park we will provide training to new pilots. There will be a validation centre as well. It is a national property and anybody can approach and access the facility. There will be charges involved, but it will not be restricted to just IIT-D students.”

Officials said that those from other agencies can also approach the facility.

“Courses will be offered as well. For instance, if some defence people say that they need drone training we will teach them the same. Professors from the institute will be involved and will teach drone technology. We have two other start ups that will also be a part of it. Regular training will be provided at intervals,” Saha said.

IIT-Delhi researchers have released a report on the regions in India prone to rainfall-induced soil erosion. But soil erosion is a global problem, severely affecting agriculture and economies.

68.4% of the total soil erosion in India is induced by rainfall, the latest study by IIT Delhi has revealed. This revelation has led to the first pan-India assessment of soil degradation by rainfall and a report that highlights areas prone to rainfall-induced erosion in the country.

What is soil erosion and what did the IIT researchers find

Erosion occurs when the top layer of soil is washed away by running water, blown off by the wind, or removed as a result of human activities. The top layer of the soil matters the most when it comes to agriculture and cultivation. A decline in the quality of soil leads to decreased productivity.
Soil erosion by rainfall is a significant environmental problem that affects many countries. According to a study published in the scientific journal *Nature*, it has been estimated that common types of soil erosion affect nearly 751 million hectares (MHa) of land globally. For instance, in China, about 56% of the land is affected by water erosion.

The IIT Delhi research team comprising Prof Manabendra Saharia, Prof Sumedha Chakma and PhD student Ravi Raj from the Department of Civil Engineering, created a high-resolution map that charts the areas which are most prone to rainfall-induced erosion in the country. Using multiple national and global gridded precipitation datasets at an hourly temporal scale, India Meteorological Department (IMD) on a daily scale, and the Global Climate Hazards Group Infrared Precipitation with Station data (CHIRPS) on a daily scale, the team was able to create the first pan-India assessment of rainfall erosivity.

“This study is a step toward building a national-scale soil erosion model for India,” Saharia said in the report. “The national rainfall erosivity map will facilitate watershed managers to identify rainfall erosivity potential at diverse locations and thereby plan, prioritise and implement essential watershed development activities to minimise soil erosion.”

The researchers found that the most vulnerable areas to rainfall erosivity in India included the Laitknsew and Cherrapunji regions of East Khasi Hills in Meghalaya, one of the wettest areas in the world. The least vulnerable region to rainfall erosivity was the cold and dry Shahi Kangri mountain in Ladakh.

The saga of erosion, soil degradation and crop productivity
Erosion takes away the nutrient-rich layer of soil, which is the lifeline of cultivation. With soil erosion, the quality of plants and crops cultivated takes a hit, affecting the yield. When soil-laden water flows downstream, it can create heavy layers of sediment that will disrupt the flow of streams and rivers causing floods. And once soil erosion starts, it can be hard to control.

Not just an environmental issue, but also an economic one
For a good yield, one needs effective cultivation, and for that, there has to be a rich layer of topsoil. Erosion degrades this, causing fewer plants, thereby leading to more carbon dioxide and greenhouse gases, according to the *World Resources Institute*.

Soil erosion causes a dip in crop yields, and a decline in agricultural productivity, which then affects the economy adversely. In fact, a study estimated that global economic losses from soil erosion were about $8 billion (Rs 6.39 lakh crore approximately). According to a report by WRI, in Indonesia’s Java, soil erosion is responsible for a 2% loss in total agricultural GDP, taking into account the losses farmers face directly as well as the losses others face consequently.

As per the USDA soil portal, the cost of soil erosion is estimated at $44.39 billion in the United States. This value includes lost productivity, along with sedimentation and eutrophication of water reservoirs. Lost farm income...
is estimated at $100 million per year as a result of soil erosion in the US. European countries lose €1.25 billion (about $1.27 billion) in annual agricultural productivity.

According to a **BBC report**, quoting Ronald Vargas, the secretary of the global soil partnership at the FAO in Rome, “There are some places where the landscape can be compared to the moon. But human activity had led to unsustainable levels of degradation. Soil is not just helpful for helping us grow food. [Soils] are key for storing water - good soil is like a sponge that soaks up the rain and keeps it there. It is important for recycling nutrients and storing carbon that would otherwise escape into the atmosphere.”

The phrase “dirt cheap” is often used to denote the value in terms of the price of a commodity. In this case, however, dirt (read: soil) is anything but cheap. The sooner we realise that we would be spared from paying a heavy price, not just restricted to monetary costs.

**Rangan Banerjee, IIT Delhi's Director addresses the students on the closing ceremony of DD Robocon**

*July 18, 2022* [https://www.youtube.com/watch?v=PlrgSlH8qtc](https://www.youtube.com/watch?v=PlrgSlH8qtc)

**Former IIT Delhi director's list of 6 points to improve NIRF rankings**


Ramgopal Rao suggests introduction of international NIRF ranking, peer review for authenticity, two-year gap, autonomy for institutions.

V Ramgopal Rao, former director of the Indian Institute of Technology (IIT) Delhi has listed a few points to improve the National Institutional Ranking Framework (NIRF). He calls for the introduction of a parallel international NIRF ranking, a peer review process for authenticity, a two-year gap between rankings, autonomy for consistent winners and more. Rao shared his six points for improving the NIRF ranking on Twitter. "Here are the 6 pointers for #NIRF (National Institutional Ranking Framework), @EduMinOfIndia to further improve on the ranking framework. @dpradhanbjp @PMOIndia @narendramodi," he tweeted.

According to Rao, a parallel NIRF plus or international NIRF ranking to rank the top 50 institutions with the world's top 50 institutions will set higher goals for the educational institutions in India. "Time has come to create new goal posts now. Otherwise, it will be a sort of musical chairs at the top and will be a zero-sum game for the country," he said.

Rao also suggested the introduction of a peer-review system in the NIRF ranking as many complaints surfaced regarding the authenticity of the data submitted. The low-ranking institutes should verify the data submitted by the higher-ranking institutes, he said. He also said that this will help those institutes learn best practices and improve their performance. He also called for conducting the rankings every two years, as this would give more time for peer review too. He also alleged that nothing much happened in just a span of one year.
Institutes could be getting different rankings based due to small differences in their scores. Rao said that such institutions should be assigned the same rank. He opined that ranking institutes differently based on minute differences will be demotivating.

The former IIT Delhi director supported autonomy for institutions that consistently maintains top positions. He said that the IITs and NITs ranked among the top 10 institutes consistently for three years should receive full autonomy. According to him, without autonomy, these institutes will not be able to compete internationally. Rao also called for funded research and educational schemes for tier-1 institutions to collaborate with tier-2 institutions.

**2-day Robocon at IIT-Delhi starts today**


Indian Institute of Technology (IIT) Delhi is set to host the 2022 edition of DD-Robocon from July 16. The two-day event will be held at Thyagraj Stadium.

Senior officials said that 43 teams shortlisted from 80 teams from as many engineering institutes are going to be a part of this year’s event, which is being held in the physical mode after a gap of two years.

“Around 750 participants are joining it. This year’s DD-Robocon is special as the event will be followed by the international show, ABU-Robocon 2022, on August 21, with teams from 12 countries participating. ‘Lagori’, a game which many of us might have played in our childhood, is the theme of the event,” officials said.

DD-Robocon is a national competition organised by IIT Delhi for Asian-Oceania college robot competition, organised internationally by Asia-Pacific Broadcasting Union (ABU). “In the competition, robots compete to complete a task within a set period of time. ABU-Robocon was founded in 2002. More than 150 professors, technical staff and students from IIT Delhi and its neighbouring colleges, including JNU and Jamia Millia, have volunteered to organise this mega event,” IIT Delhi said.

**IIT Delhi Achieves 2nd Rank In Engineering; Jumps To 4th In Management; Features Among Top 3 Research Institutes**


Union Education Minister, Shri Dharmendra Pradhan released the India Rankings 2022 under the National Institute Ranking Framework on Friday. IIT Delhi has achieved 2nd rank in the engineering category, according to the India Rankings. In the management, the Institute moved to 4th position from the last year’s 5th. In the research area also, IIT Delhi has moved up the rankings to feature among the top three institutions this year.
Speaking on the NIRF India Rankings 2022 announced today, Prof Rangan Banerjee, Director, IIT Delhi, said, “We are enhancing programmes and options for our students and strengthening our research and societal impact. We are happy to see that this is reflecting on our NIRF rankings.”

**IIT Delhi alumni Parul, Alok Mittal to contribute Rs 5 crore to institute’s endowment fund**


Parul Mittal did electrical engineering from IIT Delhi while Alok Mittal is a graduate of computer science engineering.

Indian Institute of Technology (IIT) Delhi alumni Parul and Alok Mittal have pledged to contribute Rs 5 crore to the institute’s endowment fund over the next five years.

“’The endowment fund’s mission is to contribute to India and the world through excellence in scientific and technical education and research; to serve as a valuable resource for industry and society; and to remain a source of pride for all Indians,” said an official statement from IIT Delhi.

Parul is a 1995 batch IIT Delhi Electrical Engineering graduate and did her master’s in computer science from Umich, Ann Arbor. She is a best-seller novelist having published three light-read fiction novels. She is also an artist and has exhibited her paintings in Gurgaon. Professionally, Parul loves coding, problem solving and research, as per the statement.

Parul worked at IBM Research during her early career and authored several papers and patents. She also ran her own startup in parenting space for several years. She briefly worked as Vice-President (VP), Product Manager at Yatra.com before joining a High Frequency Trading startup as a Quant researcher in 2019.

Alok is a graduate of Computer Science 1994 batch and UC, Berkeley. He is passionate about education and entrepreneurship. He serves on the board of TiE Delhi, co-founded Indian Angel Network, and is a founder trustee at Plaksha University. He has been teaching recreational math and problem solving to school students for several years, the IIT Delhi statement added.

Alok took to entrepreneurship early, with his first startup in 1999. He then set up and ran India venture capital operations for Canaan Partners. He is currently co-founder and CEO at Indifi Technologies, India’s leading digital platform for MSME financing, the statement further said.
India Needs A Nobel Prize Mission, Says Ex IIT Director


According to Prof Rao, unless 50 people knock on the “Nobel doors” every year, it would not happen. (Representational Image)

Prof Rao writes that it won’t be possible with “everyone wishing it” but would require “careful long-term planning, investments, a chance of culture, and execution.”

Former director of the Indian Institute of Technology (IIT), Delhi has advocated a national mission for India to bag a Nobel prize in science. Professor V. Ramgopal Rao recently shared a LinkedIn post where he extensively wrote about the need and ways to help Indian innovators to become Nobel laureates.

Prof Rao writes that it won’t be possible with “everyone wishing it” but would require “careful long-term planning, investments, a chance of culture, and execution.” Prof Rao, who himself has 49 patents to his name in the area of electronic devices and nanoelectronics, said that this needs to be a national mission.

“Shoot for the moon. Even if you miss, you’ll land among the stars,” he wrote in a tweet, quoting Norman Vincent Peale, a famous self-help author. Sharing a screenshot of the LinkedIn post, he added, “India needs to launch a National Mission for winning a Nobel Prize in sciences in the next 20 years, out of work done here. Technology with deep science is like stamp collection. They need to go hand-in-hand.”
According to Prof Rao, unless 50 people knock on the “Nobel doors” every year, it would not happen. Prof Rao then listed some ways that this agenda can be shaped into a reality. The country needs to identify 100 research topics with a chance of winning the Nobel Prize and identify 500 young faculty talents from top Indian institutions “doing cutting edge research.”

Prof Rao suggested that this group of talented individuals must “regularly network” with the Nobel Laureates all over the world. Things such as generous research grants, fully-paid exchange visits, and flexible sabbaticals should be a part of this mission, along with “Laureates-in-residence programmes,” said Prof Rao, in the post.

Till now, only four Indian-origin people have won a Nobel Prize in sciences, including the famous Indian physicist, C.V Raman.
IIT Delhi inaugurates new Census Data Workstation for academicians and researchers

IIT Delhi has inaugurated a new Census Data Workstation as a collaboration with the Directorate of Census Operations Delhi. The lab has been inaugurated at the Economics Lab in the Department of Humanities and Social Sciences. More details below

Indian Institute of Technology, IIT Delhi has inaugurated a new Census Data Workstation on July 6, 2022. The workstation has been inaugurated at the Economics Lab in the Department of Humanities and Social Sciences at IIT Delhi.

The Registrar General and Census Commission of India, Dr Vivek Joshi inaugurated the Census Date Workstation. Speaking on the occasion, Vivek Joshi stated that the Workstation would help facilitate access to Census Microdata for academicians and researchers.

The Census Data Workstation shall help spread awareness about the extensive amount of data colleges during Census operations in the country. Professor Ashok Ganguli, Deputy Director of IIT Delhi and Professor Angelie Multani, Head of the Department of Humanities and Social Sciences, who were also present at the event, welcomed the initiative.

Dr Joshi further invited IIT Delhi to undertake research on census data and operations. During the inauguration of the workstation, a memorandum of understanding, MoU was also signed between Shri Ajay Garg from the Directorate of Census Operations Delhi and Professor Ganguli from IIT Delhi.

A discussion between DCO Delhi and IIT Delhi was also held to explore the possibility of applications of artificial intelligence, AI, ML and advanced date science techniques in digital census and for compiling birth and death registration information and more.
IIT-Delhi has designs on stretch from Raja Garden to Britannia Chowk


Most arterial roads will soon feature specialised markings to segregate bus lanes from other modes of transport. Delhi government’s transport department is implementing a pilot project of improved road marking for bus lanes in collaboration with IIT-Delhi.

A similar project will be implemented on other major roads maintained by the Public Works Department (PWD).

The pilot project is being implemented between the Raja Garden junction and Britannia Chowk to facilitate movement of non-motorised transport and pedestrians, along with buses and other vehicles.

In a presentation at the meeting of the State Road Safety Council chaired by transport minister Kailash Gahlot on Wednesday, the department said it would conduct training of engineers to harmonise the road marking system across all PWD roads.

The council acts as an apex body in the state to oversee and monitor road safety measures, advise the government on policies and prescribe and enforce standards and procedures. It also reviews and formulates schemes, projects and programmes, and coordinates the functions of all agencies and departments discharging duties relating to road safety.

Addressing the stakeholders during the meeting, Gahlot mentioned that the role of district magistrates was critical in the success of road safety initiatives and the ongoing bus lane discipline drive. He added that they should be deeply involved in the drive and ensure that bus lanes were clear of encroachments. The further stated that they should utilise the district road safety committees to meet stakeholders for effective implementation of initiatives.

Delhi government’s bus lane enforcement drive has seen more than 45,000 challans being issued since April 1 during the first phase along the inner and outer Ring Road. In the following phases, all major roads would be covered under the drive.

The transport department has identified 14 fatality-prone intersections, which would be redesigned and improved for reduction of crashes. It has selected Rajendra Nagar for overall road safety improvement under its neighbourhood improvement initiative. One school from each of the 11 revenue districts has been identified for improvement as a safer zone.
A national centre for medical technology development has been established at Indian Institute of Technology (IIT)-Delhi in a bid to enable medical device startups to create products in an ISO-certified manufacturing facility and obtain requisite certifications.

The centre, Medtech Product Ignition and Acceleration Gateway of India (MPragati), will bring about a major change in the biomedical ecosystem and help researchers, doctors, entrepreneurs and academics across the country to take their ideas to the market, senior officials said.

Professor Dinesh Kalyanasundaram, who is leading the programme, told TOI that the core focus of MPragati is to translate the medical device from the stage of proof-of-concept level to the clinical validation level. “To achieve this, the centre has been conceptualised with an ISO-certified testing facility and an ISO-certified manufacturing facility. The ISO-13485 manufacturing facility shall help in fabricating devices for human clinical trials while the ISO-17025 test facility can help in testing and certifying the medical devices,” the professor said.

According to officials, the centre will also enable testing for products which have not been able to reach the market yet as they never underwent clinical trials in requisite facilities. While some of the larger companies may have their own testing centres, for common innovators, the lack of such facilities proves to be a barrier to take the product to the market, officials explained.

Kalyanasundaram said, “The facility can be accessed by medical device innovators, medical device companies, startups, ad hoc project awardees and others. Such facilities are less in number across the country.”

Apart from new innovative medical devices, the centre will also be looking at testing more common instruments like syringes and catheters. Currently, it is involved in the design and innovation of products like implants for orthopaedic and dental needs, among many others. A balance between innovative products and also the commonly available medical devices will be maintained for both testing and manufacturing, officials explained.

Kalyanasundaram further added, “MPragati is continuously working on developing new innovative medical devices in collaboration with medical institutions such as AIIMS, New Delhi, Indian Spinal Injury Centre, Safdarjung Hospital and so on. Our overall goal is to ensure that affordable and innovative medical devices reach the public.”
IIT Delhi startup develops coating for textiles for protection against Hospital-Acquired Infections


According to Vikram Saini, Medical Advisor to the startup and a faculty member at AIIMS, hospital-acquired microbial infections are a major problem not only in India but globally.

A start up incubated at the Indian Institute of Technology (IIT), Delhi has developed an antimicrobial solution that when applied as a coating on textiles, provides long-lasting protection against hospital acquired infections. Coating the "Viroclog" developed by the start up called "Medicfibers" on textiles lowers the surface energy, prevents adhesion of microbes and destroys the membrane integrity of microbes.

"Destruction of lipid-based membrane barrier makes the microbes inactive, thus preventing infection transmission. The basic significance of this technology is to save lives and reduce healthcare associated costs by integrating antimicrobial technology with hospital clothing that provides a layer of protection against microbial pathogens," said Sachin Kumar, mentor to the startup and a faculty member at the Centre of Biomedical Engineering, IIT Delhi.

"The tests done by AIIMS New Delhi, IISc Bangalore, and multiple NABL accredited labs, show that Viroclog® technology contributes significantly towards reducing infections through antimicrobial hospital clothings," he added.

According to Vikram Saini, Medical Advisor to the startup and a faculty member at AIIMS, hospital-acquired microbial infections are a major problem not only in India but globally.

"During the pandemic, there is a renewed sense of urgency in tackling this issue. In this context, it is now being realized that clothing and textile materials are not only carriers of microorganisms such as pathogenic bacteria, viruses, and fungi, but also can act as a breeding ground for the growth of these microbes. "Therefore, there is an urgent unmet need for medical workers in hospital settings to have protective clothing that provides long-lasting protection against microbes while being economical and comfortable. Medicfibers have performed significant work in this direction to provide affordable clothing solutions," he said.