IIT Delhi study reveals mechanisms driving SARS-CoV-2 evolution in humans


The researchers found that the rate of CpG depletion from SARS-CoV-2 genomes rapidly decreases after the first few months of evolution in humans.

The researchers have identified how uracils adjacent to CpGs contribute to the accelerated loss of CpGs from SARS-CoV-2 genomes.

Researchers at the Indian Institute of Technology (IIT), Delhi have revealed the mechanisms driving the evolution of SARS-CoV-2 in humans which can help in better understanding of COVID-19’s pathogenesis, immune evasion and emergence of variants of concern.

According to the seven-member research team, CpG (a cytosine followed by a guanine) numbers in virus genomes have been linked to host-switching, the efficiency of virus replication, immune evasion and the ability of a virus to cause disease.

The researchers found that the rate of CpG depletion from SARS-CoV-2 genomes rapidly decreases after the first few months of evolution in humans. The research has been published in a journal, Molecular Biology and Evolution, and is titled “The Slowing Rate of CpG Depletion in SARS-CoV-2 Genomes is Consistent with Adaptations to the Human Host”.
“Zinc-finger antiviral protein (ZAP) is a host protein that can bind to CpG-rich regions in SARS-CoV-2, the causative agent of the COVID-19 pandemic, and recruits other host proteins to degrade the viral RNA. Several viruses including HIV-1, Influenza A virus and SARS-CoV-2 prefer to reduce their CpG content (by losing CpGs) to minimise the host immune response, thus allowing better virus replication and survival,” Vivekanandan Perumal from the Kusuma School of Biological Sciences, IIT Delhi told PTI.

“The team analysed over 1.4 million full-length SARS-CoV-2 sequences from across the world. They found that the rate of CpG depletion from SARS-CoV-2 genomes rapidly decreases after the first few months of evolution in humans.

“Furthermore, most SARS-CoV-2 variants of concern had lower CpG content. This work highlights the existence of selection pressures apart from ZAP that may lead to CpG depletion in SARS-CoV-2 genomes,” he added.

SARS-CoV-2 has a uracil-rich (uracil is one of the four building blocks of RNA) genome. The researchers have identified how uracils adjacent to CpGs contribute to the accelerated loss of CpGs from SARS-CoV-2 genomes.

“Our results lay the necessary groundwork for future studies on understanding the intricacies of virus-host interactions leading to CpG depletion,” IIT Delhi professor Manoj Menon said.

“We observed that the extent of CpG depletion in SARS-CoV-2 genomes is modest during the first 17 months of the pandemic corresponding to over 170 million documented human infections,” he said.

IIT Delhi study says biomass burning drives poor air quality post Diwali


IIT Delhi researchers observed that although the metal content in PM2.5 levels rose by 1100 percent, the fireworks alone accounted for only 95 percent.

Researchers at the Indian Institute of Technology (IIT) Delhi have discovered that the primary reason behind the poor air quality in Delhi after Diwali is biomass burning-related emissions and not fireworks.

According to a statement from IIT Delhi, there is a steep rise in biomass burning related emissions in Delhi in the days following Diwali. As per the observations, the average levels of such emissions rose by order of ~2 compared to the pre-Diwali concentration. IIT Delhi researchers also observed that although the metal content in PM2.5 levels rose by 1100 percent, the fireworks alone accounted for only 95 percent of the metal PM2.5 during Diwali. “However, the impact of the fireworks plummets within around 12 hours following Diwali”, says Chirag Manchanda, the lead author of this study.

According to Vikram Singh, a professor at the chemical engineering department at IIT Delhi, and a member of the research team, the primary reason behind the biomass burning activity is stubble burning and the increased heating requirements of the region in winters.
The IIT Delhi study titled "Chemical speciation and source apportionment of ambient PM2.5 in New Delhi before, during, and after the Diwali fireworks," which laid out the pollution sources impacting the air quality of New Delhi, was published in the journal Atmospheric Pollution Research.

“The result of this study provides crucial insights into a topic of long-standing debate and concern between air quality experts and policymakers committed to alleviating the extreme air pollution events in the capital of Delhi following Diwali,” said the principal investigator Mayank Kumar, professor at the mechanical engineering department of IIT Delhi.

**IMD planning early heatwave alerts**


In a comment piece in the journal ‘Nature India’ that was published Saturday, IMD director general M Mohapatra and IIT-D scientists R K Jenamani and S K Dash wrote that improving early warning lead time will help save more lives and will assist local administration to take better heat-action measures.

In a comment piece in the journal ‘Nature India’ that was published Saturday, IMD director general M Mohapatra and IIT-D scientists R K Jenamani and S K Dash wrote that improving early warning lead time will help save more lives and will assist local administration to take better heat-action measures.
According to the piece, the assessment will be drawn up by factoring in relative humidity, night temperature and wind conditions for very hot days — when maximum temperatures of 45°C-49°C are reported -- over northwest and central India.

“Heat waves are not new. There is evidence of large-scale heat waves in other parts of the world, including Europe and the United States. When the base temperature of the earth goes up, disturbances such as heat waves are most likely to occur. However, what is concerning is the evidence of increase in their frequency and intensity and numerical models suggesting possible future rise in temperature. Globally, the last seven years have been the warmest on record,” they wrote.

So far, the IMD has been issuing heatwave warnings 3-5 days in advance across the country. The National Disaster Management Authority (NDMA) and heat-prone states are trying to reduce mortality due to heat waves, the comment said and added that early warning systems can be improved for more accurate forecasts and better implementation of heat action plans by states.

According to IMD, there were two major causes behind the heatwave spell in March and April — the absence of rainfall and convective activities such as thunderstorms for a long period and the absence of active western disturbances and anti-cyclonic subsidence of warmer dry air at lower and middle levels over north Arabian Sea and adjacent south Pakistan and Gujarat.

“In India, the summer of 2022 unfolded in an unusual way as early as 11 March mostly over the plains of northwest, central India, Gujarat and the western Himalayan region,” the comment notes, adding that the ‘major’ and ‘severe’ heatwaves came in six spells — March 11-23, March 27-April 12, April 17-20, 23 April 23- May 2, May 7-16 and May 19-2.

Most of these spells were over the plains of northwest and central India, Gujarat and parts of western Himalayan region, southern parts of Uttar Pradesh, Jharkhand and the national capital region of Delhi. The period of 24-30 April is the only one when it spread further east to some parts of West Bengal and Odisha.

A comparison of heat waves of the past 13 years (2010-2022) shows record highs this year. March had the highest number (93) of meteorological sub-division days (MSD). MSD is the sum of the heatwave days in different meteorological sub-divisions of the country. April 2010 had the highest number (404) of MSDs of heat waves followed by 2022 at 209 MSDs.

March and April also surpassed earlier recorded values in the last 122 years. In March 2022, the average maximum temperature over India was 33.1°C, highest on record for March. In April 2022, the average temperature over India rose to 35.3°C against a normal of 33.94°C (normal calculated based on the period 1981-2010). It was the third highest on record for April in 122 years. The average minimum temperature in April also shot up to 23.51°C, second highest for the period.

Normally, March and April in India see rain and thunderstorms at regular intervals with both the Bay of Bengal and Arabian Sea providing ample moisture. The temperature follows a regular ‘high rise and less fall’ pattern in the same period. Although the temperature rises in value seasonally, the number of heatwaves are not at an alarming level, the comment notes.
“The absence of active western disturbances (WDs) in March and April 2022 over north India led to severely subdued rainfall and scant thunderstorm activities over northwest and central India. Five western disturbances moved across north India in March, but were dry without any moisture from the Arabian Sea or Bay of Bengal except one that caused isolated rainfall over northwest and central India for a couple of days early March,” they wrote.

April was similar with only six WDs in north India, mostly feeble and dry and moving across the higher ridges of the Himalayas.

“The efforts to improve forecast lead time and issue impact-based warning is already going on. IMD is already doing, and it is a continuous process. We are saying that we should remain focused on early warning systems,” said co-author Dash.

On the link between climate crisis and the heat wave spell, Dash said the link was obvious. “We have said in our comment also that when base or mean temperatures are going up, heat waves will be more severe because circulation patterns also change. So, rise in heat wave extremes is expected. But we can conclude what role did climate crisis play in this heatwave spell by doing some modelling studies,” he added.

**IIT Delhi invites nomination for Alumni Awards 2022 till July 6**


*IITD alumni can be nominated for the DAA, GOLD Award and DASA at the IIT Delhi website alumni.iitd.ac.in till July 06, 2022.*

The Indian Institute of Technology (IIT) Delhi has invited nominations for the IIT Delhi Alumni Awards 2021 to recognise the achievements and contributions made by them. The last date to nominate alumni for the awards is July 6, 2022. They can be nominated at the IIT Delhi alumni website -- alumni.iitd.ac.in.

All alumni with a degree or diploma from IIT Delhi are eligible to be nominated for the alumni awards. However, those working as faculty or staff at IIT Delhi cannot be nominated, the institute informed in a tweet. IIT Delhi confers three awards during the alumni awards event which takes place annually. These are the Distinguished Alumni Award (DAA), Graduates of Last Decade (GOLD) Award and Distinguished Alumni Service Award (DASA).
"Alumni are awarded to recognize outstanding achievements and contributions made by them in various walks of life including advancing Science and Technology, business development, leadership in management and entrepreneurship, excellence in professional and public service," claims IIT Delhi.

**DIMTS and IIT Delhi to conduct road safety audit in Odisha**


As directed by the Supreme Court Committee on Road Safety, the audit team will carry out the assessment in three states including Odisha.

As road fatalities continue to be a major cause of concern in Odisha, Ministry of Road Transport and Highways (MoRTH) has engaged a Delhi-based agency and a research panel of IIT Delhi as consultants to carry out audit of roads in the State.

Delhi Integrated Multi Modal Transit System (DIMTS) Ltd in consortium with Transport Research and Injury Prevention Programme (TRIPP), IIT Delhi will conduct an ‘Audit of Implementation of the Directions issued by Supreme Court Committee on Road Safety in Odisha’.

As directed by the Supreme Court Committee on Road Safety (SCCoRS), the audit team will carry out the assessment in three states including Odisha.
The team will verify and collect various information pertaining to the audit and study. They will visit different parts of the State and interact with the officials to gather road safety related documents and data apart from primary and secondary information from field.

The audit team will also visit four cities - Bhubaneswar, Cuttack, Behrampur and Rourkela - which have been reporting maximum number of road accidents despite various corrective measures.

After the Secretary of SCCoRS wrote to Chief Secretary Suresh Chandra Mahapatra to assist the teams in carrying out the audit, the State government has asked Secretaries of five departments, DG of Police, ADG of Crime Branch, Transport Commissioner, State Crime Records Bureau and NHAI Chief General Manager to provide data and instruct officials to be in readiness.

Chairman of SCCoRS during a recent discussion with the Chief Secretary and senior officers had expressed concern over rise in fatalities in the State.

There has been steady increase in number of fatalities from 3,931 in 2014 to 5,081 in 2021, an increase of about 29 per cent (pc) during the period.

The Chairman had observed that, violation of MV Act is a serious issue which must be addressed with top most priority else they will lead to serious accidents.

There has to be pressure on public at large that, if somebody violates provisions of MV Act, he will be dealt with strictly and with heavy hands by enforcement agencies, he observed.

Meanwhile, the State government has nominated Joint Commissioner Transport (Road Safety) Sanjay Kumar Biswal as nodal officer to facilitate and connect the consultants’ team with the officials of the State departments.

**IIT Delhi Researchers Develop Low-Cost Super-Elastic Buckling Restrained Braces To Improve Earthquake Resistance Of Structures**


Indian researchers have developed low-cost buckling-restrained braces that can give improved protection to constructions from earthquakes.

These braces have several advantages, such as all-steel components, onsite fabrication and assembling process, post-earthquake inspection, and easy replacement.

The earthquake resistance of civil structures is often improved by using seismic force-resisting systems or vibration control devices. Buckling-restrained braces are the special structural elements that serve both purposes.

Researchers at IIT Delhi have fabricated novel hybrid buckling-restrained braces (HBRBs) having higher strength, excellent ductility, and better energy dissipation potential, according to a Science and Technology Ministry release.

Professor Dipti Ranjan Sahoo and his student Dr Ahmad Fayeq Ghowsi of IIT Delhi, who fabricated the braces, studied the seismic performance of more than ten full-scale HBRBs at the full-scale
testing facility of the Heavy Structures Laboratory of the Department of Civil Engineering, IIT Delhi developed under Fund for Improvement of S&T Infrastructure (FIST) programme of Central government’s Department of Science & Technology.

Tests are being conducted on specimens with improvements and modifications at the laboratory, and according to Professor Sahoo, a patent has recently been applied for the proposed bracing system.

A typical HBRB comprises two segments, namely, elastic steel brace (non-replaceable) and short-core BRB (replaceable) segments, connected in series along their lengths. Steel braces can be made up of hollow circular or square hot-rolled structural steel sections.

Superplastic shape memory plates are used at the centralized core elements of BRB, which is encased by unbonded built-up steel casings fabricated using four structural steel rolled angle sections and bolted connections.

The core elements are designed to undergo inelastic deformation under cyclic axial loadings to provide the required strength, ductility, and hysteretic energy dissipation.

“These braces can be customized depending on the seismic demand expected on buildings or bridges located in different seismic zones of India,” Sahoo informed.

The proposed technology is effective in the new constructions and has a great potential for the upgradation and retrofitting of seismically deficient reinforced concrete (RC) and steel framed structures, such as residential/office buildings, hospitals, and school buildings.

These braces can also be conveniently adopted in the steel and concrete bridges to enhance their earthquake resistance.

The implementation of this technique in the existing structures reduces overall retrofitting cost and minimizes the intervention and downtime. It is possible to design a structure to achieve the required performance objectives in terms of strength and serviceability utilizing the hybrid buckling-restrained braces.

**IIT-Delhi, CISCE join hands for courses on robotics, artificial intelligence**

Indian Institute of Technology (IIT) Delhi and Council for Indian School Certificate Examinations (CISCE) together are planning to introduce robotics and artificial intelligence as courses for classes IX to XII. IIT Delhi on Saturday said it has tied up with CISCE to design curriculum for schools affiliated to the board in upcoming technologies including robotics, artificial intelligence, machine learning and data science. The memorandum has been signed between CISCE and IIT Delhi’s I-Hub Foundation for Cobotics (IHFC) — the technology innovation hub of the institute.

Highlighting the need to introduce contemporary subjects at the school level, Gerry Arathoon, chief executive and secretary of CISCE, said: “The board has always strived to provide its students with a
wide variety of subject choices, catering to their interests and capabilities while also addressing the contemporary requirements and it is with this objective in mind that CISCE plans to introduce the subjects – Robotics and Artificial Intelligence at ICSE (class IX and X) and ISC (class XI and XII) levels.”

Officials said that IHFC will help CISCE curate the syllabus for reinforcing 21st-century skills and also execute certain aspects of National Education Policy (NEP) 2020 for students studying in schools affiliated to the board.

“IHFC has also offered its expertise to the CISCE to revamp the current STEM courses in line with NEP 2020 launched by the Union education ministry,” officials said.

Emphasising the need to build the country’s capability in the field of robotics and upcoming technologies, Ashutosh Dutt Sharma, CEO, IHFC, said: “IHFC’s endeavour is to reflect the principles of experiential learning along with theory aspects while developing the curriculum. IHFC may also play a key role in executing the same in more than 2700 schools affiliated to the CISCE and provide them with guidance to implement the same.”

Professor SK Saha, project director, IHFC, added that nurturing teamwork, innovation and knowledge to bridge the gaps between young engineering students and potential future robotic enthusiasts are a prime aspect of the project’s vision.

**How IIT Delhi’s Programme in Entrepreneurship Development will help to build businesses?**


India’s entrepreneurial activity has witnessed unprecedented growth and evolution and has contributed significantly to the nation’s economic development. It is the world’s third largest
source of start-ups and was ranked the second most entrepreneurial country in the world ahead of large economic powerhouses such as the United States, China, and the UK. The Indian start-up ecosystem witnessed exponential growth between 2015 and 2021, recording a 9X increase in the number of investors; a 7X increase in the total funding of Start-ups; a 7X increase in the number of incubators. Entrepreneurs in India have opened new avenues of wealth creation, provided consumers with new products and services, and generated employment. They have also optimally used technology to enable the growth of their business models and created a market for their offerings. A fusion of innovation, human talent and technology has led to several profit-making ventures that have attracted international investors and a significant amount of capital infusion over the past few years.

What are the Key Learning Outcomes of IIT Delhi’s Executive Management Programme in Entrepreneurship Development?

The immersive programme with a consultative learning approach will help participants acquire an entrepreneurial mindset and orient them with practical knowledge and essential perspectives on entrepreneurship. At the completion of the programme, the learners will:

- Benefit from a well-crafted platform to imbibe the entrepreneurial culture and be a part of entrepreneurial ecosystem.
- Learn how to nourish purposeful business ideas and incubate and fund meritorious business opportunities.
- Get equipped with well-grounded skills to ideate, establish, grow, and scale up entrepreneurial ventures.

The IIT Delhi’s Executive Management Programme in Entrepreneurship Development curriculum includes:

- Entrepreneurial Ecosystem and Venture Creation
- Creativity, Innovation, and Design Thinking
- Marketing Management and Digital Marketing
- Marketing Research for Entrepreneurship
- Entrepreneurial Operations and Decisions
- Strategic Leadership and Team Management
- Entrepreneurial Finance
- Business Plan Development and Pitching Skills
- Funding Entrepreneurial Ventures and Mentoring
- Business Laws and Policy Regulations
Growing and Scaling Up Entrepreneurial Ventures

Entrepreneurial Failure Management

**Who is the programme for?**

Aspiring entrepreneurs who are interested in starting their own venture

Working professionals who wish to become their own bosses

Professionals such as doctors, lawyers, artists, photographers, designers, keen on setting up a business

Graduates from engineering colleges/Universities, who have a good skillset and want to take the start-up route

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**Completion Certificate for the programme**

At the end of the programme, participants who score at least 60% marks overall and have a minimum attendance of 60% will receive a Certificate of Completion from IIT Delhi CEP. Those who score less than 60% marks overall and have a minimum attendance of 60% will receive a Certificate of Participation from IIT Delhi CEP.

**Programme Details**

Starts on: 26th June 2022

Programme Fee: 1,00,000 + GST

Application Deadline: 15th May 2022

To learn more about the programme and apply, click here

**About IIT Delhi**

The Indian Institute of Technology Delhi (IIT Delhi) is one of the 5 initial IITs established for training, research and development in science, engineering, and technology in India. Established as College of Engineering in 1961, the Institute was later declared as an Institution of National Importance.
under the “Institutes of Technology (Amendment) Act, 1963” and was renamed as “Indian Institute of Technology Delhi”. It was then accorded the status of a Deemed University with powers to decide its own academic policy, conduct its own examinations, and award its own degrees.

Since its inception, over 48,000 students have graduated from IIT Delhi in various disciplines including Engineering, Physical Sciences, Management, and Humanities & Social Sciences. Of these, nearly 5,070 received PhD degrees. The rest obtained a Master’s Degree in Engineering, Science, and Business Administration. These alumni today work as scientists, technologists, business managers, and entrepreneurs. There are several alumni who have moved away from their original disciplines and have taken to administrative services, active politics or are with NGOs. In doing so, they have contributed significantly to the building of this nation and to industrialisation around the world.

**Shriram Automall India inks pact with IIT-Delhi to enhance pre-owned vehicle valuation platform**


Pre-owned vehicles and equipment marketplace Shriram Automall India Ltd on Tuesday said it has inked a pact with IIT Delhi’s Yardi School of Artificial Intelligence to enhance its in-house developed pre-owned vehicle valuation platform ThePriceX.

Through this exclusive agreement, the IIT-Delhi team will provide expertise to improve the accuracy of ThePriceX, which assists in predicting the value of pre-owned vehicles from any...
source and geography, real-time, through statistical modelling, machine learning and other complex artificial intelligence algorithms, the company said in a statement.

Shriram Automall India Ltd (SAMIL) will provide its decade-long expertise on pricing and valuation data of pre-owned vehicles and equipment, it added.

SAMIL Director and CEO Sameer Malhotra said through the strategic tie-up with IIT Delhi, its technology team will work together on the enrichment of the already advanced pre-owned vehicle price prediction tool ThePriceX.

SAMIL said ThePriceX, an advanced price prediction engine, is already being used by leading banks, insurance companies, NBFCs as well as OEMs. Users get data-driven results on the basis of lakhs of successfully transacted vehicles over the past 11 years.

IIT Delhi: Monumental national flag by IITD startup SWATRIC hoisted on campus


IITD: The monumental national flag was hoisted on the IIT Delhi campus by the chief guest, Naveen Jindal, who is the founder of the Flag Foundation of India.

A monumental national flag of 108 ft height was hoisted at the Indian Institute of Technology (IIT) Delhi today, May 7, 2022. The fabric of the flag is engineered and designed by a startup SWATRIC, incubated at IIT Delhi. The flag was hoisted by the chief guest, Naveen Jindal, who is the founder of the Flag Foundation of India (FFI), a non-profit organisation that promotes the national flag. He is also the chairman of Jindal Steel and Power Limited (JSPL).

"A 108-ft monumental #NationalFlag was hoisted on the #IITDelhi campus on Saturday. The flag fabric material and design have been engineered by IIT Delhi startup SWATRIC," said a tweet from
IIT Delhi. The flag was hoisted in the presence of the senior functionaries and employees of IIT Delhi, and the students of Kendriya Vidyalaya.

The IIT Delhi startup SWATRIC has designed many fabric structures for the monumental national flag, which have been installed in different parts of the country by the Flag Foundation of India for
assessing the durability of the flag and its ability to sustain damage due to harsh climatic and geographical conditions of different places.

SWATRIC partnered with FFI in 2021 to develop a stronger fabric for monumental national flags so that the flags can survive without any damage in India’s diverse climatic and geographical conditions.

"SWATRIC has been successful in improving the strength and seam quality, and making the flag weight lighter by 30%," said Bipin Kumar, professor at the textile and fibre engineering department of IIT Delhi. He is also the mentor of SWATRIC.

**Minister hands over machine to IIT Delhi for making cow dung logs for cremations**


*IIT Delhi: Cow dung-based logs can be used as firewood for the cremation of 5-7 bodies, saving roughly two trees in each cremation, claims IITD.*

Parshottam Rupala, Union minister for animal husbandry, fisheries and dairying, handed over cow dung

Union minister for animal husbandry, fisheries and dairying, Parshottam Rupala, handed over a cow dung log machine "Go Kasht" to the Indian Institute of Technology (IIT) Delhi's Project Arth that aims to replace wood with modified cow dung logs for conducting the Hindu practice of cremations in India.
IIT Delhi's Project Arth and ENACTUS have taken up an initiative to redefine the rituals of cremations by providing an alternative to wood logs that has religious alignment and does not generate comparable emissions on burning. "The machine can process 3,000 kg of cow dung every day to produce 1,500 kg of cow dung-based logs that can be used as firewood for the cremation of 5-7 bodies, saving roughly two trees in each cremation," an official statement said.

This can help a gaushala to clear roughly 1,50,000 kg to 1,70,000 kg of cow dung every month, it said. The minister for animal husbandry, fisheries and dairying Rupala handed over the cow-dung log machine to the students of Project Arth, it added.
According to the ministry, the use of cow dung-based log machines can help gaushala to cater to their waste management problems, provide an additional source of employment to their employees or nearby villagers, and contribute to reducing deforestation. It also helps in engaging the non-milking cows in an economic activity and generating funds to support all the cows in a gaushala, it added. In India, around 50 million trees are cut every year to supply wood logs as fuel for traditional Hindu cremations, according to the website of Project Arth.

**IIT Delhi to Host Classes 11, 12 Students for Summer Boot Camp, Offer Training**


School students will start with hands-on, quick prototyping-based training in digital manufacturing techniques.

The Indian Institute of Technology (IIT) Delhi is going to host a ‘Do-It-Yourself (DIY)’ summer boot camp called ‘Change.Makers.’ It will be held for students in classes 11th and 12th, who will be able to use the institute’s state-of-the-art resources to turn their powerful ideas into reality. The applications of interested students for the boot camp will be accepted till May 7, or until all spaces are filled.

The non-residential boot camp will be held from May 23 to June 24, according to the institute’s official advertisement. It will start with hands-on, quick prototyping-based training in digital manufacturing techniques. The training will take place at IIT Delhi’s Makerspace, which is a do-it-yourself facility. Following the training, the students will be able to use IIT Delhi resources till the completion of the boot camp to construct projects tackling high-impact societal problems.
The nature of the projects in this camp comprises creating an electro-mechanical prototype for the topic at hand. Building an air pollution monitor, a medical device for the visually impaired, smart furniture, and other projects are all possibilities.

Prof. Jay Dhariwal, Coordinator, Change.Makers summer boot camp, IIT Delhi, said, “Government initiatives on tinkering have helped the school students to instil a culture of innovation and a mindset of problem solving.” He added,

“Change.Makers summer boot camp will build on these initiatives by providing world class R&D facilities and mentorship to selected students committed to make their impactful products and solutions reach closer to implementation.”

“We are very hopeful that the DIY camp will help strengthen the ties that IIT Delhi faculty and students have already established with young minds in schools and academics in the making,” said Prof. Pritha Chandra, Associate Dean, Academic Outreach and New Initiatives, IIT Delhi.

**IIT Delhi, Embassy of Israel Conduct Advanced Entrepreneurship Program With 26 Women Entrepreneurs**


A total of 26 women entrepreneurs were selected from WEE Foundation and mentored on various topics.

A six-week mentorship program for women entrepreneurs (Source: ABP)
The Israeli Embassy in India, in association with the Indian Institute of Technology (IIT)-Delhi and the WEE Foundation, organised a six-week mentorship program for women entrepreneurs, the embassy said on Monday.

A total of 26 women entrepreneurs were selected from WEE Foundation and mentored on various topics.

The entrepreneurs were mentored by Israel's renowned VC and Mentor, Nava Swersky. She is a technology entrepreneur with over 30 years of international experience as an entrepreneur and manager. She is an investor in venture capital and an expert in the fields of innovation and technology commercialisation.

“I am honoured and delighted to be mentoring these special women who have unique and pioneering thinking and a strong passion for entrepreneurship,” said Adv. Swersky. “They have all achieved so much already and I am sure they will continue to lead change for good”.

During the event, women entrepreneurs were connected to potential investors and buyers for their products to take their business idea to an economically sustainable venture. These women have backgrounds in science and medicine, business administration, design and healthcare.

Speaking on the occasion, H.E. Naor Gilon, Ambassador of Israel to India said, “I am happy to be a part of this incredible event. It has been great to meet this group of brilliant women entrepreneurs. I wish them all the best for their future endeavors. This project is one of a series of special initiatives to mark 30 years of diplomatic relations between India and Israel.”

Sarandeep Singh, President and CEO of WEE Foundation, said, "We are delighted to be collaborating with the Embassy of Israel and having Ms. Nava Swersky mentoring these young entrepreneurs. With this program, we aim to help aspiring women entrepreneurs gain an edge by building their skills, and network and gaining hands-on experience to up-scale their businesses. WEE foundation enables women entrepreneurs across India to scale their businesses through these kinds of collaborations."

**IIT Delhi and ITC join hands for research on STEM for sustainability**


IIT Delhi and ITC Limited have signed an MoU to support STEM research to help India achieve its Sustainable Development Goals.
IIT Delhi and ITC Limited have signed an MoU to support STEM research to help India achieve its Sustainable Development Goals.

ITC Limited, one of India’s leading multi-business conglomerates and a sustainability exemplar, has signed an MoU with IIT Delhi to support research in identified STEM (Science, Technology, Engineering and Mathematics) areas for accelerating India’s journey towards achieving its Sustainable Development Goals.

WHY THIS TIE-UP IS SIGNIFICANT

Prof. Sunil Khare, Dean, Research and Development, IIT Delhi, said, “The industry is undergoing massive transformation with ever-increasing need for sustainable and functional products that are driving new innovations.”

“The collaboration will combine the cutting-edge research at IIT Delhi with application know-how of ITC to accelerate innovation and develop solutions for a variety of end-use applications of our customers and society at large,” he added.

Speaking on the partnership, Prabhakar Lingareddy, Executive Vice President and Head - Social Investments, ITC Limited stated, “ITC has embarked on the next horizon of sustainable excellence with a comprehensive Sustainability 2.0 vision, which resolves to ‘Build Back Better’,” he said.

“The redefined Sustainability 2.0 Vision with ambitious targets calls for inclusive strategies that can support even more livelihoods, pursue newer pathways to fight climate change, support circular economy and enable transition to a net zero ecosystem, thus contributing meaningfully to the nation’s NDC commitments and SDG Goals,” he added.