

**Newspaper Clips**  
**February 10-16, 2018**

**February 16**

**IIT-M to Work with Global Institutions on Smart Cities**

<http://www.cxotoday.com/story/iit-m-to-work-with-global-institutions-on-smart-cities/>

Indian Institute of Technology Madras [IIT-M] has been appointed the Indian coordinator for the 'Smart City' working group of Heritage Network, an Indo-European network of 20 higher education leading technical Institutions. The network, which coordinates for international projects on Smart Cities, collaborates on research and academic activities.

The Institute has taken up this initiative as part of the Heritage Network, an Indo-European network of twenty leading Technical Higher Education Institutions. They collaborate on research and academic activities that address common priorities of national interest and wellbeing of society. The network aims to achieve these goals by identifying partner institution/s in the network and undertaken joint research projects, academic and research exchanges, industry partnerships

A 'Smartcity working group' was constituted during the 2nd General Assembly Meeting of Heritage Network hosted by IIT Madras last week, where representatives of European and Indian partner institutes participated to formulate a workable action plan for the Heritage Network consortium.

During the meeting, IIT Madras and IIT Kanpur were chosen as Indian Coordinators to coordinate the activities and action plans on Smart Cities with Universidad Politécnica de Madrid (UPM) and KTH Royal Institute of Technology, Stockholm being selected as the European coordinators.

Prof. R. Nagarajan, Dean (International and Alumni Relations), IIT Madras, said, "IIT Madras greatly values partnerships with leading academic institutions and industry around the world. Networks such as this provide us with an opportunity to collaborate simultaneously with several global institutions on topics of current relevance to society."

Prof Fouad Bennis, President of Heritage Network and Director for International Relations, Ecole Centrale de Nantes, France, Mr. Raj Cherubal, CEO of the Chennai Smart City Mission, and Dr. Ashwin Mahalingam, Associate Professor, Building Technology and Construction Management Division, Department of Civil Engineering, IIT Madras, delivered addresses on Day One of the 2nd General Assembly meeting.

A dedicated workshop on smart city to evaluate the progress of the working group during the next annual GA meeting in 2019 will be held as well. A brainstorming session was also held with experts from the Heritage Network member institutions who are working on Smartcity-related subfields during the 2nd General Assembly meeting.

In addition to the existing partners, four more institutes, two each from India (IIT Dhanbad and IIT Roorkee) and Europe (UPM, Madrid and KTH, Sweden), became members of the Heritage Network through a formal voting procedure during the meeting.

IIT-M will coordinate between the various institutes on research projects and proposals that will contribute to a smart city in the future. IIT-M hopes to put forth these projects if they get to collaborate with governments to help implement projects in smart cities.

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### **NAAC accredited universities no longer need UGC nod to start new courses, departments**

<https://www.hindustantimes.com/mumbai-news/naac-accredited-universities-no-longer-need-ugc-nod-to-start-new-courses-departments/story-HXHlYa9Ao2dMVedq0DZnNJ.html>

The new rule is applicable to those institutes which can manage their own funds and have NAAC rating of more than 3.26

Universities that have a National Assessment and Accreditation Council (NAAC) score of more than 3.26 (out of 4) will be able to start new courses, department or centres without the approval from University Grants Commission (UGC), provided they arrange funds on their own. This new rule is part of the UGC (Categorization of Universities (only) for Grant of Graded Autonomy) Regulations, 2018, released earlier this week.

“New courses shall be consistent with the approved nomenclature of the UGC and new diploma and certificate courses may be started in new and innovative areas that are relevant to local, national or international needs,” reads the statement released by the UGC.

It further states while seeking permission to start a new campus centre by deemed institutes, no inspection of the UGC will be required.

Other than permission for starting new courses, departments or sub-centres, universities scoring more than 3.26 in NAAC will also be allowed to, without permissions, hire foreign faculty who have taught at any of the top 500 reputable universities as per world rankings.

“While following the pay scale as laid down by the UGC, universities will be allowed to build in an incentive structure to attract talented faculty, with the condition that the structure shall have to be paid from their own revenue sources and not from the UGC or government funds,” the statement adds.

The University of Mumbai (MU) has been functioning without an NAAC grade since April 2017. To make matters worse, the varsity has missed the third cycle since April to apply for a fresh round of NAAC grading to retain its autonomy. The MU was last accredited by NAAC in April 2012, during which it received ‘A’ grade and the same was applicable till March 31, 2017. Usually, all UGC affiliated universities and institutes reapply to continue their affiliations before their previous ones lapse. But almost 10 months after its affiliation lapsed, the MU is yet to initiate the accreditation process.

“Currently, the varsity is focusing on announcing all results at the earliest. Therefore its manpower is being used for the process. We should be able to apply for reaffiliation by May this year,” said a senior MU official.

### **Focus shifts to research on Ayurveda to fight diabetes**

<http://www.dnaindia.com/delhi/report-focus-shifts-to-research-on-ayurveda-to-fight-diabetes-2585168>

‘Madhumeha through Ayurveda’, a holistic approach to beat diabetes started by the Narendra Modi government in 2016, is going strong.

The Health Ministry has now roped in reputed institutes — the Indian Institute of Technology (IIT) Bombay and the All India Institute of Medical Sciences (AIIMS) — for research on Ayurvedic medicines to battle diabetes.

The emphasis on efficient research on the matter is an attempt to counter allegations which point towards the inefficiency of Ayurvedic medicines.

India has the highest number of diabetic patients in the world, with over 50 million suffering from the lifestyle disease. The number is expected to rise by 200 per cent in the next 10 years.

The AYUSH ministry has also integrated ayurveda, yoga, naturopathy, unani, siddha and homeopathy with the health ministry’s schemes to keep a check on lifestyle conditions.

The herbal drug, BGR-34, developed by the Council of Scientific & Industrial Research (CSIR) laboratory, is slowly gaining attention. It has already acquired the top slot in the anti-diabetic ayurvedic product category in the IMS Health ranking.

“Developed by the well-established research institution, BGR-34 has been found extremely effective in controlling every type of the disease. In fact, it is even prescribed by allopathic practitioners, which is enough to explain its efficacy,” says Sanchit Sharma from AIMIL Pharmaceuticals, the company which sells the drug.

### **Amit Shah in Jind: Motorcycle rally to increase pollution, warn experts**

<http://indianexpress.com/article/cities/chandigarh/amit-shah-in-jind-motorcycle-rally-to-increase-pollution-warn-experts-5064816/>

“It has been established by IIT Kanpur that in Delhi two-wheelers are the major components causing pollution if compared with four-wheelers,” Professor Mukesh Khare, from IIT Delhi told The Indian Express.

BJP president Amit Shah’s bikers rally in Haryana’s Jind on Thursday would increase pollution levels, experts have warned. One lakh motorcycles are expected from all over the state to participate in the rally.

“The speed of all these bikes would be slow and there is no doubt that there would be pollution because of these bikes. It has been established by IIT Kanpur that in Delhi two-wheelers are the major components causing pollution if compared with four-wheelers,” Professor Mukesh Khare,

from IIT Delhi told The Indian Express. "As far as dispersion of this pollution is concerned...it depends on meteorological factors especially the direction of wind and speed."

He further said that if Haryana government set up some temporary stations to monitor the pollution levels in the area "then we can clearly come to know how much pollution has been caused due to these one lakh bikes."

In 2015, IIT Kanpur had said that two-wheelers are responsible for more PM 10 and PM 2.5 than cars when it comes to polluting the air. The BJP government in Haryana has already told the National Green Tribunal (NGT) that the estimated one lakh motorbikes that would participate in Jind rally would have "valid PUC certificates". The submission from the government had come following the NGT seeking a response from Centre and Haryana government on a plea seeking reduction of bikes on the grounds of air pollution.

Professor Suman Mor from Department of Environment Studies, Panjab University, told The Indian Express that one lakh bikes would not only cause air pollution, but it would also increase the noise pollution. "You have to see how much petrol will be used in one lakh motorcycles," she said.

"They should have used bicycles instead of bikes because it will not bring any harm to anyone's health nor there will be any concern of pollution," she said, adding that it would be difficult to say the amount of emissions of one lakh bikes and how much pollution it will cause.

P J S Dadhwal, former member secretary of Chandigarh Pollution Control Committee (CPCC), says carbon monoxide (CO) released by one-lakh bikes at single point could be harmful for the people living in the area.

"Even if one motorcycle release CO in very less small amount, but the amount would be more as motorcycles are one lakh in number...It will have harmful effects on people who would be present in the area," he said.

## **February 15**

### **GATE 2018: Candidate Responses Released On GOAPS Portal; Check Now**

<https://www.ndtv.com/education/gate-2018-candidate-responses-released-on-goaps-portal-check-now-1812775>

IIT Guwahati has released candidate responses for students who appeared in GATE 2018 exam. GATE 2018 exam was conducted on February 3, 4, 10 and 11.

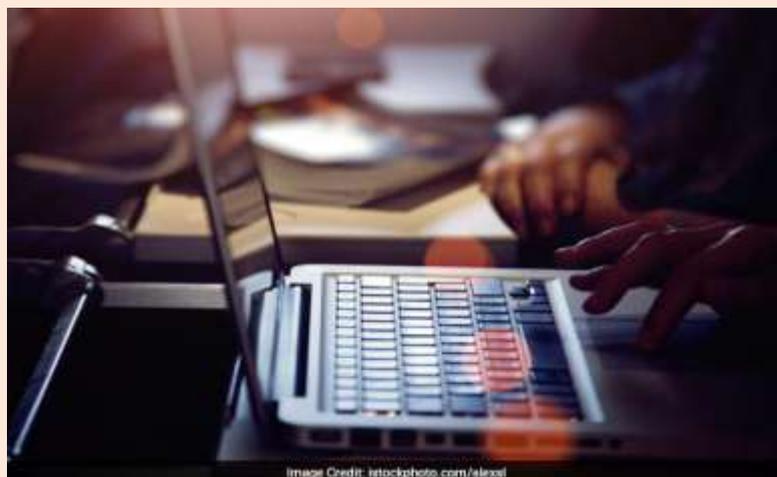
NEW DELHI: IIT Guwahati has released candidate responses for students who appeared in GATE 2018 exam. GATE 2018 exam was conducted on February 3,4, 10 and 11. The responses are available on GAPS portal for download. Currently, only candidate's responses have been made available. The question paper and official answer key will be available soon. Once the official answer key is released candidates will be able to challenge the answer key and/or their responses. This year the GATE exam was conducted for 23 different papers.

According to the schedule released by IIT Guwahati on the official page of GATE 2018,

challenges/contests by candidates on GATE answer key will be accepted from February 21 to February 23 2018.

GATE 2018 results will be announced online on the application Portal on March 17, 2018.

### **How to check GATE 2018 Candidate Responses?**



**GATE 2018: Candidate Responses Released On GOAPS Portal; Check Now**

Follow these steps to check your GATE 2018 candidate responses:

Step one: Go to official GATE 2018 website: <http://gate.iitg.ac.in/>

Step two: Click on the GOAPS portal link available on the website.

Step three: Enter your login details.

Step four: Download your responses.

Make sure to download and save your response sheet as it will be required once the GATE 2018 official answer key is released. The answer key will be made available only for a limited period of time. After evaluation of the challenge received, IIT Guwahati will release the final results.

GATE exam is conducted for admission to M.Tech. programs. GATE scores are also accepted at PSU's for shortlisting candidates during recruitment process.

GATE exam is held by Indian Institute of Science (IISc) Bangalore, IIT Bombay, IIT Delhi, IIT Guwahati, IIT Kanpur, IIT Kharagpur, IIT Madras and IIT Roorkee on behalf of the National Coordination Board (NCB)-GATE, Department of Higher Education, Ministry of Human Resources Development.

### **NIT-T to encourage M.Tech students to take up teaching**

<http://www.thehindu.com/news/cities/Tiruchirapalli/nit-t-to-encourage-mtech-students-to-take-up-teaching/article22758139.ece>

**Union HRD Ministry filling up vacancies in government engineering colleges**

National Institute of Technology-Tiruchi (NIT-T) is looking to encourage its M.Tech students to take up teaching in the backdrop of recruitment of candidates by the Ministry of Human Resource Development from top-notch technical institutions to fill vacancies in government engineering colleges in rural areas.

Under the new MHRD initiative, entailing an expenditure of ₹370 crore, 1,225 candidates were selected out of 5,000 applications for vacancies in Uttar Pradesh, Uttarakhand, Tripura, Assam, Bihar, Jharkhand, Odisha and the Andaman and Nicobar Islands. Of them, around 200 attended the interview at NITT during December.

The selected candidates will have to sign a three-year contract for a remuneration of ₹70,000 a month. They can later choose to stay in academics or take up jobs in companies.

“There are over 1,700 M.Tech students enrolled in various programmes at NIT-T. B.Tech students will also be motivated, but the probability of M.Tech students taking up teaching jobs is more,” NITT Director Mini Shaji Thomas said.

B.Tech students, usually, get good placement offers with high promotion prospects from private and navaratna companies, while M.Tech students have teaching or research in mind. Since getting into research after completing M.Tech is intensely competitive, the scope for a good number of students to utilise the MHRD initiative is more, the director pointed out.

## February 14

### **\$40M Angel Fund for Blockchain Enthusiast by Best of Block Inc at IncubateIND Blockchain Hackathon**

<http://bwdisrupt.businessworld.in/article/IncubateIND-in-Association-with-eDC-IIT-Delhi-Organising-a-Blockchain-Hackathon-on-24th-Feb-2018/13-02-2018-140523/>

***Best of Block along with Ideas2action are creating a Blockchain Hackathon, which is an IncubateIND (India's largest crowdsourcing of ideas via Hackathon and workshops) Initiative in partnership with eDC IIT Delhi to create the innovative and adaptable solutions using Blockchain.***



“What the Internet did for communications, blockchain will do for trusted transactions.” — Ginni Rometty

Blockchain technology is complex, but the idea is simple. At its most basic, blockchain is a vast, global distributed ledger or database running on millions of devices and open to anyone, where not just information but anything of value – money, titles, deeds, music, art, scientific discoveries, intellectual property, and even votes – can be moved and stored securely and privately.

Blockchain technology being considered by more than half of big corporations, according to Juniper study.

Blockchain Technology is here to stay and keeping the trends in mind, Best of Block along with Ideas2Action are creating a **Blockchain Hackathon**, which is an IncubateIND (India’s largest crowdsourcing of ideas via Hackathon and workshops) Initiative in partnership with eDC IIT Delhi to create the innovative and adaptable solutions using Blockchain.

“Top 3 ideas will be funded by 40 million angels fund by Best Of Block Inc. while focusing on designing and implementing Blockchain based business solutions that deliver tangible Return on Investment (ROI) via latency and cost reductions, paired with increased transparency, scalability and auditability,” Said Sachin Saluja CEO of Best of Block.

The Blockchain Hackathon is supported by NASSCOM 10,000 Startups and outreach partners 91springboard and kryptomoney.

The hackathon will be conducted at IIT Delhi on 24th feb 2018. For more details visit: [www.incubateind.com/blockchain/](http://www.incubateind.com/blockchain/)

Participants will be selected on the basis of Registrations details. More preference will be given to the teams who are already with MVP, prototype, alpha, beta stage or running start-up using blockchain technology.

Best of block Inc. is an early adopter of the emerging decentralised Blockchain technology. With its quality deliverables, the company holds the proud for being part of blockchain technology influencers across the globe. It is having presence in Canada, Singapore, Dubai, Thailand and India.

Blockchain is changing the way technology is solving problems across domains so its team of multi-talented technologists believe in offering best products and services across multiple domains.

Ideas to Action is a new age consultancy incorporated with the focus on business incubation and to bring about a paradigm shift in the way people think about business.

Ideas2Action provide consultancy to matured businesses by providing know how to develop unexplored markets, integrate ecosystems, build brand names, steer profitability, forge strategic partnerships, bring about backward and forward integration to create a value chain. In addition, i2A helps in capacity building, providing incubation training to budding minds and young entrepreneurs, and also spearheading learning and development initiatives for Companies.

## प्रदूषण खत्म करने को आईआईटी इंजीनियरों के प्लान का इंतजार

<https://www.livehindustan.com/ncr/ghaziabad/story-waiting-for-the-plans-of-iit-engineers-to-finish-pollution-1802555.html>

-वायु प्रदूषण कम करने पर काम कर रहे इंजीनियर

-सभी विभाग के अधिकारियों ने सुझाव दिए

प्रदूषण से निपटने के लिए सभी विभाग के अधिकारियों ने अपने सुझाव रुड़की आईआईटी को भेज दिए। वहां के वैज्ञानिक शहर का वायु प्रदूषण कैसे कम किया जाए इस पर प्लान तैयार करेंगे। उसी के हिसाब से प्रदूषण को नियंत्रण में किया जाएगा। प्रशासन को अब आईआईटी इंजीनियरों के प्लान का इंतजार है।

शहर में वायु प्रदूषण कम नहीं हो रहा है। इसकी रोकथाम के लिए तमाम प्रयास किए गए, लेकिन सभी प्रयास विफल साबित हुए। पिछले साल दिवाली बाद से ही वायु प्रदूषण के कहर से लोग परेशान हैं। जिला प्रशासन इसकी रोकथाम के लिए रुड़की आईआईटी के इंजीनियरों की मदद ले रहा है।

इसी क्रम में पिछले महीने जीडीए, नगर निगम, प्रदूषण नियंत्रण बोर्ड, विभाग के अधिकारियों के साथ इंजीनियरों की कार्यशाला रखी गई। उसमें हर विभाग के अधिकारी को वायु प्रदूषण रोकने पर सुझाव देने थे, मगर कई विभाग के अधिकारी सुझाव नहीं दे सके। जिस विभाग के अधिकारी अपनी योजना के बारे में नहीं बता सके उन्होंने भी अपने सुझाव भेज दिए।

रुड़की आईआईटी के वैज्ञानिक जल्दी रिपोर्ट जिला प्रशासन को भेजेंगे। रिपोर्ट मिलते ही वायु प्रदूषण की रोकथाम के लिए किए जा रहे प्रयास में और तेजी आएगी। गौरतलब है कि वायु प्रदूषण को नियंत्रण करने के लिए कुछ दिन पहले लोनी में कई फैक्ट्री सील की गई। इसके अलावा डासना में मीट प्लांट को भी बंद कराया गया था।

### **February 13**

#### **Uber CEO Dara Khosrowshahi to visit India on Feb 22-23**

<https://www.indiatoday.in/pti-feed/story/uber-ceo-dara-khosrowshahi-to-visit-india-on-feb-22-23-1168112-2018-02-12>

New Delhi, Feb 12 (PTI) Uber CEO Dara Khosrowshahi will meet Indian government officials, regulators and company employees during his India visit on February 22-23.

This will be the maiden visit of Khosrowshahi to India. The former Expedia executive was named CEO of Uber in August last year.

An Uber spokesperson confirmed that Khosrowshahi will be in India on February 22 and 23.

The spokesperson added that during his India trip, Khosrowshahi will meet high-ranking government officials, regulators, business partners, and employees.

He will also address the students at IIT-Delhi. "We are really excited to welcome Dara in India. This is a key market for Uber globally, and Daras visit is another testament to our commitment to serving riders and driver partners in the country," Uber India and South Asia President Amit Jain told PTI.

India is one of the key markets for Uber. It is locked in an intense battle for leadership with SoftBank-backed Ola in India and has a presence in 29 Indian cities. Interestingly, SoftBank is now an investor in Uber as well.

Uber has operations in over 80 countries. Khosrowshahi, as the new CEO, has been tasked with turning around things for the troubled US-based cab aggregator.

The 48-year old executive is working on repairing Ubers image, boosting employee morale and turning business profitable for the worlds most valued startup.

Khosrowshahi takes over the operations from Travis Kalanick, who quit in June last year under intense pressure from some of Ubers key investors.

Troubles started for Uber after a former employee wrote a blog post alleging sexual harassment and sexism at the firm. Matters came to a head when reports emerged that a top Uber executive had allegedly obtained medical records of a 26- year-old woman raped by an Uber driver in India in 2014.

## **World University of Design collaborates with IIT Delhi to organises an International conference on Functional Textiles & Clothing**

<https://indiaeducationdiary.in/world-university-design-collaborates-iit-delhi-organises-international-conference-functional-textiles-clothing/>



New Delhi: The World University of Design (WUD) in association with The Textile Department of IIT Delhi organised International Conference on Functional Textiles & Clothing 2018 in the capital. The conference took place from 10th – 11th February at the Indian Institute of Technology Delhi in New Delhi. The Conference was aimed to encourage design, innovation and product development activities amongst the youth.

The conference was addressed by leading voices from the industry and academia who gave their expert insights on cutting edge technologies, innovations, trends, concerns, challenges and opportunities in the field of Functional and Smart textiles and Clothing. Topics of the conference include – Protective Textiles and Clothing Medical Textiles and Clothing Athletic, Extreme Sports & Military Applications Smart, Functional & Interactive Textiles, Workwear, Surface Functionalization and Coatings, Textile and Clothing Machinery, CAD, CAE Technologies & Mass Customization, Garment Design and Manufacturing, Advanced Manufacturing, Innovative Fashion Design Methodologies, Comfort Science, Education and Training, Innovation and Entrepreneurship, Supply chain Management, Sustainable Production, Recycling. Over 170 researchers from over 80 universities/institutions worldwide presented their work at the conference.

Prof. V Ramgopal Rao, Director IIT gave the presidential address to the esteemed gathering. Prof Vladan Koncar, Professor and Head of Research, ENSAIT, France delivered the key note address.

Dr Sanjay Gupta, Vice Chancellor of World University of Design said “The conference focuses on innovation in textiles and fashion. Papers were presented at the conference in different areas of Functional Textiles and Fashion Design, Sustainability etc. If we look at any commercialized innovation, new product or design, it is always the combination of technology & design that makes it into a product which the consumer finds good to wear, to use or to apply. Along with the technical innovation, the product also needs the empathy of a designer for it to take shape. The conference is an attempt to bring together scientists and engineers on one end with designers and innovators on the other.”

Prof Vladan Koncar, Professor and Head of Research, ENSAIT (Ecole Nationale Supérieure des Arts et Industries Textiles) said, “I congratulate World University of Design in taking this initiative of bringing together such a large group of researchers together in the fast emerging field of functional clothing. Research and development in these areas is now at par with other high-tech industrial sectors and the innovations are finding applications in casual and fashion clothing thus integrating the fields of technology, design and fashion. India with its excellent manufacturing, research & design capabilities is ideally placed to take advantage of this development. ”

Mr Ramgopal Rao, Director at IIT, Delhi said, “In textile while there are lots of things that are required to happen in technology, there are two things which are not happening. First thing is that the industries are not interacting with researchers. There is so much happening in terms of technology development but the industry does not come forward. The second issue is a manifestation of this, where the students are not excited to do work in textiles for lack of challenges. Textiles will go through a major transformation in coming future but the industries in India are all very traditional.

One of the things which we need to do therefore is to have more of start-up activities around textiles. For Example, Textiles department have launched a product Genes with Nano coating which are anti-bacterial & stain resistant. To inform students about the opportunity in textiles and what sort of start-up opportunities exist is the need of the hour. Connecting students with these innovations and industries is important.”

In addition to technical papers, the conference has announced Innovation Contests for students in Textile and Fashion Products. There was poster contest for students. Manufacturers dealing in functional products, smart textiles, wearables and other such products were displayed in the exhibition.

### **IIT researchers develop non-invasive health monitoring device**

<https://www.biospectrumindia.com/news/58/10386/iit-researchers-develop-non-invasive-health-monitoring-device.html>

VinCense can also be deployed for home healthcare delivery, insurance, analytics and occupational health screening.



A group of engineers at the Indian Institute of Technology (IIT), Madras, has developed the algorithm for a medical-grade, wearable device called VinCense. The device can be used for unobtrusive monitoring of vital signs including pulse-rate, oxygen saturation, respiratory rate, skin temperature and blood pressure.

VinCense can also be deployed for home healthcare delivery, insurance, analytics and occupational health screening. It also has applications in non-communicable diseases screening, general public health and community health. The real-time data recorded by the device is stored in the patent-pending secured cloud from where healthcare providers can access vitals using an intuitive interface.

VinCense was developed by a team of researchers at the Biomedical Engineering Group, Department of Applied Mechanics, IIT-Madras, along with MedIoTek Health Systems which works on mobile health technology. The research team is developing algorithms that provide more accurate vitals from the wearable device which IIT-M claimed is the first of its kind in the country.

### **Rainwater harvesting will soon be as popular as solar water heaters: BWSSB Chairman Tushar Girinath**

<http://www.newindianexpress.com/cities/bengaluru/2018/feb/13/rainwater-harvesting-will-soon-be-as-popular-as-solar-water-heaters-bwssb-chairman-tushar-girinath-1772547.html>

BENGALURU: Implementation of rainwater harvesting (RWH) is considered a long-term measure to meet the city's water requirements. Though the BWSSB's enforcement of it has been slow, there is hope that this feature will become as much a norm as solar water heaters. BWSSB Chairman Tushar Girinath said on Monday that the BWSSB was trying to enforce RWH, but were constrained as they did not have the capacity to check individual structures. RWH was made mandatory in 2009, but the

civic body began to penalise offenders only in 2016, which is why a very small percentage of structures have installed it.

Non-commercial building owners who do not comply are fined 25 per cent of the water bill up to three months, followed by 50 per cent for next three months and then 100 per cent until compliance. Engineer-in-chief Kempramaiah said, “We have installed an RWH theme park at Jayanagar 5th block, where owners and plumbers can go and take guidance. There is an area-wise list of plumbers on our website.”



In this scenario, there are citizens like A R Shivakumar, Principal Investigator of Karnataka State Council for Science and Technology and IISC scientist, who has not paid a single water bill to BWSSB for over two decades. He relies completely on RWH and other means for water supply. It is no surprise that it was him who wrote the policy and guidelines for making RWH mandatory in the city in November 2009.

Explaining the BWSSB’s approach of delayed enforcement, he said, “It’s a cautious decision. We can’t bring change immediately as people will have an aversion and will revolt against it.”

Shivakumar is optimistic about the increased use of RWH. He drew a parallel with the process of popularising solar water heaters, which took over a decade, and said he expected most houses in Bengaluru to have RWH in eight to ten years. “People are already seeing its benefits because they see that their wells get dried up. In addition, the new buildings will be forced to incorporate it or they will not be given the permission required.

Who will clean Bellandur lake?

Responding to claims by BJP leaders that the Centre had released funds for clean-up of Bellandur Lake, K J George said, “The Central Government has not released even a single rupee for Bellandur lake’s clean-up.” He said about two to three years ago, he had written to the Centre asking for funds, and in their reply they had stated that funds were not available. Union Minister for MHRD Prakash Javadekar too had claimed that the Centre had released funds when he visited Bellandur lake after the lake caught fire recently.

## **IIT-Madras professor Ashok Jhunjunwala elected as member of US-based NAE**

<https://timesofindia.indiatimes.com/city/chennai/iit-madras-professor-ashok-jhunjunwala-elected-as-member-of-us-based-nae/articleshow/62888511.cms>

CHENNAI: IIT-Madras professor Ashok Jhunjunwala, who is also the principal advisor to railway ministry, has been elected as a member to the National Academy of Engineering (NAE), US. He is among the newly elected 83 members and 16 foreign members.

Jhunjunwala is a professor in the department of electrical engineering at IIT-Madras.

The NAE is a private, independent, non-profit institution that provides engineering leadership.

Academy membership honours those who have made outstanding contributions to engineering research, practice and education, including significant contributions to engineering literature and to "the pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

Individuals in the newly elected class will be formally inducted during a ceremony at the NAE's annual meeting in Washington, DC, on September 30, 2018. This brings the total US membership to 2,293 and the number of foreign members to 262.

## **खुशी विज्ञान के लिए सेल और आईआईटी की पहल**

<https://www.livehindustan.com/jharkhand/bokaro/story-cell-and-iit-initiatives-for-happiness-science-1799535.html>

स्टील अथॉरिटी ऑफ इंडिया लिमिटेड (सेल) ने खुशी विज्ञान (द साइंस ऑफ हैप्पीनेस) में योगदान के लिए खड़गपुर स्थित इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी (आईआईटी) के रेखी सेंटर ऑफ एक्सिलेंस के साथ साझा सहयोग की पहल की है। सेल के इस पहल का उद्देश्य कर्मचारियों के स्वास्थ्य और कार्यक्षमता को बढ़ाना है तथा उन्हें संगठन के विज्ञान को आगे बढ़ाने की दिशा सार्थक तरीके से योगदान करने में सक्षम बनाने के लिए खुशी विज्ञान को अपनाना है। रेखी खुशी विज्ञान उत्कृष्टता केंद्र की स्थापना आईआईटी खड़गपुर में सार्थक जीवन, खुशी, स्वास्थ्य और समग्र आत्म-विकास को प्रोत्साहित करने के जरिये विज्ञान और अभ्यास के विज्ञान को बढ़ावा देने हेतु वर्ष 2016 में किया गया था। केंद्र के साथ मध्य प्रदेश सरकार और न्यू टाउन कोलकाता की सिविक बॉडी सहयोग के लिए हैं।

## **AICTE sends notice to 800 technical institutes to shut down if seats aren't filled**

<https://www.indiatoday.in/education-today/news/story/aicte-sends-notice-to-800-technical-institutes-to-shut-down-if-seats-aren-t-filled-1168382-2018-02-13>



According to AICTE notice, as many as 800 technical institutes, including around 80 run by the government, may face closure if they do not find enough students to fill their seats as they have been served notice for poor performance.

About 10 per cent of these institutes are government-run, and the rest are privately-owned, as per the AICTE official.

According to the member from AICTE, the council have given them three years' time to get their act together. If after three years, they do not fill the seats sufficiently, it will close them down. However, the decision will not be imposed retrospectively.

#### **INSTITUTES WITH LESS THAN 30 PER CENT SEATS FILLED WILL BE CLOSED DOWN:**

As per the NDTV reports, AICTE Chairman Anil Sahasrabudhe earlier said that institutes with less than 30 per cent seats filled will be closed down.

#### **DEPARTMENTS TO CLOSE DOWN BUT NOT THE ENTIRE INSTITUTES:**

The authorities may not close down the institutes completely but only those departments where vacancies remain high.

#### **SEATS IN THE INSTITUTIONS:**

- There were 37 lakh seats available last year across all 10,063 AICTE-approved institutions offering technical courses in management, architecture, engineering, hotel management and pharmacy, among others
- The quantum of seats filled across institutes was pegged to be around 45-50 per cent of the total.

#### **ABOUT AICTE:**

- All India Council for Technical Education (AICTE) was set up in November 1945 as a national-level apex advisory body to conduct a survey on the facilities available for technical education
- The council is vested with maintaining parity of certification & awards.

**February 12**

#### **‘Arsenic & pesticide in water cause cancer and infertility’**

<https://timesofindia.indiatimes.com/city/patna/arsenic-pesticide-in-water-cause-cancer-and-infertility/articleshow/62876216.cms>



PATNA: Researchers from Patna have found proof of gene expression abnormalities due to arsenic and endosulfan (widely used pesticide) poisoning in Gangetic and stagnant water in the state. The samples tested revealed that it caused cancer and infertility.

Studies were conducted on Swiss albino mice to determine whether genes get affected by the toxic metalloid and pesticide. The research project was given to SS Hospital and Research Centre, Kankarbagh, by Indian Council of Medical Research (ICMR) in June 2015. The final report with definite results about the change in gene expression will be submitted to ICMR by June this year.

For endosulfan poisoning, samples of soil and water were collected from 17 districts in Bihar. For arsenic poisoning, soil and water samples from river Ganga, ponds, wells, stagnant water and handpumps were taken from 27 districts.

The study conducted to observe the DNA of male Swiss albino mice after administering endosulfan revealed a significant decrease in testosterone hormone and sperm count in the specimen.

After administering endosulfan, it was confirmed that its toxicity led to asthenozoospermia (reduced sperm motility) resulting in infertility in Swiss albino mice," said researcher Dr Akhileshwari Nath, principal investigator of the project.

Nath said similar results were found by Robin Sebastian and Sathees Raghvan from the Department of Biochemistry, Indian Institute of Science (IIS), Bengaluru in 2015. Besides fertility, researchers have already indicated that the pesticide (endosulfan) damages the DNA, including sperm. "Once endosulfan conjugates with the cell, it is hard for the body to filter it out and it remains in the body at low levels," Nath said.

In case of arsenic toxicity, it was found that arsenic deposition was taking place in muscles, cells and blood of the mice, which was affecting the gene interaction causing it to either be upregulated (increase in stimulus) or downregulated (decrease in stimulus), which in turn is responsible for cancer.

"This also increases the chances of infertility, gastrointestinal diseases as well as skin diseases," Dr Nath said. IIT Delhi and Kharagpur have been working on a machine to filter arsenic from water and bring the arsenic level to 0," Nath said.

Dr Jitendra Kumar Singh, director of SS Hospital and Research Centre said: "Altogether 50 persons died in Jagdishpur village of Vaishali district due to cancer in 2017. Eighteen persons out of the 50 belonged to one family. The level of arsenic was quite high in the village. It was also found during our investigation that the village had a practice of spraying insecticides five times in their agricultural field instead of just once."

## **February 11**

### **Centre Mulling Policy for Management of Landfill Sites**

<https://www.ndtv.com/india-news/centre-mulling-policy-for-management-of-landfill-sites-1811320>

The development assumes significance after the cave-in incident at the Ghazipur landfill site in east Delhi in which two persons were killed, triggering a debate on safety concerns and waste management.



NEW DELHI: The government will soon come up with a policy on management of landfill sites in the country, a top official of the environment ministry has said.

The development assumes significance after the cave-in incident at the Ghazipur landfill site in east Delhi in which two persons were killed, triggering a debate on safety concerns and waste management.

"We are working on guidelines for management of landfill site and very soon, we will come up with a policy on that," Environment Secretary C K Mishra said.

He said the policy will address the concerns raised after the Ghazipur incident.

A part of the massive dump had caved in September, prompting the Lt Governor to order the site for waste dumping to shut.

The Ghazipur landfill is the oldest of its kind in the national capital. It was started in 1984 and is spread over 29 acres.

According to officials, the permissible height for a garbage dump is 20 metres. Every day, 2,500

metric tonnes of garbage are disposed at the site.

Following the incident, the East Delhi Municipal Corporation (EDMC) and IIT-Delhi had joined hands to work on measures to stabilise the Ghazipur landfill, for a period of one year.

The other major dumping sites in the city are in Okhla in south Delhi and Narela-Bawana in north-west Delhi.

Post the cave-in incident, Leader of Congress in the North Delhi Municipal Corporation Mukesh Goel, had hit out at the BJP-led corporation and said the "situation of Bhalswa site is explosive" and if the waste dumping was not stopped there, there would be protests.

East Delhi Mayor Neema Bhagat said the 45-m high landfill at Ghazipur was saturated in 2002 only, and the civic body has been "looking for an alternative site for long time, but a clearance from the NGT is needed".

### **India has 42 universities in Asia rankings but widening gender gap is a matter of concern**

<https://theprint.in/2018/02/11/india-42-varsities-asia-rankings-widening-gender-gap-matter-concern/>



World University Rankings | [timeshighereducation.com](http://timeshighereducation.com)

**IIT-Kanpur has the worst female-male ratio at 14:86, says report; HRD ministry asked IITs to create 550 extra seats exclusively for women.**

**New Delhi:** India may have 42 universities in the Asia rankings for best campuses, but the widening gender gap in these top institutions could serve as a wake-up call for policy makers.

The good news is India's representation in the annual universities' ranking has improved to 42 (out of 350 in Asia) from last year's 33, according to the Times Higher Education rankings released this week.

Also, seven Indian universities, including five IITs, have made it to the top 100 universities in Asia. They include Indian Institute of Science, Bangalore (Rank: 29), IIT-Bombay (44), IIT-Kharagpur (60), IIT-Roorkee (65), IIT-Kanpur (81), IIT-Delhi (86) and Tezpur University, Assam (100).

However, these institutions are lagging behind when it comes to the female-male student ratio. For instance, IIT-Kanpur shows the worst numbers with 14:86 and IIT-Guwahati at 15:85. Other institutes such IIT-Kharagpur, Indian School of Mines, IIT-Roorkee, IIT-Bombay, IIT-Madras, and IIT-Delhi are stuck at 20:80.

IISc-Bangalore, ranked 29<sup>th</sup> in Asia and the best in the country, has a female-male ratio of 21:79.

Ravish Roshan, director of the Centre for Education Growth and Research, an independent think tank, said that there are many social and economic reasons behind the skewed gender ratio in Indian educational institutions.

"Girls generally prefer distance education to regular courses due to security and family reasons," he said.

"We have limited number of government technical colleges. The fee structure in IITs is another biggest hurdle. In a male dominated society, the family prefers to spend more on educating men than women," Roshan added.

Out of the 42 Indian universities, only two have an equal female-male ratio — University of Calcutta and SASTRA University in Tamil Nadu.

Delhi University and Sathyabama University in Chennai also fare better with 49:51 and 51:49, respectively.

There are only three Indian universities which can boast of having more women than men — University of Kerala (65:35), Tamil Nadu Agricultural University (62:38) and Maharaja Sayajirao University in Baroda (56:44).

Even countries such as Japan fare poorly when it comes to maintaining the gender balance. About 10 universities in Japan have the worst female-male ratio with the Toyohashi University of Technology showing the poorest ratio of 9: 91.

The National University of Singapore continues to be Asia's top university for three years in a row with an almost equal divide of 51:49.

Although the skewed female-male ratio does not affect the ranking of universities, the issue has raised concern. Last month, the human resource development ministry had directed all 23 IITs in the country to create 550 extra seats exclusively for women in this academic year starting July 2018, ensuring 14 per cent of the places for females in the premier institutions.

## **IITIANS WILL JOIN FORCES, IN BENGALURU, TO FIND SOLUTIONS FOR THE COUNTRY**

<http://bangaloremirror.indiatimes.com/bangalore/others/iitians-will-join-forces-in-bengaluru-to-find-solutions-for-the-country/articleshow/62867758.cms>



Kartik Kilachand (left) at the Mumbai launch

What National Association of Software and Services Companies (Nasscom) does for startups, can someone do for the country's social impact sector? A bunch of driven IITians believe they can, and are coming together at an event in the city on February 25 to explain just how. In essence, their initiative, IITians for Influencing India's Transformation (IIT-IIT), aims to be for NGOs what Nasscom is for startups – a facilitator that pools resources, funds, connections, business skills and technology. The idea is to effect change in the areas of healthcare, education and skill development across the country.

It was an idea that came to chairman and founder Kartik Kilachand in the course of his work at Head-Held-High(.org), a skills training entity he founded for rural school dropouts (aged 18-25 years) in northern Karnataka. Over five years, he met many social impact enterprises and attended conferences/workshops in India and abroad (Kenya/South Africa/Uganda, to name a few).

“The one common thread I discovered was the inability of India's NGOs to achieve scale and hence, meaningful impact for a country as large as India,” he says. The numbers tell a story – India's largest Educational NGO (Pratham), has an annual spend of approximately Rs 200 crore, whereas NGOs in Bangladesh and Kenya have annual outlays exceeding Rs 500 crore – Rs 1,000 crore. “There was something not adding up here.”

It struck Kilachand that while each NGO was doing good work in its respective silo, they lacked “a collective voice and a platform”. IIT-IIT aims to do just that – “just as Nasscom enabled the growth of India's ITO industry, 25 years ago, from less than \$1 billion to over \$150 billion today”.

It's an ambitious project, but the signs are good. The leadership team and global advisory board has some biggies on board – from Arjun Malhotra (co-founder HCL, co-founder Headstrong) to Ganesh Natarajan (chair SVP India, chair 5FWorld, former chair Nasscom, former CEO Aptech), Harish Hande (Ramon Magsaysay Award winner and founder of SELCO Solar and SELCO Foundation), PK Agarwal (former CTO, State of California, former CEO of TiE Global, CEO Northeastern University - Silicon Valley), Som Mittal (former president Nasscom), Ashank Desai (co-founder Mastek, co-founder Nasscom) and Hitesh Oberoi (co-founder of naukri.com). Three more eminent IITians are yet to be confirmed as additions to this illustrious list.

IITians, Kilachand believes, have a unique skillset that makes them capable of approaching this problem and creating a sustainable solution. For one, it's a 300,000-strong alumni network. Secondly, IIT-IIT aims to harness the skill and time of alumni in their 50s and 60s, who have completed successful first- and second-career innings, and now have the time and bandwidth to "give back" to India, "but have lacked a plank to enter".

The fact that IITians have built large-scale global entities means they have the skillsets to scale. And because they are at the forefront of innovative/ affordable technology, they can help out the social impact sector, which is sorely lacking in this regard.

Kilachand also believes that IITians, because they are known for their "strong intellect-driven due diligence, reliance on solid research and data driven analytics to find solutions", will be taken seriously by stakeholders and governments when they make recommendations. This is particularly important in sections such as education and primary healthcare, where the biggest player is the government.

"So to have real impact, unless you get government participation, impact will be minimal (at the fringes). For instance, India has 305 million students. Setting up private, high-quality [schools] will impact only a few thousand children, which is irrelevant," he explains.

"Finally, there are 75,000 students across the 23 IIT campuses... We need to harness their intellectual power at an early age to contribute to conscious capitalism to help bring in fresh thinking into this sector," he says.

So far, the group has met with over 20 NGOs over two months and shortlisted five with whom they have started further discussions on the kinds of challenge they would like help with. These include Selco, Pune City Connect, Educate Girls, and AIIMS Patna.

Bengaluru-based names include Agastya International Foundation, Head Held High, Akshara Foundation, Connecting the Dots, STIR Education, Varthana and Mantra4Change. The selection was based on the NGOs's needs.

The areas of focus include education and skills training, because as Kilachand says: "With 52 per cent of India's population under 26 years of age, job creation becomes the critical variable to capitalise on this demographic dividend. Research shows that 70-80 per cent of college graduates have a degree

but are unemployable, while India needs to create 1 million jobs.”

Clearly, there’s a need here. The plan is for 300 IITians to be founding members, who will pay a joining fee of Rs 2 lakh each and create the initial corpus for IIT-IIT, which will then work closely with successful social impact organisations who represent successful interventions that need to further scale. These participants will become members for a nominal fee.

A big part of IIT-IIT’s efforts is in the area of data analytics. As an example, Kilachand cites how Educate Girls used analytics to identify schools in Rajasthan where the dropout rate among girls was the highest. Analytics pointed out geographic clusters where this was prominent. Further data research identified the socioeconomic factors in these geographic clusters that exacerbated the problem. “Educate Girls can now intervene in these geographic clusters, instead of randomly across the state, for better impact,” he explains.

### **IIT Madras teams bag two of the top five honours in Carbon Zero Challenge**

<https://indiaeducationdiary.in/iit-madras-teams-bag-two-top-five-honours-carbon-zero-challenge/>



Chennai: The finale of Carbon Zero – Renewable Energy Innovation Challenge (CZeroC) was hosted today, 9th February 2018, by the Indian Institute of Technology Madras (IIT Madras). This South-India level event was conducted jointly with Industrial Waste Management Association (IWMA), U.S. Consulate in Chennai and Polaris, a Virtusa Company. The challenge aims to encourage technological innovations among college students and early startups. The winners were announced during the Grand Finale in the presence of a host of industry experts and dignitaries. The projects that won the Innovation Excellence Awards with Funding for Incubation Support are:

- a) Innovative Building and Cooling Systems – Student team from IIT Madras.
- b) Enviro – Student team from IIT Madras.
- c) Blue Wave – Startup from Bengaluru

Additionally, two more teams won the Innovation Excellence Awards but without funding support:

d) Turbo T – Student team from Dayananda Sagar College of Engineering, Bengaluru.

e) Ozone – Student team from Kongu Engineering College, Erode. Shri Vikram Kapur, IAS, Principal Secretary to TN Government, Energy Department, was chief guest for the prize distribution said, “It is indeed a pioneering exercise undertaken by IIT Madras and others to encourage so many of you to spend time in developing projects in an era where energy is in the forefront and has undergone rapid transformation. The Government of India has announced ambitious plans to encourage the use of renewable energy. My best wishes to the teams who have participated in this challenge. I hope this contest sets a path for new breed of entrepreneurs.”

Mr. Vikram Kapur and other dignitaries interacted with the college students and startups who had qualified for the finals. The teams demonstrated their products to the dignitaries.

The challenge is a one-of-its-kind contest with the objective being to identify innovative and indigenous technological solutions to India’s unique energy problems and nurture them to reach a stage of market scalability. The larger goal was to foster a sustainable ecosystem wherein renewable energy and clean technology ideas can emerge and develop into long-term solutions.

Speaking about the Challenge, Mr. Robert G Burgess, U.S. Consul General, Chennai, said, “The U.S. Consulate is a strong supporter of innovation and entrepreneurship, which drive economic growth, improve quality of our daily lives and give us tools to address our shared challenges. As you launch your career, remember that innovation and social change go hand-in-hand. Your creativity and technical skills will benefit your community, your country and the world in the years ahead.”

An Expert panel of Screening Committee from the renewable energy and clean technology fields, evaluated the initial set of applications and the Top 54 Teams were shortlisted for Interviews. The shortlisted 54 teams pitched their project ideas to a Panel of Expert Jury on July 18, 2017. From this, a total of 25 teams were selected to go to the next phase of CZeroC

Presiding over the function, Prof Bhaskar Ramamurthi, Director, IIT Madras, said, “IIT Madras is delighted to be associated with Carbon Zero Challenge. We’re very impressed with the number of submissions as well as the shortlisted teams. The area of energy is very important for the world, particularly India. New ideas that will help us to move to a greener and cleaner world are the need of the hour. We hope that this kind of effort will continue for many years and IIT Madras would be happy to be associated with it.”

Launched on 9th March 2017, this South India Renewable Energy Innovation Contest attracted teams comprising students/early entrepreneurs and/or startups belonging to these five states and/or UTs – Tamil Nadu, Karnataka, Kerala, Andaman and Nicobar Islands, and Puducherry.

The name ‘Carbon Zero’ signifies the collective humanitarian goal of reducing dependence on Carbon-based Fossil fuels, and minimizing Greenhouse gas emissions. Seeking out innovative low carbon energy solutions is a small step towards achieving this grand objective. CZeroC contest invited

applications from college students and early-stage startups from the South Indian states of Tamil Nadu, Kerala, Karnataka, Puducherry and Andaman and Nicobar Islands.

According to Mr. Kris Canekaratne, Chairman & CEO – Virtusa Corporation, “Congratulations to the winners and to every team that participated in the Carbon Zero Challenge – I am confident that the technological concepts showcased today will be part of our environmental culture in the very near future. At Virtusa, we use our technology expertise to help reduce the environmental footprint, demonstrate ethical maturity and respect for all. As such, we are delighted to partner with IIT Madras and the US Consulate General in Chennai in the Carbon Zero Challenge, aimed at identifying and promoting innovative solutions to India’s unique sustainable energy opportunities. We look forward to continuing this collaboration with IIT Madras in the years ahead.”

Apart from funding support of the order of Rs 5 lakh per team provided to build prototypes, the winning teams will continue to be provided Mentorship by experts from both India and the U.S., business Incubation opportunities besides the Rewards and Recognition.

Prof Ashok Jhunjhunwala, Principal Adviser, Ministry of Railways, Govt of India and Prof of IIT Madras, said, “A fossil-free future, which is the aim of CZeroC, is important for Earth to survive. The only way we can achieve this is by innovation and figure out new ways of generating and using energy such that carbon emissions become zero. This competition will help us take a few steps in that direction”

Prof. Indumathi Nambi, Department of Civil Engineering and Head of Environmental and Water Resources Division, IIT Madras, coordinated the Carbon Zero Challenge.

## **February 10**

### **IIT-Delhi, Indiana University collaborate to help visually impaired**

<https://www.siasat.com/news/iit-delhi-indiana-university-collaborate-help-visually-impaired-1316158/>



New Delhi: A three-year collaborative research by IIT-Delhi and Indiana University in the US has led the team to new technologies and cognitive strategies that could improve the lives of the blind and visually impaired (BVI).

The collaboration has resulted in research for the development of a novel new design approach to tactile graphics.

“Tactile graphics” — sometimes called as raised line drawings — are two-dimensional images composed of linear and textured design elements raised very slightly above a flat surrounding surface.

“It’s not that what we are doing is attempted for the first time in the world, there are people who have formed similar solutions in the US, Europe, Britain, Japan etc. But the key challenge was to make it cost-efficient for developing countries like India,” M. Balakrishnan, Professor at IIT Delhi, told reporters.

“Tactile diagrams have been here for a long time. While the US-based tactile diagrams cost more than \$2 per page, we have produced it for 25 cents and we hope to go further down to 5-7 cents over a period of time,” he added.

According to World Health Organisation estimates, there are 38 million visually impaired people of which 90 per cent of them live in the developing world.

As per 2011 census, India has more than five million visually impaired people – largest for any country.

Books for visually impaired people are normally completely in Braille text with no accompanying graphical images.

Introduction of low-cost Tactile Graphics will create a noticeable improvement in the quality of education of visually impaired people.

Tactile Graphics generally use a design strategy that distills pictures of objects or scenes into simple contour line drawings.

It then translates these into raised lines that blind and visually impaired students trace with their fingers, much as they read Braille.

The new approach can be used for exploring semantic communication, developing fun tactile game, educational pedagogy, retention and memory.

### **IIT Gandhinagar Scientists Develop World’s Thinnest Material!**

<https://www.thebetterindia.com/130651/iit-gandhinagar-scientists-develop-worlds-thinnest-material/>

**Recently, graphene has been dethroned as the ‘thinnest and strongest’ by a whole new material – right here in India.**

The thinner a material gets, our intuition signals that the material will be weaker and easily breakable. But your intuition will be proved wrong if you come across graphene.

Graphene was the world’s first ‘thinnest and strongest’ material, extracted from graphite in 2004. Graphite is a common form of carbon, commonly used in pencils. So when you draw with a pencil,

you're laying down thin layers of graphite. If you were to peel these away, layer by layer, you'd end up with a trace just thick as one atom. And that's graphene.

In the field of nanomaterial, research into graphene has yielded some interesting results, as such nanomaterials possess unique properties. Graphene, for instance, is 200 times stronger than steel though it is just one atom thick.

However, recently graphene has been dethroned as the 'thinnest and strongest' by a whole new material – right here in India.

**A group of Indian scientists have synthesized a two-dimensional material of just one-nanometer thickness.**



Source: Wikipedia

The nanosheets synthesized by researchers at the Indian Institute of Technology, Gandhinagar, using Magnesium diboride – a compound of boron – represent a two-dimensional material that is even thinner than graphene. Such a material can find a range of applications from next-generation batteries to ultraviolet absorbing films.

Boron has been a prime field of study for nanotechnology researchers because of its numerous unique properties like its low density, high mechanical strength, lighter weight, high thermal resistance, high melting point, ability to absorb neutrons, and high resistance to chemical attacks.

The nanosheets developed by researchers are made of boron atoms arranged in the shape of a honeycomb, using a simple method.

“We prepared boron-rich nanosheets by an extremely simple method, which merely involves dissolving a boride compound in water and letting it recrystallize for just the right duration of time,” explained Dr. Kabeer Jasuja of Department of Chemical Engineering, IIT Gandhinagar, while speaking to India Science Wire.

These sheets have a range of uses. For example, the ability of these boron-based nanostructures to only absorb UV radiation makes them ideal candidates for developing transparent UV absorbing films.

Also these functionalized magnesium boride nanostructures can release energy in proper conditions enabling them to be engineered as hydrogen storage materials.

“The rich chemistry of boron is expected to make these nanosheets useful for not only storing energy but also for generating energy in a green way. We are now working towards utilizing these nanosheets for developing the next generation batteries and nanocatalysts” added Jasuja.

The study was funded under the Fast Track Research Grant for Young Scientists of given by Science and Engineering Research Board (SERB), the INSPIRE Faculty Award Research Grant by Department of Science and Technology, and the seed funding from IIT Gandhinagar.

With this ground-breaking discovery, new possible inventions can be conjured which can contribute to the betterment of not our lives, but of the environment as well.

### **Chief Minister directs early operationalization of IIT, IIM off campuses in Kashmir**

<http://www.greaterkashmir.com/news/jammu/chief-minister-directs-early-operationalization-of-iit-iim-off-campuses-in-kashmir/275275.html>



Chief Minister, Mehbooba Mufti reviewed the pace of work on several upcoming educational and technical institutes in the State at a high level meeting of officers here today.

These include IIT, Jammu; IIM, Jammu and their off campuses in Kashmir; NIT, Srinagar and Government Colleges of Engineering & Technology at Jammu, Kathua and Sufapora.

Minister for Education, Syed Altaf Bukhari and Minister of State for Education, Priya Sethi were also present in the meeting.

Addressing the meeting, the Chief Minister underscored the need for early completion of works on these projects so that the students get the benefits of these educational institutes at the earliest. She expressed satisfaction over the pace of work on the IIT and IIM at Jammu and directed early operationalization of their off campuses at Srinagar so that these institutes take off optimally.

Mehbooba Mufti urged the managements of these institutes to undertake quality research activities besides routine academic works to make them fully independent in terms of academic activities.

Besides, she also urged these institutes to introduce such elements in their curriculum which have a local relevance and the State is adequately positioned on the academic and research canvas.

The meeting was informed that the IIT, Jammu has started functioning from transit accommodation with seven disciplines and an enrolment of 120 students. It is expected to reach a target of 220 faculty and staff members with 1260 students by 2020, the meeting was informed.

Similarly, the meeting was informed, IIM, Jammu has been operationalized with two batches with very high standards of academics. Efforts are on to set up off campuses of these two premier institutes at Srinagar, the meeting was told.

Expansion of NIT, Srinagar and the progress achieved on Engineering Colleges at Safapora and Kathua were also reviewed by the Chief Minister during the meeting.

Earlier, Principal Secretary, Higher Education, Dr. Asgar Samoon gave a detailed presentation on the status of these projects and overall scenario of the Higher Education in the State.

Chief Secretary, B. B. Vyas; Union Secretary, Higher Education, Kewal Kumar Sharma; Principal Secretary to Chief Minister, Rohit Kansal; Principal Secretary, Finance, Navin Choudhary; Commissioner Secretary, PWD, Sanjeev Verma; Commissioner Secretary, Revenue, Shahid Inayatullah; Secretary, PHE, Irrigation & Flood Control, M. Raju; Directors of IIT, Jammu, IIM, Jammu, NIT, Srinagar; Vice Chancellor, BGSBU and representatives from other universities and colleges besides senior officers attended the meeting.

On the occasion, the Chief Minister released the first issue of Research Journal in Mathematics & Computer Science of the State Higher Education Department.

### **Spiritual head donates Rs 90 lakh for adjunct chair in IIT-Madras**

<https://www.newsx.com/education-and-jobs/spiritual-head-donates-rs-90-lakh-for-adjunct-chair-in-iit-madras>

The head of Science of Spirituality Rajinder Singh has signed an agreement with The Indian Institute of Technology-Madras, in Chennai in order to set up a national endowment for an adjunct chair professorship. Mr. Singh has donated Rs 90 lakh for the development of chair, out of which Rs 15 lakh will be for a separate scholarship programme, which will benefit students from economically weaker sections of the society.

An alumnus and head of Science of Spirituality, Rajinder Singh who is also a Sanskrit scholar has signed an agreement with The Indian Institute of Technology-Madras (IIT-M), in Chennai in order to set up a national endowment for an adjunct chair professorship. The spiritual head has donated a huge amount of Rs 90 lakh for the development of the chair. According to reports published in the national daily, The Hindu Mr. Singh has donated Rs 90 lakh out of which Rs 15 lakh will be for a separate student scholarship programme.

The scholarship could be offered to any deserving and economically underprivileged student. Mr. Singh has graduated in electrical engineering from IIT-Madras and did his Master's degree in the same subject from the Illinois Institute of Technology in Chicago. Mr. Ranjinder Singh, who is himself associated with the Humanities department stated that he wants to focus on cultural issues in the

universities. According to the spiritual head's biography, Mr. Singh is known to his disciples as Sant Rajinder Singh Maharaj. Apart from that, Rs 15 lakh from his donation will be for student scholarship programme, which will benefit financially weaker section of the students.

India is a land of many great educational institutions, starting from Jawaharlal Nehru University (JNU) located in the national capital, to Indian Institute of Technology Bombay (IITB), many varsities have been concentrated on culture and art in different ways. Another University which is famous for its high ranking cut-offs, University of Delhi conducts cultural programmes, film festivals, literary festivals which embraces the beauty of art and culture. Nevertheless, many students who are affiliated with political groups do create chaos and disturb the milieu. But, the culture which is embraced in educational varsities in India has its own beautification. From dance competitions to film-making lessons, the students get a good amount of exposure which enhances their personal skills.

## **February 9**

### **B Tech Students to get 70,000 per month under PM Research Fellowship scheme**

<http://digitalllearning.eletsonline.com/2018/02/niit-university-taking-the-course-of-entrepreneurship-forward/>



The Union Cabinet has approved the scheme at a cost of Rs 1,650 crore for a period of seven years, beginning in 2018-19.

Describing about the scheme, the Union Human Resource Development Minister said that the Research Fellowship scheme for 1,000 B Tech students for pursuing PhD courses at IITs and IISc will help convert brain drain into brain gain. Finance Minister Arun Jaitley had announced the scheme in his budget speech in Parliament on February 1.

“The scheme will go a long way in tapping the talent pool of the country for carrying out research indigenously in cutting edge science and technology domains,” Javadekar told reporters at a press

conference here. “Research under the scheme will address our national priorities at the one hand and shortage of quality faculty in premier educational institutions of the country on the other. It will help convert brain drain into brain gain,” he said.

Under the scheme, final year engineering students along with the students who have completed their B Tech or integrated M Tech/MSc at IISc, IITs, NITs, IISERs, IIITs, will be offered direct admissions to PhD programmes in IITs and IISc.

Shortlisted students would be offered a monthly fellowship of Rs 70,000 during the first two years, Rs 75,000 per month during the third year and Rs 80,000 per month during the fourth and the fifth year. During the programme students will also be provided a research grant of Rs two lakh for a period of five years to cover their foreign travel expenses. The grant will support them to present their research papers at international conferences and seminars.

### **IIT Kharagpur and AIIM to collaborate for “Unique Joint Initiatives”**

<http://digitallearning.eletsonline.com/2018/02/b-tech-students-to-get-70000-per-month-under-pm-research-fellowship-scheme/>

IIT Kharagpur (IIIT – Kgp) and All India Institute of Medical Sciences (AIIMS) may join hands together to explore opportunities in academics and research, including a super-speciality hospital.

“IIT Kharagpur and AIIMS are planning some unique joint initiatives in academics and research that will open new directions in education and take technology-enabled healthcare directly to the people at large,” IIT Kharagpur Director Prof P P Chakrabarti said.

According to him, the joint initiative of the two institutions will strengthen the ongoing activities through collaborative education programmes, research and collaboration for management and analysis of hospital data.

“Both institutions have unique strengths and through this collaboration, we hope to explore and exchange them. IIT Kharagpur has expertise in developing medical devices and diagnostics, medical imaging and analysis, systems modelling, big data analysis and machine learning from others. These can be put to use in medical science to improve on experience driven procedures to technology centric medical services,” said Prof Suman Chakraborty, faculty coordinator of the initiative and Head of School of Medical Science and Technology, IIT Kharagpur.

AIIMS Delhi Director Prof Randeep Guleria said, “The medical domain is becoming progressively technology intensive, which puts the matter of IIT Kharagpur providing medical and allied education in perspective. Modelling, simulation, and analytics will be essential tools for medical intervention in the years to come.”

IIT Kharagpur and AIIMS would also work towards encouraging more medical practitioners in the research domain.

The collaborative initiatives would foster cross-migration of medical professionals to the research domain, and engineering researchers to work on outstanding clinical problems, according to professors of the two institutions.

With the super-speciality hospital at IIT Kharagpur expected to be operational by the end of this year, AIIMS will also collaborate for data processing, analytics and management of medical data in addition to digitised medical consultation, human resource support and advisory role in procurements.