

**Newspaper Clips**  
**October 1-6, 2017**

**October 6**

**IIT scholars discover new drug to combat Chikungunya virus**

<https://timesofindia.indiatimes.com/city/dehradun/iit-scholars-discover-new-drug-to-combat-chikungunya-virus/articleshow/60964931.cms?>

NEW DELHI: Researchers at the Indian Institute of Technology (IIT) in Roorkee -working to develop a cure for Chikungunya -have discovered the anti-viral properties of the drug piperazine, and determined the mechanism to combat the disease. The findings have been published in the 'Antiviral Research' journal by the Elsevier group.

Chikungunya is an infectious viral disease which is transmitted to humans by mosquitoes infected with the virus. The research talks about the potential of piperazine as a pharmacotherapeutic agent, and how binding these molecules to the hydrophobic pocket of capsid protein, present in the Chikungunya virus, offers a new perspective for therapeutic intervention, thereby inhibiting the spread of the virus.

Dr Shailly Tomar of the Biotechnology department at the institute said, "Chikungunya is gradually becoming a major public health concern, with many affected by it every year. There is no vaccine or antiviral drug available in the market for the cure of chikungunya currently. The treatment focussed on relieving the symptoms associated with the virus infection. Developing a new antiviral drug molecule can take over a decade and that is the reason why we are looking at repositioning existing, approved drugs and testing these to see if they might inhibit or kill pathogenic viruses."

"Our research has showed that piperazine, a drug existing in the market, is successful in curbing the spread and replication of the Chikungunya virus in a lab setting. We are currently testing the molecule on animals hope to take this to clinical trials soon," said Tomar.

Piperazine is a drug commonly used in deworming treatments against roundworm and pinworm. Using X-ray crystallographic technique, in combination with computational biology and fluorescence techniques, the researchers found that piperazine binds itself well with the hydrophobic pocket on the alphavirus capsid protein. This pocket is the key to the replication of the virus and its spread inside a host. This inhibition of this pocket prevents budding and spread of the virus and can help in treating the virus effectively using existing drugs.

**Jobs galore at engineering colleges, pay offers up 15%; highest at Rs 39L**

[http://www.business-standard.com/article/current-affairs/jobs-galore-at-engineering-colleges-pay-offers-up-15-highest-at-rs-39l-117100600215\\_1.html](http://www.business-standard.com/article/current-affairs/jobs-galore-at-engineering-colleges-pay-offers-up-15-highest-at-rs-39l-117100600215_1.html)

**Tech institutes beat economic slowdown; salary packages up 10-15%**



Despite a downturn, India's leading engineering colleges other than the IITs have found good final placements in top companies in India.

Both average and highest pay packages at campuses are up 10-15% from a year ago thanks to a surge in domestic offers. While there have been reports of the health of the Indian software services sector deteriorating and beginning to jolt the job market, this news comes as a major relief.

“Placements are very good compared to last year. Many companies are visiting for multiple profiles,” RS Walia, training and placement head at Delhi Technological University told Economics Times.

Hiring is up 15%, said Walia, with companies including Amazon, Directi, PwC, L&T, Maruti Suzuki, Airtel and Samsung recruiting more this year. “We are also targeting a large number of first-timers for the 2017–18 session,” he said.

#### **Let us take a look at campus placements of some of India's top-notch engineering institutes:**

**BITS Pilani University:** Placements at the three campuses in Pilani, Goa and Hyderabad started in early August. Nearly 586 students were placed by the end of September, up from 546 a year ago. Qualcomm (50), Oracle (48) and Microsoft (38) have picked the maximum number of students so far at BITS Pilani University.

**Highest offer:** A cloud-computing software company Nutanix offered the highest salary package at Rs 39.48 lakh, up nearly 13% from last year.

**Average Salary** has gone up 10% to Rs 16.05 lakh.

**NIT Warangal:** Uber has made the highest offer so far at Rs 36 lakh, according to a report in Economic Times. Qualcomm has made the maximum number of offers at NIT Warangal, along with Amazon and Fidelity.

**Delhi Technological University:** Top package is Rs 39.12 lakh

**NIT Trichy:** More than 1,200 students are participating in the placement process this year. The average annual salary is hovering at around the Rs 8.5 lakh mark. Highest CTC package has jumped nearly 30% to Rs 36 lakh from last year's Rs 28 lakh. Oracle, L&T, Qualcomm and Reliance Industries are among those making the maximum offers

### **Companies aboard absent in most cases**

Due to the absence of major IT companies aboard, a lot of first-timers and domestic companies have taken the lead in the hiring spree.

"We have had a dozen first-timers till now. The endeavour is always to enlarge the portfolio of companies to have more niche jobs," said NIT Trichy's AK Bakthavatsalam, head of the department of training and placement.

According to Bakthavatsalam, global cues were subdued last year and continue to be so this year as well due to visa issues and Brexit among other issues. "Overseas offers are fewer," he said. RS Walia of DTU, however, said that international companies generally come their campus for placements October onward.

### **Relief for IITs**

Some IT giants like Samsung, IBM, Oracle and Wipro may offer pay packages reaching up to Rs 20 lakhs during campus placements for Indian Institute of Technology-Delhi (IIT-D) students.

About 40 companies have registered for the placement process with the esteemed engineering college during the pre-placement session, said a report by Gizmodo India.

The biggest of the industry players generally recruit candidates in the early sessions of the placement season to garner the best talents. While the IT firms will focus aggressively on hiring product developers, software engineers as well as product engineers with exceptional coding knowledge, management companies will also queue up to recruit data scientists.

A number of startups including Zomato, Portea Medical, Hospscotch etc. were barred from the premier institute's placements in the year 2016 as they cancelled the offers made to students at a later stage.

The ban has however been lifted now.

### **Trump policies, layoffs have made students fearful**

Earlier this year, signs of trouble were visible when online forums were abuzz with speculation about the job market and impending crisis. In April and early May this year, online forums like Quora and Facebook groups, which receive queries from registered users, had questions that ranged from concern to calls of distress. Questions like "Is it true that Cognizant is planning a mass layoff in the

upcoming months?”, “Why did Cognizant lay off 6,000 employees?” and “What is automation and how is it affecting the layoffs in the IT industry?” were posted on the website.

Then there were those who were concerned about H-1B visas issued by the United States to Indian workers: “What are my options if I get laid off now and am on H1-B already?” “I was laid off on an H1B. How much time do I have?” On April 18, the American president Donald Trump had ordered a comprehensive review of the H-1B visa programme, the way by which American companies hire high-skilled foreign workers. The multi-agency review will be in line with Trump’s protectionist policy ‘to buy American and hire American’.

Last month, Associated Chambers of Commerce of India (ASSOCHAM), the apex trade body in the country, released a paper warning of severe impact on the jobs here. It said that the new norms will affect nearly 86 percent of the H-1B visas that are issued to Indian workers in the IT, scaling down the figure in the ‘computer space’ to ‘about 60 percent or even less’.

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### **Aviation to be among new job creating industries: Jayant Sinha**

<http://www.livemint.com/Politics/CtJGubVIRdkH0j3PXyF1pN/Aviation-to-be-among-new-job-creating-industries-Jayant-Sin.html>

Minister of state for civil aviation Jayant Sinha says the economy is ‘going through a paradigm shift’ and that there is a lot of innovation happening



Minister of state for civil aviation Jayant Sinha.

**New Delhi:** Aviation will be among the bright spots that will create jobs for the country, minister of state for civil aviation Jayant Sinha said on Wednesday.

Speaking at the India Economic Summit 2017 organized by World Economic Forum and the Confederation of Indian Industry (CII) at IIT-Delhi, Sinha said economy was “going through a paradigm shift” and that there is a lot of innovation happening.

“Every time a new economic cycle starts, it’s not the old industries that really power it, it’s the new industry,” he said, “Don’t look at IT services and business process outsourcing (BPO), that industry is

maturing. Look at aviation, for example, or renewable energies or medical technology, that's where the new growth is going to come from".

The Economic Survey of 2016-17 had also called civil aviation in India a potential sunrise sector for growth and added that the divestment of Air India Ltd will help the sector expand further.

"Civil aviation is a potential sector in the country which can be a sunrise sector of growth. Our country has favourable conditions which are highly conducive for the sector's growth, i.e. favourable demographics, a rising middle class population, high disposable incomes, and faster economic growth," the survey had said.

Domestic air traffic in India has been growing at about 20% annually and international traffic at 10%.

Indian aviation provides direct employment to 220,000 people besides lakhs of indirect jobs. This figure will double by 2026-27, according to aviation consulting firm Centre for Asia Pacific Aviation (CAPA).

### **Delhi air pollution: Red alert as national capital is choking slowly, steadily**

<http://www.financialexpress.com/india-news/delhi-air-pollution-red-alert-as-national-capital-is-choking-slowly-steadily/883075/>

Delhi air pollution: Delhi air quality is radically turning bad to worse. With temperatures dipping and onset of stubble burning in Punjab, Haryana and Uttar Pradesh, the concentration of particulate matter has slowly been increasing



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**Delhi air pollution:** Delhi air quality is radically turning bad to worse. With temperatures dipping and onset of stubble burning in Punjab, Haryana and Uttar Pradesh, the concentration of particulate matter has slowly been increasing, according to Indian Express report. The air quality of the national

capital today turned 'poor' and the situation would further deteriorate in the next few days, according to central government agency SAFAR, which monitors air pollution, PTI had reported on October 4. The day-long average of PM 2.5 and PM 10, which are ultrafine particulates, were 178 and 94 micrograms per cubic metre (ug/m<sup>3</sup>), while the air quality index of the Central Pollution Control Board (CPCB) was poor.

In a warning, the NASA fire mapper has also shown increased number of fires in Haryana and Punjab over the past week. According to researchers at IIT-Kanpur, the wind patterns ensure that stubble burning as far as Pakistan affect air quality in Delhi.

A "poor" AQI essentially means that people will have breathing discomfort on prolonged exposure to such air. On further dip in air quality, AQI will turn "very poor" and "severe". An official of the CPCB attributed the rise in pollution levels to ground-level activities such as burning of paddy stubble in neighbouring Punjab and Haryana and meteorological conditions including a cyclonic circulation and a fall in wind speed that traps pollutants.

It has been learnt that Indian and British experts were joining hands on a project to help tackle health problems associated with air pollution in Delhi, which affect some 46 million people in and around the country's capital city. With air pollution levels at times up to 30 times greater than those found in the UK, Delhi was rated the most polluted city in the world for ambient air pollution by World Health Organisation (WHO) in 2014, PTI had reported on January 23.

### **Prevent backdoor entry of foreign education institutions in India through tougher laws**

[http://www.business-standard.com/article/news-ani/prevent-backdoor-entry-of-foreign-education-institutions-in-india-through-tougher-laws-117100400377\\_1.html](http://www.business-standard.com/article/news-ani/prevent-backdoor-entry-of-foreign-education-institutions-in-india-through-tougher-laws-117100400377_1.html)

Commercial education companies from abroad have often attempted to enter India through the backdoor and some of them have even been found to have violated Indian laws that prevent exploitation of students.

Such companies are known to exploit the obsession of the Indian middle class for certification from foreign institutions, and in the process, All India Council for Technical Education (AICTE) guidelines are often flouted.

Recently, the Singapore-based Raffles Education Corporation attracted attention for trying to bypass Indian laws by trying to take over a not-for-profit education society -- the Jai Radha Raman Education Society (JRRES).

Indian law clearly states that a not-for-profit education society cannot become a subsidiary of a for-profit company or be run for the benefit of a corporation, and keeping this fact in mind, the Registrar of Societies of Delhi and the National Capital Territory passed strictures on Raffles Education Corporation, Singapore, for trying to create a sham scheme to take over a society

The Registrar of Societies (Delhi/NCR) said in its order that eight members of the society and some of its members, including Singaporean industrialist Chew Hua Seng, received loans through their joint

venture company, then posing first as ordinary members of the society gained society membership, and later on revealed themselves to be nominees of the Raffles Education Corporation to have a controlling role in its operation.

It said, "There is no doubt that eight members from Singapore, while seeking membership of society, by filing in the membership form along with bio-data have hidden the fact that they were working on behalf of the Raffles Group of companies, having implicit commercial interest in the form of positions held by them in these companies."

The order strictly said the Raffles Education Corporation must stop all funding that violates foreign direct investment or Foreign Exchange Management Act (FEMA) guidelines of the country.

Questions were also raised about the Raffles Group move to buy land for use other than education that it deemed was in violation of lease conditions set forth by the Noida Authority.

Interestingly, the JRRE College in Noida does not have either proper AICTE or AKTU approval to conduct courses as there are several lapses. Regulations regarding student fees and selection of teachers are also found to be wanting as per existing regulations.

### **Now, an app that will alert cops incognito**

<https://timesofindia.indiatimes.com/city/ahmedabad/now-an-app-that-will-alert-cops-incognito/articleshow/60947859.cms>



AHMEDABAD: One of the biggest refrains that deter citizens from alerting cops regarding any crime or wrong-doing in society is that they do not want to get tangled in tedious police procedures. An app is being developed by IIM students in collaboration with cops that will allow conscientious citizens to do his or her duty with the freedom of anonymity.

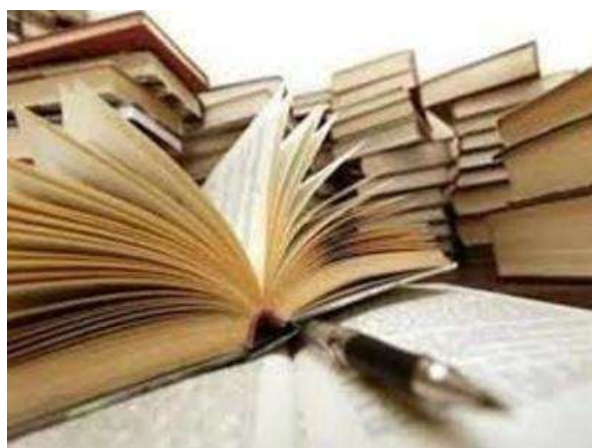
The incognito app where phone number of the citizen would be registered in server as an identification proof but remain invisible to cops is one of the half a dozen key ideas proposed and developed by a team of IIM Ahmedabad (IIM-A) students during their maiden eight-month project association with Ahmedabad police that concluded last week. A K Singh, city police commissioner, said that five teams consisting of six students each from IIM-A got associated with two city police stations - Vastrapur and Vadaj- where they worked on specific projects and submitted their findings. The project was taken up as part of IIM-A's Forum for Industry Interaction (FII).

"The application would be developed by Gujarat University on the basis of inputs from the team and police. We wish more public interface through this app and would ensure that the mechanism is not misused," said Singh.

Bipin Ahire, DCP, Zone I, said that the other projects the teams worked on included drawing a budget plan for police stations, improving data management and connectivity, improving services to senior citizens and enhancing health condition of police force.

### **Varsities told to introduce disaster management courses**

<https://timesofindia.indiatimes.com/city/pune/varsities-told-to-introduce-disaster-management-courses/articleshow/60949366.cms>



KOLHAUR: The University Grants Commission (UGC) has asked varsities across the country to consider the compulsory implementation of subjects on disaster management.

According to a circular issued on Wednesday, UGC secretary P K Thakur, said the courses should include awareness about dealing with bomb threats, earthquakes, a health emergency among others.

Sattappa Mohite, a city-based education activist, said welcomed the UGC's suggestion and said that disaster management awareness was the need of the hour, especially in light of the recent stampede at the footbridge of a railway station in Mumbai.

"Students will be prepared to take proper action if they face any unfortunate situation," said Mohite.

### **Any time dedication, PM-style**

[https://www.telegraphindia.com/1171005/jsp/frontpage/story\\_176329.jsp](https://www.telegraphindia.com/1171005/jsp/frontpage/story_176329.jsp)



**New Delhi, Oct. 4:** Prime Minister Narendra Modi will dedicate the IIT Gandhinagar campus to the nation on Saturday, more than two years after the institute started operating from there, probably with an eye on the upcoming Gujarat polls.

"Dedication can happen at any time even if an institute is functional," a human resource development ministry official said.

But he acknowledged that it is unusual for a campus to be dedicated to the nation so long after its inauguration. An IIT Delhi teacher who didn't want to be quoted corroborated him.

While all the IITs have their foundation stone laid formally and are officially inaugurated after completion, not all are dedicated to the nation.

IIT Gandhinagar was founded in 2008 when the UPA was in power. It initially operated from the premises of the Vishwakarma Government Engineering College off the Visat-Gandhinagar Highway, about 10km from Ahmedabad airport.

On July 8, 2015, it shifted to its permanent, 400-acre campus in Palaj, near Gandhinagar, on the banks of the Sabarmati.

Assembly elections will be due in Gujarat by the year-end.

## **October 4**

### **World Economic Forum meet begins today in Delhi: Over 650 leaders from 35 countries will take part in 3-day event**

<http://www.businesstoday.in/current/economy-politics/world-economic-forum-meet-in-delhi-wef-meet-economic-forum-in-india-world-economic-forum-leaders-in-india/story/261376.html>



A host of union ministers, including finance minister Arun Jaitley, and top industrialists will take part in a three-day World Economic Forum starting Wednesday to discuss global trade challenges.

Over 650 leaders from 35 countries will also participate in the event organised by the WEF in partnership with Confederation of Indian Industry (CII).

The summit, with 'Creating Indian Narratives on Global Challenges' as its theme, will help global business community learn first-hand about India's reform programme from key members of the Cabinet, WEF said in a statement.

WEF COO Sarita Nayar said the summit will address many global challenges including issues where India has been active on the global stage including trade, climate change, economic growth and the fourth industrial revolution.

Union ministers Piyush Goyal, Smriti Irani, Suresh Prabhu, Harsimrat Kaur Badal, Dharmendra Pradhan and Nitin Gadkari are scheduled to participate in the summit.

Chairman of Bharti Enterprises Sunil Bharti Mittal, CMD of Spice Jet India Ajay Singh, CEO and joint MD of Welspun India Dipali Goenka, chairman of Godrej Group Adi Godrej, chairman of Hero MotoCorp India Pawan Munjal, and director Essar India Prashant Ruia are among the top industrialists who will share their perspectives at the Summit.

Founder of Isha Foundation Sadhguru Jaggi Vasudev and Congress leader Shashi Tharoor will debate 'How can India transcend its fragmented diversity and become a truly pluralistic society'. On day one, there will also be an open forum at IIT-Delhi.

### **Raising height of IGI boundary wall won't reduce noise, IIT to NGT**

[http://www.business-standard.com/article/news-ians/raising-height-of-igi-boundary-wall-won-t-reduce-noise-iit-to-ngt-117100301267\\_1.html](http://www.business-standard.com/article/news-ians/raising-height-of-igi-boundary-wall-won-t-reduce-noise-iit-to-ngt-117100301267_1.html)

Raising height of the peripheral wall around the IGI Airport may not help in reducing the noise pollution around it, IIT Delhi told the National Green Tribunal on Tuesday.

The tribunal in January directed the Civil Aviation Ministry and aviation regulator DGCA to find possibilities to prevent noise pollution from aircraft landing at the airport, but IIT experts told the bench, headed by NGT chief, Justice (retd) Swatanter Kumar, that no substantial drop in the sound pressure was noticed with every metre added to the wall's height.

"Air gap between the existing wall and the proposed additional construction on top of the existing wall should be effectively sealed, while allowing for the thermal expansion of the structure," the IIT report said.

The report was filed in pursuance to the NGT's direction to conduct a study after pleas were filed by the residents of south Delhi's Vasant Kunj, NGO Society for Protection of Culture Heritage, Environment, Traditions and Promotion of National Awareness (Chetna) and others seeking directions to reduce noise level in the residential areas near the IGI airport.

## **JEE (Advanced) 2018 official website launched: IIT Kanpur to conduct exam on May 20**

<http://indiatoday.intoday.in/education/story/jee-advanced-2018/1/1060367.html>

The entire JEE (Advanced) 2018 examination will be conducted in fully computer based test mode on May 20, 2018.

The Joint Entrance Exam (JEE) (Advanced) 2018 will be held on May 20, 2018. The entire JEE (Advanced) 2018 examination will be conducted in fully computer-based test mode.

This year, the Indian Institute of Technology (IIT), Kanpur is the organising institute of JEE (Advanced) 2018.

Moreover, the official website of JEE (Advanced) 2018 has been launched, the link for which is [jeeadv.ac.in](http://jeeadv.ac.in)



### **Important note:**

"The Joint Entrance Examination (Advanced) 2018 will be conducted by the seven zonal IITs. The performance of a candidate in this examination will form the basis for admission to the Bachelor's, Integrated Master's and Dual Degree programs (entry at the 10+2 level) in all the IITs. The decisions of the JAB 2018 will be final in all matters related to JEE (Advanced) 2018 and admission to IITs."

### **Examination schedule:**

The exam consists of two papers, Paper 1 and Paper 2, each of three hours' duration, and will be held in two sessions. Both the papers are compulsory.

Item	Day	Date	Time
Paper-1	Sunday	20-May-2018	09:00 to 12:00 IST
Paper-2	Sunday	20-May-2018	14:00 to 17:00 IST

Note: Both the papers are compulsory. The schedule will remain the same even if the day of examination is declared a public holiday.

JEE (Advanced) 2018 to go online:

In order to make logistics and evaluation process less complicated for all, the Joint Admission Board (JAB) which is the policy-making body on IIT admissions has decided to make the Indian Institutes of Technology (IIT) Joint Entrance Exam (JEE) completely online.

Online test to help prevent mistakes:

Moreover, JAB officials said an online test will help prevent mistakes and also avert situations like those encountered last year, when the JAB -- the apex body that conducts the exam -- reportedly gave 18 bonus marks to candidates who took the JEE Advanced because of printing and translation errors in the question paper, as reported by TOI.

Now, students will now have to take the exam at designated centers and answer question on a computer, instead of marking their answers in an Optical Mark Reading (OMRsheet).

While this decision might seem a straight forward at face value, the reality is a lot trickier.

Here's why this is trickier:

While most city-dwelling students might be comfortable with this new format, the rural counter parts might struggle in comparison. It is a common notion that many IIT aspirants move to bigger cities to prepare for JEE, two years prior to the exam.

### **Script which helps read 22 Indian languages on cards**

<http://www.deccanchronicle.com/nation/in-other-news/041017/script-which-helps-read-22-indian-languages-on-cards.html>

Bharati exploits fact that most Indian languages have a common phonetic structure.

ക	ഖ	ഗ	ഘ	ങ
ശ	ഷ	സ	ഛ	ജ
ച	ഛ	ജ	ഝ	ഞ
പ	പ്	പ്	പ്	ച
ട	ഠ	ഡ	ഢ	ണ
ട	ഠ	ഠ	ഠ	ഠ
ത	ഥ	ദ	ധ	ന
ന	ന്	ന്	ന്	ന്
വ	വ്	വ്	വ്	മ
പ	പ്	പ്	പ്	ന

The team has developed word games to popularise the script and is in the process of developing an app.

**Thiruvananthapuram:** A team of researchers at IIT-Madras is developing a script called 'Bharati', which according to them, will help read every Indian language. A single, unified script for 22 official Indian languages and 1652 dialects, will reduce script barriers, they say. The project was conceived by V. Srinivasa Chakravarthy, a faculty at Computational Neuroscience lab of Department of Biotechnology, three years ago. The team has developed word games to popularise the script and is in the process of developing an app. A private party funds the research.

The script exploits the fact that most Indian languages, though written using 11 scripts, have a common phonetic structure with vowels and consonants. Instead of a separate character for various consonants, it has chosen one base character for each consonant family. A modifying character is used to distinguish different consonants in the same family, like say ka, kha, ga. (Refer picture.) Some sounds may be unique to one language (like 'Chillu' letters in Malayalam) and have been introduced as special characters.

It would improve domestic tourism among other things, according to Krishna Bharadwaj M. S., a research associate who is part of the team. At a press conference at Thiruvananthapuram press club on 'Bharati' script, he narrated how when he first moved from Thiruvananthapuram, he was lost in Chennai city, as the boards in old buses would only have Tamil. Krishna said that the script would be useful for dyslexic students, as the characters chosen are very simple. When asked if the concept was not against diversity, he said it wasn't as it is an additional script, not a substitute for the existing ones.

It was during an ambitious project, which aims to develop an Optical Character Recognition (OCR) software that can recognise various microorganisms, that the idea struck the team. Internationally OCR has been used in automobiles to read road signs. They have been training an Artificial Neural Network to read 'Bharati Script', and have achieved over 97% accuracy.

### **IIT-Kanpur scientist-led team designs nano-machines that can correct anomalies inside living cells**

<http://www.thehindubusinessline.com/news/science/iitkanpur-scientistled-team-designs-nanomachines-that-can-correct-anomalies-inside-living-cells/article9885557.ece>

In a feat that may be clinically significant in near future, researchers led by a young structural biologist from the Indian Institute of Technology-Kanpur have created nano-size machines that can crawl inside living cells to correct anomalies often linked to diseases.

These 'nano-machines' are made of fragments of antibodies and can be made to selectively target signalling events inside living cells. "They can be designed in such a manner that they regulate one arm of the signalling mechanism while leaving others completely untouched," said IIT scientist Arun Kumar Shukla, who led a multi-institutional team for this work, which appeared in journal *Nature Nanotechnology* on Monday.

The technique may have therapeutic potential in certain diseases which otherwise are considered untreatable, such as type I diabetes and retinitis pigmentosa, a class of genetic disorders that result in progressive loss of eyesight.

The scientists showed that these specially prepared antibody fragments work by targeting selective functions of a class of proteins inside the cell called beta-arrestins. Beta-arrestins are significant because they regulate the action of a family of receptors called G-Protein-Coupled Receptors (GPCR) found on the surface of each living cell.

### **Physiological receptors**

These receptors are at the centre of every physiological process in our body. For example, we see things when photons (light particles) fall on rhodopsin molecules (GPCR receptors present in the retina), get the smell when the receptors in nostril cells get activated, and flee when an impending danger approaches us as GPCRs in different types of cells receive chemical cues in the form of hormones. These receptors also regulate everything from heartbeats to immune response. Scientists have already identified nearly 1,000 different GPCRs in the human body.

According to Shukla, beta-arrestins play a critical role in impeding the normal function of GPCR, particularly in cells that are not healthy, normal cells. "Beta-arrestins that bind with GPCR proteins pull the latter inside the cells and form a complex with another class of proteins called clathrin. Such complexes are typically headed for doom."

The scientists found that the antibody fragments prevent beta-arrestin proteins from binding to clathrin and thus help the receptors stay at the cell surface longer, where they continue to do their normal function. "What these antibody fragments do here is to hinder beta-arrestin-GPCR complex from binding to clathrin, which is a sure-shot way to destruct the receptor," Shukla said.

He, however, said their work was currently only a proof of concept. As a next, they plan to find a way to deliver these tiny antibody fragments inside lab-bred cells so that they can explore their actual potential.

Apart from IIT-Kanpur researchers, their compatriots from the Central Drug Research Institute, Lucknow, and a few universities in the US and Canada were part of the team.

### **CWC signs MoUs with IIT-Roorkee, MNNIT**

<http://echoofindia.com/new-delhi-cwc-signs-mous-iit-roorkee-mnnit-133642>

The Central Water Commission (CWC) has signed MoUs with IIT-Roorkee and Allahabads Motilal Nehru National Institute of Technology (MNNIT) to support dam rehabilitation efforts, an official statement said.

Earlier, the CWC had signed memorandum of understanding with Indian Institute of Technology, Madras, Indian Institute of Science, Bengaluru, National Institute of Technology, Calicut, and NIT-Raurkela and supported these institutes for the procurement of specified equipment and software to enhance their testing and modelling capabilities.

## **IIT Bombay Will Fine Students for Not Carrying ID Cards**

<http://www.india.com/education/no-more-warning-iit-bombay-will-fine-students-if-they-forget-to-carry-their-id-cards-2513336/>

**Mumbai, Oct 4:** The Indian Institute of Technology Bombay (IIT-B) will now fine students if they forget to carry their ID cards while entering and leaving the college campus. Students will have to pay Rs 200 as a fine if they don't carry ID cards while entering and exiting any gate within the institute.

### **HIGHLIGHTS**

- Before this rule, students in the institute were only given a warning.
- The money collected from these fines will be used for different purposes such as Student Wellness Center (counselling care center).

Before this rule, students in the institute were only given a warning and then allowed to enter or sometimes the security guard would ask for their roll number to verify it with the photo in the college's system. As reported by *DNA*, the decision is taken as many students don't carry their ID cards during several occasions.

The sources from the institute informed that the money collected from these fines will be used for different purposes such as Student Wellness Center (counselling care center).

In an article that was published in *Insight* (student's magazine), it was mentioned that this decision is taken to ensure students' safety.

It stated, "if they meet with an untoward incident, there would be no way for the police or anyone nearby to identify the person involved. Apart from identification the ID card provides vital details like the age, contact number and blood group of the holder apart from the institute contact numbers. If informed, the institute can initiate a cycle of helpful measures, including informing the parents of the student".

## **Three-fold rise in erratic rainfall over central India, finds new study**

<http://indianexpress.com/article/cities/pune/three-fold-rise-in-erratic-rainfall-over-central-india-finds-new-4873565/>

Scientists attributed it to warming of the Arabian Sea; 13 extreme rainfall events occurred every decade during 1950-2015, making floods annual affair in the region



Such rainfall is going to be far more frequent in the upcoming years, says the study. Express

Maharashtra, West Bengal, Bihar and Assam faced severe rain fury during monsoon season this year, displacing normal lives of lakhs of people. A new study by Indian scientists has recorded a three-fold rise in such erratic rainfall over central India — from Gujarat in the west up to Assam in the northeast — and suggested that such rainfall is going to be far more frequent in the upcoming years and decades.

Scientists have attributed it mainly to the rapid warming of the Arabian Sea. According to the study, with the passing of each decade, 13 more incidents like these are noticed, thus making floods an annual affair for people living in Gujarat, Maharashtra, Jharkhand, Chhattisgarh, Madhya Pradesh, Bihar, West Bengal and Assam.

As part of this joint study, researchers, led by Roxy Mathew Koll from city-based Indian Institute of Tropical Meteorology (IITM), along with experts from IIT-Bombay and University of Maryland, have tracked this rising trend during 1950-2015 period, where widespread extreme heavy rainfall (150 mm or more) was observed over a span of over 5 lakh square kilometre area along central India.

Statistics from the International Disaster Database show that close to 70,000 people lost their lives and another eight crore people were rendered homeless in the 268 events of heavy rains, flash floods, torrential rains or landslides recorded over central India in the last six decades. The sea warming has been noted along the north of the Arabian Sea — the Indo-Pak region and along regions in the northwest closer to the gulf. “Due to excess warming, there is significant amount of moisture available in the atmosphere. This moisture then gets transported by strong surges of westerly winds over to the Indian mainland during the monsoon, resulting in widespread and heavy rainfall over central India,” said Koll.

Human activities after industrialisation have triggered an exponential rise in the green house gas emissions and pollutants. In addition, frequency of events like El Nino, the abnormal warming of central and east-central Pacific Ocean have been proved to be the driving forces for the warming of Arabia Sea during the recent decades. Incidentally, the number of cyclones originating from the Arabian Sea has increased. “Its impact on India has been mainly the change brought in the rainfall duration and amounts. On one hand, coastal and peninsular India has experienced rainfall deficits and for the last three consecutive years, some parts of Karnataka and Maharashtra have remained dry. On the other hand, northwest is getting



flooded far too often and this trend is seen extending to the Northeast. All this simply indicates that the pre-monsoon heat and humidity have increased and it has the most severe impact on farmers, preparing their land for the monsoon season,” Raghu Murtugudde, senior researcher from University of Maryland, told The Indian Express in an email interview.

Unlike what was believed earlier – that it is only the depressions formed in the Bay of Bengal which are responsible for most heavy rains during June to September over India – this study has painted an altogether different picture. Researchers at IIT found that the Arabian Sea holds as high as 36 per cent moisture, followed by land evaporation contributing up to 29 per cent and, lastly, moisture pumped-in by the Bay of Bengal contributes is the lowest at 26 per. “Our findings indicate that land transpiration is also a major contributor to the Southwest monsoon and there is a need to consider it during the operational forecasts,” said Subimal Ghosh, researcher at IIT-Bombay.

Unlike the Pacific or Atlantic Oceans, which vent out their excess heat over to either of the poles, researchers categorically highlight that the Arabian Sea has no such option available. “Since the warmer areas over the Arabian Sea have also been noted to be landlocked region, the sea here has little or no avenues to release its latent heat into the atmosphere,” said Koll.

However, weather experts also suggest that since such extreme events do not occur in a short span of time, forecasters have a bigger role to play. “Short-term forecasts are getting better and will continue to do so in the coming years. So, we can have better planning and management for protecting crops, for which solutions like agro-forestry, where trees would shelter crops and reduce the water runoff and prevent soil erosion,” Murtugudde said.

In addition, experts feel that the local administration in urban areas like Mumbai, Chennai and Bengaluru, which have, in recent years, experienced severe flooding caused due to extremely heavy rainfall over a short span of time, can make better use of these forecasts and improve management of transportation, schools, hospitals and storm drainage in such situations.

### **PM's gifts for Himachal Pradesh: AIIMS, IIT and steel processing plant**

<http://www.ddinews.gov.in/national/pms-gifts-himachal-pradesh-aiims-iit-and-steel-processing-plant>



**Prime Minister on Tuesday in Bilaspur laid the foundation stone of All India Institute of Medical Sciences (AIIMS) and Indian Institute of Information Technology (IIIT) in Himachal Pradesh as well as dedicated to the nation a steel processing plant in Kangra.**

Prime Minister also unveiled a plaque, marking the launch of a digital nerve centre for primary healthcare in the state.

The AIIMS at Kothipura, Bilaspur will be the 8th such facility across India set up since May 2014. It will directly benefit 5 districts in Himachal Pradesh and will also prove to be a boon for neighbouring states.

Prime Minister talked of the importance of health facilities in the country. He said that the Central Government is committed for improving the health of citizens and the government is concerned about the health of infants and so the Indradhanush Yojana has been launched on a big scale across the country. He said that there were several such diseases which are prevalent in hill states and so this AIIMS hospital will prove to be a boon.

The state of the art health facility will be built at an estimated cost of Rs 1,351 crore and will cover an area of 205 acres. The Bilaspur AIIMS will be completed over 48 months. It will have 750 beds and 20 speciality and super specialty departments. With Fifteen operating theatres, the Medical college will enroll 100 students per batch, while the nursing college will have 60 students per batch.

In Bilaspur, Prime Minister laid the foundation stone of the IIIT which is being built in Una. The IIIT is being built on a total 69 acre campus and a total cost of 128 crore rupees will be spent on building this state of the art institute. Prime Minister said that the institute is not just a building but this will herald new vistas of opportunities for the youth of Himachal.

Prime Minister also dedicated to the nation a steel processing plant in Kangra. Prime Minister termed the delay in setting up this plant as detrimental to state's progress. Prime Minister also launched the digital nerve centre for primary healthcare.

Through this nerve centre, the record of primary healthcare will be digital. This will enable people to consult expert doctors through telemedicine. Prime Minister also mentioned about the development happening in Himachal Pradesh.

People in the region are overjoyed with these development gifts given to their state.

### **IIM-B faculty bags 'Teaching Innovator' award**

<http://www.deccanherald.com/content/636116/iim-b-faculty-bags-teaching.html>

***Prof P C Narayan, a professor of Indian Institute of Management-Bangalore (IIM-B), has been selected for the 'Teaching Innovator Award-2016' by the Union Ministry of Human Resource Development. File photo***

Prof P C Narayan, a professor of Indian Institute of Management-Bangalore (IIM-B), has been selected for the 'Teaching Innovator Award-2016' by the Union Ministry of Human Resource Development.

Prof Narayan, faculty, Finance & Accounting, at IIM-B, has been selected for the award for his student-centric teaching method. He uses videos from Massive Open Online Courses (MOOCs) in a 'flipped classroom' format. He is among six others, across India, selected for the award.

Prof P D Jose, faculty, Strategy, at IIMB, and Prof. Ramya Ranganathan, Prof Organizational Behaviour and Human Resource Management, were among the 15 finalists for the award.

### **October3**

### **Samsung, IBM make beeline for IIT-D students; to offer Rs 20 lakh annual pay package**

<http://indiatoday.intoday.in/story/samsung-ibm-iit-delhi-placement-rs-20-lakh-package-axis-bank-hsbc/1/1060278.html>

**Software giants Microsoft and Google, and India's biggest e-commerce company Flipkart are also likely to join the list of recruiters by then, students said.**



#### **HIGHLIGHTS**

- 1) Samsung, IBM, Oracle and Wipro are likely to hire IIT-D students on the Day 1 of campus placements.
- 2) The first phase of placements will start around December 1.
- 3) Private lenders Axis Bank and HSBC have also registered with IIT Delhi.

Samsung, IBM, Oracle and Wipro are likely to hire Indian Institute of Technology-Delhi (IIT-D) students on the much sought-after Day 1 of campus placements, with annual pay packages of around Rs 20 lakh.

The firms are among the 40-odd that have registered for placement with the premier technological institute, where the pre-placement season has just begun.

Companies have given their pre-placement talks and five to six of them conducted tests to shortlist candidates, said final year students.

"Our CV verification process is going on," said a final-year mechanical engineering student who did not want to be named.

The first phase of placements will start around December 1. Hundreds of students, considered the brightest in the country, will vie for top jobs amidst the IT sector losing sheen over reported mass layoffs as skills turn obsolete due to automation and the Trump administration insisting on more employment for US nationals.

"Our placement officer did say there was a reduction in IT placements and an increase in manufacturing placements. They expect the trend to continue this year as well," said a final-year electrical engineering student.

The top-bracket salaries that these companies are offering indicate that they will hire on Day 1, said two students appearing for placements. Usually, the biggest names in the field land on campuses early on in the season to lap up the creamiest of layers.

While they will hire software engineers, product developers and product engineers with coding knowledge, big management firms like AT Kearney, Bain & Company and Boston Consulting Group are expected to hire consultants and data scientists on Day 1. These roles are open to students of other branches of engineering as well. Private lenders Axis Bank and HSBC have also registered with IIT-D.

The placement process is set to gain momentum after October 22 when students return from the mid-term break. Software giants Microsoft and Google, and India's biggest **e-commerce company Flipkart** are also likely to join the list of recruiters by then, students said.

"I expect the number of recruiting companies to go up to 100-120 by October end," the mechanical engineering student said.

However, the electrical engineering student said the mood on the campus is a lot better than what it was last year. "Lots of firms are coming and tests are happening. It should be better than last year, when it was bad. We feel positive."

With reports saying many lost their jobs because of not upgrading their skills, students are rushing to learn some of these subjects, he said. "Machine learning is pretty hot right now. VLSI chip design is another area that students are keen on. Students also take up finance and marketing courses at the MBA department to prepare for consultancy jobs." IBM is hiring for a machine learning role, he added. Not many startups have registered so far, with California-based cloud services firm Rubrik being the only attractive one on the list, students said.

Many startups, including Zomato, Portea Medical and Hopscotch, were blacklisted from the institute's placements last year because they later withdrew the offers made to students. However, the ban has been lifted.

This year startups will reportedly be bunched together on one day called 'Startup Day', which will be slotted way below on the fourth or fifth day of placements. Students may also be told to conduct their own checks before accepting an offer from a startup.

The ban being revoked has not made a huge difference to students, according to a final-year textile engineering student.

"However, the good thing about startups is that many of them will consider even students from non-IT backgrounds if they know coding. That's not something a Microsoft or a Google would do. Sometimes, startups even hire for non-core positions like business development," he said.

### **Top science honour for Nizamabad researcher**

<https://telanganatoday.com/top-science-honour-nizamabad-researcher>

Dr. Naresh Patwari pursued his Intermediate, under-graduate in Vivek Vardhini Degree College, Hyderabad and did his M.Sc in Chemistry from University of Hyderabad in 1994.



Dr. Ganpathi Naresh Patwari

**Hyderabad:** Top research scientist from Indian Institute of Technology (IIT), Mumbai, Dr. Ganpathi Naresh Patwari, who was born in Bodhan, Nizamabad, has been selected for this year's top science award 'Shanti Swaroop Bhatnagar Prize 2017' for his quality research in Chemical Sciences.

The annual Shanti Swaroop Bhatnagar awards, which were announced recently, are given by Council for Scientific and Industrial Research (CSIR) for outstanding research work in chemistry, biology, physics, mathematics etc.

Known for his cutting edge research in intermolecular interactions, Dr Naresh completed his Ph.D from Tata Institute of Fundamental Research (TIFR), Mumbai and completed his postdoctoral from Tokyo University, Japan and University of Illinois, USA. Since 2012, Dr. Naresh Patwari is working as a Professor in Department of Chemistry, IIT, Mumbai.

## October 2

### अगले सत्र से आईआईटी में बढ़ेगी एक हजार सीटें

<http://www.livehindustan.com/career/story-iits-intake-could-go-up-by-1-000-seats-next-year-1577324.html>



भारतीय प्रौद्योगिकी संस्थानों (आईआईटी) से इंजीनियरिंग करने की चाहत रखने वाले विद्यार्थियों के लिए अच्छी खबर है। अगले अकादमिक सत्र से देशभर के 23 आईआईटी संस्थानों में कम से कम एक हजार अतिरिक्त सीटें बढ़ाई जाएंगी, जिससे अधिक छात्रों को इस प्रतिष्ठित संस्थान से पढ़ाई करने का मौका मिलेगा। नए आईआईटी संस्थानों की सीनेट अतिरिक्त सीटें बढ़ाने के इस नए प्रस्ताव को जल्द ही आईआईटी के ज्वइंट एडमिशन बोर्ड (जेएबी) के पास मंजूरी के लिए भेजेगा, जो इस मामले पर फैसला लेने के लिए अधिकृत है।

मानव संसाधन विकास मंत्रालय के एक वरिष्ठ अधिकारी ने बताया कि बढ़ी हुई अधिकतर सीटें आईआईटी मंडी, हैदराबाद, रोपड़, जोधपुर, भुवनेश्वर, इंदौर और गांधीनगर जैसे नए कैंपसों में होगी। लेकिन आईआईटी दिल्ली, मुंबई, कानपुर और खड़गपुर जैसे पुराने कैंपसों में भी सीटें बढ़ने की संभावना है, हालांकि इन संस्थानों में सीटों का इजाफा मामूली होगा। अधिकारी ने बताया कि आईआईटी के नए कैंपसों में कंस्ट्रक्शन का काम काफी तेजी से चल रहा है, जिससे अगले सत्र से अधिक छात्रों को इन संस्थानों में दाखिला मिल पाएगा। एक हजार अतिरिक्त सीटें बढ़ाने से आईआईटी में पढ़ने वाले कुल छात्रों की संख्या बढ़कर करीब 12 हजार हो जाएगी। अभी कुल 10,998 छात्र देशभर के 23 आईआईटी में पढ़ते हैं।

#### **छात्राओं के लिए स्पेशल सीटें**

मानव संसाधन विकास मंत्रालय के एक अन्य वरिष्ठ अधिकारी ने बताया कि अगले अकादमिक सत्र से आईआईटी में लड़कियों के लिए स्पेशल सीटें चिन्हित की जाएंगी। इससे आईआईटी में लड़कियों की उपस्थिति बढ़ेगी। अभी आईआईटी में पढ़ने वाले कुल विद्यार्थियों के अनुपात में लड़कियों की

संख्या केवल 8 फीसदी है। इस साल आईआईटी के ज्वाइंट एडमिशन बोर्ड (जेएबी) में लड़कियों को आवंटित सीटों में 14 फीसदी यानी 600 सीटें बढ़ाने का फैसला किया गया था। इससे आईआईटी में लड़कियों के लिए आवंटित सीटों की संख्या 1440 हो गई। अब मानव संसाधन विकास मंत्रालय इसमें और अधिक इजाफा करना चाहती है।

### अलोकप्रिय पाठ्यक्रमों को खत्म करने का विकल्प

इस अकादमिक सत्र में देशभर के आईआईटी संस्थानों में करीब 400 सीटें बढ़ी थीं। हालांकि सात राउंड की काउंसिलिंग के बावजूद इनमें 121 सीटें खाली रह गईं। जबकि पिछले अकादमिक सत्र में 96 सीटें खाली रही थीं। वहीं 2015 में सिर्फ 50 सीटें खाली थीं। मानव संसाधन विकास मंत्रालय के अधिकारी ने बताया कि खाली सीटें भरने के लिए आईआईटी के पास अलोकप्रिय पाठ्यक्रमों को खत्म करने का विकल्प मौजूद है। इसके बदले लोकप्रिय और अधिक स्कोप वाले पाठ्यक्रमों की सीटें बढ़ाई जा सकती हैं। हालांकि इस संबंध में अभी कोई भी फैसला नहीं लिया गया है।

### जेईई एडवांस, 2018 की वेबसाइट शुरू

वर्ष 2018 में आयोजित होने वाले जेईई एडवांस परीक्षा की आधिकारिक वेबसाइट [www.jeeadv.ac.in](http://www.jeeadv.ac.in) को शुरू कर दिया गया है। इस बार जेईई एडवांस परीक्षा कराने की जिम्मेदारी आईआईटी कानपुर की है। यह परीक्षा 20 मई 2018 को होगी। इस बार यह परीक्षा पूरी तरह ऑनलाइन होगी। खबरों के मुताबिक परीक्षा दो सेशन में होगी। परीक्षा में 2 पेपर होंगे- पेपर वन और पेपर टू। दोनों पेपर की परीक्षा के लिए निर्धारित समय 3 घंटे है। आपको बता दें कि इस साल जेईई एडवांस परीक्षा में 159540 छात्रों ने हिस्सा लिया था।

### आईआईटी निदेशक पद की दौड़ में वरीय शिक्षक भी

<http://www.livehindustan.com/jharkhand/dhanbad/story-preferred-teacher-in-iit-s-post-vacancy-for-iit-ism-dhanbad-director-s-post-1576875.html>

एक साल बाद आईआईटी आइएसएम धनबाद में स्थायी निदेशक की नियुक्ति की प्रक्रिया शुरू हो गई है। एमएचआरडी (मानव संसाधन विकास मंत्रालय) ने धनबाद व आईआईटी कानपुर के लिए एक साथ निदेशक नियुक्ति के लिए नोटिफिकेशन जारी कर दिया है। 15 नवंबर तक उच्च निदेशालय एमएचआरडी के अवर सचिव के पास आवेदन करना है। वैकेंसी जारी होने के बाद संस्थान के वर्तमान प्रभारी निदेशक प्रो. डीसी पाणिग्रही समेत तीन से चार वरीय शिक्षक भी निदेशक की दौड़ में बताए जा रहे हैं।

बताते चलें कि छह सितंबर 2016 को आइएसएम को अपग्रेड कर आईआईटी आइएसएम धनबाद बनाने की घोषणा हुई थी। 11 सितंबर को निदेशक प्रो. डीसी पाणिग्रही का कार्यकाल समाप्त हुआ। उसके बाद से वे प्रभारी निदेशक के प्रभार में हैं। लंबे समय से पद खाली रहने पर सूचनाधिकार के तहत भी जानकारी मांगी गई। पिछले दिनों एमएचआरडी की हाई लेवल कमेटी ने आईआईटी आइएसएम का

जायजा लिया था। भ्रमण कार्यक्रम को काफी गुप्त रखा गया था। अब चर्चा है कि कमेटी ने जरूर निगेटिव रिपोर्ट दी। उसके बाद ही एमएचआरडी ने निदेशक की नियुक्ति के लिए विज्ञापन जारी किया। देशभर के संस्थानों के इच्छुक लोग आवेदन करेंगे। नोटिफिकेशन की चर्चा संस्थान में सार्वजनिक होने के बाद लोगों का कहना है कि कैंपस में अभी सिर्फ इसी की चर्चा हो रही है। सांसद रवीन्द्र पांडेय ने भी यह मामला संसद में उठाया था।

### **इंजीनियरिंग वाले ही कर पाएंगे आवेदन**

आईआईटी धनबाद व कानपुर निदेशक के लिए आवेदन करने वाले आवेदकों को पीएचडी प्रथम श्रेणी के साथ इंजीनियरिंग ब्रांच में जरूरी है। पांच साल का प्रशासनिक अनुभव के साथ अन्य अर्हता चाहिए। इंजीनियरिंग के अलावे साइंस, गणित व मैनेजमेंट डिग्रीधारी भी आवेदन कर सकते हैं। प्रोफेसर के साथ दस वर्ष का अनुभव भी अनिवार्य है। प्रतिष्ठित इंजीनियरिंग व टेक्नोलॉजी, विश्वविद्यालयों में कार्यरत अर्हताधारी आवेदक आवेदन कर सकते हैं। उम्र 60 वर्ष से कम होनी चाहिए। चयनित अभ्यर्थियों की नियुक्ति पांच वर्ष के अनुबंध पर होगी। जानकारों का कहना है कि निर्धारित फार्मेट पर आवेदन करना है। शोध, शिक्षण, इंडस्ट्री-एकेडमिया समझौता, प्रशासनिक क्षमता समेत अन्य पर दो पेज का विजन स्टेटमेंट भी लिखना है। धनबाद के कई वरीय शिक्षक इंजीनियरिंग से पीएचडी नहीं होने के कारण आवेदन नहीं कर पाएंगे।

### **क्या-क्या जरूरी**

पेटेंट की संख्या, क्या-क्या अवार्ड मिला, पीएचडी गाइड, पब्लिकेशन की संख्या, प्रकाशित किताबों की संख्या, नंबर ऑफ प्रोजेक्ट, सोसाइटी मेंबरशिप समेत 18 बिंदुओं पर जानकारी देनी है।

### **Last decade, over half of Shanti Swarup winners from three institutions, just seven women amongst awardees**

<http://indianexpress.com/article/india/last-decade-over-half-of-shanti-swarup-winners-from-three-institutions-just-seven-women-amongst-awardees-4870353/>

The awards, first constituted in 1958, are the country's most coveted recognition for scientists and are given annually by the Council of Scientific and Industrial Research (CSIR).





CSIR categorically states that only ‘science’ is discussed when the advisory committee meets to discuss nominations.

Over 50 per cent of the 113 scientists who received the Shanti Swarup Bhatnagar Prize for Science and Technology between 2007 and 2017 have been from the Indian Institute of Science (IISc), Tata Institute of Fundamental Research (TIFR), or one of the five oldest Indian Institutes of Technology (IITs). Of the 113, only seven have been women scientists.

The awards, first constituted in 1958, are the country’s most coveted recognition for scientists and are given annually by the Council of Scientific and Industrial Research (CSIR). They are awarded to scientists below the age of 45 who have made “outstanding contributions to human knowledge and progress — fundamental and applied” in the fields of biology, chemistry, engineering, mathematics, medicine, physics and environmental science. This year, 10 young scientists, including two working in the field of cancer, were selected for the awards.

An analysis by The Indian Express of the awards shows that 58 of the 113 winners over the last decade have been from the IISc (25 winners), TIFR (16) and the five IITs (17) — a testament to the fact that these institutions remain the leaders when it comes to nurturing research and attracting talent. There has been at least one winner each year from IISc in the last decade, with as many as four in 2009 alone.

This year, there were two winners from IISc – Alope Paul and Neelesh B Mehta. Paul’s work on materials engineering and Mehta’s on next-generation wireless communication systems were awarded in the engineering sciences category. The remaining 55 scientists represented 32 institutions some of them CSIR institutes, central universities or private research facilities.

Among the IITs, scientists from IIT-Kanpur were awarded seven times over the last decade, followed by IIT-Madras (4), IIT-Delhi (3), IIT-Kharagpur (2) and IIT-Bombay (1). None of the other 18 IITs have ever made it to the list. While scientists from TIFR-Mumbai bagged 11 awards over the last decade, those from TIFR-Pune and TIFR-Bengaluru won five awards.

CSIR, however, categorically states that only “science” is discussed when the advisory committee meets to discuss nominations. “The advisory committees for each year’s award are constituted with the approval of the Chairman of the governing body of CSIR. The committees consist of at least six experts, including at least one former Bhatnagar awardee in the respective discipline,” states the Shanti Swarup Bhatnagar Award website.

CSIR’s principal scientist Dr Inderpal Singh, who has been associated with the awards since 1999, said, “Once we scrutinise each nomination, it is often peer-reviewed and then we seek comments from

national and international referees. The nominations are then circulated to members of the advisory committee. There is a healthy discussion during meetings. There is no discussion on which institution the scientist works at or who is his or her mentor. Only science is discussed.”

Bharat Ratna recipient Professor C N R Rao, who received the Shanti Swarup Bhatnagar award in 1969, and subsequently served on the committee that vetted nominations said, “The selection of awardees over the years reveals that we have not searched for talent all over India. I think the committee should be more careful and objective while choosing scientists.”

Only 16 women have won the award since its inception in 1958 and seven of those in the last decade. The first award given to a woman scientist was in 1961, after which, over a span of 46 years, only nine women received the award. Three women won in 2010: Subha Tole from TIFR-Mumbai in the biological sciences category, Sanghamitra Bandyopadhyay from the Indian Statistical Institute in Kolkata in the engineering science category and Mitali Mukerji from the Delhi-based CSIR Institute of Genomics and Integrative Biology in the medical science category.

President Ram Nath Kovind, who spoke at CSIR’s platinum jubilee celebrations on Tuesday, where the 2017 awardees were announced, also pointed to the “distressingly small” participation of women in science. “Less than two of every 10 scientific researchers in Indian are women. Of those who join the Indian Institutes of Technology each year, just about 10 per cent are women,” he said. Kovind had appealed to the scientific community to take “accelerated steps” to promote participation of girl students and women in science and technology. “These numbers are simply not acceptable” he said.

### **Sushma IIT praise comes with price tag**

[https://www.telegraphindia.com/1171003/jsp/nation/story\\_175937.jsp](https://www.telegraphindia.com/1171003/jsp/nation/story_175937.jsp)

**New Delhi, Oct. 2:** When foreign minister Sushma Swaraj plugged the IITs as a symbol of India's success at the United Nations last month, she would have little expected to be asked to put her money where her mouth was.

The challenge has now come - not from Pakistan, whose "export factory for terror" she had contrasted disparagingly with India's premier tech schools, but from retired IIT professors.

Thanking Sushma for her praise of their institutes, these pensioners have sought her help in securing an increased dearness relief that they believe is their due. For, they "have contributed in no small measure to make (the) IITs what they are today, worthy of mention in an address to the world body".

Although the foreign ministry has officially no say in the matter, the retired teachers say they wrote to Sushma because the Union human resource development (HRD) ministry had ignored their pleas.

One of the letters to Sushma was written by A.L. Agrawal, general secretary of the Pan IIT Retired Faculty Association, who said: "I wrote several letters to the higher education secretary who has not replied."

A retired IIT Kanpur professor, S.K. Aithal, has written to the foreign minister independently with the same demand, forwarding copies of the "thank you email" to many of his former colleagues.

"All those who are associated with IITs are pleased, cheered and flattered by your complimentary reference to IITs in your recent speech at the UN. Thank you," Aithal wrote.

"May we request you to please take up the matter with your colleague Hon'ble (HRD) Minister Sri Prakash Javedkar and set the machinery in motion to get IIT pensioners the enhanced (dearness relief) payable to them?"

Agrawal said the regular IIT teachers received a dearness allowance that was 139 per cent of their basic salary while 2,000-odd retired professors were paid 125 per cent dearness relief, which has not been revised since January 2016.

Sources said that IIT Delhi and IIT Bombay paid their retired teachers a higher dearness relief - 132 and 136 per cent, respectively - and had been ticked off by the HRD ministry for doing so without "government permission". The retired professors want parity with serving IIT teachers.

An HRD ministry official said the finance ministry had not cleared either the enhanced dearness relief or the revised pensions as suggested by the 7th Pay Commission.

S.N. Majhi, a retired IIT Madras teacher, said the Centre was delaying the implementation of the revised pay for serving IIT teachers too.

### **Metro Matters: This clean-up season, let's stop discarding too easily**

<http://www.hindustantimes.com/columns/metro-matters-this-clean-up-season-let-s-stop-discarding-too-easily/story-raz9hSyfscKU2DI7cqtSmL.html>

**For waste management, reduction and reuse are the next best solutions after prevention. Remember how our mothers would reuse empty milk packets, ghee containers, Bournvita tubs and Horlicks bottles? They hardly shopped for plastic storage**



A recent study by NGO Chintan revealed that 78% Delhi residents who were surveyed dumped garbage on roadside.

As the authorities launched frenzied clean-up drives ahead of the third anniversary of the Swachh Bharat that falls today, one wonders how spic and span Delhi would be if the municipalities made this effort all year round.

But instead of harping on the facile symbolism, let's consider the primary question. Wouldn't we have less cleaning to do if there was less garbage?

According to a recent study by NGO Chintan, 78% Delhi residents who were surveyed dumped garbage on the roadside or in open plots in their neighbourhoods. That explains the dirty, littered cityscape.

The upside is that 96% of respondents segregated certain recyclables to sell to the kabariwalas. Further retrieval by waste-pickers at community bins and landfills has been reducing the overall trash load of the city.

But if the garbage-slides at Delhi's overloaded dumpsites are any indication, we need to do more to cut down on the trash going into the landfills. While the municipalities cannot shirk their share of responsibilities, waste management begins with the citizens.

In the waste management hierarchy, reduction and reuse are the next best solutions after prevention. Prevention requires totally giving up on certain products and is often a tough task. But we can certainly control the amount of garbage we generate by reducing what we discard. In a traditionally thrifty Indian society, that is not an alien idea.

Remember how our mothers would reuse every piece of item that made its way into the household. With empty milk packets, ghee containers, Bournvita tubs and Horlicks bottles cleaned up for reuse, they hardly shopped for plastic storage. Worn out clothes, shoes, plastic and metal were bartered for steel utensils and plastic buckets. That was how they saved up.

But post-liberalisation, as incomes grew, so did consumption. Prevalence of disposable products and the tendency to over-package and over-advertise everything created a culture where we are almost encouraged to throw away too much, too soon.

According to a study by IIT-Delhi, for example, the share of plastic in total waste generated in India went up from 0.7% in 1971 to 9.22% in 2005.

That is a 13 times jump in three-and-half decades during which period India's urban population barely trebled.

While most of us think of recycling as the remedy for accumulated garbage, experts say that should be stage two. "Recycling is what we do when we are out of options to avoid, repair, or reuse the product first," says Annie Leonard, the creator of *The Story of Stuff*, a film on the life cycle of material goods.

That is why many municipalities across the world are now persuading their citizens to throw away less. In Kyoto, Japan, they are invoking the idea of “Mottainai”, an old Buddhist word that roughly translates to “what a waste” but has now been combined with the Shinto idea that objects have souls.

The campaign tells people that one re-usable cloth bag, if used for five years, could replace 1,250 plastic and 116 paper bags; that they should carry their chopsticks and thermos, and use refillable liquid soap and shampoo containers.

The Kyoto municipality has also set up collection points for used milk cartons, bottles and even used cooking oil. It runs repairing shops for household items so they are reused, and accepts unwanted goods which they refurbish and sell for reuse.

In India, Kerala’s Suchitwa Mission is driving home the message that “your garbage is your responsibility”. In the 2015 National Games, caterers were told not to use disposable tableware, athletes were given steel flasks to refill and the Games generated 120 tonnes less trash than a gathering of such size normally would.

Since June this year, the Mission authorities have started enforcing the protocol at weddings to avoid the use of disposable plates, glasses and cutlery. At schools and offices, they are asking students and staff to go back to using fountain pens instead of more disposal ball-point pens.

Not so long ago, such practices used to be the way of life. Today, images of a steel tumbler, a double-decker lunchbox and a reused oil container either evoke nostalgia or invite sniggers.

But who said ideas can’t be recycled, and made fashionable again.

## **October1**

### **Blame it on the genes**

<http://www.thehindu.com/sci-tech/health/blame-it-on-the-genes/article19778751.ece>



Over a third of Indians carry a set of genetic variations that put them at higher risk of heart disease

About 35 to 40% of Indians carry a set of genetic variations which puts them at a higher risk of heart disease, finds a new study.

A team of Indian researchers at IIT-Madras (and in a collaborative effort) have discovered that carriers of a set of genetic variants in the chromogranin A (CHGA) gene called 'CHGA promoter haplotype2' may be at higher risk for cardiovascular and metabolic disorders. An estimated 35 to 40% of Indian population may be carrying this genetic variant. The study is based on analysis of genomic DNA samples from over 750 individuals in the Indian population. The research findings have been published in the *Journal of Biological Chemistry*. Though the CHGA promoter haplotype is present in other ethnic populations, it occurs more frequently in populations of South Asian ancestry.

"It is a protein of neuroendocrine origin and is secreted along with hormones like catecholamines. Earlier studies had suggested its role in regulation of cardiovascular and metabolic diseases but there was no data about it in South Asian populations," says Lakshmi Subramanian, first author of this paper.

"We studied genomic DNA of Indians and discovered a specific set of changes in the CHGA gene sequence called haplotype2 which contributed to increased CHGA gene expression, and ultimately increased CHGA protein levels in plasma. When the clinical parameters of those in the study were compared, haplotype2 carriers displayed higher levels of metabolic and cardiovascular traits like plasma glucose, blood pressure and body mass index," explains Dr. Nitish R. Mahapatra, professor at IIT-Madras.

#### **Validation needed**

However, he adds, these results need further validation in animal models as well as large-scale studies in individuals with metabolic syndrome. "We hope these findings would help unravel biological pathways and mechanisms underlying these complex diseases and would help in the development of therapeutic as well as preventive strategies," says Dr. Mahapatra. "Basic research in cardiovascular biology is at a very nascent stage in India with only a handful of researchers working in this field. This new study significantly contributes towards understanding molecular basis of cardiovascular and metabolic diseases. This is a fast emerging area with tremendous therapeutic and diagnostic potential," says Dr. Shyamal K. Goswami, a professor at School of Life Sciences, Jawaharlal Nehru University, who is not connected with the study.

#### **Many IITs, IIMs, CUs without full-time heads**

<http://www.dnaindia.com/education/report-many-iits-iims-cus-without-full-time-heads-2549559>

As many as nine Indian Institutes of Technology (IIT) out of the total 23 are functioning without a Chairperson, out of the 20 Indian Institutes of Management (IIM), four do not have full-time Directors, 15 out of 18 Indian Institutes of Information Technology (IIITs) are without a Director, 12 of the 31 National Institutes of Technology (NITs) and four out of the 47 Central Universities (CU) are functioning without permanent heads of the institutions.

Surprisingly, in the last few sessions of Parliament, the response of the Ministry of Human Resource Development (HRD), the nodal ministry for these institutions, to several questions about the

appointment of faculty and institution heads has been as vague as it can be: "... Arising of vacancies and filling up of posts is a continuous process".

However, in reality, there hasn't been much improvement in the last many months.

Among the central universities, Tezpur University, Indira Gandhi National Open University (IGNOU), Visva Bharti University and Pondicherry University do not have permanent Vice-Chancellors (VC). Sources in the ministry informed that non-appointment of VC of Visva Bharti University hasn't gone down well with the Prime Minister's Office, which has even pulled up the concerned ministry officials responsible for the delayed appointment process.

The case of non-appointment of heads is especially bad in world-class technical institutions like Indian Institutes of Information and Technology (IIITs) and National Institute of Technology (NITs).

Incidentally, while replying to Pakistan at the United Nations General Assembly, External Affairs Minister Sushma Swaraj had said while India created IITs, IIMs and AIIMS, Pakistan had produced Lashkar-e-Taiba, Jaish-e-Mohammad, Haqqani Network and Hizbul Mujahideen.

As per the data shared by HRD Ministry, 15 of the 18 IIITs have no chairperson or a full-time director. Nine IITs, including the six new ones, are functioning without a chairperson. A chairperson is the head of the Board of Governors (BoG) for these technical institutions, which takes important decisions related to the institutions functioning.

As many as 10 NITs are yet to fill the chairperson's post and 12 NITs have no directors either. Even as the mandate for Directors and Chairpersons is different, in 10 of the NITs, Directors have been asked to officiate as Chairpersons as well.

"Filling up of posts like Directors and Chairpersons for technical institutions takes more time as we have to find a suitable candidate, because of the task that they have to carry out. It is a time consuming process, plus we need to get the right people with proper qualifications," said a senior officer in the HRD Ministry.

He added that interviews for Directors of some NITs have been conducted and there should be some appointments soon.

The post of Directors is vacant in four Indian Institutes of Management (IIMs), IIM Kozhikode, since April 2014, IIM Bodh Gaya, since August 2015, IIM Amritsar, since August 2015 and IIM Jammu, since August 2016.

"The process of appointment to the post of Director in these IIMs is underway. The new IIMs are being run by the mentor IIMs," another official in the ministry added.

This, however, is not the the only problem with these institutions. The ministry data also show that there are about 26 percent of faculty posts in IIMs and about 35 percent faculty posts in IITs that are lying vacant.