

## **Newspaper Clips**

### **September 15, 2016**

#### **IITs to count PhD scholars as faculty to improve student-teacher ratio**

<http://indianexpress.com/article/education/iits-to-count-phd-scholars-as-faculty-to-improve-student-teacher-ratio-3030262/>

HRD Minister Prakash Javadekar has accepted the proposal to count five PhD students at as one faculty member at any IIT for the purpose of calculating the student-teacher ratio.

The Indian Institutes of Technology (IITs) will now count their doctoral students as part of their faculty in a bid to improve their student-teacher ratio.

The decision was taken at the last meeting of the IIT Council held on August 23. Sources said that the HRD Minister Prakash Javadekar has accepted the proposal to count five PhD students at as one faculty member at any IIT for the purpose of calculating the student-teacher ratio. The decision will be notified soon and will also be communicated to ranking agencies such as Times Higher Education and Quacquareli Symonds(QS).

“Every PhD scholar has to teach undergraduate students for 10 hours per week. A regular IIT faculty member has a teaching workload of 40 hours per week. So five research scholars can easily be counted as one faculty member for the purpose of faculty-student ratio. Renowned institutions such as Stanford and MIT also do this,” said a senior HRD Ministry official, on the condition of anonymity.

Currently, there are 2,600 faculty positions lying vacant across all IITs. The student-teacher ratio stands at 15:1 as against a desirable 10:1. Once the proposal implemented, the 26,000 PhD scholars at IITs will count as an additional 5,000 faculty members. “This will help the IITs achieve the desired faculty student ratio,” the official added.

The HRD Ministry hopes that an improved student-teacher ratio this will also help better the performance of IITs in the international rankings. Out of the seven IITs which figured in the top 700 of the QS world rankings this year, six have slipped several places compared to last year. IIT Madras was the only exception which improved its ranking by five places to join the top 250 club.

#### **IIT Madras Leads in Filing Patents among IITs, while IIT Kharagpur Leads in Research Publications**

<http://www.enaindia.in/news/newsdetails/knowledge-resource/research-and-development-rd/iit-madras-leads-in-filing-patents-among-iits-while-iit-kharagpur-leads-in-research-publications>

Among all the Indian Institutes of Technology (IITs) in the country IIT Madras leads in the number of patents. The robustness of the research ecosystem at the campus of IIT Madras can be gauged from the fact that so far IIT Madras has filed 248 patent applications out of which 13 have been approved.

With regard to patents IIT Madras is closely followed by IIT Bombay with 10 approved patents. Overall the 16 IITs in the country have filed 453 patent applications.

However, when it comes to research publications IIT Kharagpur leads all the 16 IITs in the country. IIT Kharagpur has 4719 research publications to its credit followed by IIT Bombay with 4488 research publications. Moreover, all the 16 IITs in the country have 25164 research publications to their credit.

However, when it comes to the number of research fellows at the IITs, it is the IIT Bombay that leads with 9117 research fellows followed at distance by IIT Roorkee with 4062 research fellows, and IIT Kharagpur with 3640 research fellows. It is in the realm of research fellows where IIT Madras lags behind with just 187 research fellows.

## **Indian origin scientist wins \$4,000 award for solving 150 year old problem on radio waves**

<http://indianexpress.com/article/india/india-news-india/indian-origin-scientist-wins-4000-award-for-solving-150-year-old-problem-on-radio-waves-3031275/>

Dinesh Bharadia, a graduate of Indian Institute of Technology (IIT) Kanpur, was honoured with the 2016 Marconi Society Paul Baran Young Scholar Award that carries a cash prize of USD 4,000.

A 28-year-old Indian-origin MIT scientist has won a prestigious award for his research on radio waves, solving a problem that had stumped scientists for almost 150 years and enabling a host of new applications from Internet of Things connectivity to motion tracking.

Dinesh Bharadia, a graduate of Indian Institute of Technology (IIT) Kanpur, was honoured with the 2016 Marconi Society Paul Baran Young Scholar Award that carries a cash prize of USD 4,000.

Bharadia's research disproved a long-held assumption that it is "generally not possible for a radio to receive and transmit on the same frequency band because of the interference that results."

His work culminated in making full-duplex radios a reality through the development of effective self-interference cancellation technology.

Bharadia, who pursued his PhD from Stanford University in the US, will receive the award in November in California.

"Let's say you are shouting at someone and they are shouting at you. Neither of you can hear the other, because you are both shouting in the same frequency," said Bharadia, currently a researcher at Massachusetts Institute of Technology (MIT) in the US.

"The noise in your ears (interference) from your own shout prevents you from hearing the other person. That's a good analogy for why radios have needed to use two different frequencies to transmit and receive simultaneously," he said.

"It's also why solving the challenge of developing 'full duplex radios' effectively doubles the amount of available spectrum," Bharadia said.

The problem is more difficult than it sounds, said Bharadia. First, the interference is extremely strong – nearly a hundred billion times stronger than the signal that the radio might be trying to receive.

The resulting interference depends on the environment and its reflectors, changing in real-time as people move around.

Typical radios (eg Wi-Fi) span many frequencies and use multi-antenna systems. Bharadia was able to demonstrate systems that overcame all these obstacles.

He turned full-duplex radios into a commercial reality by inventing new formulas that could in real-time, model the non-linear, time-varying self-interference as well as analog and digital self-interference cancellation circuits to apply the model to the known transmitted signal and cancel the self-interference.

The analogue cancellation filter Bharadia developed, also unleashed the potential for many more applications. The unique architecture had to allow cancellation in all environments.

"Dinesh's work enables a whole host of new applications, from extremely low-power Internet of Things connectivity to motion tracking," said Sachin Katti, Bharadia's PhD advisor at Stanford.

"It has the potential to be used for important future applications such as building novel wireless imaging that can enable driverless cars in severe weather scenarios, help blind people to navigate indoors, and much more," Katti said.

## **IIT-B's feat: Mumbai's first satellite to lift off on September 26**

<http://timesofindia.indiatimes.com/city/mumbai/IIT-Bs-feat-Mumbais-first-satellite-to-lift-off-on-September-26/articleshow/54337045.cms>

MUMBAI: IIT Bombay's first student satellite, Pratham, will be launched on September 26 from the Satish Dhawan Space Centre, Sriharikota. The nearly-10kg Pratham, which is also Mumbai's first satellite, will launch aboard the highly-proven Polar Satellite Launch Vehicle (PSLV) at 9.30 am.

Pratham's main role will be to measure what is known as the total electron count in the ionosphere. It has a four-month mission span and will operate at an altitude of 720 km in the sun-synchronous orbit.

Prof Hemendra Arya of the aerospace engineering department who is mentoring the Pratham team said the satellite's integration with the rocket is expected to begin a week prior to the lift-off. "We have received a message from Isro that the launch is on September 26. If it is rescheduled on account of weather factors or any other reason, it will be postponed only by a day or so," he said.

Isro officials confirmed that the lift off will be on September 26 and that the preparations are in full swing. Wishing the IIT students the best, ISRO Satellite Centre director Mylswamy Annadurai said in a Facebook post: "Today 11 Sep is a special day in many ways for many people. Today In ISRO satellite centre, it is flagging off a vehicle carrying two student satellites PRADHAM(IIT-B) & PISAT(PESIT)."

Pratham and six other satellites will piggyback on PSLV along with the main Isro weather satellite, ScatSat. Prior to being sent to Sriharikota, the satellites have undergone rigorous tests at the satellite centre.

On Sunday, Pratham and Pisat, another student satellite from Bengaluru, were flagged off to Sriharikota from the Isro Satellite Centre in Bengaluru in a single car.

The students have said that they are planning an event on the IIT campus on the launch day. With the launch day nearing, parents of the students are also getting involved. One of them has posted on Pratham's Facebook page: "All the best. Lot of efforts. Proud of you all." Thanking the parent, the students replied: "All because of blessings and support of all parents."

## **Choosing PSU jobs over MTech hampers research: IITB faculty**

<http://paper.hindustantimes.com/epaper/viewer.aspx>

OF THE 72,000 STUDENTS ENROLLED AT 23 IITs IN THE COUNTRY, AROUND 14,000 ARE MTECH STUDENTS

MUMBAI: Research suffers and Indian Institutes of Technology aspirants lose out when MTech students leave their course midway for public sector undertaking (PSU) jobs, said Institute of Technology Bombay (IITB) faculty. Of the 72,000 students enrolled at 23 IITs in the country, around 14,000 are MTech students. According to a professor from the electrical engineering department at IITB, 40% to 45% students from the department end up leaving the MTech course midway.

“These students block seats, which would have otherwise be allotted to those who want to study at the institute. The MTech programme is for those who want to do research,” he said. According to the faculty at IITB, for many students, the MTech course is a means to find better employment opportunities, rather than it being an opportunity to study and research at one of the premier institutes in the country. “There are three categories of students who desert the course for a job in the PSU. They include: those who plan to get a job at PSUs, but are studying MTech only as a backup plan; those who take up a job as they are unable to handle the pressure of academics at IITs ; and those who end up accepting a job offer owing to family pressure ,” said a secondyear MTech student at IITB , on condition of anonymity. Admissions to the IIT MTech programme take place through the Graduate Aptitude Test in Engineering (GATE), the score for which is also considered by PSUs for recruitment. “We don’t want to waste a year if we don’t get a job,” said a firstyear MTech student at IITB, who is also eying a PSU job and is willing to leave the institute if he’s offered one.

Mail Today ND 15.09.2016 P-03

# Monkeys hijack IIT-B hostel rooms

HOSTEL residents of the Indian Institute of Technology-Bombay (IIT-B), Powai, are frustrated with this “monkey business”. The monkeys ransack locked rooms, scurry away with dustbins and worst of all take naps on their beds.

In an online edition of the in-house campus magazine — *Insight* — a student wrote, “Imagine this: You wake up on a Saturday morning, open your room and see 10-15 monkeys sitting on the clotheslines staring at you, anticipating your move. Be it morning, afternoon or evening, one often witnesses these creatures patrolling their wing corridors.”

According to the campus report, hostels 3, 5, 7 and 9 are affected by 10 to 15 monkeys. The maximum damage takes place when the students are away

attending lectures. At this hour, the group of unruly monkeys pillage the rooms, fiddle with electronic items, and rummage through dustbins and if they do not find something to eat in them, they simply scatter the trash.

Students who recorded the monkey menace on camera, caught a few plucky primates comfortably taking naps on their beds.

To take control of the bedlam, students have been advised to carry a stick when they roam around the corridor and bursting crackers in wings has been recommended to scare them away.

After a series of complaints, the General Secretary of the hostel has forwarded a letter to the BMC and forest officials to take action. *India Today*

Deccan Herald ND 15.09.2016 P-07

## Most IITs not keen to hike student intake

**NEW DELHI:** The government may have wanted the Indian Institutes of Technology (IITs) to increase their intake at all levels, but most of the 23 premier technical institutes do not find the Human Resource Development (HRD) Ministry's proposal feasible.

At a recent meeting, the directors of the IITs, especially those of the seven older ones, cited various difficulties in increasing the seats for admissions to B Tech and M Tech programmes, maintaining that they had increased their intake by 54% just a few years back to implement the other backward classes (OBC) quota.

Any further increase in the student intake would require more resources and facilities to maintain the institutes' standards and quality, they pointed out.

The meeting was held at IIT-Bhubaneswar on Sunday.

"There is no scope for increasing the seat intake. That's what most of the directors felt during the meeting when the matter was taken up for discussion. To older IITs, increasing

the intake now would be very difficult as they are still making efforts to meet the requirements since the OBC quota was implemented," official sources privy to the deliberations of the meeting told *DH*.

This comes within a month of the IIT Council giving its "in principle" approval to the ministry's proposal for increasing their intake to 1 lakh by 2020 at its meeting presided over by HRD Minister Prakash Javadekar on August 23 here. After the meeting, Javadekar told reporters that all the IITs had been asked to send their proposals to the HRD Ministry on increasing the seat intake keeping their capacity in mind.

"The seats can be increased in future but it is not possible for most of the IITs now. Such a move would require more resources and facilities while the institutes have to invest their resources in meeting the current requirements. We still need more hostels, better laboratories and many other facilities for our students," an official in one of the IITs said.

**DH News Service**

Amar Ujala ND 15.09.2016 P-06

## 50 पेट्रोल पंप की जांच का आदेश

**नई दिल्ली (ब्यूरो)।** पेट्रोल और डीजल में मिलावट के मामले पर एनजीटी ने आईआईटी मद्रास से कहा है कि वह पेट्रोल और डीजल नमूनों की जांच कर अपनी रिपोर्ट ट्रिब्यूनल के समक्ष पेश करेगी। वहीं इससे पहले एनजीटी ने प्राधिकरणों को दिल्ली-एनसीआर में 50 पंपों से नमूने लेने का आदेश दिया है। अगली सुनवाई 20 अक्टूबर को होगी।

Hindustan Times ND 15.09.2016 P-0

## HRD MINISTER WILL MEET IIM MANAGEMENT ON FACULTY QUOTAS

**Neelam Pandey**

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**NEW DELHI:** The contentious issue of quota in teacher appointments at Indian Institutes of Management is back, with the HRD minister likely to take it up in a meeting with IIM bosses on September 20, sources said.

The renewed push for affirmative action in India's top business schools comes at a time when the Modi government is facing criticism for atrocities against Dalits and other weaker sections.

Many of the country's 20 IIMs have resisted introducing reservation in appointment of faculty, citing quality concerns. But in the meeting, human resource development minister Prakash Javadekar would seek a status report.

"IIMs might find it difficult to dodge the issue, as the minister will take it up in the meeting. All IIMs will submit report on their faculty position," said a source.

When contacted, IIM Ahmedabad refused comment.

The scholarships and loans provided by IIMs to the needy and SC/ST students are also on the agenda. In their defence, IIMs cite a 1975 order — issued for Delhi's School of Planning and Architecture — that says technical institutes don't have to follow the reservation policy. The issue of quota is contentious.

The government in 2008 asked all centrally funded institutions, including Indian Institutes of Technology and IIMs, to set a quota for SC, ST and OBCs in teaching positions.

There were protests against the move. HRD minister Arjun Singh brought in a bill exempting India's leading education institutes, including IITs and IIMs, from reservation.

**CONTINUED ON PAGE 6**

## HRD minister to meet IIM management on faculty quotas

The Rajya Sabha passed but not the Lok Sabha. The proposed law lapsed after the 14th Lok Sabha was dissolved.

IITs, despite strong reservations, toed the government line while recruiting assistant professors but IIMs remain defiant.

In 2013, higher education secretary Ashok Thakur asked IIMs to follow the reservation system after a parliamentary panel pointed out that the business schools were not following the quota system.

Javadekar predecessor Smriti Irani had in April again asked IIMs if they were following the reservation policy.

Mint ND 15.09.2016 P-05

# ConceptOwl seeks to raise Rs100 crore

BY SWARAJ SINGH DHANJAL  
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MUMBAI

**K**erala-based ConceptOwl, an education technology (edu-tech) start-up founded by former private equity (PE) professional Rajan Singh, is looking to raise up to Rs100 crore from private equity investors to set up coaching centres across the country.

ConceptOwl is a technology-driven JEE coaching platform. The startup's mobile and web app deliver personalized coaching and data-driven analytics.

"When we started off with ConceptOwl about one-and-a-

half years ago, we were a pure technology platform. Our start-up is a joint venture with renowned Kota-based Bansal Classes, which is a pioneer and a big brand in IIT-JEE coaching. We are now looking to go offline and will be setting up coaching centres in tier-II and III cities across the country," said Singh, who has served as the commissioner of police of Thiruvananthapuram. An IT graduate and Wharton MBA, he was also a consultant with McKinsey & Co. in New York.

The start-up plans to roll out more than 100 centres across the country. The centres will be run under the brand "Bansal Classes" and will leverage the ConceptOwl technology platform to provide a differen-

tiated coaching centre experience, said Singh, adding that most of the funds raised would go towards setting up the coaching centres. The start-up raised \$500,000 in angel funding around two years ago.

ConceptOwl plans to open around seven centres this year, starting with Kerala.

Singh, at present, is in the process of hiring a banker to advise on the fundraising and expects to launch the process soon.

According to Singh, the coaching industry is a substantive market opportunity and ripe for disruption through use of technology.

"Even though coaching has been around for a long time, there is actually a huge gap in

availability of quality coaching infrastructure throughout the country," said Singh.

The coaching centres will follow the standard classroom teaching methodology of lectures of Bansal Classes, but the testing practice will be moved to the company's mobile technology platform. Adding the technology platform to the traditional classroom model allows one to provide a more personalized learning experience to students, he said.

Historically, the education and healthcare markets have been very big markets and of keen interest to venture capital investors, said Mukul Singhal of Pravega Ventures, an early-stage venture capital fund.



ConceptOwl founder Rajan Singh.

## Aadhaar not mandatory, can take other docs: UGC

<http://timesofindia.indiatimes.com/city/kolhapur/Aadhaar-not-mandatory-can-take-other-docs-UGC/articleshow/54341312.cms>

**KOLHAPUR:** The University Grants Commission (UGC) has allowed students seeking scholarships and fellowships to submit other documents apart from Aadhaar card as proof of identity.

In a circular issued on September 14, the UGC has said that any student, who has applied or wishes to apply for scholarship/fellowship, shall not be denied benefit thereof due to non-availability of Aadhaar card.

The move comes as a major relief for students, as earlier this year, the UGC had said that possessing and providing Aadhaar card number will be mandatory for securing scholarship/fellowship.

The circular from Sunita Siwach, deputy secretary, said that in the eventuality of not having the Aadhaar card, the applicant would have to provide an alternative means of verification of identity and bank account to the satisfaction of the competent authority.

Earlier on July 20, the circular from Jaspal Sandhu, secretary, UGC had stated that the ministry of human resource development (MHRD) has instructed the UGC to ensure that from the financial year 2016-17, Aadhaar number will be used as an identifier for disbursement of scholarships/fellowships, which are to be disbursed directly to the account of individual beneficiaries.

An official from Shivaji University, Kolhapur said that though Aadhaar card is quite necessary for availing various kinds of schemes, it should not be made mandatory.

"Due to various reasons, for many students, sometimes it is not possible to get the card on time. Hence, accepting alternative means of identity for the scholarship purpose is a welcome decision. The UGC has taken it without making much delay in this academic year," said the official.

## IISC'S WAR ON INDIA'S KILLERS: CANCER, CVD

[HTTP://WWW.BANGALOREMIRROR.COM/BANGALORE/OTHERS/IISCS-WAR-ON-INDIAS-KILLERS-CANCER-CVD/ARTICLESHOW/54336815.CMS](http://www.bangaloremirror.com/bangalore/others/iiscs-war-on-indias-killers-cancer-cvd/articleshow/54336815.cms)



*Centre to fund research on cardiovascular disease in a 'high risk high reward project' under a new scheme from science board*

A major research in the Indian Institute of Science (IISc) will target destroying the very heart of the leading cause of mortality in India - cardiovascular diseases (CVD).

It has received a significant boost with Science & Engineering Research Board (SERB), under the Union department of science & technology, formally approving a five-year grant of Rs 6.5 crore.

The research is the only project to have won the grant out of 45 research project proposals from across India before SERB. It has been termed as a "high risk high reward project" under a new scheme of the SERB that funds research translating basic science into game-changing, real-life beneficial applications. In this case, the researchers are looking at developing an oral medication to be taken by CVD patients at the very onset of the condition, not only to prevent any further damage, but cure the patient completely.

As part of that, the major focus of the IISc research is to find a lasting solution for endothelial dysfunction, which is the cause of CVDs. Endothelial dysfunction is a condition in which the inner lining of blood vessels, called endothelium, deteriorates to lead to atherosclerosis. Atherosclerosis is characterised by the thickening of arterial walls due to the invasion and accumulation of white blood cells; which in turn results in blocking blood supply to the heart to cause a cardiac arrest.

According to the journal *Circulation*, CVDs have now become the leading cause of mortality in India. A quarter of all mortality is attributable to CVD with Ischemic heart disease and stroke being responsible for over 80 per cent of deaths due to CVD. Dr G Mugesh, professor at department of inorganic & physical chemistry, who heads the research, informed Bangalore Mirror that endothelial dysfunction is a result of two factors - reactive oxygen species and oxidative stress, both of which occur due to failure of antioxidant enzymes meant to stall the two factors. (An antioxidant prevents oxidation of other molecules. Oxidation in cells is a chemical reaction that leads to a chain reaction that damages cells.)

But the cream of the research, attempting to be a game-changer in treating CVDs is this: Mugesh and team have developed compounds comprising biocompatible selenium and nanomaterial which mimic the natural enzymes that were supposed to - but failed to - combat the reactive oxygen species and oxidative stress. And it has been found that

they successfully play the role of the enzymes without affecting the cells.

The efforts of the team are targeted at confirming how these enzyme-mimicking biocompatible selenium compounds can prevent oxidative stress and reactive oxygen species from rendering inactive another enzyme, called eNOS (or endothelial nitric oxide synthase), that are extremely crucial for a healthy cardiovascular system. eNOSs are small gaseous molecules which tend to combine with or dissolve in fats, and which participate in several crucial biological processes.

Mugesh and his team of 12 PhD and three post-doctoral researchers have tried the effects of the enzyme-mimicking compounds on mammalian cells in labs. "We are planning to start animal studies after six months. But once we show that this works in animal models, then pharmaceutical companies will get interested. We have to prove that the activity shown in mammalian cells is also true in live animal models; only then can we proceed further," explained Mugesh. After the animal studies are successfully completed, the next stage will be to collaborate with hospitals to conduct clinical trials.