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IIT-M helps 200 houses get 24x7 electricity

Vanita Srivastava

CHENNAI: Around 200 houses in Maduranthakam, Tamil Nadu, have been receiving 24x7 electricity from December, thanks to researchers at IIT-Madras who have developed an indigenous way to distribute power.

The approach uses a low-voltage, brown-out mode of power distribution and also converts alternating current (AC) to direct current (DC) before supplying it to consumers, thereby eliminating multiple power conversion stages in power usage.

The Uninterrupted Direct Current (UDC) project, launched in Tamil Nadu in January last year, is now ready to be rolled out to hundreds of homes across Orissa, Andhra Pradesh and Kerala. The IIT-Madras team is also experimenting with the use of solar panels in remote areas not connected to power grids.

“There have been many power cuts in the last two months. My neighbours, whose houses are not connected to the project, were plunged into darkness while my house had electricity,” said Latha, whose house is UDC-equipped.

The project has entailed some changes in the substation for the brown-out operation. The interface installed in Maduranthakam detects the lowering of voltage and switches off the AC line, leaving the DC line on, which is enough to run a fan, a tube light and mobile phone charger.

“This project has the capacity to supply 100 watts of DC power per home. In case the need for more power arises, the homes can install solar panels,” said Dr Krishna Vasudevan, professor of electrical engineering and a member of the team.
10 start-ups to pitch for on-spot funding at IIT-B

Special Correspondent

MUMBAI: Ten shortlisted start-up teams will get to present their entrepreneurship ideas in 10 minutes each to a panel of over 12 angel investors and get an opportunity to win on-the-spot funding up to Rs.10 lakh each at the two-day Entrepreneurship Summit organised by IIT Bombay which opened on Saturday.

The “10 Minute Million” event is one of the highlights of the summit, which each year brings together students, industry experts, business leaders, investors and entrepreneurs on the same platform. In its 10th edition now, the summit will feature this on-the-spot funding event for the first time on Sunday afternoon at the Lecture Hall Complex at IIT's Powai campus.

The 10 selected start-up teams will get five minutes to pitch and explain their entrepreneurial idea, and five minutes to answer the questions raised by the investors on the durability of the concept, the revenue streams, the return on investment etc. "Only 10 start ups were shortlisted from over 250 applications were received," said Sagar Sheth.

An opportunity to win on-the-spot funding up to Rs.10 lakh each

"E-Summit has grown bigger and better over the years and has become the one-stop destination for all budding entrepreneurs. IIT Bombay offers host of facilities to nurture entrepreneurship among students and I hope this Summit will provide an opportunity for young enthusiasts to interact with best of the minds and learn from their experiences."

The keynote speakers at the inaugural session were Mr. Anil Gupta, Michael Dingman Chair in Strategy and Entrepreneurship at the Smith School of Business at the University of Maryland and Mr. Salil Donde, Executive Vice President, NASDAQ, who spoke on Entrepreneurial Indigeneity and Globalization.

"Entrepreneurs may need to take risks, big risks but do not take fatal risks...Focus on the business model and not the business plan; Opportunity comes at most unexpected times, so grab it. Data and analytics are vital, irrespective of the field you are in. And you learn more when you fail than when you succeed," Mr. Donde told students sharing experiences from his journey.
CLOSING THE ENTRY DOORS

CHANCE Students worry that common counselling may not get them a preferred seat

Deeksha Gautam

Harshit Agarwal, an engineering aspirant from RN Podar School, Mumbai, is concerned by the possibility of common counselling for admission into the Indian Institutes of Technology (IITs) and their close cousins, the National Institutes of Technology (NITs). This may also apply to some other state-run engineering institutions, as per the union higher education ministry's proposal.

While this is a means to address vacancies at these institutes, it may reduce chances of students like Agarwal getting into a college of their preference. Earlier, through different counselling rounds for the IITs and the NITs, students had a choice between the two—many students are not yet confident of the newer IITs, and would prefer a seat at a more established NIT in such cases.

"If this proposal goes through, I will only be allotted one seat as per the merit list and algorithm, and won't be able to make a choice," says Agarwal. "This is unfair, especially the trouble of preparing for a tough entrance exam."

PLAYING MUSICAL CHAIRS

Last year, from the available 9,500 odd seats across the 16 IITs, more than 200 were left unoccupied after several rounds of counselling. At the 30 NITs, the counselling methods used drew heavy flak, due to a complicated normalisation formula, and consequently, a mismatch between scores and subsequent ranks. Almost 600 seats were eventually left vacant.

According to ministry officials, a major reason for vacancies is that NIT counselling takes place almost a month after the IIT process. So, several students have to accept IT seats before the NIT results, even if the IIT is not their first choice. Moreover, students give up these seats after the NIT results come out, causing the IIT seat to go vacant.

Some education experts, however, say common counselling will increase transparency in the admissions process.

VOICES OF DISSENT

A similar proposal was opposed by the IITs last year. "Practically speaking, common counselling will delay the IIT admissions process, usually held in early July," says H.C. Gupta, who was the convener for the IIT-JEE 2013 and is a professor at IIT-Delhi. The final rounds of the admissions process at the IITs end by the first week of July, whereas those for NITs, including the last spot-round admissions, continue till the end of July.

"The problem of vacancies lies more with the quality of individual institutes than with the counselling process. If some courses at a few of the IITs are not attracting students, even several rounds of counselling will not fill up their seats," says Gupta. "They need severe self-assessment and to cut down on unpopular courses."

Professors have other complaints, too. "The software used for admissions needs to be tested in advance," says an IIT Kurukshetra professor, who requested anonymity. "After last year's counselling fiasco, which caused so many vacancies, how can we expect that the committee will be able to handle two merged counselling sessions?"

QUALITY CONTROL

Experts are worried that this may bring NITs and IITs at par; thereby dimming the latter's brand value. "The IITs have a standard to maintain; they represent the best engineering minds in the country."

There is a reason why we are striving to get admission into an established IIT," says Varun Mahesh, an engineering aspirant.

The deplorable placement statistics at the IITs this year (IIT-Kharagpur, one of the top IITs, saw only 50% of students placed until phase 1, as per reports), has not helped these feted institutes rise above complicity. In contrast, the NITs in Surat, Rourkela and Allahabad have earned high placement offers.

Yet, professors such as Gupta claim that the IITs' world-class standard will be dented if there is no criterion to give them a special status. "If NIT and IIT admission processes are clubbed together, the NITs will not rise to the IIT level, but the IITs will have to bend," he says.

SK Sarangi, director of NIT Rourkela and professor at IIT Kharagpur, says this brand obsession will only prove detrimental in raising the overall quality of Indian engineering institutes.

"The two exams and counselling are creating a class divide in the minds of students. It is a hidden fact that certain established NITs are at par with the IITs in employability, faculty and facilities," he says. "We should stop placing IITs on a pedestal and accept grim realities," says Sarangi.

ILLUSTRATION: SIDHANT JUNDE
Few takers for IIT-Bombay start-up fair

Yogita.Rao@timesgroup.com

Mumbai: The first-time initiative of holding a start-up fair this weekend at IIT-Bombay did not have many takers from the students’ community. The fair, jointly organized by the entrepreneurship and the placement cells of the institute, though received around 96 applications from interested candidates, the turn-out was not as great as expected.

While the fair was open to all students from the campus for internships and also to final year students who are yet to get placed, the interest was seen in only 10-20% of students from both the categories. Of the 11 start-ups who registered, around nine turned up for the fair.

For the full report, log on to www.timesofindia.com
Allow PSBs to recruit from IITs, IIMs: SBI

PRESS TRUST OF INDIA

Mumbai

THE country’s largest lender, SBI has said that public sector banks should be given an opportunity to tap the best talent from premier institutes like IITs and IIMs.

“The public money goes into formation of the institutions like IITs and IIMs. From all of these good institutions, which nurture the best talents of the country, the public sector banks are barred from recruitment,” SBI chairperson Arundhati Bhattacharya said at a recent event.

She said currently the Supreme Court does not allow state-run banks to go for campus recruitment to these premier institutions as every vacancy has to be advertised so that everyone should be able to participate in it.

“Now, what kind of a country actually spends taxpayers money and then stops the public sector banks from taking talents from these institutions,” she said.

She further said that by not allowing public sector banks to recruit from IITs and IIMs, it is creating a barrier and does not give them a level-playing field.
आईआईटी नेवाई में, बीएसपी जमीन देने को तैयार
एचआरडी की टीम ने किया निरीक्षण, 275 एकड़ जमीन देने का प्रस्ताव तैयार

उमेश निवाल | भिलाई

आईआईटी भिलाई के नेवाई में खुलेगा। केंद्रीय मानव सशक्ति मंत्रालय (एचआरडी) की टीम के निरीक्षण बाद बीएसपी ने 275.3 एकड़ जमीन हस्तांतरण का प्रस्ताव तैयार कर लिया है।

10 जनवरी को एचआरडी की पांच सदस्यीय टीम ने नेवाई में स्थल निरीक्षण किया था। इसके बाद बीएसपी ने जमीन हस्तांतरण का प्रस्ताव बना लिया है। एचआरडी ने भी इस पर आतिथ्य निरीक्षण कर लिया है। औपचारिकता रोप है।

एचआरडी ने पहले आईआईटी के लिए 400 एकड़ जमीन मांगी थी। लेकिन ये भी स्पष्ट कर दिया था कि बीएसपी आगर 300 एकड़ जमीन भी देती है, तो आईआईटी खोला जा सकता है।

तीन हिस्सों में दी जाएगी जमीन: नेवाई में कर्नेलसरी बीएसपी के लिए सर्वे बड़ी समस्या है। इसके चलते वह एक मुद्रा जमीन उपलब्ध नहीं करा पा रहा। वहाँ राज्य के तकनीकी शिक्षा मंत्री ने भी बीएसपी प्रबंधन को स्पष्ट कर दिया है कि जमीन हस्तांतरण के दौरान किसी तरह का विवाद न हो।

अगले बजट में आईआईटी खोलने की ओपनवेक्सीन पूरी कर ली जाएगी।
-प्रेमप्रकाश पांडेय, उच्च शिक्षा मंत्री, छग शासन
उद्यमों की मदद करेंगे आईआइटी

कल्पना पाठक

अपने पूर्व छात्रों द्वारा शुरू की गई पिलपारट, कॉमनसलर डॉट कॉम, हाईसिंग डॉट कॉम, स्टीप्डल जैसी नई पीढ़ी की कंपनियों की सफलता से प्रेरित होकर भारतीय प्रौद्योगिकी संस्थान (आईआइटी) अब अपने छात्रों द्वारा शुरू किए जाने वाले उद्यमों की मदद करने की योजना बना रहे हैं।

एक तरफ आईआइटी बंबई अपने विज्ञान इंजीनियर्स सिनियर (सोसाइटी फॉर इनोवेशन ऐंड आत्राईमोजियरिजिंग) को क्षमता तीन गुना तक बढ़ाने की योजना बना रहे हैं। वहाँ आईआइटी कानपुर भी इसी तरह पर अपने इंजीनियर्स की क्षमता को 33 से बढ़ाकर 100 करने जा रहे हैं। आईआइटी मदर्स ने अन्य उद्यमों को सेवाएं देने के लिए, नियुक्त क्षेत्र बढ़ाने की योजना बना रहे हैं।

आईआइटी बंबई के निदेशक देवेंद्र खाकर ने कहा, 'हम छात्रों की क्षमता तीन गुना तक बढ़ाने की योजना बना रहे हैं। नवीनता के जरिए अर्थव्यवस्था को मिलने वाले वाणिज्यी अधिकार हो और हम मुख्य उद्यंत्र इंजीनिएर्स और उद्यमों को बढ़ावा देना है।'

फिलहाल छात्रों की तीन एक बार्स में 18 कंपनियों की उद्यानी को बनाने का काम कर रहे हैं। क्षमता को बढ़ाकर तीन गुना करने के लिए इस संस्था को बढ़ाकर 54 करने हैं। इनको रिपोर्ट में काम करने वाली कंपनियों को सर्वेक्षण और वैश्विक पहुंच के साथ बनवाया दांता पूरा करती है। इनमें जूनियर टीम के साथ मजबूती शृंखला पूरी की जाती है।

राजत और वैज्ञानिक विश्वसनीय उद्यमों में 3 फीसदी हिस्सेदारी लेने जा रहे हैं। आईआइटी बंबई में फीसदी इंजीनियर्स को मिलने वाले लाभ का उद्यमी है। उद्यमों के साथ व्यवसायी वैज्ञानिक और मानव प्रशंसक परंपरा के बाद इसका एक विस्तार है। आईआइटी कानपुर में सिर्फ इंजीनियर्स ऐंड इंजीनियर्स सेंटर (सोआईआइटी) की शुरुआत वर्ष 2000 में भारतीय लाभ उद्योग इन्जीनियरिंग बैंक (सिंडिकेट) के साथ मिलकर तकनीकी से जुड़े शेष में नवीनता, शोध और उद्यमी गतिविधियों को बढ़ावा देने के लिए की गई थी।

यह सेंटर एक नई इमारत ने निर्माण कर रहा है जिसमें करोबरी उद्यमों की मदद करने वाले उद्यमों की मदद करेंगे आईआइटी.
Proposed particle to spot dark matter?

British Researchers Hope New ‘Crazy’ Candidate Will Help Solve Mystery

London: Researchers have proposed a new fundamental particle which could explain why no one has managed to detect the elusive ‘dark matter’ that makes up 85% of the universe’s mass.

Dark matter is thought to exist because of its gravitational effects on stars and galaxies, gravitational lensing (the bending of light rays) around these, and through its imprint on the Cosmic Microwave Background (the afterglow of the Big Bang).

Despite compelling indirect evidence and considerable experimental effort, no one has managed to detect dark matter directly. Particle physics gives clues to what dark matter might be, and the standard model of particle physics has a large mass for fundamental particles, comparable to that of heavy atoms, researchers said.

Lighter dark matter particles are considered less likely for astrophysical reasons, although exceptions are known, and this research highlights a previously unknown window where they could exist and, with very general arguments from particle physics, derives some surprising results, according to researchers at the University of Southampton. They have proposed a new particle that has a mass only about 0.02% that of an electron.

While it does not interact with light, as required for dark matter, it does interact surprisingly strongly with normal matter. Indeed, in stark contrast to other candidates, it may not even penetrate Earth’s atmosphere, researchers said.

Earth-bound detection is therefore not likely, so the researchers plan to incorporate searches into a space experiment planned by the Macroscopic quantum resonators (MAQRO) consortium, with whom they are already involved. A nanoparticle, suspended in space and exposed directly to the flow of dark matter, will be pushed downstream and sensitive monitoring of its position will reveal information about the nature of this dark matter particle, if it exists, researchers said.

“Our candidate particle sounds crazy, but currently there seem to be no experiments or observations which could rule it out,” said Dr James Bateman, from Physics and Astronomy at the University of Southampton and co-author of the study.

Indian research on science, tech and bitcoi to go public

Vanita Srivastava

In an attempt to foster a richer research culture and broaden the visibility of scientific work, the departments of science and technology and biotechnology have recently made open access mandatory for research papers funded by government by depositing them in institutional repositories.

By Sonali Dutta Choudhury

The free, open and digital access of scientific research will ensure percolation of cutting edge research at a rapid pace into higher education curricula, thereby raising the standard of technical and scientific education in the country, feel experts.

Each institution is encouraged to set up its own interoperable institutional open access repository (IR) for its research papers and review articles published in peer-reviewed journals. The DST has set up a central harvester (www.sciencencentral.in) that will harvest the full text and metadata of these publications. This central harvester will have a link to each institutional repository.

“It is a great move and will greatly benefit the scientific community. The number of scientific journals has increased over the years. To subscribe to each one is unaffordable. The fruits of the research should be made public,” said Ashutosh Sharma.

Researchers are recommended to follow their institutional guidelines for submission to their respective IRs.

Translated by Vivek Chhabra

The learners: Dilbar and Anjali say liberal arts taught him about the way the world works, and Taryn Antony believes political science gave her insights into why and how people made decisions.

Write to us at business@ht@livesmint.com
Top-notch IITian gives a lift to bypoll


Panaji: A top-notch IITian — he secured the 115th rank in IIT JEE in the late '70s, the "best rank ever by a Goan" — and armed with a doctorate in electrical engineering from Columbia University, New York, Samir Kelekar is the latest in the country to try his luck in electoral politics, and is fighting the BJP and the Congress for the Panaji bypoll slated for February 13.

He has set out as an independent candidate in a bid to capture the assembly constituency of another IIT grad — Union defence minister and former Goa CM Manohar Parrikar.

Panaji constituency fell vacant after Parrikar was elevated to the Union Cabinet by Prime Minister Narendra Modi. In the bypoll, BJP's candidate is Parrikar's personal aide Siddharth Kunkalienkar, while Congress has Panaji mayor Surendra Furtado.

"Turning down" mega-dollar offers in the US, where he has sold patents for various products, Kelekar came to India "as I had a greater vision".

Parrikar, often eulogized as an IIT-ian, does not command Kelekar's respect.

"Parrikar has betrayed the IIT spirit," claims Kelekar, "The IIT spirit is to get some technology and solve this garbage problem. As a technocrat who became CM he (Parrikar) should have used technology to come out with some innovative solution which he can then use for all of India. That would be the real IIT skill. He has not done that. He has only played politics."

Kelekar also rates his own stream of electrical engineering much higher than Parrikar's metallurgy. "My rank of 115 in JEE (1978) has not been beaten by anybody in Goa in the last 36 years. Parrikar might have secured a rank after 1,500 because metallurgy is the last stream. But he has other skills—he was the mess coordinator," claims Kelekar.

Based in Bengaluru from 1996 till two months ago, Kelekar has been associated with two telecom firms and some Silicon Valley start-ups. From 2006 to 2010 he ran his own start-up, involved in "un-censoring the internet".

Bengaluru, had seen Nandan Nilekani and V Balakrishnan, both corporate honchos who made millions in the software boom, stand for elections and lose. Analysts attributed it to their lack of connect with the problems of the common man; they could therefore not convert their status into electoral victories. Nilekani was also brought due to pressure from the top (Congress high command).

Kelekar claims he has his finger on Panaji's pulse. Describing his Congress and BJP opponents as "elitist", he is sure they "will support only the rich".

"I don't stand for the rich or even the educated. I empathize with and will fight for the problems of the poor segment of society. Furtado and Kunkalienkar are both elitist. They will call it development and sell everything to private parties. Tomorrow the poor traditional Goan vendors in the market will not be able to afford it. I will not do that," says Kelekar.
He says he is banking on youth and lower income sections, "because BJP and Congress have both helped the rich". "I don't think the BJP and Congress candidates can really connect with the people. I would like to represent their (people's) voice."

Openly averse to the BJP ideology of polarizing people on communal lines, he will also not join Congress unless two conditions are met—no dynastic rule, and definite inner party democracy.

Asked about the 2017 assembly elections, Kelekar says he is looking at all 40 seats, but is not sure of the details yet. Panaji will be a learning and possibly a winning experience. "I am thinking of bringing together like-minded people to form a regional party in the future. But first things first," he says with a smile.

**Fest Time on IISc Campus**

[http://www.newindianexpress.com/cities/bengaluru/Fest-Time-on-IISc-Campus/2015/01/31/article2645248.ece](http://www.newindianexpress.com/cities/bengaluru/Fest-Time-on-IISc-Campus/2015/01/31/article2645248.ece)

BENGALURU: The Indian Institute of Science campus saw a swirl of activity as the annual science, technical and cultural festival, Pravega, got off to a start on Friday, attracting students from throughout the country.

The first day saw students lining up to participate in competitions such as literary puzzles and challenges in reverse coding, experimental physics and biology.

An undergraduate student at IISc, Pavan Malagimani, who is also one of the coordinators of the event, said, “We have tried to make it interesting.”

There were competitions that invited students from schools as well as colleges to come up with sustainable solutions to problems affecting the general public.

One of the highlights of the day was a talk by Dr R Balasubramaniam, founder of Swami Vivekananda Youth Movement, who spoke about Vivekananda’s insights into India’s problems and his vision for a resurgent India.

The main events on Saturday will be Science Quizine, a science quiz hosted by Thejaswi Udupa of Karnataka Quiz Association, and a series of competitions in physics, crime investigation and mathematical problem solving. In the evening the students will be treated to ELECRONYK, a DJ night hosted by DJ NYK.

The fest will culminate on Sunday with a performance by Indian Ocean, a contemporary rock and fusion band.

Among the other events are Lasya, group dance competition, Inquizitive, a quiz, remote-controlled car race, and chemical painting.

Also attending will be Dr Sharan Patil, founder of SPARSH hospital, and Riyas Komu, the artist and sculptor from Thrissur.

The entry is free of cost but one must carry a valid ID card.
Research and bring out India's contribution to medicine: Smriti Irani to students


VARANASI: Union Human Resource Development Minister Smriti Irani today asked medical students to carry out research in the field of ancient medical history of India and bring forth the contribution of the country before the world.

She was here to inaugurate a conference organised by National Medicos Organisation at Banaras Hindu University.

Irani appealed to the medical students to "carry out research work in the field of ancient medical history of India and bring forth the contribution of the country in this vast medical field before the world."

The Union minister also slammed the "wretched" practice of female foeticide in the country and appealed to the medical fraternity to shun the inhuman act.

She narrated story of a doctor in Maharashtra. "The doctor aborted 1,000 female fetuses for minor economic gains. And to remove sign of medical evidence against him, the doctor was so cruel that he used to feed those aborted fetuses to two dogs tied in one of the underground rooms of his clinic," Irani said.

She said that the story was exposed by a woman reporter after which a police complaint was lodged and the doctor was arrested.

The Union minister said, "From whichever institution this doctor had received his degree, that Institution, after conferring the degree, made him a doctor but it was unable to make this man a human being."

Irani appealed to all the students and the medical professionals to spread awareness among people to save lives of girl child's.

"Prime Minister Narendra Modi has launched scheme 'Beti Bachao, Beti Padhao' and our (HRD) ministry was willing to lend its full support to the National Medicos Organisation in spreading awareness among people at a rapid pace, so that our daughters can be saved and if they are saved then only they could study," she said.

The minister also advocated for eradicating corruption in the health system in the country.

She also praised the members of the National Medicos Organisation for taking out a cycle rally from Allahabad to Varanasi for spreading awareness in villages about preventive health care.
Agni-V's maiden canister trial a roaring success

The missile is expected to be inducted into service in a year after a few more canister trials.

Marking another technological milestone in the country’s missile programme, the maiden canister-based trial of India’s most potent strategic missile, Agni-V was successfully carried out for its full range of more than 5,000 km from the Wheeler Island, off the Odisha coast on Saturday.

A DRDO missile technologist who was associated with the launch described it as a grand success and said it was a perfect launch. Another missile technologist said it would be the footprint for future configuration of Agni-V.

The missile sealed in a canister and mounted on a TATRA track was launched in its final deliverable configuration at 8.10 am. As soon as the auto-launch command was given, the 17-metre-long Agni-V lifted off majestically leaving a trail of orange flames and leapt into a sunny sky after the gas generator at the bottom of the canister gave it a forceful thrust.

Within moments after its ejection and upon reaching a height of around 30 metres, the first stage got ignited and separated. As it reached a height of more than 500 km and began descending rapidly, the subsequent two stages also got decoupled with clockwork precision and the missile’s nose cone carrying the dummy payload withstood searing temperatures of more than 3,000 degrees Celsius and impacted near the pre-designated point in the Indian Ocean after a flight of about 20 minutes.

The 17-metre-long, thee-stage solid-fuelled missile, developed indigenously by the Defence Research and Development Organisation (DRDO), is expected to boost India’s nuclear deterrence capability along with other
strategic missiles in Agni series. Agni-V is capable of delivering a 1.1 nuclear warhead over a distance of 5,000 km and the range of missile can cover most parts of China and Europe.

A network of radars, electro-optical tracking systems and telemetry stations, besides two ships stationed near the impact point monitored the health of the missile during its flight and recorded the terminal event.

This was the third successful flight test of the Inter-Continental Ballistic Missile and the first canister trial.

The missile is expected to be inducted into service in a year after a few more canister trials.

Scientific Advisor to Defence Minister Avinash Chander, the architect of Agni-V, who will be relinquishing office on Saturday, was present along with other top DRDO missile technologists, including Director-General of Missiles and Strategic Systems, Dr. V. G. Sekaran and Research Centre Imarat Director, G. Satheesh Reddy.