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■ New IIT-Delhi head: No problems in IITs as they have no political division 'JNU, HCU row due to political affiliations'

AGE CORRESPONDENT
HYDERABAD, APRIL 17

The new director of IIT-Delhi, Dr V. Ramgopal Rao, who assumed charge on April 13, said on Sunday that the problems in Jawaharlal Nehru University, Hyderabad Central University and NIT Srinagar could be mainly attributed to students' bodies being affiliated to political parties.

"Such problem does not exist in IITs because there is no political division among the students. They are preoccupied with academics and don't get time to deviate from studies," said Dr Ramgopal Rao, whose predecessor as the IIT-Delhi director was Dr R.K. Shevgaonkar, who quit the

post in December 2014.

Dr Ramgopal Rao explained that the Ambedkar Periyar Student Circle row in IIT-Madras was one-off incident and should not be generalised for all the 18 IITs in the country. Except for NIT Srinagar, there are no controversies at NITs, stressed Dr Ramgopal Rao.

When asked about his main focus in the new post, he said that would adopt multidisciplinary approach in work, take steps to establish an incubator to help students realise their entrepreneur dreams and strive for fund raising by involving industries and alumni. "Startup culture needs to be encouraged. Talented students coming out of IITs should



Dr V. Ramgopal Rao

become job providers and not job-seekers. Establishing incubators will give a big fillip to them."

IITs are doing whatever they should to find a regular place in global rankings, said Dr Ramgopal Rao. Global ranking agencies take into considera-

tion foreign faculty and students in that particular institution as well as citations received, he stressed. "This is where IITs are losing points. Otherwise, the education and curriculum, especially in undergraduate courses like engineering, is regarded as one of the best in the world," he told this newspaper.

However, with the Union HRD ministry focussing on this issue, IITs could make inroads in global rankings sector in the near future. Dr Ramgopal Rao said that the IITs have been given go-ahead to recruit foreign professors from reputed varsities in the US and other Western countries.

"There is a good chance of hiring foreign staff in Delhi and Bombay insti-

tutes this year. For this, we are planning to hold publicity campaigns and interactions as well as take the help of IIT alumni working in universities abroad," he stressed. Dr Ramgopal Rao, who is from Kollapur in Mahbubnagar district of Telangana.

Commenting on IITs being unable to become self-sufficient, he stated that there are a number of reasons. "Unlike foreign varsities, we do not get donations from outside. For example, take the case of Harvard, which is running just by the interest received on donations. In the US, people like Bill Gates and Warren Buffet donate a big chunk of their wealth for the education sector," he said.

IITs to recruit foreign professors for global ranks

<http://www.deccanchronicle.com/nation/in-other-news/180416/iits-to-recruit-foreign-professors-for-global-ranks.html>

Hyderabad: IITs are doing whatever they should to find a regular place in global rankings, according to the new director of IIT-Delhi Dr V. Ramgopal Rao.

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"There is a good chance of hiring foreign staff in Delhi and Bombay institutes this year. For this we are planning to hold publicity campaigns and interactions as well as take the help of IIT alumni working in universities abroad," he stressed. Dr Ramgopal Rao, from Kollapur in Mahbubnagar district, assumed charge on April 13.

आज आईआईटी दिल्ली में पढ़ा जाएगा लता बत्रा का शोधपत्र

सारणी (बैतूल)। घोड़ाडोंगरी की शोधार्थी लता बत्रा के शोधपत्र का चयन आईआईटी दिल्ली में कर्टिन यूनिवर्सिटी ऑस्ट्रेलिया के सहयोग से आयोजित इंटरनेशनल कॉन्फ्रेंस ऑन ब्रांड मैनेजमेंट (सीबीएम-2016) में हुआ है। बत्रा द्वारा एक्सपीरियंस शेयरिंग ट्रेक श्रेणी में ब्रांड कान्शियसनेस अमांग यूथ : अ पॉसिटिव एप्रोच इन कंटेक्सट टूवर्ड्स रूरल इंडिया विषय पर लिखा गया शोधपत्र सोमवार को आईआईटी दिल्ली में कॉन्फ्रेंस के पटल पर देश-विदेश के प्रतिभागियों के बीच रखा जाएगा। शोधपत्र प्रस्तुत करने लता बत्रा को आमंत्रित किया था, व्यक्तिगत कारणों से वे वहां मौजूद नहीं रह पाएंगी। इसमें ऑस्ट्रेलिया, चीन, बांग्लादेश सहित विश्व के कई देशों के शोधार्थी प्रतिभागी के रूप में शामिल हो रहे हैं।



PUSHKAR

FAILURES OF A REPORT CARD

India's first rankings of higher education institutions need improvement

THE MINISTRY OF Human Resource Development (MHRD) must be commended for releasing "India Rankings" (2016), the first-ever effort by the government to rank higher education institutions (HEIs) in the country. These rankings will become an annual feature, and it is expected that both public and private institutions, and certainly students and parents, will find them useful. For now, however, the participation of HEIs in the initiative is still voluntary and needs to improve further. Also, as the report itself acknowledges, there are question marks over the quality of data submitted by the participating institutions. In fact, rankings under two categories — architecture and general degree colleges — could not be released due to lack of reliable data and/or low levels of participation. Questions have also been raised about the methodology used to prepare the rankings for the other four categories.

In recent years, it has become quite impossible to ignore university rankings of various kinds, which include those that are global, regional and subject-wide in scope, especially by Times Higher Education (THE) and Quacquarelli Symonds (QS). The MHRD's decision to launch its India-wide university rankings was, in fact, partly in reaction to the poor performance of Indian institutions — including the IITs and the central universities — in world university rankings prepared

It is also a matter of concern (and surprise) that the IITs have chosen to participate in the rankings under the 'engineering' category. Though they are recognised as engineering schools first, they compete under the category of 'universities' in THE and QS world and regional university rankings. It is strange that they should compete as engineering institutions.

by THE and QS. The stated intent of the government was to prepare India-centric ranking parameters that were sensitive to metrics such as access to higher education and social inclusion. Interestingly, if one goes through the details of the National Institutional Ranking Framework (NIRF), the weightage given to India-specific parameters is not pronounced.

The decision to prepare India-centric rankings was initially criticised by many higher education commentators. However, since these rankings are here to stay, it makes more sense to focus on improving the NIRF framework even while acknowledging that any rankings exercise will suffer from some limitations. For example, there have been very credible criticisms of the ranking methodologies used by the THE and QS rankings over the years; some have been corrected but newer problem issues have cropped up.

More specifically about the MHRD rankings, apart from the problems already identified, there have been other kinds of criticisms about the report. Without naming names, Maheshwar Peri expressed surprise at the inclusion of some not-so-good business schools among the top 50 institutions in the "management" category and the exclusion of others, which deserve to be there. He has also expressed concern that the rankings will (mis)lead prospective students to those

business schools whose record on placement and average salaries is unimpressive. It is also a matter of concern and surprise that the IITs have chosen to participate in the rankings under the "engineering" category. Though they are recognised as engineering schools first, they compete under the category of "universities" in THE and QS world and regional university rankings. To the extent that they aspire to compete globally as universities, it is strange they should compete as engineering institutions in "India Rankings".

It is also worth speculating whether "India Rankings" will be used for other purposes, especially in the context of recent announcements by the government. In his budget speech, the finance minister stated the plan to help 10 public and 10 private universities to become world-class institutions. More recently, the PM noted that these universities would have "complete autonomy in academic, administrative and financial matters". The question is: How will the government go about selecting these elite institutions? It is possible that "India Rankings" (2016), and its later editions, will be used to identify and select a group of universities which will be granted complete autonomy.

The writer is an assistant professor at the Department of Humanities & Social Sciences, BITS Pilani-Goa

केंद्रीय विवि का आकलन आईआईटी की तर्ज पर

नई दिल्ली | एजेसी

केंद्रीय विश्वविद्यालयों का आकलन बाहरी विशेषज्ञों की एक समिति द्वारा तय मानकों पर किया जा सकता है। मानव संसाधन विकास मंत्रालय आईआईटी की तर्ज पर इसके लिए बाहरी पीयर समीक्षा (ईपीआर) तंत्र स्थापित करने पर विचार कर रहा है।

सूत्रों ने बताया कि पिछले दिनों मानव संसाधन विकास मंत्री स्मृति ईरानी ने अधिकारियों से इसकी संभावनाओं पर

विचार करने के लिए कहा है। ईपीआर एक ऐसा तंत्र है, जिसके तहत शिक्षण, शोध एवं उद्योग के विशेषज्ञों की एक समिति हर पांच साल पर तय मानकों पर किसी आईआईटी के प्रदर्शन का आकलन करते हैं।

यूजीसी से मदद संभव : देश में 40 से ज्यादा केंद्रीय विश्वविद्यालय हैं। संभव है कि किसी एक विवि के अधिकारियों की टीम तय किए गए स्वरूप के आधार पर अन्य की समीक्षा करे। यूजीसी को भी पीयर समीक्षा प्रक्रिया के ब्योरे को अंतिम रूप देने में शामिल किया जा सकता है।

Big companies to fund startups

Mumbai, April 17: Large corporations, and not necessarily reputed tech schools like IITs or MIT, are the new startup garages as big businesses race to stay relevant, Mahindra Group chairman Anand Mahindra has said.

"The new garage is not necessarily in the MIT or Stanford or the IITs. It is in fact, back in large companies. The cycle has turned, where large companies are not turning obsolete," Mr Mahindra said.

Large corporations are emulating startup ecosystems within themselves, he added. "In a sense, what we are doing is putting up a Silicon Valley inside a company," added Mahindra.

A corporate garage, unlike a dedicated venture capital or private equity fund, also has the advantage of being more flexible and staying invested for a long-term, he said.

Terming the domestic startup ecosystem as "extremely robust", Mr Mahindra said even though it trails the US and Israel at present, India is set to become the "hottest startup spot in the world."

"You are only going to

The intrapreneurs

■ ANAND MAHINDRA said people who launch startups within his group are called "intrapreneurs" and are spread across various verticals, including Tech Mahindra and the flagship auto company Mahindra and Mahindra.

see more action. Whether it is about unicorns or cockroaches, you are going to see plenty of action," he said.

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The group has a dedicated entity called Mahindra Partners that acts like the group's venture capital and private equity arm, and invests in companies both within and outside the group. Mahindra Partners' website claims that it is a \$900 million PE and VC division of the group.

PTI

IIT designs garment to help mothers keep their preterm newborns warm

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

NEW DELHI: Professors from Indian Institute of Technology, Delhi have developed a cotton garment with a pouch in front, which will allow mothers to securely carry their newborn babies between their breasts. The garment has been developed to assist mothers to constantly provide warmth to their preterm and low birth weight babies through direct skintoskin contact. Babies weighing less than 2,500 g are considered to be low birth weight babies. According to a study published in Indian Journal of Medical Research, infants who weigh 2,000 g – 2,499 g at birth have a fourfold higher risk of neonatal death. “Babies born prematurely or full term babies who have low birth weight, need assistance in maintaining their body temperature (even in summers) using baby warmers or incubators in neonatal intensive care units (NICU). This is not ideal and kangaroo mother care is a better option” said Dr Ramesh Agarwal, additional professor of paediatrics at All India Institute of Medical Sciences (AIIMS), who has worked with the IIT team to provide feedback from mothers. Kangaroo Mother Care (KMC) is a process of providing skin to skin contact between the baby’s front and the mother’s chest. This is known to reduce death in newborns by 40%, according to him. “KMC not just reduces neonatal mortality, it also improves nutrition and prevents infections. The garment developed by us is actually a medical device which helps in the growth of the low birth weight babies.,” said Dr Deepti Gupta, professor at the department of textile at IIT , Delhi. The garment named ‘Mamma Pod’ allows mobility and hence can be used through the day increasing the time the baby spends with the mother. It has been developed in three sizes, with the size of the pouch and the garment being adjustable as the baby grows and the mother loses weight. The garment will last for two months or till the baby weighs 2 kg. Mamma pod will also have an economic impact. “The cost of the garment has not been computed yet, but with mass manufacturing the cost will be affordable for the masses. It will also be cheaper than keeping the baby in the NICU,” said Dr Gupta.

IIT Delhi: novel device for sepsis diagnosis

<http://www.thehindu.com/todays-paper/tp-features/tp-educationplus/iit-delhi-novel-device-for-sepsis-diagnosis/article8486931.ece>



An FTA assay showing a red spot, indicating LPS is present in the serum. Photo: Special arrangement

A novel, simple, low-cost device that quickly diagnoses septicaemia at bedside has been developed by an IIT Delhi researcher working along with a Consultant from Global Medical Education and Research Foundation, Hyderabad.

Septicemia (or, sepsis) is the leading cause for deaths in hospitals worldwide. According to a paper published in October 2015 in the journal *Analytical Chemistry*, there are about 200,000 cases of sepsis deaths each year in the U.S. alone. Sepsis is caused by the overwhelming response of the immune system to an infection. The main causative agents of sepsis are Gram-negative bacteria due to their predominance in the normal intestinal flora and the environment. Specifically, it is the endotoxin, a major constituent of the Gram-negative bacterial cell wall that causes sepsis.

In lieu of expensive and time-consuming methods for diagnosis of sepsis, Prof. Shalini Gupta from the Department of Chemical Engineering, IIT Delhi and Dr. Venkataraman Sritharan from Hyderabad have developed a low-cost, disposable, point of care device for bedside use for sepsis diagnosis.

The device is a colorimetric rapid card test to detect endotoxin levels in human serum sample. A commonly used antibiotic colistin is combined with (conjugated) gold nanoparticles to act as a detection probe. “We used the drug to detect endotoxin as we did not want to use the antibody detection method and it also reduces the cost of testing,” said Prof. Gupta.

The principle

The drug combined with gold nanoparticles binds to the endotoxin present in serum samples. “The drug has a specific affinity to endotoxin,” she said. Since gold particles are red in colour at the nanoscale, the drug conjugated gold nanoparticles that get bound to endotoxin appear red. Since the amount of endotoxin present varies depending on the severity of sepsis, the amount of drug conjugated gold particles that get bound to endotoxin depends on the degree of infection; the colour of red deepens depending on the severity of sepsis. “More the endotoxin, the redder it becomes, because more gold nanoparticles get absorbed,” Prof. Gupta said.

To test a sample, a drop of serum is first added to the membrane on the device. Except the endotoxin, the rest of the constituents of the blood get sucked through the membrane. The detection probe consisting of the drug conjugated gold nanoparticles is then added to the membrane. The drug binds to the endotoxin present on the membrane and turns red. “It works on a concentration-dependent manner, and so we get to know the degree of infection,” she said.

If the sample is from a person without sepsis, no endotoxin is present on the membrane. And since no binding of the drug to endotoxin takes place, no red colour is seen on the membrane. Since the gold nanoparticles are smaller than the pore size of the membrane, the drug conjugated gold particles pass through it in the absence of endotoxin.

The device eliminates the need for trained scientists and a sophisticated microbiology laboratory. This is an important consideration for India especially in rural areas where access to advanced diagnostic facilities and proper healthcare facilities is poor.

Initial validation on 80 sepsis samples has been carried out, and validation using blind samples will soon be carried out. According to her, the device may be commercially available by the end of this year. The device which took about three years to develop won the Gandhian Young Technology Innovation award this March.

April 17

IIT-Madras engineer to double Wi-Fi speeds

<http://www.ciol.com/iit-madras-engineer-to-double-wi-fi-speeds/>

Columbia University’s Harish Krishnaswamy, an electrical engineering graduate from the Indian Institute of Technology – Madras has developed a unique technology that doubles Wi-Fi speeds with a single antenna — an accomplishment that can transform the telecommunications field in future.

The Indian-origin engineer has for the first time integrated a non-reciprocal circulator and a full-duplex radio on a nano-scale silicon chip to create the breakthrough system.

“This technology could revolutionise the field of telecommunications,” said Krishnaswamy, director of the Columbia High-Speed and Mm-wave IC (CoSMIC) Lab.

“Our circulator is the first to be put on a silicon chip, and we get literally orders of magnitude better performance than prior work,” he noted.

Last year, Columbia researchers invented a technology — full-duplex radio integrated circuits (ICs) — that can be implemented in nanoscale CMOS to enable simultaneous transmission and reception at the same frequency in a wireless radio. That system required two antennas.

“Full-duplex communications, where the transmitter and the receiver operate at the same time and at the same frequency, has become a critical research area and now we’ve shown that WiFi capacity can be doubled on a nanoscale silicon chip with a single antenna. This has enormous implications for devices like smartphones and tablets,” Krishnaswamy explained.

“Being able to put the circulator on the same chip as the rest of the radio has the potential to significantly reduce the size of the system, enhance its performance, and introduce new functionalities critical to full duplex,” added co-researcher, Jin Zhou.

Krishnaswamy’s team had to “break” Lorentz Reciprocity – a fundamental physical characteristic of most electronic structures that requires electromagnetic waves travel in the same manner in forward and reverse directions – to develop the technology.

“It is rare for a single piece of research, or even a research group, to bridge fundamental theoretical contributions with implementations of practical relevance. It is extremely rewarding to supervise graduate students who were able to do that,” said the Indian-origin engineer who has earlier won many accolades for his research efforts.

The research was published in the journal Nature Communications and the paper was presented at the “2016 IEEE International Solid-State Circuits Conference” in San Francisco, California, recently.

गंगा के लिए थिंक टैंक बनाएगी सरकार

जागरण ब्यूरो, नई दिल्ली : गंगा नदी पर हर तरह के शोध और अनुसंधान को बढ़ावा देने के लिए सरकार एक थिंक टैंक बनाएगी। यह थिंक टैंक देश के प्रतिष्ठित संस्थान आइआइटी कानपुर की अगुआई में बनेगा। सरकार इस संबंध में रविवार को आइआइटी कानपुर के साथ एक समझौते पर हस्ताक्षर करेगी।

केंद्रीय जल संसाधन मंत्रालय के सूत्रों ने बताया कि आइआइटी कानपुर के प्रोफेसर और गंगा पर लंबे समय से काम कर रहे डॉ. विनोद तारे इस थिंक टैंक के संयोजक होंगे। राष्ट्रीय स्वच्छ गंगा मिशन और आइआइटी के बीच इस थिंक टैंक के लिए हस्ताक्षर किए जाएंगे। इसका नाम सेंटर फॉर गंगा रिवर बेसिन मैनेजमेंट एंड स्टडीज होगा। सूत्रों ने कहा कि यह थिंक टैंक, गंगा के संबंध में वैज्ञानिक, प्रौद्योगिकी, जल व वित्त संबंधी सभी क्षेत्रों में विभिन्न संस्थाओं के साथ मिलकर शोध और अनुसंधान को बढ़ावा देगा। साथ ही यह इंडिया वाटर इम्पैक्ट वीक



◆ आइआइटी कानपुर की अगुआई में होगा शोध

का आयोजन भी करेगा। माना जा रहा है कि सरकार और आइआइटी के बीच शुरुआत में 10 साल के लिए समझौता होगा। आइआइटी कानपुर का दावा है कि इस अवधि में यह संस्था वित्तीय तौर पर आत्मनिर्भर हो जाएगा और शोध का काम प्रभावी तरीके से आगे बढ़ा सकेगा। उल्लेखनीय है कि गंगा नदी बेसिन प्रबंधन योजना डॉ. तारे के नेतृत्व में आइआइटी कानपुर तथा सात अन्य आइआइटी के कंसोर्टियम ने ही तैयार की है।