Newspaper Clips
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August 7

IIT scientists develop silk mats that could treat arthritis

http://indianexpress.com/article/technology/science/iit-scientists-develop-silk-mats-that-could-treat-arthritis-4785781/

The disease most commonly affects joints in the knees, hips, hands, feet, and spine and is marked by the breakdown of joint cartilage and underlying bones. Left untreated, it can cause severe pain, swelling, and eventually limited range of movement.

Knee osteoarthritis is the most common bone and joint disease in India. However, Mandal pointed out that the available clinical grafts were expensive.

Scientists from IIT Guwahati have synthesised mats made of silk-proteins and bioactive glass fibres that they believe can assist the growth of bone cells and repair worn-out joints in arthritis patients. The disease most commonly affects joints in the knees, hips, hands, feet, and spine and is marked by the breakdown of joint cartilage and underlying bones.

Left untreated, it can cause severe pain, swelling, and eventually limited range of movement. “Current clinical treatment methods are limited by lack of viable tissue substitutes to aid the repair process,” Biman B Mandal from Indian Institute of Technology Guwahati (IITG) told PTI.

To develop a suitable tissue substitute, scientists, including those from the University College London in the UK, looked into the natural bone-cartilage interface and tried to mimic it synthetically in lab conditions. Knee osteoarthritis is the most common bone and joint disease in India. However, Mandal pointed out that the available clinical grafts were expensive.

“We used silk, a natural protein to fabricate electrospun mats to mimic the cartilage portion and bioactive glass to develop a composite material, similar to the natural tissue,” said Mandal. For the mat, scientists used a kind of silk easily available in North-east India. “Muga (Assam) silk is endowed with properties that enhance the healing process,” he said.

The researchers adopted a green fabrication approach for the developing the silk composite mats – electrospinning. “It is similar to knitting, except that it utilises electric high voltage force to draw ultrafine fibres,” Mandal said. A layer by layer approach was followed, where the bone layer was first formed, on top of which the cartilage layer was developed. The resulting composite mat resembled the architecture of the bone-cartilage interface.

To assist the regenerative process, the mats would be grafted in the defected joint with cells harvested from the patient. “The mats bond with the native tissue and acts as an artificial tissue construct. Eventually the mats degrade with time and new tissue is formed in its place,” Mandal said.

The mats were tested under laboratory conditions, where artificial tissue formed efficiently during the two weeks of the study, researchers said, However, the mats need to be tested in suitable animal models like rabbits and pigs, and finally in human trials, before they become available to patients.

‘IIT-H, Japan working closely on ground breaking research subjects’

https://telanganatoday.com/iit-h-japan-working-closely-ground-breaking-research-subjects

Prof Jun Murai, who is well known as the Father of Internet in Japan and Internet Samurai, has asked the students to adopt multi-disciplinary approach in their future endevours to drive technological innovation.

Sangareddy: Prof Jun Murai, Faculty of Environmental and Information Studies, Keio University, Japan, has said that Japan and IIT-Hyderabad has been closely working on ground breaking research on subjects like disaster management, earth sciences, seismic technology and digital technology as a joint project during the past six-seven years.

Delivering the convocation speech during the 6th convocation ceremony of IIT-H at Kandi in Sangareddy district on Saturday, the Japanese professor, who is well known as the Father of Internet in Japan and Internet Samurai, has asked the students to adopt multi-disciplinary approach in their future endevours to drive technological innovation.

He said that the multi-disciplinary approach had helped Japan to assess the extent of damage caused by the earth quake, in which 20,000 people were killed, in 2011 and chalk out preventive measures using digital technologies in the aftermath of “Great East Japan Earthquake”.

He further observed that impact of disasters like Tsunami, earth quake, crash down of Fukushima nuclear reactor before the internet and after the internet are different since they had access to digital technology to swiftly ascertain the causes, assess the extent of damage and draft preventive measures.

Director of IIT-H, Prof UB Desai has said that the IIT-Hyderbad had strongest collaboration with Japan. “We have collaboration with Japan on infrastructure front, and as well research front, he said.

When silver 'grows' in paddy fields

http://www.thehindu.com/sci-tech/agriculture/when-silver-grows-in-paddy-fields/article19437487.ece

The rice is put to the test in the field.

A rice variety originally from West Bengal is able to accumulate the metal in its grain, IIT researchers find

It is a rice variety with a silver touch, literally. Garib-sal, one of 505 types of rice plants tested by scientists, is capable of absorbing silver found naturally in soil and accumulating it in the grain to unusually high levels of 15 mg per kg.

The rice was able to accumulate high quantities of silver even when the soil contained only about 0.15 mg per kg.

The unusual accumulation of silver in the grain and other parts of the plant, researchers say, throws open the possibility of commercial extraction of the metal through farming.

The maximum concentration of silver in the plant is in the grains. Silver accumulation is largely in the bran of the rice grain, and once polished, the silver in the grain is reduced significantly.

Polishing grain is crucial

It is not, however, for consumption as food. "We do not advocate consumption of the unpolished rice as staple food. If the rice is polished very well then it may not lead to silver toxicity," says Prof. T. Pradeep from the Department of Chemistry, Indian Institute of Technology Madras, who authored the research.

Silver is not known to accumulate in the reproductive tissues of any cereal, and in agricultural crops the amount of silver that gets accumulated is less than 1 mg per kg of dry weight of the plant.

Researchers at IIT Madras stumbled upon the rice variety while screening for different metal ions in the 505 rice varieties. Only nine showed high silver accumulation, with Garib-sal the highest.

The rice varieties are maintained by Dr. Debal Deb, head, Centre of Interdisciplinary Studies, Kolkata, as part of rice variety conservation efforts. Garib-sal used to be grown by farmers in Purulia, West Bengal. The researchers tested Garib-sal's ability to accumulate silver even when grown in soils with very low silver concentration. Even when the soil contains only about 0.01 mg of silver per kg, the rice plant was able to concentrate 0.20 mg of silver per kg in the grains.

"The rice variety has the ability to accumulate silver about 100 times more than any other rice," says Prof. T. Pradeep. The variety was cultivated in the farm for three successive years in soil containing about 0.15 mg per kg and the uptake and accumulation of the noble metal was nearly the same.

Garib-sal accumulated 50 times more silver than another type in control tests.

The Case for Foreign Faculty to Be Hired to Teach at Indian Universities

https://thewire.in/165347/foreign-faculty-javadekar-universities-ugc-mhrd/

The need for foreign faculty is limited to select teaching-cum-research institutions which employ a minuscule number of the total faculty members in the higher education sector.

Over the past few years, the Ministry of Human Development Resources (MHRD) and the University Grants Commission (UGC) have on several occasions considered hiring foreign faculty for India's universities on a short-term and/or contractual basis. Under the Global Initiative of Academic Networks (GIAN), professors from abroad are already being invited to India's universities for short stints. However, in addition, there has also been talk of hiring foreign faculty – in the range of 20-30% – for the best Indian institutions on a contractual basis for longer periods.

Some sources recently reported on a UGC proposal which contains a provision for the mandatory hiring of foreign faculty for up to 20% of the total sanctioned posts in Category I universities/ Higher Educational Institutes (HEI). The Delhi University Teachers' Association (DUTA) has deemed the provision "unacceptable" because, among other reasons, this will reduce employment opportunities for younger Indian scholars and the higher salaries for foreign faculty will have to be paid by the university, which in turn will transfer the additional burden to students and make tuition more expensive at public institutions.

The larger issue, of course, is whether we need foreign faculty and why. Also, assuming that we need foreign faculty, what exactly do we need them for?

The case for foreign faculty

There are several benefits in hiring foreign faculty provided they are from among those who have obtained their PhDs from one of the top 100-200 institutions in the world and/or have impressive research records. These include:

1. Research training: Those trained at the world's best institutions go through a far more rigorous and demanding PhD programme than those at India's universities. For example, the coursework component in the PhD programmes at Indian universities (the idea of coursework itself is borrowed from North American PhD programmes) is usually an abbreviated version and commonly abused by students, teachers and administration alike so that the real worth of coursework is just above nil. The same is true for research work and the PhD thesis, neither of which demands sufficient rigour as a result of which good quality PhDs are scarce. This is not to say that Indian PhDs are inherently inferior to the PhDs awarded by the world's best universities; however, at the same time, it would be dishonest to disagree that the quality of PhDs from even the best Indian institutions is often average-to-poor.

2. Research productivity: There is some evidence that those trained at the best institutions abroad are more productive in terms of their research output than those trained in India. Since research output is an important indicator in world university rankings, institutions with larger numbers of foreign faculty, especially from the top 100-200 institutions, are likely to do better in terms of research output. A study conducted by this author found that among the IITs, those which have hired more foreign PhDs – IIT-Powai and IIT-Delhi – than the others stand out in world university rankings. However, Indian universities are slowly encouraging and developing a culture of research and perhaps in the years to come the research productivity of faculty and new PhDs, certainly from those at premier institutions, will improve.

3. World university rankings: The number of foreign faculty and students at any given institution are assigned weight in

world university rankings. Therefore, those Indian institutions which are looking to compete with the best universities abroad will benefit simply by hiring foreign faculty and students. It is also possible that universities which hire larger numbers of foreign faculty may attract more foreign students which too will help them do better in world university rankings. However, what this also means is that only those institutions which are competitive enough by international standards should really bother about foreign faculty, unless they have other reasons for doing so (such as attracting more foreign students who pay higher tuition fees, thus generating more revenue for the institution).

But do we really need foreign faculty?

All too often, faculty shortages across India's universities make news. However, it is not at all clear whether these shortages exist because of a lack of sufficient numbers of qualified faculty or some other reason (see here). Here in Goa for example, Goa University – the only state university – has 43% faculty positions vacant. And yet, the university is unable to hire faculty because in 2013, the directorate of higher education introduced a 15-year domicile criterion for applicants in contradiction to UGC rules. Other universities around the country have other reasons for not hiring sufficient numbers of faculty to make up for faculty shortages; a shortage of qualified candidates is not always one of them. The point is that 1) there is more to faculty shortages than simply a shortage of qualified candidates; and 2) foreign faculty is not needed to address faculty shortages per se.

So why do we need foreign faculty?

The UGC as well as those opposed to the hiring of foreign faculty must understand that to the extent that foreign faculty is needed for India's universities, *it is not for teaching positions* at undergraduate institutions but primarily for elite institutions, especially central universities. India's colleges – which is where 79.3% of all students study – need better and more teachers from our higher education system.

Most of our higher education institutions have traditionally been teaching-oriented. While overall academic standards – including teaching – may have declined substantially over the past three decades or so due to the utter neglect and politicization of the higher education sector, teaching is still the focus and strength of our universities. India's universities still produce good or good-enough teachers. Their Achilles heel is research. Research has never been a strong point of our universities. In order to build the research capabilities of our universities, it may be quite useful to hire foreign faculty. The benefits of hiring foreign faculty lie only for those institutions which the government is seeking to promote as heavyweight competitors in world university rankings or ambitious private institutions which have the same goal. However, post-graduate departments at other universities may also benefit from foreign faculty.

In a sense, foreign faculty is *not really needed* but they may be useful in raising academic/research standards. Bringing in foreign faculty will not, of course, solve our higher education woes in general or improve our poor research output overnight.

Whether it is the government or teachers' unions protesting about foreign faculty, they should be clear that the need for foreign faculty is limited to select teaching-cum-research institutions that employ a minuscule number of the total faculty members in the higher education sector. In other words, the numbers of faculty positions at stake is not high.

Who will count as foreign faculty?

Let us say that the government and everyone else is in agreement that select numbers of foreign faculty may be useful for improving overall academic standards at our universities. Now, who will we consider as 'foreign'?

There are several ways to categorise 'foreign' faculty.

We could categorise as 'foreign' those with PhD degrees from the world's top 100-200 institutions (or even the top 500), including Indian universities, and irrespective of whether they hold Indian passports or not, as 'foreign' faculty (or use some other label if needed). While this will be discriminatory against Indians with PhDs from lesser Indian universities (those outside the top 200 or 500), it will at the same time treat Indians with PhDs from abroad or from one of the Indian universities among the top 200 or 500 institutions at par with foreign faculty.

A second option is to include in the 'foreign' category all those who are foreign citizens by birth or have acquired foreign passports, irrespective of whether or not they are of Indian origin. This would however be discriminatory against Indian citizens with degrees from the best institutions abroad who decided they took up the profession in India or held on to their Indian passports.

A third option is to categorise as 'foreign' only those with foreign passports who never held an Indian passport or are not of Indian origin. In this case, we will discriminate against all Indians and Indian-origin academics because of their ethnicity.

The point is that even if the decision to hire 'foreign' faculty goes through, other newer problems will emerge and they will not be easy to address either.

August 6

IIT Kharagpur to Let Student Entrepreneurs To Operate From Hostel Rooms

http://www.ndtv.com/education/iit-kharagpur-to-let-student-entrepreneurs-to-operate-from-hostel-rooms-1734139

The Indian Institute of Technology - Kharagpur is coming out with a scheme allowing students to use their hotel rooms as entrepreneurship offices, a top official said here.

IIT-K Director PP Chakrabarti said the project would help to set up the offices at a low expense

KHARAGPUR (WEST BENGAL): The Indian Institute of Technology (IIT) Kharagpur has come out with an innovative scheme allowing its students to use their hostel rooms as entrepreneurship offices, a top official said here. According to the IIT Kharagpur Director PP Chakrabarti, the project would enable the students to set up the offices at a low expense. Mr PP Chakrabarti was on Saturday at the institute's 63rd annual convocation, reported Indo-Asian News Service.

Chairman and Managing Director of Oil and Natural Gas Corporation Dinesh K Sarraf was the chief guest of convocation while member of IIT-KGP Board of Governors and Infosys Foundation chairperson Dr Sudha N Murthy presided over the function.

"We are coming up with a scheme where students can convert their hostel rooms into entrepreneurship offices at a much lower expense instead of taking rooms in STEP (Science and Technology Entrepreneurs Park)," Mr. Chakrabarti said.

To raise it global standing, the director also said that IIT Kharagpur plans to have at least 10 per cent of faculty from foreign universities in five years' time.

The two-day convocation of Indian Institute of Technology Kharagpur began yesterday.

Degrees would be awarded to more than 2500 students in the 63rd edition of the convocation, an IIT-KGP statement said.

According to PTI, it also said about two major R&D schemes implemented by the institution to streamline the partnership of various ministries and industry in areas of advanced high-end research at the academic institutions.

IIT-Gandhinagar students can now get dual degrees for extra year

http://timesofindia.indiatimes.com/city/ahmedabad/iit-gandhinagar-students-can-now-get-dual-degrees-for-extra-year/articleshow/59937246.cms

AHMEDABAD: The Indian Institute of Technology- Gandhinagar (IIT-Gn) has offered the dual degree option for its undergraduates from this academic year. This was announced by IIT-Gn director, Dr Sudhir Jain, on the 6th convocation ceremony of the institute held on Saturday in Palaj village, Gandhinagar.

In the convocation ceremony, a total of 124 BTech students, 52 MTech students, 47 MSc students, 5 MA students and 14 PhD students were awarded degrees. In addition, 38 medals and awards for academic, sports, leadership and community service were awarded to graduating students.

Speaking on the occasion, Jain said, "We have now introduced two additional options for our undergraduates. The first is a double degree option, where a student can graduate with degrees in two disciplines by spending an extra year."

Elaborating on the option, Jain said, "For instance, a student admitted to BTech in mechanical engineering can graduate with BTech in mechanical engineering and also BTech in electrical engineering after five years."

"We now also offer a BTech - MTech dual degree option which enables a student to graduate with both BTech and MTech degrees in five years," Jain added.

Rishab Anand, one of the graduating student in B Tech who received five awards in convocation including the President's Gold Medal, said that humanities and engineering complement each other.

"Ultimately, the engineers must go into the society to work for the people. We have also undergone courses like social movements where we washed utensils in mess and conducted Right To Education (RTE) programmes for underprivileged kids," said Anand, who also won the award for best performance in core courses from humanities and social science.

Rishabh Jain, another student who won four medals including the institute's silver medal in civil engineering, said that he used to energize himself by recitation of Hindi and Urdu poetry.

August 5

All-woman IIT team creates breakthrough in cancer treatment

http://www.domain-b.com/organisation/Indian_Institutes_Technology/20170805_treatment.html

An all-woman team of researchers from Indian Institute of Technology, Delhi, has developed a new drug delivery platform using nanoparticles that can boost the efficacy of antibiotics at the cellular level and improve chances of recovery from cancer-related bacterial infections.

The all women researchers team consists of two faculty members, Neetu Singh from the IIT's Centre for Biomedical Engineering and Shalini Gupta from the Department of Chemical Engineering - and their students Smita Patil and Rohini Singh.

The nanotechnology-based delivery system will help in dealing with the secondary infections and will also improve the chances of recovery. It would be specifically useful for cancer patients because if the bacterial infection in cancer remains untreated, it can infect the host even after the cancer cells are killed by chemotherapy, according to a statement from the institute. The research was published last month in Scientific Reports.

Antibiotics are conventional therapeutics used for the treatment of bacterial infections. However, 50 per cent of these drugs are either not needed or not effectively utilised. Conventional antibiotics suffer from issues like improper bio-distribution, poor water solubility, lack of target specificity and loss of efficacy.

"We have shown an efficient antibiotic targeting strategy that increases the antimicrobial efficacy and particle uptake for destroying intracellular bacteria,'' said Gupta.

She added that the team has been working on developing the platform since last year and their main focus has been to research on the bacteria which slips into the cancer cells.

''If you load antibiotic drugs on the nanoparticle, it makes its way through the bacteria even more … in the next study, we want to do dual drug delivery so that we can kill bacterial infection as well as the cancer cells,'' says Gupta.

Worried over Aadhaar privacy breach? Lock your biometrics now, unlock when you need it

http://indiatoday.intoday.in/story/aadhaar-privacy-breach-uidai-lock-bio-metric-unlock-data/1/1019398.html

Reports of Aadhaar data being accessed by unauthorised entities raise concerns about breach of privacy but this can be tackled under the existing mechanism provided by the UIDAI.

HIGHLIGHTS

- Aadhaar biometrics can be locked by users and unlocked.
- Many experts have raised concerns about safety of Aadhaar biometrics.

- An engineer was arrested early this week for illegally accessing Aadhaar data.

On August 1, an IIT-Kharagpur alumnus was arrested by the Karnataka police on the charges of illegally accessing the Aadhaar data of people 31-year-old Abhinav Srivastav's arrest has intensified the debate over **security of Aadhaar data** and protection of **privacy** of the citizenry.

The software development engineer, according to police, accessed Aadhaar information in January this year through his Aadhaar e-KYC app. This app was available on the Google Play store till recently.

On the other hand, the Supreme Court has reserved its judgment on right to privacy. The apex court is considering if the right to privacy can be fundamental under the right to life and personal liberty provision of the Constitution.

The right to privacy case in the Supreme Court assumes significance in the wake of reports of unauthorised access to and misuse of bio-metric data recorded under Aadhaar project of the Unique Identification Authority of India (UIDAI).

DOES AADHAAR RISK PRIVACY?

A study by the Centre for Internet Society showed that more than 13 crore Aadhaar data were leaked, stolen or compromised. Leakage of Aadhaar data of cricketer Mahendra Singh Dhoni's family members made headlines.

In May this year, the Centre admitted in the Supreme Court that personal data of Aadhaar card-holders got leaked. The Centre's acknowledgment before the apex court came just a day after when the then Attorney-General Mukul Rohatgi had told the bench that "one cannot have an absolute right over his or her body". Rohatgi was defending the Centre's decision to make Aadhaar mandatory for PAN cards.

However, on July 26 this year, the government told the Lok Sabha in response to a question that "there has been no leakage of Aadhaar data from UIDAI." In the same reply it admitted data being erroneously or accidentally made public on some government controlled websites.

Earlier in April this year, Aadhaar data of the beneficiaries of Pradhan Mantri Awas Yojana (PMAY) was made public on the website of Gujarat government.

WHY TECHIE'S ARREST A WORRY FOR PRIVACY BREACH?

The first serious complaint about misuse of Aadhaar data came to light in October, 2011. Though, the UIDAI did not then divulge the details about the nature and extent of misuse of personal data of the individuals registering themselves for Aadhaar.

But, the complaint red-flagged the vulnerability of individual data collected by the UIDAI through registered service providers.

In 2016, a paper titled DelhiPrivacy and Security of Aadhaar: A Computer Science Perspective was published by the IIT-Delhi. It said that "the possibility of leakage of the Aadhaar number from an AUA (Authentication User Agency), either from the database, or during "Know Your Customer" (KYC) processes, or even during availing services, cannot be ruled out."

In January this year, the Supreme Court observed that Aadhaar data collection by private agencies might not be "a great idea". The Supreme Court judgment on the right to privacy, expected by August end, is likely to have deep impact on the upkeep of Aadhaar data.

The troubling question remains how to make individual's Aadhaar data secure. The UIDAI has provided for locking individual's data, which can be unlocked at will.

HOW TO LOCK AND UNLOCK BIO-METRICS?

The UIDAI maintains that there are enough tools to keep one's Aadhaar data secure. Among those tools is the option to lock or unlock individual's bio-metric data. The procedure is simple but it requires an internet connection and understanding of online operations.

The website of the UIDAI has a clickable display - Lock/Unlock Biometrics link under Aadhaar Services. Clicking on the **Lock/Unlock Biometrics** takes the user to **http://resident.uidai.gov.in/biometric-lock.**

On the landing page, the user is required to enter her Aadhaar number and the security code. A one-time password (OTP) will be generated. Entering this OTP and another security code in the appropriate boxes will lock the biometrics of the Aadhaar user. With this, the Aadhaar-linked biometrics including the fingerprints and iris attributes will become inaccessible to outside agencies.

If an outside agency tries to access or authenticate Aadhaar data, the webpage will throw an error code 303 - meaning biometrics are locked. This may prevent banks, mobile operators (like Jio) and other entities from verifying Aadhaar data of the individual.

To allow the access when required for verification by some outside entity, the Aadhaar biometrics will have to be unlocked or disabled. The Aadhaar biometrics could be unlocked through the same process as used for locking the data access.

Though the process is simple, it may require frequent locking/unlocking as more and more services are being Aadhaar enabled both in the public and private sectors. But, this tool must boost the confidence of Aadhaar-card holders assuring them that their personal data are safe and secure.

August 4

IITGN pioneered the Foundation Programme in 2011, and it has impacted students significantly

http://www.dnaindia.com/ahmedabad/report-all-iits-to-follow-iitgn-model-2520833

The Foundation Programme of the Indian Institute of Technology, Gandhinagar (IITGN), seems to be going places. After a huge success of the programme that disconnects students from their studies at the beginning of the course, the IIT Council has asked other IITs across the country to follow suit.

IITGN pioneered the Foundation Programme in 2011, and it has impacted students significantly. It aims at nurturing the all-round growth of students, away from academics, contributing to their creativity, physical wellbeing and extra-curricular passions.

Talking about the programme, Dr Sudhir Jain, Director of IIT-GN, said, “The idea was to delay the study time of the new students and allow them to spend some time on various other activities. In 2013, NIT Trichy started a similar programme and in 2015, IIT-Kota adopted it. Recently, the IIT Council studied the programme, considered student feedback, and asked all the IITs to follow our Foundation Programme.”

The five-week programme includes various activities ranging from field visits to village walks to sports. The authorities at IITGN, while designing the course, considered the fact that during JEE preparations, students dedicate nearly 10 hours to

their books and do not partake in any physical activity. Hence, foundation programmes should be designed to boost both mental and physical well-being of students.

Amit Prashant, dean, IIT-GN, said, "This year, we have included yoga in our physical activities. We designed a careful review system based on student feedback and perceptions about the end-of-day events in the programme."

DAY PLAN

A typical foundation programme day looks like this:

- Hour long physical exercise session at 6:30 am
- After breakfast, couple of lectures and interactive sessions with experts from various fields
- Post-lunch sessions on creative passions
- Sports in the evening
- In the evening, students are encouraged to pen down their thoughts and follow up on the things they discussed in the course of the day

August 3

IIT-Delhi gets 50 proposals to study cow milk benefits: Centre

http://indianexpress.com/article/education/iit-delhi-gets-50-proposals-to-study-cow-milk-benefits-centre/

The proposals from different academic and research institutions were made under the Scientific Validation and Research on Panchgavya (SVAROP).

Minister of State for Science and Technology YS Chowdhary on August 2 informed the Parliament, the Indian Institute of Technology, Delhi has received about 50 proposals for research on benefits of cow milk and urine. The government, however, said that it had not set up any panel to carry out research on cow derivatives.

The proposals from different academic and research institutions were made under the Scientific Validation and Research on Panchgavya (SVAROP).

Minister of State for Science and Technology said a national brainstorming-cum-consultative workshop on SVAROP was organised by IIT-Delhi, in which scientists and researchers from academic/research institutions and government agencies, including IITs, Ministry of AYUSH, Ministry of Science and Technology, and others participated.

"The Department of Science and Technology has constituted a National Steering Committee to initiate a national programme on SVAROP," Chowdhary said.

University of Taipei signs MOU with Indian Institute of Technology Delhi

http://www.taiwannews.com.tw/en/news/3224851

University of Taipei and Indian Institute of Tech Delhi ink MOU

The University of Taipei (UT) recently signed Memorandum of Understanding (MoU) with the Indian Institute of Technology (IIT) Delhi in an effort to help the university become one of the top 500 universities in the world.

UT President Tai Hsia-ling (戴遐齡) said on Tuesday that her vision is to help the university become one of the best, to be ranked in the top 500 in the world, and signing the MOU with IIT Delhi was definitely a step ahead in that direction.

The MOU states mutual agreements and collaborations both universities have agreed upon, which

include projects such as exchanges of teaching and learning resources, faculty and student exchanges for research purposes, and also work on joint research projects.

The UT also agreed to offer scholarship to 10 students per year from the Indian college, which would provide a financial assistance of up to NT$90,000 (US$2,900) per semester, airfare, accommodation and living cost.

As for IIT Delhi's part, the university will provide free boarding and lodging and monthly allowance of 5,000 Indian rupees (US$79) to exchange students from the Taiwanese university.

Bodh Raj Mehta, dean of the research and development department of IIT Delhi, said he was optimistic about the collaboration. He mentioned that IIT Delhi and UT are about the same size and face similar challenges.

Tai said she was committed to improving UT's global ranking as it is crucial to have a high worldwide ranking in order to attract more international students.

As a part of her plan, UT is currently building connections with overseas schools such as IIT Delhi and looking forward to expand its academic exchanges with Nangyang Technological University in Singapore and also Illinois State University in the US, said Tai.

The University of Taipei is 120 years old and its current global ranking stands at no. 2,934, while in Taiwan it is ranked 67th best university. The rankings are according to Webometrics Ranking of World Universities, a site that is run by the largest public research body in Spain.

IIT Ropar achieves the highest research citations per paper among all new IITs

http://punjabnewsexpress.com/education/news/iit-ropar-achieves-the-highest-research-citations-per-paper-among-all-new-iits-63701.aspx

ROPAR: Adding another feather to its cap, Indian Institute of Technology Ropar (IIT)has achieved a milestone of 1000 publications in the Scopus database. According to the latest data available, the Institute has indexed a total of 1020 publications on Scopus with an average citation per paper of 7.68, which is the highest among all new IITs. Scopus is the world's largest abstract and citation database of peer-reviewed research publications.

Some of the key research which formed part of the Scopus database were on Catalysis, Fluid dynamics, nano – colloids, Surface Engineering, Traffic Flow, Sensors & Bio-Sensors etc.

Speaking about the achievement, Prof. S.K Das, Director, IIT Ropar said, "We are delighted to have achieved the milestone of over 1000 publications in the Scopus database. An even bigger achievement is being at the top of all new IITs in terms of the citations per paper. This indicates the high quality of research being undertaken at the Institute."

Mumbai scientists to protest against cuts in research funding on August 9

http://www.hindustantimes.com/mumbai-news/mumbai-scientists-to-protest-against-cuts-in-research-funding-on-august-9/story-khN9kENlCnyG5pFDWK14ZP.html

The march will start from August Kranti Maidan at 4pm and end at Girgaum Chowpatty.

Scientists from research institutes across Mumbai will take part in a rally, 'March for Science' on August 9 to protest against cuts in research funding.

The march will start from August Kranti Maidan at 4pm and end at Girgaum Chowpatty.

The March for Science movement started globally in April.

MC Arunan, who heads the Collaborative Undergraduate Biology Education at Homi Bhabha Research Center, will spearhead the rally in Mumbai . "There is a need to inculcate evidence-based science among young students," said Arunan.

Another aim of the rally will be to urge the government to increase its budget for science and technology, which is currently 0.8% of GDP. So far, around 200 scientists across the city's research institutes have signed up for the rally, Arunan said.

Abhijit Majumdar, assistant professor at IIT-B's department of chemical engineering, said, "If there is an attack on science, the community needs to come together," he said.

Dr Deepak Modi, a scientist at the National Institute of Research in Reproductive Biology, Parel, said the government needs to focus on fundamental science more than applied science.

August 2

IIT Bombay working with Mojo Networks to improve WiFi classrooms and conduct SAFE exams

http://www.financialexpress.com/jobs/iit-bombay-working-with-mojo-networks-to-improve-wifi-classrooms-and-conduct-safe-exams/791373/

Mojo Networks a cloud-managed Wi-Fi company is collaborating with IIT Bombay to provide reliable WiFi experience in smart classrooms. The wireless performance has helped in the successful deployment of SAFE (Smart Authenticated Fast Exams).

SAFE is a smartphone app-based system for conducting exams in classrooms.

Mojo Networks, a cloud-managed Wi-Fi company, is collaborating with IIT Bombay to provide reliable WiFi experience in smart classrooms. The wireless performance has helped in the successful deployment of SAFE (Smart Authenticated Fast Exams), a smartphone app-based system for conducting exams in classrooms, the company said. SAFE has been created by professors and student researchers of IIT Bombay after two years of research and development. This app basically leverages students' smart devices to conduct objective exams in a proctored setting.

SAFE essentially employs a host of mechanisms to ensure the integrity of the exam, by restricting the use of the smart device for the intended purpose, for the duration of the SAFE exam. This app works in real time, which means post submitting the quiz, the instructor will be able to instantly view the consolidated marklist. This function enables students to get real-time feedback from the professor thereby helping them focus better on learning, especially in large classes. So far, SAFE has been used for in-class quizzes in 14 IITB courses in the last 2 years. In addition, the app was used in the pre-interview screening test for IITB CSE MTech RA admissions in May 2016.

Kiran Deshpande, Co-founder and President, Mojo Networks, said, "Professors and students demand zero downtime of the WiFi infrastructure, especially during an exam setting. There should be a firm assurance to support several hundred student devices simultaneously in each classroom. We make certain that our WiFi Access Points deliver interactive performance during the interval of the assessment."

Here is what SAFE does:

1. *Continuous assessment through short quizzes:* Teachers have conducted short quizzes, as easy as asking a verbal question in class. These help in instant feedback to the student as well as the teacher.

2. *Easy, paper-free objective exams:* SAFE exams have avoided the hassle of printing and manual evaluation. With SAFE, conducting objective exams is paper-free and cheating-free.

3. *Check mental presence:* SAFE has helped instructors check if students have grasped what has been taught in class.

With a short SAFE-quiz in the class, instant feedback is possible.

4. *Surveys and polls:* SAFE has eased the conduct of many surveys and polls, with configurable anonymity for those answering.

August 1

IIT Delhi Student Invents A New Way To Detect Breast Cancer

http://www.igyaan.in/135865/iit-delhi-breast-cancer/

IIT Delhi Student Invents A New Way To Detect Breast Cancer

IIT Delhi student, J.Jean Rossario Raj from the department for biomedical engineering, presented an alternate design in ultrasound transient elastography system for early detection of breast cancer. The project was to expertly diagnose and differentiate between malignant (cancerous) and benign (non-cancerous) tumours by combining various ultrasound imaging modes.

Studies show that the malignant tumours are stiffer than benign ones. And one of the ways to detect the tumor is through Ultrasound elastography. It is a non-invasive imaging technique which helps differentiate between the two types of tumours by evaluating the elasticity of the tumour.

In an abstract, Jean provided a detailed account of her research. The research was conducted on 72 breast cancer patients using conventional non-invasive tumour detection techniques. With the help of the data collected during the research, Jean built a prototype for faster and efficient detection of cancer. The clinical data of the patients was tested using the prototype. The results show that the machine was able to detect tumours with 94.7% sensitivity, 90.6% specificity and 91.7% accuracy. The machine was also able to differentiate between the malignant and benign tumours with accuracy.

Breast cancer is the most common cancers in women worldwide. It is the fifth most common cause of death from cancer in women. Nearly 1.7 million new cases were diagnosed in 2012, which represents about 12% of all new cancer cases and 25% of all cancers in women.

In developed countries with advanced medical care, the survival rate of early stage breast cancers is 80-90 %, which falls to 24% for cancers diagnosed at a more advanced stage. Whereas, in developing countries, the survival rate further decreases to 40%.

Breast cancer is increasing rapidly in developing countries where the majority of cases are diagnosed at later stages. The lack of early detection and adequate diagnosis of the cancer reduces the survival rate.

Following is the standard procedure of diagnosing breast cancer

- Breast Exam/Physical Exam
- Mammography
- Ultrasound Imaging
- Biopsy
- MRI

Currently, a biopsy is the only definitive way to detect breast cancer. The procedure requires removing a sample of breast cells to analyse –

- Whether the cells are cancerous
- Type of cells involved in the cancer
- Grade of the cancer
- Hormone receptors of the cancer cells

A biopsy is a time taking and invasive process. The machine uses a non-invasive technique which will allow the doctors to diagnose the cancer at an early stage. The device will also allow the doctors to bypass the standard time consuming process and achieve faster results with significantly improved specificity and accuracy. If used by medical practitioners and doctors, the machine invented by J.Jean Rossario Raj can help detect breast cancer early, thereby reducing female mortality.