Newspaper Clips

January 31, 2014

Times of India ND 31-Jan-14 P-16

No extension for 2 IIT directors

Akshaya Mukul | TNN

New Delhi: Two of the six IIT directors whose terms are ending by June 2014 have been denied clearance by the HRD ministry for renewal or selection to another institution. Madhusudan Chakraborty, director, IIT-Bhubaneswar and Anil K Bhowmick, director, IIT-Patna will not get another term.

In case of Chakraborty, the ministry said though he had vigilance clearance, it was found that he had overdrawn travelling allowance. Though he had refunded the extra amount, a complaint was forwarded to Central Vigilance Commission and a warning issued to Chakraborty. The CVC is yet to take a view on Chakraborty's actions.

The ministry said it had also received some complaints about irregularities by Chakraborty in recruitment, purchase of equipment, fraud etc. The board of governors of IIT-Bhubaneswar has been asked to send a report on these complaints.

GRAFT CLOUD

Bhowmick, the ministry said, was "not clear from vigilance angle as regular departmental action for major penalty is underway against him". Bhowmick, as dean of Sponsored Research and Industrial Consultancy of IIT-Kharagpur, had outsourced the work given to the institute by Coal India Limited despite a clear condition that "all documents received from CIL for study will be treated as confidential and not divulged to any third party" without CIL approval.

Sources said Bhowmick's appointment as director of IIT-Patna should not have taken place as it was done without proper vigilance clearance.

For the full report, log on to www.timesofindia.com

Business Line ND 31-Jan-14 P-21

IIMC pitches for more foreign students

Global accreditations to help attract exchange scholars

AYAN PRAMANIK
Kolkata, January 30

Indian Institute of Management-Calcutta (IIMC) is pitching for international accreditations to attract foreign students for full-time courses beginning next year.

IIMC has an exchange programme for global students during the fifth term of a full-time course. The exchange programme can be of a maximum duration of three-and-a-half months.

Students of IIMC currently go on exchange programmes to 58 global business schools and CEMS, a club of European management schools. While around 80 foreign students came this year to IIMC, close to 110 students of IIMC went to the partner schools and CEMS.

Dollar dreams The premier B-school is working out packages which include internships. ASHOKE CHAKRABARTY

According to Anindya Sen, Dean, Academic, IIMC, the institute has approached UK-based Association of MBAs (AMBA) and US-based Association to Advance Collegiate Schools of Business (AACSB) for accreditations. Both are prominent international authorities that recognize business programmes across various countries. "We expect to get global accreditations by the end of this year. Once you get accreditations, global students become more confident. I think this will enable us to get more students for full time courses," Sen told *Business Line* in an interview.

Constraints

But, according to Sen, there are a few constraints too. Proper infrastructure for such students is yet to be developed at the IIMC campus. "There is already so much competition among the domestic students. So, if we take more international students it may not go down well with the Indian students, since we only have a fixed number of seats," Sen said.

IIMC is simultaneously working out alternative plans to create packages, including internship, for a period of up to six months for global students.

"We are also looking into possibilities where global students come and do internship along with the courses. We have had a Japanese student who pursued a course here and went to Mumbai for internship," Sen pointed out.

Asked about the possible criteria for such students to enrol for full-time courses, Sen said the institute was still working out procedures. "If we want to bring in students from abroad, we have to ensure that they can take CAT from abroad, which is not possible now," he said.

IIMC will, however, not make a completely different programme to suit the global students, Sen added.

'We're able to produce barely 8,000 PhDs'

HURDLES Bharat Ratna awardee CNR Rao says absence of proper funding main reason

HT Correspondent
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INDORE: Do the unconventional. Think out of the box. This was the advice that Bharat Ratna CNR Rao had for students of IIT-Indore where he had come to deliver a keynote lecture on chemistry organised under the aegis of Jawaharlal Nehru Centre for Advanced Science and Research (JNCASR) on Thursday.

Emphasising the need for having an independent approach while on the path of research, Rao said, "Layering knowledge after knowledge on the same topic will not do us any good. We need somebody who can strike a new course with a completely different idea."

Bharat Ratna awardee CNR Rao delivers a lecture in Indore.
ARUN MONDHE/HT

Comparing the educational figures of the country with China, Rao said, "Even after 40 years of Raman's death, we are barely able to produce 8,000 Phds. This figure is a huge contrast with China which has around 22,000 research papers and Phds."

When asked about the reason for this huge difference, he cited absence of proper funding, grooming to think differently and lack of proper work environment. "Private industries make a lot of money due to breakthroughs in research but they do not share it with the researchers or fund new research. I did not get even a ₹5 note from private industrialists; whatever I got was from the government," he said.

Rao said, "There is a lot of talent in the society but no one to trap it. Our students do exceedingly well when they step outside the country but they hardly show any extraordinary traits here. The reason is we value and promote everything except a new discovery or innovation."

Quoting Vivekanand and Gandhi, Rao said, "Great people have said there can be progress only when there is a collective approach. We need to embark on a healthy competition in society. The day this happens, India will have mass progress."

Echoing similar sentiments during his lecture titled 'Graphene and Inorganic Graphene Analogues' he expressed concern on the overexposure to technology amongst youngsters. He said, "It surprises me how glued people are too technology. One should understand that technology is good but using the brain is also important.

CONTINUED ON P9

We are able to...

Today, we don't find students doing mental maths because they have calculators to do the job. These are not healthy signs of a progressive society."

Besides the director of IIT-Indore, Pradeep Mathur, around 10 scientists, students and researchers attended his lecture. TK Sharma, professor, department of chemistry IIT-Indore said, "He is a very well-known figure in the field of science. His mere presence is a source of enlightenment for the students and faculty members."

THE FINANCIAL EXPRESS
Read to Lead

India ranked at the bottom of Intellectual Property Index

PTI Posted online: Wednesday, Jan 29, 2014 at 0000 hrs

Washington : For the second consecutive year, India has been ranked at the bottom of 25 countries in terms of protection and enforcement of intellectual property practices, a US Chamber of Commerce report said today.

India has been a low seven point out of a maximum 30, with the United States topping the Intellectual Property (IP) index with 28.5 per cent.

A report by the Global Intellectual Property Center (GIPC) of the US Chamber of Commerce maps the IP environment of 25 countries from around the world utilising 30 factors, which are indicative of an IP environments that fosters growth and development.

"India, which again finished last in the second edition of the Index, continues to allow for the deterioration in its IP climate," the report said adding that India continued to score lowest, most notably in categories relating to patents, copyrights, and international treaties.

China shows improvements in certain aspects of its patent regime, however, its overall IP environment continued to see challenges, particularly in regard to trade secret protection and enforcement.

The United States received the highest overall score, but came in third after the United Kingdom and France in the enforcement category.

Canada's treatment of pharmaceutical patents, copyright laws, and unwillingness to ratify international IP treaties resulted in significantly lower scores than other upper-income economies, the report said.

India continues to have the weakest IP environment of all countries included in the Index, the report said.

"Despite the 2010 declaration by the then-President of India that the next 10 years will be India's 'Decade of Innovation', the continued use of compulsory licenses, patent revocations, and weak legislative and enforcement mechanisms raise serious concerns about India's commitment to promote innovation and protect creators," it said.

According to the report, in the bio pharmaceutical space, Indian policy continued to breach international standards of the protection of innovation and patent rights, revoking patents generally accepted around the world and announcing that other patented medicines are being considered for compulsory licenses.

Most notable was the April decision by the Supreme Court of India on the patentability of the anti-cancer drug Glivec, the court held that the drug did not meet patentability standards as imposed by the Indian Patent Act's Section 3(d) regarding "incremental innovation" and limiting patent protection to what is specifically disclosed, again in contradiction to global norms, it said.

"This is despite Glivec being recognised as a breakthrough drug and given protection in 40 jurisdictions around the world.

"Given the prominence and size of India's generic pharmaceutical industry, other countries have taken notice and begun to introduce similar provisions into their own laws and regulations," said David Hirschmann, President and CEO of the GIPC.

"A robust IP system provides the critical foundation needed for nations wishing to advance their economic and social progress, and provide assurances to consumers that the products they use are authentic, safe, and effective," said Hirschmann.

"By highlighting countries that are leading or lagging in fostering a strong IP framework, the GIPC Index provides a clear and objective tool for policy makers to strengthen innovative potential and for business leaders to assess risk and investment," he added.

According to Hirschmann, the United States may lead the overall ranking, but has fallen behind in its enforcement efforts.

"Therefore, we urge the Obama administration and Congress to expand on current enforcement programs and allocate dedicated resources throughout the government to effectively enforce IP rights and protect consumers," he said.

Hindu ND 31-Jan-14 P-15

IISc to set up brain research centre

To find cure for neurodegenerative conditions accelerated by old age

Special Correspondent

BANGALORE: In the biggest initiative of its kind, the Indian Institute of Science (IISc) will establish a Centre for Brain Research, having received a grant of Rs. 225 crore for the project from Pratiksha Trust for 10 years.

The Centre will specifically aim to find cure for neurodegenerative conditions accelerated by old age, the IISc said in a press release on Thursday.

Diseases such as dementia receive little attention although they are widespread, are devastating for patients and extremely challenging for families and caregivers, Centre for Neuroscience chairperson Vijayalakshmi Ravindranath told *The Hindu*.

"Neurodegenerative conditions such as dementia are only going to rise with increase in life expectancy. We need to look at risk factors and ways to help protect the brain better. Diabetes, for instance, has been linked to dementia. Given the diversity of India's population and the complexity of these diseases, the scope for research is enormous," Prof. Ravindranath said.

Kris Gopalakrishnan, trustee of the Pratiksha Trust, said: "we are working towards creating a globally recognised, world-class research facility that will be at the cutting-edge of research on the human brain."

Hindustan Times ND 31-Jan-14 P-11

Asia dominates list of 'young' varsities

Vanita Srivastava
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NEW DELHI: Universities from Hong Kong, Singapore and South Korea took the top five positions in this year's QS Top 50 under 50, a ranking of universities established within the past 50 years.

The ranking does not include any Indian university because all the 11 institutes of India, which ranked high in the main QS global list released last year and from which this list is devised, have been in existence for more than 50 years.

Hong Kong University of Science and Technology bagged the top slot, followed by Nanyang Technological University, Korea Advanced Institute of Science and Technology, City University of Hong Kong and Pohang University of Science and Technology, South Korea.

RANK HOLDERS

University	Rankings
Hong Kong University of Science and Technology	1st
Nanyang Technological University	2nd
Korea Advanced Institute of Science and Technology	3rd
City University of Hong Kong	4th
Pohang University of Science and Technology	5th

Compiled by QS Quacquarelli Symonds, the QS Top 50 under 50 is based on results from the QS World University Rankings 2013/14, a list of the world's top 800 varsities.

Charge Your Smartphone with Solar Power

Hot Startup

Lumos Design Tech

A Bangalore startup offers solar power backpacks that can charge your cellphone and tablets on the go

During field visits to the outskirts of Bangalore as a consultant in 2012, Gandharv Bakshi's mobile phone would constantly run out of power. A casual mention of his frustrations to fashion designer wife led to the emergence of Lumos Design Technology—which makes bags with an inbuilt battery that can power mobile devices through solar power.

Bakshi, 30, who was also studying at IIM-Bangalore at the time, opted out of placements and started working on a prototype for the bag. Along with his wife, Bakshi began work on the idea of wearable technology and built their first prototype at the end of 2012. He came out with a bag that had a solar panel inserted on top. The panel was later replaced with imported solar fabric from China and the United States, and Lumos had an unbreakable, waterproof and durable design for the bag.

Last year, Google India Managing Director and angel investor Rajan Anandan invested ₹25 lakh in the startup.

"I invested because they are solving a real problem. The company is addressing a large global market. Most of us run out of battery power on our phones and notebooks every day - especially true for people who travel extensively," says Anandan, who has invested in over 40 Indian startups.

Bakshi's wife, Lavina who was working with a denim company in Bangalore, is now dedicated full time to designing new wearable technology products for the startup.

Lumos bags, available on its website, currently cost about ₹5,000 each. "About 70% of the cost of the bag is its technology, which includes the solar fabric, the battery and the circuit," says Bakshi. He is also in talks with various ecommerce players and two large laptop manufacturers, to increase the sales of Lumos. The battery can charge at the rate of 3 watts per hour, enough to charge a phone twice over.

"By the end of 2014, we hope to sell 10,000 bags globally," says Bakshi, who is getting the products tested in the Philippines, Malaysia and Mexico. Lumos is also selling its backpacks through BumsOnTheSaddle, a Bangalore based bike and accessories retailer. "The backpack has seen an increasing demand among people who go on long rides and need to use gadgets along," says Rohan Kini, co-founder of BumsOnTheSaddle.

Lumos is also working on a solar-powered jacket for bikers.

Lumos founder, Gandharv Bakshi, 30, showcasing a backpack with an inbuilt battery that gets charged when the bag is kept in daylight

A phone kept in the pocket of the jacket, will automatically get charged when the jacket is taken out in the sun.

Besides this, the company is working on a backpack for mountaineers. "The mountaineering backpack has a considerable surface area, which can be used for charging large batteries via solar power," says Bakshi, an alumnus of IIT-Madras.

Lumos is also working on a prototype of a "weightlifter backpack", which will use a small quadracopter or propellers to keep the bag in the air while a biker rides. The propellers, which get recharged through solar energy, ease the weight on a biker's back. Bakshi has applied for an Indian patent on design of electronic circuits used for the solar-powered bag, which can also charge assorted USB devices such as coffee coasters for making coffee, or small chillers to cool a can of beer for three hours.

"The sun gives us enough energy every day to power all our electronic devices," he said. "We wanted to become a wearable technology maker which can harness that energy to solve our common problems."

ZEESHAN PATEL & HARSIMRAN JULKA

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Nasa to make water on Moon, oxygen on Mars

Plans Robotic Missions On Lunar Surface In 2018 & On Red Planet In 2020

Washington: Nasa is planning to launch robotic missions to make water on the Moon in 2018 and oxygen on Mars in 2020.

The Moon mission will be the US space agency's first attempt to demonstrate in-situ resource utilization (ISRU) beyond Earth.

The purpose of ISRU, or "living off the land" is to harness and utilize space resources to create products and services which enable and significantly reduce the mass, cost, and risk of near-term and long-term space exploration.

"Every pound that you don't have to launch from the Earth of dumb mass — things like water and air and propellant — means that you can add a pound of intelligent mass — an experiment, a computer, something designed to accomplish some job or give us some capability," said lunar geologist Paul Spudis, with the Lunar and Planetary Institute in Houston. "Doing ISRU gives you incredible leverage because you're changing the fraction of intelligent-to-dumb mass on your spacecraft in favour of the intelligent part," he said.

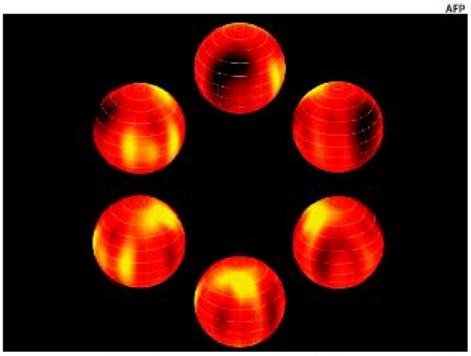
The first in-space ISRU test is targeted for 2018, 'Discovery News' reported.

Nasa plans to launch a mission called Resource Prospector that includes a rover with instruments to scout for telltale hydrogen, drill out samples, heat them and scan for water vapour and other volatiles on the moon. Vapour also could be re-condensed to form a drop of water.

"A lot of the technologies have broader use than just lunar...it's just a convenient location to be testing the ISRU technology," said Jason Crusan, director of Advanced Exploration Systems at Nasa headquarters in Washington DC. A second ISRU experiment is due to be aboard Nasa's next Mars rover, which is slated for launch in 2020.

The device, which is yet to be selected, would pull carbon dioxide from the planet's atmosphere, filter out dust and other particles and prepare the gas for chemical processing into oxygen. The demonstration also could include actual oxygen production, the report said. AGENCIES

AFP



A European Southern Observatory photo shows the first ever map of the weather on the surface of a brown dwarf, Luhman 16B, some 6.5 light-years from the Sun. Researchers found that Luhman 16B has a complex structure of patchy clouds made up of droplets of liquid iron and other minerals, with temperatures in the clouds exceeding 1,000°Celsius

Jupiter may have once migrated closer to the Sun

MIT scientists have developed a map of more than 100,000 asteroids throughout the solar system which suggests that Jupiter may have once drifted much closer to the Sun. The map found that 'rogue' asteroids are more common than previously thought. The map suggests that the early solar system may have undergone dramatic changes before the planets assumed their current alignment. For instance, Jupiter may have drifted closer to the Sun, dragging with it a host of asteroids that originally formed in the colder edges of the solar system, before moving back out to its current position. AGENCIES

Dainik Bhaskar ND 31-Jan-14 P-4

नालंदा विवि में यूरोपीय यूनियन भी होगा भागीदार, 28 राजदूतों ने देखा प्रजेंटेशन

सत्र 2014-15 से इतिहास व पर्यावरण पाठयक्रम की पढ़ाई होगी

नेशनल ब्यूरो | नई दिल्ली

नालंदा विश्वविद्यालय में पहले से मौजूद देशों के अलावा यूरोपियन यूनियन के देश भी शामिल हो सकते हैं। विदेश मंत्रालय, जो इस विवि के वैश्विक स्वरूप की वजह से संयोजनकर्ता है, ने गुरुवार को यूरोपियन यूनियन के 28 राजदूतों को इस विवि की महत्ता और इसके स्वरूप को लेकर प्रस्तुतिकरण दिया। इसके बाद कई यूरोपीय देशों के राजदूतों ने इसको लेकर सकारात्मक रुख दिखाया है। उम्मीद है कि इनमें से कुछ देशों के साथ आने वाले समय में आपसी समझौता पत्र पर भी हस्ताक्षर हो सकते हैं। फिलहाल भारत में स्थापित होने वाले इस विवि में ऑस्ट्रेलिया, ब्रुनेई, कंबोडिया, लाओ पीडीआर, म्यांमार, न्यूजीलैंड, सिंगापुर, चीन और दक्षिण कोरिया शामिल हैं।

सितंबर तक राजगीर कार्यालय: नालंदा विश्वविद्यालय की स्थापना से खुश, लेकिन इसके मुख्य कैंप कार्यालय के दिल्ली में होने और वहीं से इस साल से इस विवि के शुरू होने से नाखुश स्थानीय लोगों की इच्छा को देखते हुए सरकार ने सितंबर तक इसके राजगीर कार्यालय को खोलने का निश्चय किया है। एक अधिकारी ने कहा कि कोशिश यह है कि जब प्रवेश प्रक्रिया शुरू हो तो राजगीर में एक कार्यालय हो। उसके साथ ही इस अवधि तक वहां पर कैंपस स्थापित करने की प्रक्रिया भी शुरू कर दी जाएगी।

वैश्विक छात्र- वैश्विक शुल्क

इस विवि में वर्ष 2014-15 से इतिहास और परिस्थितिकी व पर्यावरण पाठयक्रम की शिक्षा शुरू करने का लक्ष्य रखा गया है। इसमें करीब 25 छात्रों को प्रवेश दिया जाएगा। इन पाठयक्रमों की फीस 10 से 20 हजार डॉलर प्रतिवर्ष होगी। विवि में एफफिल और उससे उच्च शिक्षा ही दी जाएगी। एक अधिकारी ने कहा कि असल में विवि अपनी तरह के नए प्रयोग के साथ सामने आ रहा है। फिलहाल भारत में शिक्षा को नौकरी से लिंक किया गया है जबकि यह विवि मुख्य तौर पर विश्वस्तरीय शोधकर्ता तैयार करना चाहता है। वर्ष 2017-18 तक करीब सात स्कूल खोलने का लक्ष्य रखा गया है। यहां पर शिक्षक भी वैश्विक स्तर के होंगे और उन्हें 40-50 हजार डॉलर सालाना टैक्स फ्री वेतन देने का लक्ष्य रखा गया है। इस अधिकारी ने कहा कि जब विवि बनकर तैयार होगा तो इसमें अन्य स्कूल भी खोले जाएंगे।

रेल-आईटी शहर- सड़क: इस अधिकारी ने कहा कि इस विवि को लेकर बिहार सरकार की ओर से लगातार सहयोग मिल रहा है। उसने 455 एकड़ भूमि मुफ्त में दी है। बिहार सरकार ने यहां पर एक आईटी सिटी बनाने का इरादा जताने के साथ ही यहां पर एक पुलिस ट्रेनिंग कॉलेज खोलने की दिशा में भी कार्य किया है।

Amar Ujala ND 31-Jan-14 P-16

मलबे से बनी सड़कें बचाएंगी करोड़ों रुपये

लागत में आ सकती है 30 से 50% की कमी

आईआईटी के वरिष्ठ वैज्ञानिक ने किया शोध

अंकित कुमार गर्ग

रुड़की। आईआईटी रुड़की के वैज्ञानिक ने दावा किया है कि अगर सड़कें 'रिसाइकिल्ड' चीजों से बनाई जाएं तो वे न सिर्फ 30 से 50 फीसदी सस्ती पड़ेंगी, बल्कि मजबूत भी होंगी। इस तरह सड़कों के निर्माण में करोड़ों रुपये की बचत हो सकती है।

आईआईटी रुड़की के सिविल डिपार्टमेंट में ट्रांसपोर्ट इंजीनियरिंग के वैज्ञानिक डॉ. जीडी रनसिंनचुंग ने अपने शोध में उत्तराखंड की जरूरतों को मॉडल बनाया है। इसके मुताबिक अगले दशक में उत्तराखंड में करीब 9242.07 किलोमीटर सड़कों के विस्तार की जरूरत होगी। इस लिहाज से प्रत्येक वर्ष करीब 924 किलोमीटर सड़कें बनेंगी। राज्य में प्रत्येक वर्ष सड़कों के लिए तीन हजार करोड़ का बजट खर्च होता है। 'रिसाइकिल्ड सड़क' से 900 करोड़ की बचत की जा सकती है। ध्वस्त सामग्री की कोई कीमत नहीं होती, लेकिन रिसाइकिलिंग का खर्च जरूर आएगा। इसके बावजूद कुल मिलाकर लागत कम हो जाएगी। सड़क की लेयरिंग में मलबे का इस्तेमाल किया जा सकता है। बजरी की जगह पत्थर का उपयोग हो सकता है।

देश में निर्माण उद्योग से प्रतिवर्ष 12 मिलियन टन ध्वस्त की गई सामग्री बेकार हो जाती है। कंक्रीट भवनों से प्राप्त बेकार सामग्री इससे दस गुना अधिक हो सकती है। औद्योगिक क्षेत्र अथवा निर्माण स्थल पर ही क्रशर यूनिट लगाई जा सकती है, जहां से निर्माण सामग्री तैयार करके उसे भेजा जा सकता है। यह तकनीक कचरे के निपटान की समस्या को भी हल कर सकती है।

इनसे बन सकती है रिसाइकिल्ड सड़क

- भूकंप और चक्रवात जैसी प्राकृतिक आपदाओं के कारण बड़ी मात्रा में प्राप्त मलबा
- निर्माण उद्योग तथा विकास संबंधी गतिविधियों के लिए तोड़-फोड़ से प्राप्त मैटिरियल

इस तकनीकी से क्या होगा लाभ

- वेस्ट मैटिरीयल से निजात मिलेगी और डंपिंग जोन बनाने से होने वाली भूमि की बर्बादी बचेगी।
- डंपिंग जोन से उत्सर्जित होने वाली कार्बन डाईऑक्साइड से निजात मिलेगी।
- ग्लोबल वार्मिंग जैसी समस्या भी कम होगी

प्रसंस्करण के बाद उपयोग होगी सामग्री

मलबा से प्राप्त सामग्री को प्रसंस्करित करने पर दो प्रकार की चीजें प्राप्त होगी। इन्हें कोर और फाइन का नाम दिया गया है। फाइन मैटिरियल को सड़क निर्माण में ज्यों का त्यों इस्तेमाल हो सकता है, जबकि कोर मैटिरियल की क्षमता मानकों के अनुरूप बढ़ाने के लिए इसमें फ्लाई ऐश तथा सिलिका फ्यूम का मिश्रण किया जाता है।

Economic Times ND 31-Jan-14 P-14

Biotech Bets Get Bolder

Lifesciences startups in India are no longer risk averse, developing applications like fuel from seaweed and nanomedicine that shrinks tumours, writes Peerzada Abrar

Turning seaweed into bio fuel was an idea so audacious that most people who heard of it dismissed it as a pipe dream. But for a group of tenacious students at IIT-Madras the naysayers were no deterrent. In just four years, the team of five has successfully transformed a futuristic idea into a new business venture.

"The thought of failure didn't come to me. I saw it as a huge opportunity to apply what I had learnt," said Sri Sailaja Nori, 25, cofounder of Sea6 Energy, the Bangalore-based startup which has struck a partnership with global industrial enzyme maker Novozymes to create new products to enhance the process of converting seaweed into ethanol. In addition, Sea6 has also developed technology to generate natural gas from the same process.

"I was so excited to see what these young minds can create," said Shrikumar Suryanarayan, chairman of Sea6 who signed on as a mentor to Nori and her team when he realised their potential. Suryanarayan who was formerly head of research at biotechnology firm Biocon worked alongside the youngsters as they fine-tuned their product.

Today, with three patent applications filed and nearly ₹6.5 crore in angel funding, the startup is well on its way to finding commercial applications.

Sea6 is one of several startups that are taking on higher risks in an attempt to turn their 'blue sky research' into businesses, marking a shift in India's life sciences sector. A decade ago, life sciences companies were mainly focused on services like contract manufacturing or development of generic drugs, where the business model consisted of supplying scientists who would work for a specific period on a specific problem.

Experts said things began to change as the industry grew in size and ambitious entrepreneurs began working on a range of applications from developing nanomedicine that shrinks tumours to drugs that promote self-healing of damaged organs. In the past few years, a number of angel investors and venture capitalists have shown the willingness to fund these emerging product companies.

"I am most encouraged to see the surge in innovation now," said Kiran Mazumdar Shaw, chairman of Biocon, India's largest biotechnology firm, who has backed several startups including XCyton Diagnostics, which has developed a technology that allows immediate identification of multiple organisms that cause infections.

Others such as Manipal group scion Ranjan Pai and former Infosys director Mohandas Pai have teamed up to set up Aarin Capital. The $100-million fund has already backed a clutch of ventures, including Vyome Biosciences, Invictus Oncology and Insightra Medical.

Amongst the companies gaining from this growing investor interest is Bangalore-based Stempeutics Research which is working in the area of stem cell-based drugs or regenerative medicine. Backed by the Manipal group and pharma maker Cipla, the company enables living, functional tissues to repair or replace tissue or organ function lost due to age, disease, damage or congenital defects.

"I am encouraged to see the surge in innovation. I have already invested in several startups as an angel investor"

Kiran Mazumdar Shaw
Chairman & Managing Director, Biocon

"We will first address the unmet medical need in India and then go global," said BN Manohar, managing director at Stempeutics whose aim is to bring out their first product into the Indian and Malaysian markets by 2016 and then tap Asian, European and North American regions.

"We are very fortunate that we found investors who believed in us and enabled us to take such risks," said Anand Anandkumar managing director of Cellworks Research India. It has raised around ₹124 crore from Artiman Ventures and Sequoia Capital. Founded by Taher Abbasi, Pradeep Fernandes and Shireen Vali, the company uses computer modelling to simulate how a drug will interrupt diseases such as cancer, inflammation, infection and bring the system back to normal.

"Large pharma companies used to tell us it is a crazy idea, we are not able to solve it how can you solve it?" said Anandkumar whose company is now designing a range of drugs. An increase in the number of senior professionals who have worked in large multinational companies such as Siemens, GE and Biocon who can guide new, ventures is also one of the factors leading to the launch of this new breed of companies.

Shaw of Biocon is of the view that most innovations will be in areas such as e-health and healthcare information technology. "We need a few in affordable diagnostics which will be the foundation on which universal healthcare can be based," she said. Global scientists of Indian-origin moving back home are also helping spur innovation. Among them is Bangalore-based Mitra Biotech which is engaged in developing personalised cancer therapy.

Founded in 2008 by a team of Harvard and MIT researchers Mallikarjun Sundaram, Pradip K Majumder, Mitra recently got a breakthrough when it came up with a technology that will help to make anti-cancer drugs faster and cheaper. The technology submitted for peer evaluation in scientific journals could lead to significant reduction in cost of cancer-treatment drugs, said industry experts. "There was a certain amount of risk involved when we decided that we wanted to build a product for the global market, and not just restrict it to certain geographies," said Mallikarjun Sundaram, chief executive of Mitra.

Similarly, Delhi-based Invictus Oncology founded by Shiladitya Sengupta and his team, who worked at research institutes like Harvard, Johns Hopkins and University of California, is also developing an anti-cancer drug that shrinks tumours by cutting off blood supply until it dies. US-based Artiman Ventures, which manages a $750-million fund believes these firms are breaking the mould of traditional methods to innovate.

"Instead they are looking from different eyes," says Ramesh Radhakrishnan, a partner at Artiman Ventures. "We are interested in ventures which are dramatically game changing, disruptive and risky."

Mitra which has raised around ₹70 crore in venture funding decided to approach professional investors right from the beginning. "If we hadn't been able to convince them to invest, there was probably something wrong in our approach," said Sundaram.

(With inputs from Biswarup Gooptu)

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PICS: N NARASIMHA MURTHY

Shrikumar Suryanarayan (sitting) with, Sailaja Nori, Nelson Vadassery and Sowmya Balendran (L to R), cofounders of Sea6 Energy

Scientists at Stempeutics Research

Mallikarjun Sundaram (left) and Pradip K Majumder, cofounders of Mitra Biotech

Ramesh Radhakrishnan (left) Partner, Artiman Ventures, and Anand Anandkumar, managing director of Cellworks Research India

SEA6 ENERGY

High risk bet: Alternate fuel

Founders: Shrikumar Suryanarayan and his students from IIT Madras

Breakthrough: Successfully converted seaweed into biofuel

Funding: ₹6.5 crore from angel investors and government

INVICTUS ONCOLOGY

High risk bet: Technology to help in cancer treatment

Founders: Shiladitya Sengupta and his team, who worked at research institutes like Harvard-MIT division of the Health Sciences and Technology in Boston, Johns Hopkins and University of California

Breakthrough: Developing nanomedicine which shrinks tumours by cutting off blood supply to it and continues to sit on the tumour till it dies

Funding: ₹10.5 crore from Navam Capital, Aarin Capital

MITRA BIOTECH

High risk bet: Personalised cancer therapy

Founders: Mallikarjun Sundaram, Pradip K Majumder

Breakthrough: Technology that will help to select right medicines for cancer patient and to make anti-cancer drugs faster and cheaper

Funding: ₹70 crore from Tata Capital Innovations Fund, Accel Partners, India Innovation Fund and Kitven, a Karnataka backed fund

STEMPEUTICS RESEARCH

High risk bet: Regenerative medicine

Founders: B N Manohar, Anish Sen Majumdar

Breakthrough: Stempeucel, a stem cell based demand drug to repair or replace tissues or organ function lost due to age, damage or congenital defects

Funding: Manipal Education and Medical Group and pharma major Cipla

CELLWORKS

High risk bet: Novel approach of designing therapies based on technology emulating human physiology and predicting clinical outcomes

Founders: Taher Abbasi, Pradeep Fernandes, Shireen Vali

Breakthrough: Computer modelling to simulate how a drug will interrupt diseases such as cancer, inflammation, infection

Funding: ₹124 crore from Artiman Ventures and Sequoia Capital

RAMAN EFFECT COMES TO IMPROVE BRAIN SURGERY

NEW YORK: Scientist have turned to Raman effect - named after Nobel Laureate Indian physicist CV Raman who discovered inelastic scattering of light 80 years ago - to solve complicated brain tumour surgeries. A research by the Innovation Institute at Henry Ford Hospital shows promise for developing a new method to clearly identify cancerous tissue during surgery on one

IISc develops portal on plant species

Bangalore, Jan 30, 2014, DHNS:, Deccan Herald

Has collected data of over 5,000 varieties found in the State

The Indian Institute of Science (IISc) has collected data of over 5,000 different kinds of plant species found in the State, which will be available for the public in the form of an online portal, shortly.

The study, which was carried out by the Centre of Ecological Science at IISc, is an attempt to document and catalogue the rich flora and fauna spread over 32,000 sq km in the State. “The database will be helpful not only for education and research purposes, but also for commerce, and to help the government form a proper policy on ecology and biodiversity,” said K Sankara Rao, former professor at IISc, who led the study.

He was speaking on the sidelines of a function to inaugurate the online plant portal here on Thursday.

The database contains profiles of as many as 2,449 herb species, 933 species of trees, 759 species of shrubs, 85 under-shrub species, 156 species of climbing shrubs, 264 types of climbers, 135 species of palms, 139 species of Lianas, 62 types of parasite plants and 18 species of canes.

List of endangered plants

The database also has a list of a number of endangered species of plants. As many as 20 critically endangered, 72 endangered, 24 near-threatened, 63 vulnerable and 4,129 not-evaluated species are available.

There are descriptions of each species, complete with photographs, along with information on its phenology, distribution, threat status, habitats and comments on its special features.

Information on plant species has been alphabetically arranged with scientific and vernacular names for the user’s convenience.

It will also have an advanced search option that will help the user further explore the entire database according to their own specifications.

Will be open to public

At the moment, the portal will be open only to the IISc faculty. Within a matter of a few weeks it is expected to be open to the public.

Elaborating on the usefulness of the online database for the government, Rao talked about a number of ecologically sensitive areas that could be located with the help of the database, before the government decides to embark on various hydro-electric or mining projects.

“Before any such projects, it is necessary to compile an ecological status report. The database will help in this task. Moreover, it will also increase awareness and the sensitivity of people to the issue of biodiversity,” said Rao.

Referring to the database as a “gold mine,” N Sivasailam, principal secretary, Forest, Environment and Ecology

Department, highlighted how the database was able to trace 16 endangered plant species in Chikmagalur and how it would help the department in conservation efforts.

“My officers and I should make sure that the 16 species in Chikmagalur are now off the endangered list. The database is surely helpful for the policy makers,” he said. He also spoke about the lack of staff at the Karnataka Biodiversity Board. “The board, in fact, has a secretary and a chairman, along with non-official members,” Sivasailam added.

Indian Educators Ignorant of Country's Academic Contributions to West

By Express News Service - CHENNAI Published: 30th January 2014 09:17 PM Last Updated: 30th January 2014 09:17 PM

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  "Why aren't Indian epics a part of our syllabus?" asked Amita Sharma, Additional Secretary (Technical), Department of Higher Education, MHRD. (Express Photo)

Despite scientific evidence to prove that the West is indebted to India for its contributions to education, Indian students have low self esteem as global citizens. This came up during a discussion on 'Indian Higher Education is overly influenced by the West'. And while mixed views prevailed, one point was spelled out loud and clear -- "Indian educators need to be educated about India," said S Gurumurthy, co-convenor, Swadeshi Jagaran Manch. Most teachers are not aware of the fact that several 'lauded' systems of education used in the West originated from right here (India), albeit centuries ago. And Taxila and Nalanda weren't the only references in this regard.

"Not many people know that we as a nation have contributed to primary education in Britain," said S Vaidhyasubramaniam, dean-planning and development, SASTRA University. He was referring to Andrew Bell's 'Madras system' that was inspired during a visit to the South when he came into with a school conducted by a single master through the medium of the scholars themselves. According to the method, every boy was made once a master and a scholar. The panelists went on to add that such glorious accounts of our nation's academic contributions to the world were not taught in Universities. "It's ignorance," said Gurumurthy. "For example, how many people know that a majority of our plumbers come from one small village in Orissa?"

This apart, the cultural merits of the country have not been embraced by the current academic syllabus in schools and colleges. "Why aren't Indian epics a part of our syllabus?" asked Amita Sharma, Additional Secretary (Technical), Department of Higher Education, MHRD. "We grow up reading Homer and Dickens, but not the Panchatantra or Jataka tales... " While most of the panelists agreed that students and educators were more ignorant than anything else to India's academic legacy from centuries past - the present academic scenario was reflected on in shades of grey. "Our schools bring in specialisations too early,"said Savita Mahajan, deputy dean, Indian School of Business (ISB). "Fifteen-year-olds are asked to decide on their choice of subjects and then they're bound to them for life," she elaborated. In this regard, drawing from the West seems a good idea, the speaker opined. "Every University in the American system is multi-disciplinary," she cited and went on to add further, "the transfer of credits is another system they have that would offer our students more flexibility".

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NUMBER OF INDIAN STUDENTS IN AUSTRALIA INCREASING

Australia has welcomed a sharp increase in the number of Indians applying for student visas to Australia. India remains the second largest source of overseas students in Australia after China.

The latest immigration figures show 4,148 Indians made offshore applications for student visas between July and September last year -- more than double the figure for the same period in 2012, according to a news release by the Australian High Commission.

More than 90 percent of Indians who applied for student visas were successful, compared with 74 percent in 2012. "These figures show that an increasing number of Indian students are being drawn to Australia's world class higher education system," Australian High Commissioner Patrick Suckling said.

"Australia provides an academic environment that has been internationally recognised as secure, culturally diverse and intellectually rewarding," Suckling said.

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Scientists appear to have located the conscience

Kounteya Sinha | TNN

London: The part of the brain that makes humans superior to all known animals, and which also functions as the voice from within — popularly called conscience — has finally been found.

Scientists from the Oxford University have for the first time identified an area of the human brain that appears unlike anything in the brains of other primates. It is part of the Ventrolateral Frontal Cortex, a region of the brain known for over 150 years for being involved in many of the highest aspects of cognition and language.

To look into which part of this region actually controls our superior decision making, scientists carried out MRI scans in both humans and monkeys. They found one area of the cortex that had no equivalent in the macaque monkeys — an area called the lateral frontal pole prefrontal cortex.

"We have established an area in human frontal cortex — the brain area known to be intimately involved in the most advanced planning and decision-making processes — that we think of as being especially human. It does not seem to have an equivalent in the monkey. This area has also been identified with multi-tasking," says author Franz-Xaver Neubert of Oxford University.

Scientists believe that our brain's lateral frontal pole prefrontal cortex is the inner voice that pricks us whenever we are inclined towards evil or blunder in our lives

Scientists also believe that lateral frontal pole prefrontal cortex is the loud (inner) voice that pricks whenever we are inclined towards evil or blunder in our lives. Oxford scientists say this is the region that tells us when we go wrong and whether we have been well advised to do something better.

MRI imaging of 25 adult volunteers was used to identify key components in the cortex area of the human brain, and how these components were connected up with other brain areas.

The results were then compared to equivalent MRI data from 25 macaque monkeys.