

## Newspaper Clips April 19-20, 2015

April 19

Amar Ujala ND 19/04/2015 P-8

### आईआईटी के प्रोजेक्ट देखने के लिए उमड़ी छात्रों की भीड़

नई दिल्ली (ब्यूरो)। कहीं बस का नंबर बताने वाला डिवाइस, कहीं पीठ के दर्द का इलाज, तो कहीं कार्बन डाय ऑक्साइड से ईंधन बनाने की तकनीक। कुछ इसी तरह के प्रोजेक्ट को भारतीय प्रौद्योगिकी संस्थान में आयोजित आईटूटेक 2015 में प्रदर्शित किया गया।

एक दिवसीय इस आईटूटेक में स्कूली छात्रों से लेकर इंजीनियरिंग को करियर बनाने के इच्छुक युवाओं की भीड़ उमड़ पड़ी। छात्रों ने आईआईटी के छात्रों से सवाल-जवाब कर अपनी जिज्ञासाएं शांत कीं। सालाना जलसे के तौर पर आयोजित होने

वाले ओपन हाउस में आईआईटी के छात्रों और प्रोफेसरों द्वारा तैयार किए गए अभिनव अनुसंधान परियोजनाओं को प्रदर्शित किया गया। शनिवार को ओपन हाउस के तहत आईआईटी के दरवाजे उन सभी लोगों के लिए खोले गए, जो विज्ञान और तकनीकी पर किए जा रहे शोध और खोज के बारे में जानने की इच्छा रखते हैं। इसमें काफी संख्या में स्कूली बच्चे रहे, जो किसी न किसी प्रोजेक्ट के विषय



आईआईटी में शनिवार को आयोजित ओपन डे में पहुंचे स्कूली बच्चे।

में गहनता से रुचि लेते रहे। इस ओपन हाउस में विभिन्न तकनीकी शिक्षण संस्थानों के छात्र भी पहुंचे।

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Nai Duniya ND 19.04.2015 P-1

### अब कमर तोड़ दर्द हो सकेगा धूमंतर, हमेशा के लिए

आईआईटी दिल्ली ने दूढ़ा सस्ता व कारगर इलाज, इंजेक्शन से मिलेगी राहत

शैलेंद्र सिंह, नई दिल्ली

कमर दर्द की परेशानी पिछले एक दशक में न सिर्फ बुजुर्गों बल्कि युवाओं को भी चपेट में ले चुकी है। बदली लाइफस्टाइल हो या फिर काम का बढ़ता दबाव, आज के दौर में कमरदर्द से ग्रस्त लोगों की संख्या में दिन ब दिन इजाफा हो रहा है। दर्द ऐसा कि जब उठता तो बर्दाश्त करना मुश्किल हो जाता है। ऐसे दर्द का इलाज यदि एक इंजेक्शन से हो जाए तो हैरान होना लाजिमी है। कुछ ऐसा ही कमाल आईआईटी दिल्ली के छात्र-शिक्षकों ने डिपार्टमेंट ऑफ टेक्स्टाइल टेक्नोलॉजी के अंतर्गत कर दिखाया है। यदि सबकुछ ठीक रहा तो क्लीनिकल ट्रायल के बाद इस उपचार तकनीक के जरिए लाखों रुपए के खर्च से होने वाला कमर दर्द का



इलाज महज 3 से 4 हजार रुपए में मिलने लगेगा।

आईआईटी दिल्ली में डिपार्टमेंट ऑफ टेक्स्टाइल टेक्नोलॉजी के प्रो. सौरभ घोष के मुताबिक, इस तकनीक में टिशू इंजीनियरिंग का इस्तेमाल किया गया

है। इसमें सिल्क की मदद से हाइड्रोजेल और सिल्क माइक्रोकैप्सूल का निर्माण किया जाता है और इन दोनों के समिश्रण से इंजेक्शन तैयार होता है। यह इंजेक्शन पीड़ित को उसकी कमर के उस हिस्से में डॉक्टर की सलाह पर दिया जाएगा, जहां वो दर्द से ग्रस्त है। प्रो. घोष बताते हैं कि सिल्क में उस तत्व की प्रचुरता होती है जो कि खराब डिस्क के निर्माण में मददगार है। इस तरह इस इंजेक्शन में मौजूद हाइड्रोजेल जहां पीड़ित व्यक्ति को तुरंत दर्द से राहत देने की दिशा में काम करेगा, वहीं इसमें मौजूद सिल्क माइक्रोकैप्सूल कमर के क्षतिग्रस्त हिस्से के पुनर्निर्माण को अंजाम देगा। प्रो. घोष बताते हैं कि यदि सामान्य प्रक्रिया के हिसाब से देखें तो छह से सात महीने में इस इंजेक्शन की मदद से कमर दर्द को पूरी तरह खत्म किया जा सकेगा।

अभी यह प्रक्रिया अपनाई जाती है

इस प्रोजेक्ट में शामिल बायोमैडिकल इंजीनियरिंग के छात्र सुमित मुराब बताते हैं कि अभी उपलब्ध इलाज में या तो कमर में मौजूद क्षतिग्रस्त डिस्क को ही निकाल दिया जाता है या फिर उसकी जगह इम्प्लांट किया जाता है। ये दोनों ही इलाज जहां एक ओर महंगे हैं वहीं दूसरी ओर इनके माध्यम से मिलने वाली राहत के बाद मरीज पूरी तरह से पुरानी स्थिति में नहीं आ पाता है। यानी इससे मिलने वाली राहत उसे पूर्णतया स्वस्थ नहीं करती है। जबकि टिशू इंजीनियरिंग के अंतर्गत होने वाले हमारे इलाज के मरीज को न सिर्फ दर्द से तत्काल राहत मिलती है बल्कि उसकी क्षतिग्रस्त डिस्क भी अपनी निर्धारित प्रक्रिया के अंतर्गत ठीक होना शुरू हो जाती है।

मानवीय प्रयोग के बाद ही आएगा बाजार में

इस प्रोजेक्ट को लेकर आईआईटी, दिल्ली की ओर से जानवरों पर प्रयोग किया जा चुका है। प्रोजेक्ट में शामिल छात्र सुमित बताते हैं कि अभी इस तकनीक का इस्तेमाल बकरे पर किया गया है और इसके सकारात्मक नतीजे देखने को मिले हैं। उन्होंने बताया कि अब हमारी कोशिश है कि इसका मानवीय प्रयोग हो सके और उसके बाद ही हम इसे आम मरीज को उपचार के लिए उपलब्ध करा सकेंगे।

# बोर्ड सदस्यों से वार्ता नहीं करेंगे आईआईटिचंस

आईआईटी-जोधपुर

छात्रों का विरोध 18 वें दिन जारी

जोधपुर @ पत्रिका . आईआईटी-जोधपुर में निदेशक प्रो. सीवीआर मूर्ति के विरोध में गत 18 दिनों से विरोध-प्रदर्शन कर छात्र-छात्रों ने बोर्ड सदस्यों के साथ वार्ता करने से इनकार कर दिया है। आईआईटिचंस के विरोध-प्रदर्शन और उनकी तीन मांगों पर विचार करने के लिए 26 अप्रैल को बोर्ड ऑफ गवर्नेंस की बैठक बुलाई गई है।

लेकिन छात्रों का कहना है कि बैठक की टाइमिंग को लेकर उनके आपत्ति है। आईआईटी के विभिन्न सैमेस्टर्स की परीक्षा 27 अप्रैल से शुरू हो रही है। परीक्षा से एक दिन पहले बोर्ड की बैठक की तिथि तय करना इस बात की आशंका जता

रहा है कि परीक्षा की वजह से छात्र-छात्राओं का विरोध-प्रदर्शन कम रहेगा। इस वजह से छात्र अपनी बात मजबूती से नहीं रख पाएंगे।

छात्रों का आरोप है कि जानबूझकर बोर्ड की बैठक परीक्षा से एक दिन पहले रखी गई है।

## एमएचआरडी मंत्री के खिलाफ प्रदर्शन

आईआईटी-जोधपुर के छात्र-छात्राओं के आंदोलन के समर्थन में एसएफआई ने केन्द्रीय मानव संसाधन मंत्री स्मृति ईरानी के खिलाफ विरोध-प्रदर्शन किया। संगठन के जिला महासचिव एचआर भाटी ने बताया कि आईआईटी कैम्पस के मुख्य द्वार पर केन्द्रीय मंत्री के खिलाफ नारेबाजी व विरोध प्रदर्शन किया और आईआईटिचंस की मांग पूरी करने दवाब बनाया।

## Dainik Jagran ND 19/04/2015 P-25

### आइआइटी में मूर्ति के नाम पर चेयर

चेन्नई : इंफोसिस के चीफ मेटर एनआर



नारायण मूर्ति के नाम पर आइआइटी-मद्रास में शनिवार को विशिष्ट चेयर की स्थापना की गई। मूर्ति के पूर्व सहयोगी क्रिस गोपालकृष्णन ने प्रमुख प्रोफेसरो द्वारा

मस्तिष्क शोध के लिए संस्थान में इस चेयर की स्थापना की है। संस्थान के पूर्व छात्र और इंफोसिस के सह-संस्थापक गोपालकृष्णन ऐसे तीन चेयर स्थापित करेंगे। प्रत्येक पर 10-10 करोड़ रुपए खर्च होंगे। इस क्रम में पिछले वर्ष उन्होंने अपने शिक्षक और आइआइटी-मद्रास में कम्प्यूटर साइंस के पूर्व विभागाध्यक्ष प्रोफेसर महाबला को सम्मानित किया था। मूर्ति सम्मानित होने वाले दूसरे व्यक्ति हैं।

## Dainik Jagran ND 19/04/2015 (Jagran City) P-1

# देश के 60 गरीब छात्र बनेंगे स्टार

अभिनव उपाध्याय, नई दिल्ली

पैसों की कमी के कारण हर साल हजारों बच्चे आइआइटी और मेडिकल में दाखिले का सपना पूरा नहीं कर पाते, लेकिन उनका यह

● सुपर 30 की तर्ज पर शुरू होगा स्टार 30 एआइपीएमटी व स्टार 30 आइआइटी

सपना एम्स और आइआइटी के दो छात्रों ने फोन पर काउंसलिंग कर सच करवाया। इस सफलता के बाद अब यह देश के गरीब बच्चों के लिए आइआइटी और मेडिकल की तैयारी के लिए स्टार 30 एआइपीएमटी और

स्टार 30 आइआइटी शुरू करने जा रहे हैं। यह पटना में आनंद कुमार द्वारा चलाए जा रहे सुपर 30 की तर्ज पर आधारित होगा। इस अभियान को संचालित करने वाले राजीव रंजन गोरखपुर (उप्र) के निकट कौडीराम में किसान के बेटे हैं और एम्स में एमबीबीएस की पढ़ाई कर रहे हैं। वहीं मोतिहारी के विकास श्रीवास्तव आइआइटी कानपुर से उत्तीर्ण हैं। इसके अलावा कुछ और मेडिकल व आइआइटी के मेधावी छात्र इसमें उनकी मदद कर रहे हैं। राजीव बताते हैं कि कड़ी मेहनत से आज अपने सपनों को पूरा कर रहा हूँ। मुझे यहां तक पहुंचाने में मेरे माता-पिता ने बहुत कष्ट उठाए हैं लेकिन देश में ऐसे कई छात्र हैं जो मेधावी हैं, लेकिन उनके माता-पिता आर्थिक कारणों से उनको नहीं पढ़ा सकते। हमारा मकसद उन छात्रों को आगे लाना है। इसके लिए दिल्ली के सरकारी स्कूलों से 600 बच्चों का चयन किया है। इनके बीच परीक्षा होगी, जिसमें से 30 मेडिकल की तैयारी के लिए और 30 आइआइटी की तैयारी के लिए छात्र चुने जाएंगे।

**फोन पर ट्यूशन देने का फार्मूला रहा सफल**

राजीव बताते हैं कि पहले 10 बच्चों का चयन किया और उनको फोन पर ही आइआइटी और मेडिकल की कोचिंग देना शुरू किया गया। आज सभी छात्र चयनित हो गए। अभी भी यह व्यवस्था है कि छात्र 8287755777 और छात्राएं 8287766777 पर कॉल कर सहयोगी



छात्राओं को पढ़ाते राजीव रंजन।

जागरण

छात्रों से ट्यूशन ले सकते हैं।

**कार्य करने के लिए प्रेरणा मिली**

अभियान से जुड़े विकास श्रीवास्तव का कहना है कि मोतिहारी में पिताजी वकील के मुंशी थे। उस दौरान बड़े सपने लेकर पढ़ाई कर रहे थे। परिवार का संघर्ष दोहरा था। पिताजी ने खुद पढ़ाई कर वकालत की और मैंने परीक्षा पास कर आइआइटी कानपुर में दाखिला ले लिया। सपना पूरा करने की जद्दोजहद ने यह कार्य करने के लिए प्रेरणा दी।

**फोन पर बच्चों को देती हैं सलाह**

टीम में बीएचयू से गोल्ड मेडल विजेता अंकिता वर्मा फोन पर बच्चों को मनोचिकित्सकीय सलाह देती हैं ताकि परीक्षा के दौरान तनाव में न आ जाएं। अंकिता अमेरिका के बच्चों को ऑनलाइन ट्यूशन भी देती हैं।

## IIT Director to Take Charge Next Week

<http://www.newindianexpress.com/states/odisha/IIT-Director-to-Take-Charge-Next-Week/2015/04/19/article2771689.ece>

BHUBANESWAR: Prof Ratnam Varada Raja Kumar who has been appointed Director of IIT, Bhubaneswar is likely to take over the new assignment on April 22.



Prof Raja Kumar A Professor of Electronics and Electrical Communication Engineering, Prof Raja Kumar joined the Indian Institute of Technology (IIT) at Kharagpur in 1984.

A native of Machilipatnam in Andhra Pradesh, he received his engineering degree in Electronics and Communication from Andhra University before getting his MTech in Microwave and Radar Engineering and PhD in Digital Signal Processing from IIT, Kharagpur.

Prof Raja Kumar's research areas include Digital Signal Processing, Wireless Communications, Detection and Estimation theory and VLSI systems for Communications. He has to his credit several research publications in reputed international journals and conferences.

He also served as Dean of Academic Affairs of IIT, Kharagpur besides being Chairman of GS Sanyal School of Telecommunications and also headed the Vodafone Essar-IIT Centre of Excellence in Telecommunications. He also served as a member of several national level committees of Ministry of HRD, DRDO and DoD.

[April 20](#)

## **I have videos of Kakodkar interviewing IIT director candidates: Smriti Irani**

<http://www.indiatvnews.com/politics/national/videos-of-kakodkar-interviewing-iit-director-are-with-me-irani-28458.html>

**New Delhi:** Human Resource Development Minister Smriti Irani on Saturday said Anil Kakodkar's resignation from the chairmanship of the board of governors of Indian Institute of Technology-Bombay (IIT-B) was without any reason.

"The issue related to the resignation of Kakodkar was stretched without any reason," she told Times Now.

"Even if he (Kakodkar) said he didn't attend the interviews (to select directors of some IITs), I have the videos in which Kakodkar is doing a group interviews. He was in the interview of all 37 candidates invited for the selection of (IIT) directorship," Irani said.

Kakodkar had resigned before completing his tenure and had refused to conduct the interviews for the selection of new directors of some IITs. However he has agreed to continue till that period after being persuaded by Irani.

During the interview, she said she was neither a helpless woman (abla nari) nor a political novice.

"I am mother of two. I am a union minister and a BJP worker. I stand for myself and am not a 'abla nari'," she said, adding that she was in politics for 13 years and enjoyed the confidence of senior party leaders like Arun Jaitley and M. Venkaiah Naidu.

## **I am a hard nut to crack: Smriti Irani**

<http://www.financialexpress.com/article/miscellaneous/i-am-a-hard-nut-to-crack-smriti-irani/64913/>

"I am a hard nut to crack," says HRD Minister Smriti Irani who also asserts that she is "too fat" to be cut to size.

The 39-year-old minister, who is in the eye of many a controversy including being accused of saffronising education, dismisses suggestions that she was getting "isolated" and that her Ministry reports to Rashtriya Swayamsevak Sangh (RSS).

"If you notice all the articles, a few cut and copy paste job. If you look at the articles, issues are more personal which makes me believe that politically when it comes to education...I am a hard nut to crack," she told Times Now.

She was asked about views that she was not a political heavyweight and a women activist saying she would not trust her with jam and pickle ministry.

Irani said it was quite telling that from being a political non-entity, she was now someone that everybody was talking about.

“That says a lot. May be because the status quo is being challenged. I am of the opinion that the education sector has become a matter of political friction. In the last 10 months there is a political consensus emerging. That rattles a lot of people,” she said.

Asked if she was feeling victimised, the minister said, “I have never cried martyr. I have never played the victim card and I won't do it today as well.”

When told if she was being isolated from the party, she said “I don't think so”.

Asked about her exclusion from the BJP national executive, Irani said, “I am not a decision maker. I am a party worker. My responsibility to the position I hold is to ensure that within the constitutional framework I fulfill my obligations”.

“Are you being cut to size,” she was asked. “I don't think so. I am too fat for that,” she replied.

To a question whether there was a move to undercut her, Irani said she did not think so.

“I do not think so. My Prime Minister won the elections on good governance. He gives me a responsibility as the HRD Minister. I am fulfilling the responsibilities to the best of my abilities. My performance in Parliament is for the entire nation to see and judge. It's my boss who judges me, for my party to judge. I am still doing OK.”

Queried about allegations of saffronisation of education, she said the education sector will be within the constitutional framework of the country. “How wrong is that”.

Smriti Irani was asked about a belief that her ministry reports to RSS. She said “no, it does not.”

## **Smriti Irani faces flak for inaction against academic fraud by Pondicherry University VC**

The Vice Chancellor Chandra Krishnamurthy has been charged with plagiarism in her books and papers she claimed to have authored.

<http://scroll.in/article/717955/What-is-missing-from-Modi%E2%80%99s-Make-in-India-plan:-thinking-small>

Over the past year, more negative news has emanated from South India's second largest university than positive. This year is no different as the calls against the Pondicherry University's vice chancellor have only become louder as teachers and activists demand her resignation on charges of academic fraud and plagiarism. However, this time they also want to attack Smriti Irani and her ministry of human resources development for their inaction on the matter.

Students in the university await a fair probe as the ministry's silence has led to many courses being derailed. “Students doing their PhD are suffering the most as the faculty appointed is not being allowed to do its job,” said Dastagiri Reddy, general secretary, Pondicherry University Teachers' Association. “Many incharges appointed by the VC are her own men with no qualifications to guide students whatsoever.”

Vice Chancellor Chandra Krishnamurthy was appointed to the university in early 2013 but her appointment has now come into question. Rules were flouted and relaxed to give her the position, say the teacher association as well as the joint action committee which consists of many professors across universities. Their demand for a probe by the ministry has not been met.

“Smriti Irani promised us that an action would be taken, but nothing has happened,” Reddy said. “A fact-finding

committee was formed but right before it could submit its report, the chairman of the committee resigned.” The committee did eventually go on to submit its report one and a half months later, but there has been no response from the ministry, Reddy added.

The association started with a protest rally on Saturday which is to be followed up by a hunger strike on Monday. “We will continue these protests until the ministry takes action and removes the vice chancellor in the larger academic interest of the university,” Reddy said.

### Sketchy record

Chandra Krishnamurthy's appointment has been mired in controversy and the same [allegations](#) have surfaced earlier as well. She been charged with plagiarising a major portion of the book mentioned in her CV. Not only this, according to the documents accessed by Scroll, the other two book listed on her CV do not exist at all.

According to Reddy, the publisher was forced to retract the book when the plagiarism came to light. A document released by the PUTA also highlights the fact that 24 of the 25 research publications that the VC claimed to have authored don't exist at all as the association verified it from the original publishers of the journals such as National Law Institute, Delhi and Bar Council of India who said that [no such papers](#) were published.

### Procedure flouted

Questions have also been raised about the due process not being followed for her appointment. The teachers' association also claims that the ministry only recommended one name instead of three to the President for consideration. “She doesn't have the required 10 years of teaching experience either,” Reddy said, adding that out of 120 applications received for the position, 17 were shortlisted but only one name was recommended by the ministry out of the three shortlisted.

As protests rise, Smriti Irani's ministry is being targeted for not acting in time, particularly because the minister had earlier promised immediate action. “How can someone with such a controversial record stay on for this long,” Reddy lamented. “It's been more than four months that we have waited patiently but we haven't received a word from the ministry. They have completely forgotten Smriti Irani's promise that action will be taken.”

“We have a feeling that she's being protected by someone at the ministry,” he said, but added that the protests will eventually force Smriti Irani to take note of the issue and suspend her.

The vice chancellor did not respond to the detailed questionnaire sent to her.

## Smriti Irani denies appointing RSS-affiliated people

<http://www.mid-day.com/articles/smriti-irani-denies-appointing-rss-affiliated-people/16149155>

**New Delhi:** Human Resource Development Minister Smriti Irani on Saturday denied that she was appointing people with personal, political and ideological affiliation to the Rastriya Swayamsevak Sangh (RSS) in her ministry.

"Do people have no right to job merely because they hold a right-wing opinion? Should a person be denied an appointment because he is holding a certain personal political views closure to RSS? Nobody with a personal, political and ideological affiliation to RSS is appointed knowingly," Irani said in an interview with Times Now channel.



Asked about the appointment Dina Nath Batra as the head of Indian Council of Historical Research (ICHR), she said, "When professor Batra was appointed as national professor by the then HRD minister Arjun Singh, he was secular but becomes communal when Smriti Irani appoints him."

Irani rubbished the impression that she was being cornered in the BJP, saying: "I enjoy the confidence of the senior party leaders like Arun Jaitley, Rajnath Singh and M. Venkaiah Naidu in the party."

"My exclusion from the BJP national executive committee was the decision of the party and should not be seen as her being undercut in the party," she added.

"Well it's the prerogative of my party....it was they who made me a minister at the age of 38. I never demanded any position. I am not a decision maker and it's upto them whatever they decide for everyone. I am just a party karyakarta (worker)," she said.

## **IIT Delhi student bags an offer of nearly 20 lakh in MBA placements 2015**

<http://indiatoday.intoday.in/education/story/iit-delhi-mba-placements-2015/1/430910.html>

Indian Institute of Technology (IIT) Delhi recently concluded placements for its 2015 MBA batch. The programme is run by the Department of Management Studies (DMS) at IIT. 30 percent of the students received pre-placement offers (PPOs) and pre-placement interviews. A total of 62 students from the outgoing batch were recruited, and almost 16 percent of these students got extended offers for higher positions.

Out of the 49 companies that attended the placement process at IIT Delhi, 28 were first time recruiters. Out of these the top recruiters were KPMG, PwC, Deloitte, Snapdeal, Airtel, Amazon, RBS, Idea cellular, General Electric, Flipkart, Marico, BASF, Honeywell and Lead Management Group. The highest domestic package was offered at 19.87 lakh per year. On the other hand, the lowest salary offer was Rs 7.36 lakh a year. The median of the top 25 percent offers stood at Rs 16.36 lakh per year and the total average was Rs 13.27 lakh.

The maximum number of placement offers were made for these fields- Risk Management, Financial Management, Mergers & Acquisitions, Product Analyst, Business Consulting, Project Finance, Digital Marketing, Program Management, Project Management, Business Analytics & Business Development, Management Consulting - Strategy & Operations, Management Trainee (Marketing & Sales), Account Management, Management Trainee (Operations), SME Credit Analysis and Sales Specialist.

Operations and Marketing, Finance and Consulting, Information Technology and Analytics are the sectors which recruited the majority of the students.

The MBA programme at DMS, IIT can be pursued by graduates from any discipline. The results for the 2015 admissions will be declared on May 2.

# Dainik Bhasker ND 20/04/2015 P-6

## आईआईटी, दिल्ली के एमबीए छात्रों को 13 लाख रुपए का औसत पैकेज

इंडियन इंस्टीट्यूट ऑफ टेक्नोलॉजी, दिल्ली के एमबीए छात्रों का प्लेसमेंट पिछले सप्ताह खत्म हुआ। 2015 बैच के 30 फीसदी छात्रों को प्री-प्लेसमेंट ऑफर मिला था। 49 कंपनियां प्लेसमेंट की प्रक्रिया में शामिल हुईं। इनमें से 28 पहली बार संस्थान में आई थीं। छात्रों को ऑफर किया गया औसत सालाना पैकेज 13.27 लाख रु. रहा। हाइएस्ट डोमेस्टिक पैकेज 19.87 लाख रु. और सबसे कम 7.36 लाख रु. का पैकेज छात्रों को मिला।

Pioneer ND 20/04/2015 P-5

## Railways to fix late running of trains with help of IITs

DEEPAK KUMAR JHA  
NEW DELHI

The Railway Ministry will join hands with Indian Institutes of Technology (IITs) to find a way out to solve the problem of late running of trains. The IITs and the Railways' engineering consultancy company Rail India Technical and Economic Service (RITES) will identify the bottlenecks that delay trains' timings and work out a solution to ensure the trains can run faster on the "existing infrastructure".

The first round of meeting in this regard took up the case study of the Frontier Express (now Golden Temple Express) between Bombay (now Mumbai) and Amritsar, which used to take 40 hours before Independence while now the

travel time has been reduced only by eight hours. The other exception taken, according to a top Railway official, was about the lone existing 150 kmph train between Delhi and Agra unable to augment its speed by mere 10 kmph even after sev-

eral rounds of deliberations. "Frontier now takes 32 hours. Which means in 60 years we could only adjust eight hours? Similarly, we are unable to augment the speed of Taj Express to 160 km per hour even after 10 years when the fastest train was

running between Delhi and Agra. These are the things which have been examined presently. The Ministry is very serious since we are looking forward to put trains at 200 kmph before a Bullet Train runs in India," pointed a top Railway official.

The prime concern was the fact that in the present condition, Railways has been able to meet only 74 per cent punctuality on an average per day with worst coming from the North Central Railway (NCR) and East Central Railways (ECR) at merely 34 per

cent punctuality maintenance. The Zonal Railways administration have conveyed to the Railways that it is "impossible" for them to maintain the scheduled timings "in the given infrastructure" as desired.

Last month, Railway

Minister Suresh Prabhu was in a rude shock to know that punctuality figures used to be fudged by the officials to maintain it at 99 per cent even as complaints were galore about incessant delays of express trains including Rajdhani and Shatabdis. The Ministry swung into action to address the complaints of late running of trains after the PMO expressed serious concern over the issue.

The PMO had sought explanation from the Railway Minister over trains running late after it received complaints by the passengers. The complaints were forwarded to the Railway Ministry and asked to follow the schedule and fix the problems so that trains were on time. Prabhu had then reacted that as the Railway Minister, it was his duty to ensure regular moni-

toring of punctuality of trains. A top Railway official was made to sit twice during the last fortnight at Allahabad Junction for almost a week to examine the delays in the NCR and ECR zone. It was found that maximum number of train delays was tracked to New Delhi-Howrah route and particularly between the Patna-Mughalsarai, Allahabad section due to several asset failures like signaling, engines and track problems. The initial report submitted to the Railway Minister says that in the event of delay of one train between on the "erratic" section, a cascading effect delays all the trains on the route. Allahabad junction also caters to trains bound to Mumbai and other Central and Southern Indian destinations besides New Delhi and beyond.

Pioneer ND 20/04/2015 P-1

# IIT-M tech promises 'sea' change in Cauvery solution

**KUMAR CHELLAPPAN ■**  
CHENNAI

Indian Institute of Technology (IIT)-Madras has a cost effective and simple solution to the Cauvery River water dispute — an imbroglio that has Tamil Nadu and Karnataka fighting a legal “war” for decades. What started as an investigation by the IIT-Madras team to find out a suitable technology for treating the effluent water discharged by the dyeing and tannery units in Tamil Nadu hit a jackpot when it found that the solution could be used for desalinating the seawater of the Bay of Bengal.

Prof Sundara Ramaprabhu, head, alternative energy and nanotechnology laboratory,

department of Physics, IIT-Madras, told *The Pioneer* that a nanomaterial developed by his team could remove all kinds of dissolved materials from seawater and make it fit for agricultural purposes.

“It is a variant of graphite and could be produced at unbelievably low cost if we resort to industrial-scale production,” said Prof Ramaprabhu. He demonstrated the treatment as well as desalination of both effluent water as well as seawater. The innovation developed by the IIT-Madras got a shot in the arm with the National Metallurgical Laboratory’s Chennai centre certifying that the water treated and desalinated by the innovation

brought down the dissolved materials from 3,940 microgram/ml to 188 microgram/ml.

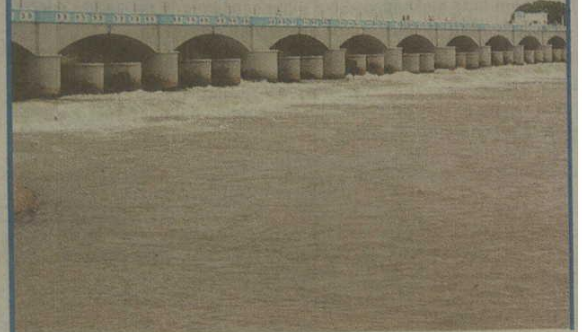
“We filled a vessel with the nanomaterial and filtered the seawater with it. The result was encouraging and inspiring. This technology could be up-scaled and we can go for the industrial-scale desalination,” said Prof Ramaprabhu.

The technology has been patented and is up for grabs for those desirous of setting up big-time desalination plants. “This technology could be used to desalinate the seawater of the Bay of Bengal and we can use the same to meet the requirements of farmers in the Cauvery Delta,” said Prof Ramaprabhu.

*Continued on Page 4*

**This technology could be used to desalinate the seawater of the Bay of Bengal and we can apply the same to meet the requirements of farmers in the Cauvery Delta**

**PROF RAMAPRABHU**



## IIT-M tech promises 'sea' change in Cauvery solution

**From Page 1**

The Cauvery River has become the lifeline of the five Delta districts of Tamil Nadu. Whenever there is monsoon failure and there is insufficient water in the river, tempers run high in both the States. Saturday saw life in Karnataka coming to a standstill following a bandh call given by farmers in the State against Tamil Nadu's opposition to the construction of dams at Mokedattu in Cauvery. Prof Ramaprabhu said IIT-Madras and other research institutes in the country are academic institutions engaged in research and teaching only. “There is no academia-industry tie-up and we cannot go for up-scaling the innovations. It is for big time industries to do so,” he said. Interestingly, BJP leader Subramanian Swamy had asked Tamil Nadu last week to focus on developing desalination plants along the coastline to meet the needs of farmers in the Cauvery Delta. He also said there are technologies and innovations with which economical desalination plants could be set up along the East Coast of Tamil Nadu.

## Business Line ND 20/04/2015 P-19

# Build a Cambridge in India: Infy founder

Narayana Murthy has big hopes for the future of higher learning

### OUR BUREAU

Chennai, April 19

Simple and speedy clearance of travel papers are a necessity for increased interaction between researchers here and abroad, according to NR Narayana Murthy, Founder, Infosys Ltd.

At the launch of the NR Narayana Murthy Distinguished Chair in Computational Brain Research at IIT-Madras on Saturday, the Infosys co-founder said: "We should aspire to make our institutions of higher learning emulate great institutions like Cambridge in Massachusetts, US, which have made this world such a better place."

It is the task of our society, governments, political leaders, bureaucrats, alumni of our institutes to make life



NR Narayana Murthy

easy to these people to achieve what they want to.

### Shake things up

Talking to reporters after the function, Murthy said: "So many friends outside the country tell me that getting a visa to India is not the easiest one. We will have to change that perception."

The Chair is one of three in Computation Brain Research established by Kris Gopalakrishnan, another Infosys co-

founder and an IIT Madras alumnus, with an endowment of ₹10 crore each. The first occupant of the Chair was Mriganka Sur, Paul E and Lilah Newton Professor of Neuroscience and Director of the Simons Centre for the Social Brain at Massachusetts Institute of Technology.

A press release says the first Chair was named after HN Mahabala, a retired faculty at the IIT Madras Computer Science and Engineering Department. The second Chair was named after his colleague Narayana Murthy.

Murthy said research in this area requires a considerable attention. "I am confident that the Centre that Gopalakrishnan is starting here with three Chair professors along with his attempt at IISc and Carnegie Mellon University will provide an integrated perspective on brain research and will certainly put India on the map of leading edge ideas in brain research," said Murthy.

# Shaping the future of management education

By the end of this decade we can see two trends emerging—the true globalisation of Indian management education and much higher usage of technology



KANU PRIYA SEKHRI

For the past several decades, management education has been one of the most coveted disciplines globally. Applicants seek quality education that can fast-track their understanding of economies and business. Corporate firms are looking for job-ready individuals who can understand the bigger picture and contribute to their growth story. Business school graduates are driving change through leadership positions across industries and sectors.

Being a relatively recent discipline and the one that is context-specific, management education must undergo frequent changes. Innovate or die is the mantra that business schools have to adopt in order to stay relevant. They must appreciate the changes in the way business is done and accordingly review their curriculum, methodology and people. Business schools that insist on following the traditional approach will be doing a disservice to their students and to the recruiters as well.

The decade gone by saw two significant changes that management schools went through. The first was in terms of student profile. Diversity came into focus. Scholarship programmes were started for women students. Students with work experience across industries were invited back to the classroom—for this, the focus in the entrance criteria shifted from test scores alone to the candidate's experience and exposure. Several business schools changed their entrance criteria and started giving credit to qualities beyond a test score. For example, in 2009, the School of Inspired Leadership introduced Caliper, a profiling tool that tests applicants for their leadership potential. The intent was to strengthen the diversity in business school classrooms.

The second change was industry involvement. Increasingly, senior executives became more conscious of the importance of contributing to education

and were willing to make the time for this across business schools. They came on board as mentors, visiting faculty, guest speakers and for research collaborations, offering live projects—over and above industry internships—which gave students the opportunity to learn in a real-world setting under the guidance of seasoned professionals. Looking ahead, we can see two trends emerging—one is the globalisation of management education and the other is the increasing use of technology.

The world has definitely shrunk and business schools must swim with this tide. More and more students today ask for global exposure. While exchange programmes have long been part of the business school curriculum, now joint degrees are being offered as well, which lead to a diverse learning experience.

The time-honoured case study method of business schools is also being augmented by global immersion experiences where students do a live project overseas. This kind of real-world exposure in a different context and setting can prepare students for global leadership roles—much needed in today's corporate context.

Increasingly, business schools are playing host to India immersion programmes for senior executives of other nationalities. They partner with other business schools and consulting firms to arrange a learning experience for their executive education programme participants. Recently, we met a delegation of women leaders from Chile to share with them our inspired leadership model. Such dialogues increase awareness about the Indian education system and deepen global partnerships, which, in turn, pave the way for students to enhance their learning.

One of the biggest reasons for this

kind of cross-cultural exposure is the increased use of technology in the current business setting. This, in itself, is another upcoming trend in higher education today. Till recently, technology-related discussions may have been restricted to the MIS or statistics classrooms. Soon, technology will make its way into every classroom.

Going forward, the acute shortage of credible faculty and the resulting costs will lead to greater acceptance of online courseware. This can be of two types—

recorded videos of in-house faculty or MOOCs (massive open online courses) by other schools. MOOCs are available freely across subject areas. MOOCs also give an opportunity to students to add to their repertoire of skills and improve the opportunities available to them after college. Today, a hybrid model of online and offline learning is developing the world over to maximise student learning potential.

In today's digital era, an in-depth technical orientation is critical in every branch of learning. Across the board, technology has seeped into management subjects. Social media awareness in marketing, big data analytics, tech-based innovation, knowledge management, e-commerce and HR analytics are all gaining importance. Faculty and learners alike must be able to dissect data and be conversant with technology. Business schools are fast accepting this fact and conversations are on about how to get the best faculty on board for this.

Superior learning can happen if faculty has first-hand exposure to these areas. For this, the current trend of industry involvement as faculty is essential to make students job-ready.

Further, tech-savvy professors are also starting conversations through communities of practice on social media commons such as LinkedIn, SlideShare and others. This enables them to learn about the best practices from across the globe and selectively apply what is appropriate to their context. The rate of change of curriculum has to keep up with this tech-enabled speed of knowledge sharing and dissemination.

This invigorating combination of globalisation and technology-orientation will make business schools the best place to learn and grow. Those who keep pace with this transformation will emerge as winners in the minds of their students and industry partners as well.

The author is AVP, Strategic Partnerships, School of Inspired Leadership, Gurgaon

ILLUSTRATION: SHYAM



ILLUSTRATION: JUST BAGCHI



# The zeal for all things digital...

It is crucial that any new digital education initiative is relevant to the context it hopes to enhance, and the learners it aspires to inspire



**RUPESH KUMAR SHAH**

A quick study of the history of innovation in technology reveals how the duration between the development of one piece of technology and its next avatar has declined exponentially across the eras. Today, the turnover for the next new "invention" can be as little as few weeks, sometimes. The current paradigm is characterised by its zeal for all things digital, no less affecting to a significant extent perceptions and actions taken within the world of learning and education. Digital education trends in India are subject to the factors of commercial appeal, the ability of the target audience and global influence.

As far as hardware and education technology is concerned, we believe that smart boards will continue to capture the imagination of a sizeable chunk of the upwardly mobile market segment. These are devices that allow for the old functions of a black or green board in a classroom, and also come with enhanced interactive capabilities that permit the instructor to seamlessly incorporate audio/visual or tactile components to the lesson. However, the key difference today is the growing maturity of buyers. There is an unmistakable veer towards scrutinising the quality of the educational content that comes bundled with the hardware. Those based on sound principles of pedagogy and instructional design, with a keen understanding of how technology can truly enhance learning, will survive at the end. It's no surprise, for "content is king."

Smart boards and quality content thereon have the potential to reduce the need for physical books, but they remain mass ICT. There are two larger trends at play.

One, schools across the country are starting to carry the baton of going the "bag-less" way. With schools gradually phasing into the provision of mobile technology, the numbers of tablets and digital books in the hands of the students is on the rise. There is a strong indication that this is going to spread further, be it to cater to multiple learning styles or by sheer influence of keeping-up-with-the-Patel.

Two, this year we are likely to see greater investment in individualised learning. Innovative educator voices have been getting louder about the unique nature of each child's learning graph, and therefore the obvious requirement of facilitation and instruction that is tailored to the individual student's needs. This is thought to be too idealistic and is logistically unwieldy in a country where the average student-to-teacher ratio abounds in the region of 50. Greater financial commitment to e-learning and m-learning will naturally open the way for opportunities in creating adaptive learning spaces and more meaningful ways to conduct formative assessments through a child's educational journey.

Consider the less privileged side of the technology divide, where smaller races are being run and won. While the world either engages with this technology or moves onto more resource-heavy individualised attention, rural India is making moves to revolutionise its own context. We are seeing a growing number of schools—who cannot afford to leapfrog to the latest technologies—finding known creative ways to

bring technology to their classrooms. Investing in a projector, albeit shaving a solid portion off of the budget, is a game-changer in terms of a real introduction of video stimulation, a sense of pride, and therefore a stirring of long-term commitment to continue expanding student exposure to technology. Expect to see social ventures continue working on solutions that include bringing affordable mass ICTs to under-served areas. Opportunities in thin client and multi-seat systems still remain fairly meaningful interventions in digitally uninitiated areas. Add to this the third and the most exciting development, the recognition of the impact of connectivity as witnessed by the efforts we have seen rural education institutions making in the field.

This brings us to the internet's call to seize its educational possibilities. Barring the obvious language barrier, the internet is unequivocally an educational equaliser by all other counts. It has the potential to democratise access to quality content, no matter what phase of learning a student is in. Bringing the conversation to the web has resulted in two large trends.

**Consider the less privileged side of the technology divide, where smaller races are being run and won. Rural India is making moves to revolutionise its own context. We are seeing a number of schools—who cannot afford to leapfrog to the latest technologies—finding known creative ways to bring technology to their classrooms**

One is the movement of action and behaviour with regard to creation, saving and collaboration on the internet, aka "the cloud." Marketing materials for cloud computing courses can be seen plastered nearly everywhere, touting the ability to engage with the cloud as a new finagled skill required of professionals. As with any technology push, the age at which one acquires application skills decreases, and there is no doubt top computer science curricula at the school level will naturally lead the way in addressing this need.

Two, the massive open online courses (MOOCs) that are freely available in nearly all parts of the globe. The Indian government, too, has shown its solidarity with these initiatives by undertaking one of its own through the HRD ministry, called the Study Webs of Active-learning for Young Aspiring Minds or SWAYAM (meaning *oneself* in Sanskrit). In collaboration with several IITs, JNU and IIM Bangalore, the initiative aims to offer college-level courses from across disciplines. From the global vantage point, it is not surprising to see governments of emerging markets enter the realm of MOOCs.

Yes, through it all, recall the implications about the ephemeral nature of a trend. When in doubt, we leave you with Veritasium's Derek Muller who uses the video medium to provide the education fraternity a fantastic reality check, called "This Will Revolutionize Education." The long and short of it is that it is absolutely crucial that any initiative be relevant to the context it hopes to enhance, and the learners it aspires to inspire.

The author is CEO, InOpen Technologies