IIT Delhi to find a solution for slipped disc

Mallica Joshi

NEW DELHI: If all goes according to plan, surgery for slipped disc may no longer limit flexibility and mobility for those who get the procedure.

Students and professors at the textile department of IIT Delhi are in the process of developing a bio-compatible disc that can be implanted in serious cases.

"Presently, patients are suggested to take pain killer drugs and are prescribed some exercises. When degeneration of disc is in advanced stage, doctors remove degenerated disc and implant a ceramic disc or join two vertebrae together. Problem of pain gets solved at the cost of losing flexibility of spine," said Sourabh Ghosh, assistant professor, IIT Delhi, who is heading the project, which also involves many students.

"The project is currently at the trial stages, which are being conducted in Switzerland. The response has been quite positive so far," said Ghosh.

The disc will be a boon for those who lose the ability to move freely after surgery as it is being developed using silk fibres and stem cells, both of which are compatible with the human body.

Bio-compatible implants for slipped disc

IIT-D INITIATIVE The new disc will not limit mobility and flexibility in patients

Mallica Joshi

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"Currently, patients are prescribed pain killers and some exercises. When degeneration of disc is in an advanced stage, doctors remove the disc and implant a ceramic disc or join two vertebrae together. The problem of pain is solved at the cost of flexibility of spine," said Sourabh Ghosh, assistant professor, IIT-Delhi, who is heading the project. "The project is currently at the trial stages, which are being conducted in Switzerland. The response has been quite positive so far," said Ghosh.

The disc, which is being developed using silk fibres and stem cells — both of which are compatible with the human body — will be a boon for those who lose the ability to move freely after surgery. "Silk fibre is made up of amino acids that are also present in our body. So, it is easier for the body to accept it. It also degrades at a faster pace," Ghosh said.

The projects is being funded by DST Indo-Swiss Joint Research Project. Professor Alok Ray, head, centre for biomedical research, IIT-Delhi, and Professor Ivan Martin, University of Basel, Switzerland, are also collaborating with Ghosh's team.

Along with the intervertebral discs, the team is also working on tissue engineering for medical research. Currently, trials are conducted on animals, raising ethical issues.
SWEDEN - INDIA NOBEL MEMORIAL QUIZ FINALE

The National Capital of India is all set to host the grand finale and the last qualifying round of the Sweden India Nobel Memorial Quiz 2011, at IIT Delhi on October 15, 2011. The quiz will be bringing together quizzers from across reputed colleges and institutes of the city. Participation to this prestigious quiz will be open to all under graduate and post graduate students in teams of three, representing a specific college.

Online registration for the qualifying round can be done on www.sinmw.com. National winners will get an all-expenses paid trip to Sweden, where they will get to visit head quarters of partner companies, universities and the nobel museum.

The theme for the fifth edition of The Sweden-India nobel memorial week is innovation and creativity and will take place across New Delhi, Bengaluru, Chennai, Pune & Mumbai between 15th and 23rd October.
Business school shut down in U.K.

MEA offers assistance to 200 Indian students enrolled with it

Special Correspondent

NEW DELHI: The Ministry of External Affairs once again swung into action following the closure of yet another teaching establishment in the West, this time in England, on apprehension of immigration fraud.

“The High Commission of India is monitoring the situation closely and would strive to ensure that students are not adversely affected. It is estimated that about 200 Indian students were enrolled with the school,” Ministry of External Affairs spokesperson Vishnu Prakash said on the closure of the London Campus of TASMAC School of Business by the U.K. Border Agency. The outfit is said to have business schools in Bengaluru and Kolkata.

The decision to shut down the campus of the seven-year-old TASMAC is believed to be related to the U.K.’s efforts to tighten norms with respect to tier-4 student visas. The university was offering B.A. (Hons.) and MBA degrees.

Mr. Prakash said the HCI immediately established contact with TASMAC, which has conveyed via an e-mail, that it is working with the University of Wales to transfer the students to other educational institutions, to avoid disruption in their studies.

The HCI has since placed an advisory on its website asking affected Indian students to contact the Mission, for required assistance, if any. So far no student has contacted it. Officials of HCI have visited the TASMAC campus in London and have also sought a meeting with the U.K. Border Agency which should materialise soon, Mr. Prakash added.
MEA offers help to stranded B-school students in UK

TIMES NEWS NETWORK

New Delhi: India is monitoring the closure of another western university that puts the career prospects of nearly 200 Indian students at risk. The TASMAC business school closed down its London campus on October 6.

In a statement, a foreign ministry spokesperson said, "The decision to shut down the campus is believed to be related to the UK’s efforts to tighten norms in respect of Tier 4 student visas." The TASMAC business school was started in 2004, and offers BA and MBA degrees. TASMAC apparently runs business schools in Bangalore and Kolkata.

The MEA said the Indian high commission in London has made contact with the TASMAC authorities. "Our high commission in London has established immediate contact with TASMAC, which has conveyed that it is working with the University of Wales to transfer the students to other educational institutions so that their studies are not disrupted." The Indian mission has set up an advisory for students on its website, but the ministry said no Indian student had contacted them for any assistance yet. The government has been quick off the block on this, given the trouble created for nearly 1,500 students in the Tri-valley University in the US, which became an embarrassing irritant in bilateral ties, some months ago.

Earlier this year, the UK instituted several changes in student visa regime. The main changes are: From April 2012, any institution wanting to sponsor students will need to be classed as a Highly Trusted sponsor, and should be accredited by a statutory education inspection body by the end of next year. The current system doesn't require this, and has allowed too many below par colleges to become sponsors.
Tips from Steve Jobs on Education

The innovator's idea of education choice in US through vouchers and competition is equally valid for India

The late Steve Jobs, one of the greatest inventors and entrepreneurs in history, took knowledge and content to the masses. He said that quality education was the key to equality of opportunity and felt this would best be achieved by governments giving educational vouchers to parents, to be used in any accredited school of their choice. India should learn from him. (See Jobs' views at http://americanhistory.yale.edu/collections/comphist/sjl.html)

"For a very big believer in equal opportunity as opposed to equal outcome. Equal opportunity to me, more than anything, means a great education. Maybe even more important than a great family life. We could make sure that every young child in this country got a great education. We fall far short of that. I know from my own education, that if I hadn't encountered two or three individuals that spent extra time with me, I'm sure I would have been in jail."

Clearly, good teachers are vital. But why are they so rare? "The problem there, of course, is the teachers' unions. The unions are the worst thing that ever happened to education because it's not a meritocracy. It turns into a bureaucracy, which is exactly what has happened. Nobody can be fired. It’s terrible."

Can the problem be side-stepped by using computers and electronic teaching aids? No, says Jobs. "I've helped with more computers in more schools than anybody else in the world, and I am absolutely convinced that is by no means the most important thing. The most important thing is a person. Computers are very reactive but they're not proactive; they are not agents.

How do we create a system with good, motivated teachers? Jobs has a clear answer: we need competition between schools in attracting students and teachers, not accountable government schools with a lockhold on government funding.

Jobs says, "What we need in education is to go to the full voucher system. The custom- ers (in education) are the parents, and the customers went away. Mothers started working and they didn't have time to spend at PTA meetings and watching their kids' school. Schools became much more institutionalised and parents spent less and less and less time involved in their kids' education. What happens when a customer goes away and a monopoly gets control, which is what happened in our country, is that the service level almost always goes down. I remember seeing a bumper sticker when the telephone company was all one. I remember seeing a bumper sticker with the Bell Logo on it and it said, "We don't care. We don't have to.' And that's what a monopoly is. And that's certainly what the government school system is. They don't have to care."

The economics of state education is crazy, says Jobs. The US government spends lots on education: around $4,400 per child per year. This is double the cost of buying a small car in instalments. But such educational spending is done by the government, and is not within the power of the household.

"When you go to buy a car, you have a lot of information available to make a choice. Everybody knows about all these cars, and they keep getting better and better because there's a lot of competition. And there's a warranty."

"But in government schools, people don't feel that they're spending their own money. If you want to put your kid in a private school, you can't take the $4,400 a year (spent per child by the government school system) and use it. If you gave each parent a voucher for $4,400 that they could only spend at any accredited school, several things would happen."

"Number one, schools would start marketing themselves like crazy to get students. Second, I think you'd see a lot of new schools starting. You could have >25-year-old students out of college, very idealistic, full of energy. Instead of starting a Silicon Valley company, they'd start a school. I believe that they would do far better than any of our government schools would. Third, the quality of government schools, just as in any competitive marketplace, would start to rise."

These conclusions apply to India too. Our educational policies remain with leftist ideologues and cynical politicians who think the state must, to the extent possible, deliver all educational services. The leftists hate private schools and colleges. Politicians dare not take on teachers' unions. Teacher absenteeism is horrific, and many students cannot do simple maths or read complete paragraphs after years of schooling. Desperately poor parents are switching their kids from free government schools to private schools with fees. But chief ministers seeking to discipline teachers' unions have invariably been foiled.

If challenged, teachers unions will threaten to strike before the annual exams, imperilling the future of millions of students. So, chief ministers invariably surrender. Instead, they try to recruit teachers as their own political agents.

Besides, teachers man election booths on polling days. Politicians fear antagonising teachers, who might collude with the Opposition in fiddling election results.

So, our situation is worse than anything Jobs complains about in the US. Yet, the solutions are similar. We must use vouchers to give parents the power of choice, and encourage private competition in the educational marketplace. Enthusiastic young entrepreneurs will rush into education, just as they once rushed into information technology. All it needs is the political will to combat the unions.
Taking IT to India's hinterland

The exercise to create policy documents for the Twelfth plan is on in various domains, both at the ministry and the Planning Commission level. The draft policy on education indicates that the government would like to strengthen aspects like enhancing access, expanding inclusiveness and pursuing excellence. Today, computers, communication and connectivity are critical components for growth in almost all domains that touch human life. Hence, it becomes imperative that the 12th plan policy on use of technology in the government’s various interactions with society be more people friendly. The policy document on technology, particularly on ICT, touches on providing all public services on mobile devices. The information technology factor has two components. One is expanding the revenue base for ICT industry. India, for the past 20 years, has taken a lead in the global arena in software and ICT enabled service software exports. It has also been a strong base for offshore business processing for advanced countries. The majority of ICT related industries have grown in and around metros, Chennai, Bengaluru, Pune-Mumbai and Hyderabad-Secunderabad corridors and Gurgaon. The government plans to increase revenues from software exports to $300 billion by 2020 from $89 billion in the present financial year. Revenue contribution from the use of ICT in the domestic market is estimated at $59 billion and the government desires that it should reach $200 billion. The government, therefore, wants the IT industry to flourish in tier II and tier III towns. These are welcome strategies but there are certain pre-requisites that the government needs to fulfill:

1. The economics of IT industry is closely linked with electric power and connectivity. The government has ambitious plans to enhance the production of electric power. But we are still stuck with issues like convincing the society on the advantages of going for nuclear power plants. Political parties also mess up on this aspect depending on whether they are in power or not. The earthquake and subsequent nuclear plant disaster in Japan have suddenly raised issues regarding the safety of nuclear power plants. Those in power try to defend the safety of nuclear plants that are being designed by Indian nuclear scientists and those not in power try to create a political issue with an eye on elections. In developed societies, such critical issues are jointly discussed by all parties, keeping the larger good of the society and the nation as a prime objective. We need to create such a converging approach by all major political parties. In this respect we have miles to cover. Hence, uniform and assured supply of electric power would continue to be a major hurdle in the government's plans to go for IT industries expansion in tier II and II towns.

Equally challenging is the availability of connectivity across the entire country. BSNL, in recent years, has really penetrated rural areas. This is mainly in respect of personal usage of PCs that require lower bandwidth capacities. If IT industries are to reach smaller towns, we have to see that their requirement of dedicated and assured larger broadband connectivity is met. We necessarily need to rope private internet service providers more effectively in this task. They, even though expected to go to semi-urban and rural areas, are operating in big cities. The reasons are obvious; they have larger business in such cities. It is sheer mathematics of returns on investment. So there are two alternatives: one, the government itself invests in strengthening broadband connectivity in small towns and two, the government starts pushing private internet providers through legal force. The scenario is somewhat similar to the one faced when asking private airlines to provide air services to remote places, which is almost mandatory for them but does not happen with requisite seriousness. Therefore, the government, apart from enhancing its own investments in expanding connectivity with regard to bandwidth, should encourage private internet providers by creating attractive incentive packages for expanding their connectivity network outside metros.

The third factor is the availability of skilled persons. If one is talking about IT industry at the beginning of software development, it requires highly talented and experienced software experts having cutting edge knowledge of intricacies involved in software development. India does have several such competent persons and such an industry would essentially flourish in metros, as is true today. In recent years, India, which was only identified as a service provider hub, has made great strides and all major IT industries like Infosys, TCS, Wipro and many others are putting large efforts in making it an IT hub with having state-of-the-art hardware infrastructure.

The other industries are those in development of application software and providing of services in various applications through RPO, KPO and IPO structures. These could truly go to smaller places and that would bring a major change both at the societal and economic level. We would have to relook our higher education expansion plans in smaller towns with a clear mapping of the shortcomings in the existing higher education infrastructure at these places and devise a strategy to strengthen it for producing IT-skilled manpower. This means the MHRD and ICT ministries must do a joint exercise while developing the approach paper right from the conceptual level; the question is: is it happening?

Arun Nigavekar

UPTOWN TASK: We would have to revisit our higher education expansion plans in smaller towns and devise a strategy to strengthen the education infrastructure for producing IT-skilled manpower.

(The writer is a former chairman of UGC and former VC of University of Pune)
PSLV-C18 set for launch today

On-board satellite Megha-Tropiques to decode climate phenomena

SHUBHDEEP CHOWDHURY
TRIBUNE NEWS SERVICE

BANGALORE, OCTOBER 11
Southwest monsoon may soon shed some of its mystery as Indo-French satellite Megha-Tropiques will be up in the sky sending crucial data about clouds.

The Launch Authorisation Board (LAB) for PSLV-C18/Megha-Tropiques mission, which met at Satish Dhawan Space Centre (SDSC) at Sriharikota near Chennai, has cleared launch of the rocket at 11 am on Wednesday.

The 50-hour countdown commenced at 9 am yesterday. During the countdown, propellant-filling operations of the liquid propellant second stage (PS2) and fourth stage (PS4) of the launch vehicle is being carried out. Mandatory checks on the launch vehicle and spacecraft including charging of batteries and pressure of propellant tanks are also being checked.

Readiness of various ground systems including tracking of radar systems and communication networks are also being checked.

The 230-tonne PSLV-C18 is slated to launch the 1,000-kg Megha-Tropiques into an orbit of 867 km altitude at an inclination of 20 degrees with respect to the equator.

While earth observation satellites launched by ISRO had earlier improved understanding of the monsoon in India, much about it had still remained in the realms of the unknown.

The INSAT gives photographs of the clouds and also specifies the direction of their travel. However, snapshots say little about the cloud structure or the amount of water in it.

The latest satellite will probe the cloud structure and can make available substantial input about the amount of rainfall that is likely to take place in a region.

For this purpose, Megha-Tropiques will carry an Imaging Radiometer Microwave Analysis and Detection of Rain and Atmospheric Structures (MADRAS), a Humidity Sounder (SAPHIR), a Scanner for Radiation Budget (SCARAB) and a Radio Occultation Sensor for Vertical Profiling of Temperature and Humidity (ROSA).

MADRAS has been built jointly by ISRO and the state-run French space agency Centre National d'Etudes Spatiales (CNES). While SAPHIR and SCARAB have been manufactured by CNES alone, ROSA has been procured from Italy.

After lift-off, ISRO's Telemetry, Tracking And Command Network (ISTRAC) will take control of the satellite.

The instruments on board will be switched on during the following three weeks.

The mission will also place three nano satellites - the three kg remote sensing satellite Jugnu of the IIT-Kanpur, 10 kg SRMSAT of the SRM University in Chennai, and the 30 kg VesselSat of Luxembourg-based aerospace and defence company Luxspace - into orbit.

Jugnu will check out an indigenously developed camera system for imaging the earth in the near infrared region and test image processing algorithms, evaluate GPS receiver for its use in satellite navigation and will also test indigenously developed MEMS-based Inertial Measurement Unit (IMU) in space.

SRMSAT will try to address the problem of global warming and pollution by monitoring carbon dioxide and water vapour in the atmosphere with the help of a spectrometer.

VesselSat, developed by Luxspace, has tools to guide ships sailing in the high seas.

SCIENCE MEETS FAITH: ISRO chief K Radhakrishnan comes out of the Lord Venkateshwar temple in Tirupati after offering prayers for the successful launch of PSLV-C18, on Tuesday. — PTI
INTERVIEW: KAVIL RAMACHANDRAN

PROFESSOR, INDIAN SCHOOL OF BUSINESS

New gen must preserve wealth as family biz like relay race

A PhD holder from Cranfield, UK, Professor Kavil Ramachandran, has spent 15 years (1996-2001) at the Indian Institute of Management (IIM), Ahmedabad, teaching entrepreneurship and strategy. Today, he deals in family business and entrepreneurship at the Indian School of Business or ISB, Hyderabad. A business consultant to some medium and large family-run businesses in India and overseas, Ramachandran, has stepped down from the boards of companies like Aurobindo Pharma, to sit on boards of start-up companies run by his students, including Richoore Life science and Myndia.com. He feels he “can give more to start-ups than an established company.”

In an email interaction with FE’s Shweta Bhanot, Ramachandran shared his views on the ongoing transition of Indian family-run business houses and the challenges there. Excerpts:

We are seeing the next generation taking over at Indian family-run corporate houses. What aspects do they need to keep in mind as they do so?

Family business is like a relay race where the baton is passed over from one generation to another. Hence, the younger generation has a responsibility to successfully preserve and grow the wealth and legacy and pass them over to the subsequent generations. In that sense, they have to remind themselves that they are the custodians of wealth of the family in a rapidly transforming economy like ours, there are immense growth opportunities for them to express their entrepreneurial talents. The young generation should take advantage of the situation and exploit the opportunities, again in tune with their responsibilities of custodianship.

What are the challenges companies face in such a transition stage? How can they make the process smooth?

Building on the analogy of the relay race, there has to be very good homework done about the roles, responsibilities and capabilities required to continue the journey. This also means that a clear road map is prepared for the person who is retiring about what he or she would do subsequently. The retiring person should redefine the portfolio of activities that he or she would do and add value to the growth of the organisation in the capacity of an advisor, if possible. The process of transition should be worked out in advance so that the baton change could be smooth.

Are professionally-run businesses better off than those that are family-run?

Family run and professionally run businesses are not mutually exclusive. All businesses, whether family-owned or otherwise have to be professionally managed. Increasingly, business families train their members to be professionally qualified and behave professionally in the business context. As a result, well-run family businesses have the benefit of the passion of the owner as well as the passion of the professional embedded into the same. This does not mean that family executives are always better than non-family professionals. Of course, professionally run businesses are always better off than non-professionally run businesses, whether they are family-owned or not.

Do you think a split among family members can help grow a family-run business further?

I don’t think so. In fact, global experience is that split is most often painful both for the business as well as the family. The well-governed family businesses stand as testimonial of the benefit of keeping family ownership together for running businesses professionally.
आईआईटी के ‘जुगनू’ का प्रक्षेपण आज

स्वदेशी तकनीक से बनाया तीन किलोग्राम वजन का नैनो सैटेलाइट

कानपुर, 11 अक्टूबर (भारत)। आईआईटी कानपुर द्वारा स्वदेशी पत्ता भरने वाले नैनो सैटेलाइट ‘जुगनू’ का प्रक्षेपण कल 12 अक्टूबर को श्रीरंगिकोटा से सीएसएलवी-5 से 18 द्वारा किया जाएगा। इसकी निगमन पार्टनर आईआईटी कानपुर के प्राइवेट स्टेंडिंग से होगी। आईआईटी कानपुर के अध्यापकों और छात्रों का एक टीम इस समय भारतीय अंतरिक्ष अनुसंधान संस्थान (इससे) के वैज्ञानिकों के साथ श्रीरंगिकोटा में है। आईआईटी के मैकेनिकल इंजीनियरिंग विभाग के प्रोफेसर वी. नैनो सैटेलाइट के प्रक्षेपण की तैयारी में हो रही छ। एक अन्य व्यापक प्रारंभिक व्यवस्था ने आज श्रीरंगिकोटा से फोन पर बताया कि संस्थान के करीब 60 छात्र-छात्राओं और वैज्ञानिक की मेंहनत से स्वदेशी तकनीक से विकसित तीन किलोग्राम वजन का नैनो सैटेलाइट ‘जुगनू’ को प्रक्षेपण के लिए इससे वैज्ञानिकों को सौगात दी गयी है। इस व्यापक ने कहा कि क्लार्टी श्रीरंगिकोटा में इस सैटेलाइट के सफल प्रक्षेपण के बाद आईआईटी कानपुर में एक शानदार समारोह का आयोजन किया जाएगा।

मार्च 2010 में संस्थान के स्वर्ण जयंती समारोह में राष्ट्रपति प्रतिष्ठान पारों में आई थी और उन्होंने इस सैटेलाइट की जमकर तारीख की हुई। इस व्यापक ने बताया कि इस नैनो सैटेलाइट के निर्माण के लिए करीब तीन करोड़ रुपये की व्यापक व्यक्तित्व जनसंपर्क की हुई थी, लेकिन संस्थान के छात्रों और वैज्ञानिकों ने इससे कम राशि में ही तैयार कर दिया। उन्होंने बताया कि इससे वैज्ञानिक कई अन्य सैटेलाइट के लिए जुगनू की प्रक्षेपण करे और इसका ट्रॉपिकल सिस्टम आईआईटी कानपुर में होगा जो इससे मिलने वाले डेटा और फोटो को सुरक्षित रखेगा तथा उनका अध्ययन करा। इससे बताया कि आईआईटी कानपुर और इसके बीच वर्ष 2008 में एमआईपी पर हस्ताक्षर किए गए, जिसके तहत जुगनू पर काम-शुरु हुआ। तीन किलो वजन, एक फुट लंबा, दस सेंटीमीटर चौड़ा यह सैटेलाइट पूरी तरह से स्वदेशी टेक्नोलॉजी पर आधारित है। आईआईटी के वैज्ञानिकों का अनुमान है कि यह कम से कम एक साल तक अंतरिक्ष में रहेगा। जुगनू से मिलते बाली उच्च खरीदता की सत्यता में तथा आंकड़ों का उपयोग सुना, बांट, भंडार, व्यापक प्रदर्शण और परवरिश की जानकारी आदि के लिए किया जाएगा।