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NAI DUNIYA ND 13/8/2014 P-6

चार वैज्ञानिकों को मिला विक्रम साराभाई अवॉर्ड

अहमदाबाद (प्रे)। विज्ञान के क्षेत्र में अनुकरणीय उपलब्धि के लिए चार वैज्ञानिकों को डॉ. विक्रम साराभाई अवॉर्ड प्रदान किया गया।

डॉ. साराभाई के जन्म दिन पर मंगलवार को फिजीकल रिसर्च लैबोरेटरी (पीआरएल) में आयोजित समारोह में इन वैज्ञानिकों को अवार्ड से नवाजा गया। इनके अलावा दो अन्य वैज्ञानिकों को पीआरएल अवॉर्ड दिया गया। डॉ. विक्रम साराभाई अवॉर्ड से सम्मानित होने वाले वैज्ञानिकों में आईआईटी दिल्ली के रंजन बोस, आईआईटी मुंबई के सौविक महापात्र, इसरो के जोजी चमन और पीआरएल के तरुण कुमार पंत शामिल हैं।

हर वैज्ञानिक को पदक

रंजन बोस को सुरक्षित संचार माध्यम का कोड विकसित करने के लिए यह अवार्ड प्रदान किया गया। पीआरएल पुरस्कार से सम्मानित होने वालों में काशी हिंदू विश्वविद्यालय के वैज्ञानिक एनवी चेलापति राव और जेएस राव प्रमुख हैं। पुरस्कार के रूप में प्रत्येक वैज्ञानिक को एक पदक और पचास-पचास हजार रुपए नकद प्रदान किए गए।

Navodaya Times ND 13/08/2014 P-3

डाक्टरों का तनाव दूर करेंगे आई.आई.टी. के पेशेवर

- आई.आई.टी. दिल्ली के पेशेवरों की ली जा रही है मदद
- डाक्टरों पर पड़ने वाले दबाव को सैंसर से जानने की कोशिश

नई दिल्ली, 12 अगस्त (सज्जन चौधरी): आई.आई.टी. दिल्ली के पेशेवर अब एम्स के डाक्टरों का इलाज करेंगे। डाक्टरों में बढ़ते तनाव को दूर करने के लिए आई.आई.टी. दिल्ली के पेशेवरों की मदद ली जा रही है। ट्रामा सैंटर और मैंटल हॉस्पिटल में काम करने वाले डाक्टरों में आम तौर पर तनाव की समस्या देखी गई है। डाक्टरों के बढ़ते तनाव को कम करने की दिशा में एम्स ट्रॉमा सैंटर ने पहल की है।

सैंसर की मदद से डाक्टरों के स्ट्रैस के स्तर की जानकारी जुटाकर उसका संभावित उपाय किया जाएगा। ट्रॉमा सैंटर में आपातकालीन मरीजों का इलाज करने के दौरान नर्सिंग स्टाफ एवं डाक्टरों का दबाव काफी बढ़ जाता है। इससे मरीजों का इलाज प्रभावित हो सकता है।

आई.आई.टी. इंजीनियर करेंगे डाक्टरों का इलाज: एम्स ट्रॉमा सैंटर के न्यूरो सर्जन डा. दीपक गुप्ता ने बताया कि डाक्टरों को ट्रामा के मामलों से निपटते हुए तनाव से पीड़ित होने का अध्ययन एम्स में किया जा रहा है। उन्होंने कहा कि इस तरह का यह पहला अध्ययन है। इस काम में आई.आई.टी. दिल्ली के पेशेवरों की मदद ली जा रही है। इस प्रोजैक्ट की मंजूरी मिल चुकी है। एम्स ट्रॉमा सैंटर के अध्यक्ष एवं निदेशक डा.एम.सी. मिश्रा और डा. के.के. विश्वास भी इस प्रोजैक्ट से जुड़े हैं।

तनाव को मापा जाएगा

डा. अग्रवाल ने कहा कि वह एमरजैंसी में काम करने वाली नर्स एवं डाक्टरों पर पड़ने वाले दबाव को सैंसर की मदद से जानने की कोशिश कर रहे हैं। इलैक्ट्रॉनिक सैंसर एमरजैंसी में काम करने वाले डाक्टर एवं नर्सों के शरीर में लगे होंगे। ये सैंसर मानसिक दबाव की तीव्रता को स्केल में दर्ज करेगा। सैंसर से प्राप्त नतीजों के विश्लेषण के लिए आई.आई.टी. दिल्ली की मदद ली जाएगी। आई.आई.टी. के दिल्ली के पेशेवर उन्हें सैंसर से प्राप्त आंकड़ों के गणितीय पहलुओं का सटीक विश्लेषण हमें बताएंगे। हम उन विश्लेषणों के आधार पर इसका समाधान निकालेंगे। उन्होंने बताया कि इस अध्ययन के नतीजे आने में एक साल का समय लग सकता है।

Hindustan Times (Gurgaon), Snehil Sinha snehil.sinha@hindustantimes.com

IIT-Delhi finds loopholes in Huda's sector road project

The proposed 16-lane road network on the Huda sector road in Gurgaon is likely to be reworked.

PARVEEN KUMAR/ HT PHOTO The road network project on the Huda sector road was stalled after residents protested against tree-felling.

An IIT-Delhi report presented in the Punjab and Haryana High Court (HC) points at many loopholes in the plan and suggests changes in the public-private partnership project between D L F a n d H a r ya n a U r b a n Development Authority (HUDA).

The report says that the detailed project report (DPR) for the road has features that will encourage speeding. Also, it is not in consonance with the Integrated Mobility Plan (IMP) for Gurgaon- Manesar Urban Complex prepared in 2010 that suggests Golf Course Road to be a part of a mobility corridor.

"The geometry is designed for 80 km/hr speed. This speed is recommended for highways, not for urban roads. Even elevated corridors in Delhi have speed limit of 70 km/hr. It seems the main focus of this DPR is to construct a major highway through Gurgaon primarily designed for car traffic," states the report by Dr Geetam Tiwari.

It adds that the DPR does not even mention pedestrians, bus commuters or bicycles in the 160 page documents. Bus stops are mentioned primarily to indicate that they have been kept away from the intersection.

A major highway passing through primarily residential areas makes it difficult for pedestrians, bicyclists and public transport commuters to cross the road. This is also expected to contribute to increased air and noise pollution according to the report.

The IMP estimates 12,200 Peak Hour Peak Direction (PPHD) traffic by 2012 on Golf course road, same as the proposed ring road, and recommends low to medium capacity transit (BRT) to meet this demand. The proposed mass transit options would reduce 25-40% of traffic on these corridors. Mobility corridor is recommended on six lane arterial roads, with exclusive bus lanes and bicycle lanes. This is applicable for Golf Course Road also.

According to transpor t experts, there is a need to review the plan for this sector road as several infrastructural changes have come about near the area, including the Rapid Metro.

“With such high quality public transport available near the Golf Course Road, it is capable of reducing PPHD by nearly 20,000. Therefore widening the road seems to be a redundant idea and the rationale behind the project needs to be relooked into,” said Amit Bhatt, strategy head- urban transport, Embarq India.


REPORT STATES;

The project had earlier been stalled after felling of trees along this stretch for widening the road had irked residents of nearby areas including the National Media Centre. The DLF spokesperson was unavailable for comments.

MOOCs platform: PM Narendra Modi's gift to nation on I-Day

http://indiatoday.intoday.in/story/moocs-platform-swayam-narendra-modi-deen-dayal-upadhyaya-iit-bombay-princeton-university-hrd-ministry/1/376764.html

Take a highly specialized course on Quantum Mechanics being taught at the Princeton University or IIT Bombay and bring it online and completely free of cost to a student in India's hinterland in a language he understands - this is one of the big ideas that Prime Minister Narendra Modi is expected to announce when he addresses the nation from the Red Fort on 15th August.

An India specific MOOCs (Massive Open Online Courses) platform- likely to be christened 'Swayam' indicating self learning, is expected to be launched on 25th September - the birth anniversary of Pt Deen Dayal Upadhyaya - Jan Sangh leader and one of the guiding lights for BJP.

That apart, Modi is also likely to announce that all 145 campuses of the Centrally Funded Institutes will be made Wi-Fi ready- before or by October this year. A revamped teacher's training programme besides the National E Library which was promised in the President's address are also likely to move forward, sources said.

To debut next month, the India MOOCs platform will take off with three courses. The courses on offer will include two from IIT Bombay and one from Princeton University.

The courses from IIT-Bombay will be on 'introduction to computer programming' by Prof Deepak B Phatak from the Department of Computer Science and Engineering, and another on 'thermodynamics' by Prof Uday N Gaitonde.

Prof Umesh V. Vazirani from Princeton University is leant to have agreed to share his course on Quantum Mechanics and Quantum Computation with India's MOOC platform- his course is currently up on edX- one of the largest global MOOC platform co-founded by MIT and Harvard.

The India MOOC platform will be completely free of cost and also promises to offer top quality courses in a number of Indian languages. The process has already begun to ensure effective translation of the IIT Bombay and Princeton course in Hindi and other languages.

Already on the job to get all centrally funded institutions wi fi ready, the Smriti Irani led HRD ministry has written to heads of all 145 institutions to begin site surveys. They have also been asked to rope in the services of PSUs like Education and Research Network (ERNET) to help in setting up a wifi eco system. It is expected that it will cost approximately Rs.40 lakh per institute to set up a wi fi system.

The HRD ministry also recently announced that it will soon launch a Campus Connect programme to make 21,000 colleges and 4.2 lakh classrooms Wi-Fi enabled giving access to academically relevant websites to around 1.5 crore students. As per this programme, all the buildings of 600 universities that have 1 Gbps bandwidth will be made Wi-Fi enabled.

Meanwhile, IIT Kharagpur is helping prepare a blueprint for the National E Library project- that will collect, preserve and disseminate all the intellectual output of our country and cater to the needs of the students spanning from school level to PG level and provide free access to quality e-contents and education material to students at primary, secondary and higher education level.

The HRD ministry plans to involve all IITs and Institutions of higher learning in this project.

Nevalninna Prize to IIT-B alumnus Subhash Khot

http://www.thehindu.com/sci-tech/science/nevalninna-prize-to-iitb-alumnus-subhash-khot/article6309373.ece

The 36 year-old IIT Bombay alumnus Subhash Khot, an Indian-American theoretical computer scientist at the Courant Institute of Mathematical Sciences of New York University, has been chosen for the International Mathematical Union's Nevanlinna Prize, which is given "for outstanding contributions in mathematical aspects of information sciences".

The award is given once every four years during the International Congress of Mathematicians (ICM). The ICM2014 began on August 13 at Seoul, Republic of Korea. Khot's research has to do with a field in computer science called 'Computational Complexity', which seeks to understand the power and limits of efficient computation with standard computers.

"Khot's prescient definition of the "Unique Games" problem," said the award citation, "and his leadership in the effort to understand its complexity and its pivotal role in the study of efficient approximation of optimization problems, have produced breakthroughs in algorithmic design and approximation hardness, and new exciting interactions between computational complexity, analysis and geometry."

Unlike the normal practice of awarding major prizes in mathematics for groundbreaking results, the Nevalninna Prize this time is for a conjecture and that too when the opinion on its truth is divided within the world computer science community. But, by posing the right questions that have enabled great insights into the nature of computational complexity and approximations to computationally hard problems, the conjecture, called the Unique Games Conjecture (UGC), has already proved its great value. More pertinently, Khot has also used the conjecture to prove major results that will remain valid regardless of the truth of the UGC.

“I do believe whether it is eventually shown to be false or not changes little about the brilliance of the conjecture,” wrote Richard Lipton of Georgia Institute of Technology, Atlanta, in a blog post on the UGC. “It takes insight, creativity of the highest order, and a bit of ‘guts’ to make such a conjecture,” Lipton said.

The central question in computational complexity is: How hard are problems to solve? More precisely, if one has found the cleverest possible way to solve a particular problem, how fast will a computer find the answer using it? It is now a truism that some problems are so intractably difficult that computers cannot reliably find the answer at all, at least not in any reasonable amount of time (such as before the end of the universe).

A typical optimization problem, to quote an example given by Meena Mahajan, a theoretical computer scientist from the Institute of Mathematical Sciences, Chennai, is: What is the minimum number of tea stalls that should be put up in a large university campus so that no one needs to walk, say, more than 200 metres along a road to reach one? As the size of the campus increases, the computational time to find the minimum number of stalls grows exponentially fast, even with the best current algorithms.

This is what underlies the famous P ≠ NP conjecture, which is one of the seven $1 million Millennium Problems posed by the Clay Mathematics Institute (CMI). A problem that is tractable and the number of algorithmic steps that its solution requires is at most some power of the problem size is said to belong to P class (where P stands for 'polynomial time'). A problem belongs to NP class (NP stands for 'non-deterministic polynomial time') if the computer can efficiently verify a proposed solution for it is correctness but does not have the resources – time or the number of algorithmic steps or memory size -- as a function of the "input size" of the problem to obtain the solution.

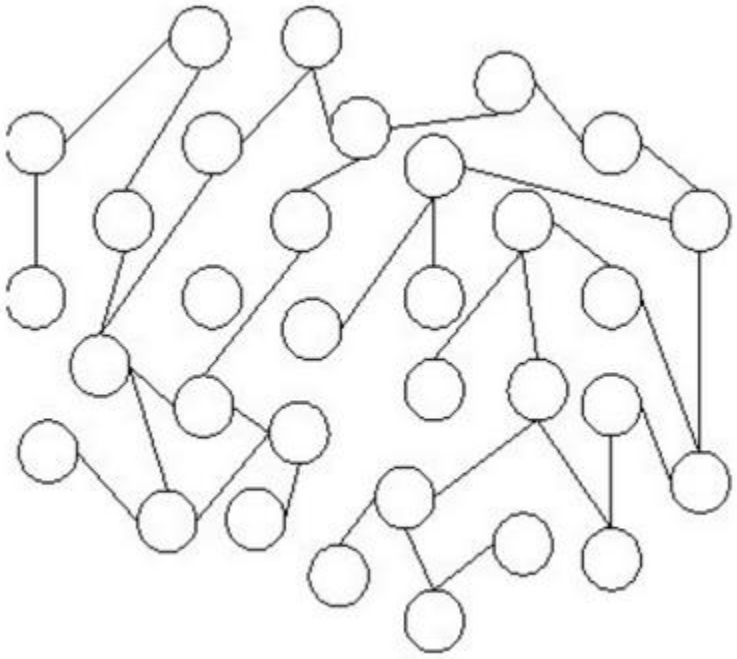
Formulated by the American-Canadian computer scientist Stephen Cook in 1971, the conjecture states that these two classes are distinct. This means that there are computational problems whose solutions are beyond the reach of any computer algorithm. Most computer scientists believe that the conjecture is true but even after four decades it is yet to be proved, not want of attempts though.

Such “computationally intractable” or “NP-hard” problems have profound consequences. For instance, they limit our ability to tackle large-scale problems in science and engineering, such as optimal design of protein folding or figuring out the best design for a chip or the best train schedule. Conversely, however, computational intractability enables computer security against hackers attempting to access on-line confidential data.

So, computer scientists asked: If a problem is too hard to be computationally solved quickly and precisely, can we at least find a good approximation? “Counter-intuitive though it may seem,” Mahajan points out returning to her tea stall example, “while we do not know how to find the minimum efficiently, we can find a number that is no more than twice the minimum efficiently! That is, we can efficiently find an approximate solution. Unfortunately, there are many optimization problems for which even this may not be possible.”

The UGC essentially addresses the question of solving NP-hard problems even approximately. It thus complements the P ≠ NP conjecture. In the initial years after P vs, NP conjecture was made, many computer scientists believed that that good approximations must be easier than finding the exact answer to an NP-hard problem. But they soon discovered that, while they could come up with good approximation algorithms for some NP-hard problems (like our tea-stall problem), for most of them even finding a good approximation was not possible. There was no prescriptive way of determining whether approximation was possible. That is, approximation itself was an NP-hard problem.

The Unique Games problem, a remarkably simple problem, encapsulates the elements that make many hard problems hard to solve even approximately. The problem is simply about finding an efficient way of assigning colours to the nodes of a network such that any two connected nodes have different colours (Fig).



If one has only two colours (say yellow and green), the problem is easy. The problem becomes trickier even when you add just one more colour (say blue). When you colour the first node, say with Y, you don't know what colour the connected nodes should have, G or B. If you choose one and get to a node that cannot be coloured without violating the condition, you have no way of knowing if a different selection would have solved the problem.

It is not the method that was faulty. In fact, no other method will be able to solve it reliably and efficiently. The problem is NP-hard, meaning effectively impossible. But Khot asked the related question: Which colouring scheme breaks the fewest rules possible? That is, which colouring is the best approximation. The conjecture basically is that if you have lots of colours, even an efficient method to colour the nodes anywhere close to the best one is impossible.

The UGC, which Khot enunciated in 2002, can be stated as follows: It is not just hard but impossible reliably to find an approximate answer to Unique Games quickly. That it is, the problem is NP-hard even to solve approximately. Thus, if the conjecture is true, the problem Unique Games problem, in a technical sense, sets a benchmark for NP-hard problems.

"Khot's work attempts to give a unified explanation for why so many problems seem hard to approximate," points out Mahajan. "What makes this so wonderful is that if the UGC is true, it explains in one shot why a host of other problems have resisted solutions so far; they are all at least as hard as Unique Games. All the difficulties encountered in tackling many different optimization problems get distilled into one problem," she adds.

A couple of years later after Khot made his conjecture, computer scientists realized the real power and importance of the conjecture. They found that, if the UGC was indeed true, then they could set firm limits on how well many other problems could be approximated. For instance, in our tea-stall example, it turns out that twice the minimum is the best one can do under the assumption that $P \neq NP$. If one tried to do better than a factor-of-2 approximation, say with a more sophisticated algorithm, it would imply that $P = NP$. The simple algorithm that gave the factor-of-2 approximation is the best one can do. According to the UGC, an efficient approximation for the Unique Games problem would imply $P = NP$.

Independent of its truth, the conjecture, however, has proved to be remarkably powerful. In the process of determining how well NP-hard problems could be approximated, Khot and others have proved several significant results in other areas, which seem far removed from computational complexity, such as geometry of different ways of measuring distances, some new theorems in Fourier analysis, better understanding algorithms based on linear and semi-definite programming and structure of 'foams'. The last connection, which is essentially a tiling problem, came as a surprise even to Khot, according to Mahajan.

While there is a significant group of researchers working to prove the conjecture, there is an equally significant set working to disprove it. Although scientists are yet to find an algorithm that can efficiently find a good approximate solution to Unique Games, finding one such would mean a significant algorithmic breakthrough. Such a new approximation algorithm is most likely to be very different from the approximation algorithms that are known today. Indeed, the process has already thrown up some excellent new algorithmic methods for other situations. In any case, the UGC is likely to keep theoretical computer scientists busy for some years to come.

The Pioneer ND 13/08/2014 P-14

INNOVATION SEMINAR

The Asia Pacific Institute of Management, Jasola Vihar, New Delhi, recently organised a conference on *Innovations in IT for Business*. The chief guest was Prof HM Gupta from Delhi IIT.

The jury for the seminar comprised Prof KS Gupta, Prof Saurabh Mittal, area chairperson-IT, and Prof HM Gupta from IIT, Delhi and others. The students presented papers on different innovations across the IT industry.

The best presentation was on *Internet of Things* wherein the student focused on how Internet can connect with various products and our lives seamlessly.

The second winner presentation was on *Java Ring* which is smart enough to link the daily activities of users with the Internet and provide various facilities to improve their performance.

The third position went to the *Li-Fi* presentation.

Hindustan Times, ND 13/08/2014 P-10

Bill for IIITs as institutes of national importance tabled

NEW DELHI: A bill seeking to declare four Indian Institutes of Information Technology (IIITs) as institutions of national importance and empower them to grant degrees was introduced in the Lok Sabha on Tuesday. The Indian Institute of Information Technology (IIIT) Bill, introduced by HRD Minister Smriti Irani, was originally introduced during the UPA regime but it had lapsed with the completion of the term of the last LS.

Deccan Herald, ND 13/08/2014
P-6

IISc gets UGC nod for 4-yr course

NEW DELHI, DHNS: The University Grants Commission (UGC) has allowed the Indian Institute of Science (IISc), Bangalore, to continue with its four-year undergraduate programme in science (BS), albeit with changes to its nomenclature as well as structure.

Students admitted to the BS programme will now get a BSc degree after completion of the third year of the course. They will be granted a BSc research degree on completion of the fourth year, said a Human Resource Development (HRD) Ministry official on Tuesday.

In a letter to the IISc earlier this week, the UGC had asked it to discontinue the course on the ground that it was in violation of the 10+2+3 pattern.

HRD Minister Smriti Irani disclosed the UGC's directive to the IISc while answering a written question in the Lok Sabha on August 6. The IISc, however, later approached the commission with a detailed clarification that the programme was not a general undergraduate course in science but a degree in research.

Hindustan Times (Chandigarh)

UGC CHAIRMAN TO ADDRESS VARSITIES VIA WEBCAST

CHANDIGARH: University Grants Commission (UGC) chairman, Ved Prakash, will address all the universities of the country through a web-conference from Panjab University (PU) campus on Thursday. Prakash will speak on 'Impetus to Research: Strategic Planning and WorkPlan'.

The programme is being held to commemorate the completion of sixty years of UGC. The national web address to all the universities will be transmitted nationwide (live webcast) via the National Knowledge Network (NKN) on August 14 at 11 am from the main auditorium at the PU campus.

The live webcast can be watched on webcast.gov.in/punjabuni/. The UGC chairman will also be interacting with young students, research scholars, faculty, members of the academic council and the governing bodies of the university during his visit.

In fact, he will also inaugurate an academic block in the south campus and release a reprint of the book titled 'Shanti Swarup Bhatnagar - His Life and Work', was authored by his late son, Anand Swarup Bhatnagar, as well. Eight vice-chancellors from various states of the region like Jammu and Kashmir, Punjab, Himachal Pradesh, Haryana , as well as those from Chandigarh, will also participate in the event.

Organising secretary of the programme, Karamjeet Singh said a galaxy of eminent persons and principals of different colleges would participate in the programme.

आईआईटी शोधार्थी ने प्रोफेसर पर लगाया परेशान करने का आरोप

हरिद्वार। दो महीने पहले आईआईटी की शोधार्थी के साथ बदसलूकी का मामला अभी ठंडा भी नहीं हो पाया था कि अब एक अन्य शोधार्थी छात्रा ने आईआईटी रुड़की के एक एसोसिएट प्रोफेसर पर अनावश्यक एसएमएस व वीडियो भेजने के आरोप लगाया है। शिकायत पर आईआईटी प्रबंधन ने मामले की जांच शुरू करा दी है। जानकारी के अनुसार एक शोधार्थी ने आईआईटी के निदेशक डॉ. प्रदीप्ता बनर्जी को शिकायत भेजी है। इसमें बताया कि एक एसोसिएट प्रोफेसर उन्हें लगातार अनावश्यक एसएमएस कर रहे हैं।

एसोसिएट प्रोफेसर ने उन्हें एक वीडियो भी भेजा है। शोधार्थी ने शिकायत पर जांच कर कार्रवाई की मांग की है। बताते चलें कि करीब दो महीने पहले भी आईआईटी की शोधार्थी ने एक अधिकारी पर बदसलूकी का आरोप लगाया था। इस प्रकरण की जांच महिला उत्पीड़न सेल आईआईटी को सौंपी गई थी, जिसकी रिपोर्ट भी जांच अधिकारी डॉ. ऋतु बड़थ्वाल ने आईआईटी प्रबंधन को दी थी लेकिन यह जांच भी ठंडे बस्ते में चली गई।

- See more at: http://naidunia.jagran.com/national-iit-researcher-imposed-on-the-charge-of-harassing-on-professor-160916#sthash.fjU2V2Fi.dpuf

Education will be bigger than search: Google

http://www.thehindubusinessline.com/features/smartbuy/tech-news/education-will-be-bigger-than-search-google/article6309486.ece

Ramanathan V Guha is among the top research scientists at Google's Mountain View headquarters. An alumnus of IIT-Madras, Guha holds a number of patents to his name and had co-founded two companies before joining Google in 2005. At Google, he has been responsible for the Google Custom Search and is now driving the company's online education strategy. In a freewheeling chat with *BusinessLine* during his recent visit to Delhi, Guha spoke about Google's vision to promote free education courses online. Edited excerpts:

Why has Google, which primarily makes money from the search business, moved into the online education space?

Education is bigger than search in terms of impact. This is going to produce a big change. In all our discussions, we have never mentioned the business model a single time. Academics is in our DNA.

How much of this is governed by the fact that if Google wants to reach the next billion users it has to move into socially relevant areas such as education?

Today, 1.5-2 billion people are accessing Google, which means three-fourths of the people are not. At the end of the day, we want these people to reach the same levels as the developed world and there is only thing that can do that: education. The Internet is finally beginning to tackle education.

If quality education goes online what will the future hold for institutions such as the IITs and Stanford?

The need for institutions like Stanford will always be there. Right now, you can get into these institutions if you are fortunate. But for a kid who is in a village in Rajasthan or Kerala, if we could give that kid 20-30 per cent of that experience, it will be worth it. It is not an either or situation. We are thinking of having a hybrid model wherein you will get access to online course material but also have offline tutors at the local level to guide students.

Why do you think online education will work in India, with all its deficiencies in terms of infrastructure and resources?

The fundamental problem for India, if it wants to move to the next level, is that there are 150-200 million kids in the age group of 5-20 who need to get educated. It's too late to train and deploy 10 million teachers. There's not enough time and not enough people. But we can do some of it online. Having said that, we realise that in India there are many different ways to do assessments and different ways to teach. We don't know what it should look like but we know there are people with ideas. Google will facilitate by bringing platforms like Course Builder. We will help institutions like the IITs to try different things using our tools and infrastructure.

How big are issues such as language and cultural differences when it comes to online education?

It's huge everywhere but in India it is 10 times more important because of the variety of culture, teaching style and language. One of the changes on our platform is that now we are getting 20 lecturers with different styles talking about the same topic in different languages. A student can listen to whichever lecture they want depending on their preferred language. For example, we are rendering all the lectures under the National Programme on Technology Enhanced Learning (NPTEL) project into multiple languages.

Are you also looking at enabling school content, especially primary-school content, online?

We are moving top down. Primary school education is very difficult to replicate online. It will be a while before we nail it.

We are starting to look into high school in the US. Higher education is more subjective.

Economic Times ND 13/08/2014 P-1

कैंपस रिक्रूटमेंट में दिग्गजों को टक्कर देंगी स्टार्ट-अप्स

[श्रीराधा डी बसु | मुंबई]

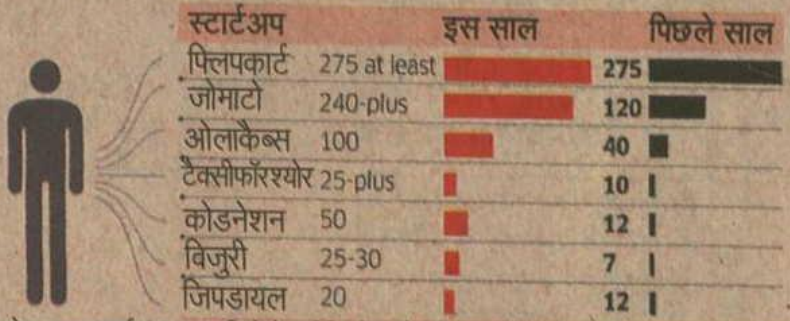
कुछ स्टार्ट-अप्स देश के जानेमाने कैंपस में दखल बढ़ाने की तैयारी में हैं। इनके पास पैसों की कमी भी नहीं है। आईआईटी, आईआईएम और दूसरे इंस्टीट्यूट्स में अगले कुछ महीनों में प्लेसमेंट शुरू होगा। ऐसे में ये नई कंपनियां प्रतिभाशाली युवाओं की हायरिंग में दिग्गज कंपनियों को टक्कर देने की कोशिश में जुट गई हैं।

इकनॉमिक टाइम्स ने 10 स्टार्ट-अप्स से उनके हायरिंग प्लान पर बात की। इन्होंने इस फिस्कल ईयर में जानेमाने बिजनेस स्कूलों, इंजीनियरिंग कॉलेजों और ग्रेजुएट स्कूलों से 850 से ज्यादा ग्रेजुएट्स की भर्ती करने की योजना बताई। फ्लिपकार्ट, टैक्सीफॉरश्योर और ओलाकैब्स जैसे स्थापित नामों के अलावा विजुरी और कोडनेशन जैसी स्टार्ट-अप भी हायरिंग के लिए टॉप कैंपस जा रही हैं। ये अट्रैक्टिव पे पैकेज भी ऑफर कर रही हैं।

छह महीने पहले ही कंपनी के तौर पर रजिस्टर्ड हुई एंटरप्राइज सॉफ्टवेयर डिवेलपर कोडनेशन नेशनल इंस्टीट्यूट ऑफ टेक्नोलॉजी (NIT) जैसे इंजीनियरिंग कैंपस में पसंदीदा रिक्रूटर्स बनने की होड़ में है। यह 24 लाख रुपये सालाना तक की सैलरी ऑफर कर रही है। पिछले प्लेसमेंट सीजन के आखिरी दिनों में कैंपस पहुंची इस कंपनी ने मार्च 2014 में 12 इंजीनियरिंग ग्रेजुएट्स हायर किए थे। इस बार इसने IIT, NIT, IIIT (इंडियन इंस्टीट्यूट्स ऑफ इनफॉर्मेशन टेक्नोलॉजी), DTU (देलही टेक्नोलॉजिकल यूनिवर्सिटी) और PESIT (PES इंस्टीट्यूट ऑफ टेक्नोलॉजी) से शुरू में ही बेस्ट टैलेंट हासिल करने का प्लान बनाया है। कोडनेशन की हेड ऑफ ऑपरेशंस अनुजा शिवराम ने बताया, 'हम पिछली बार कैंपस में बहुत देर से गए थे, लेकिन इस बार ऐसा नहीं होगा। हमने बेहतरीन कॉलेजों से 50 ग्रेजुएट्स हायर करने का प्लान बनाया है।'

स्टार्ट-अप्स कंपनियों में टैलेंट की डिमांड बढ़ी

कुछ स्टार्ट-अप्स की ओवरऑल कैंपस हायरिंग



नोटः कुछ स्टार्ट-अप्स कंपनियों ने इंजीनियरिंग और बीस्कूल में अभी हायरिंग के नंबर तय नहीं किए हैं, इसलिए आंकड़े बदल सकते हैं सोर्सः इंडिविजुअल स्टार्टअप्स

- कुछ स्टार्ट-अप्स टोटल 850 ग्रेजुएट्स की हायरिंग कर सकती हैं
- बी-स्कूल के ग्रेजुएट्स को मोटी सैलरी और अच्छी ग्रोथ का लालच
- बड़े बिजनेस स्कूलों में ज्यादा हायरिंग करने की तैयारी में स्टार्ट-अप्स
- कई कंपनियों ने प्री-प्लेसमेंट ऑफर भी दिए

Business Standard ND 13/08/2014 P-22

Colleges sprout but without teachers

Three million more faculty members needed by 2022

MAYANK MISHRA
New Delhi, 12 August

Deepak Mehta's association with Delhi University, dating back to the early 1990s, is about to end in a few months. The highly respected sociologist is about to join, what he calls, "a sanctuary for social sciences". He is one of several professors who have quit or are about to leave government institutions to join upcoming private universities.

The prospect of better pay attracts some. For others, the working environment is the reason. Mehta finds the Noida-based Shiv Nadar University's focus on "research and innovation" tempting. "Places like Shiv Nadar University give scope for critical thought to emerge. The research output from the university in the few years of its existence has been impressive," Mehta explains.

The migration of faculty members has left a hole in several institutions of excellence. The Union human resource development (HRD) ministry recently informed Parliament that the 16 Indian Institutes of Technology (IITs) have a faculty shortage of 36.5 per cent. The 30 National Institutes of Technology face a faculty shortage in the range of 41 per cent.

The shortage is not confined to centres of excellence alone. Consultancy firm Ernst & Young estimates state varsities face a faculty shortage of 40 per cent and central ones nearly 35 per cent. "While student enrolments have gone up by over 100 times between 1950-51 and 2011-12, the number of teachers has gone up by less than 40 times, which implies the student-teacher ratios have declined by about 2.5 times in this period," says a report prepared by Deloitte and the Confederation of Indian Industry.

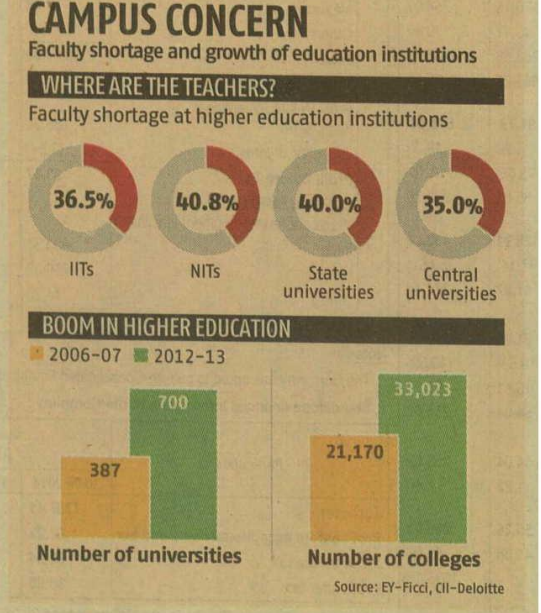
Much of the current shortage could be attributed to a massive growth in the higher education sector in the past seven years. In 2006-07, the country had 387 universities. The number stood at 700 in 2012-13. In terms of number of colleges, the growth has been phenomenal, from 21,170 in 2006-07 to 33,023 in 2011-12. The bulk of the growth has been in the private sector. There has been an increase of more than 60 per cent in the number of private higher education institutions in the past five years. They account for nearly 64 per cent of all student enrolments, up from nearly 50 per cent a decade ago.

"It is not the number of private colleges that have come up that matters. It is their quality and basic institutional motivation and vision that is crucial. Some of the world's greatest universities are private (Harvard, Stanford, etc). Creating and maintaining quality in higher education institutions is a complex and challenging task — but it is unavoidable if India is to emerge as a modern nation," says Chiranjib Sen, professor at Azim Premji University. He was also a member of the task force on Faculty Shortage and Design of Performance Appraisal Systems constituted by the HRD ministry in 2011.

The student-teacher ratio, which stood at 14.2 in 1980-81, has gone up to nearly 30. To bring the ratio to a reasonable 20, the National Skill Development Corporation had estimated there would be an incremental requirement of about 31,71,000 teachers in higher education between 2008 and 2022.

The question is how to go about it? Better remuneration is one way to attract people to the teaching profession. Hyderabad-based Indian School of Business has done that. It reportedly pays 4-5 times the average salary paid at other business schools in the country. It has also reduced the average teaching hours a year to 120 as opposed to 200 hours in other business schools.

Sen's suggestion is that "there are long-term structural issues that need to be resolved on both the supply and demand side for faculty. On the supply side, we need to signal to bright young professionals that academics is a rewarding profession. Both financial and moral incentives are required. In my view, the latter are more important." Sen was a faculty member at the Indian Institute of Management, Bangalore, before switching over to Azim Premji University recently.



Deccan Herald, ND 13/08/2014 P-15

Salt can kill cancer cells: Study

LONDON: The next weapon to effectively fight cancer could be salt as researchers have found that an influx of salt into a cell triggers its death.

The finding could lead to new anti-cancer drugs, said the researchers who created a molecule that can cause cancer cells to self-destruct by carrying sodium and chloride ions into the cells.

"This work shows how chloride transporters can work with sodium channels in cell membranes to cause an influx of salt into a cell," said study co-author professor Philip Gale from the University of Southampton in Britain.

"We found we can trigger cell death with salt," Gale added.

Cells in the human body work hard to maintain a stable concentration of ions inside their cell membranes.

Disruption of this delicate balance can trigger cells to go through apoptosis, known as programmed cell death, a mechanism the body uses to rid itself of damaged or dangerous cells.

Unfortunately, when a cell becomes cancerous, it changes the way it transports ions across its cell membrane in a way that blocks apoptosis.

The new synthetic ion transporter works by essentially surrounding the chloride ion in an organic blanket, allowing the ion to dissolve in the cell's membrane, which is composed largely of lipids, or fats.

The researchers found that the chloride transporter tends to use the sodium channels that naturally occur in the cell's membrane, bringing sodium ions along for the ride.

"We have shown that this mechanism of chloride influx into the cell by a synthetic transporter does indeed trigger apoptosis," said co-author of the study Jonathan Sessler from the University of Texas at Austin.

The study appeared in the journal *Nature Chemistry*.

Agencies

Deccan Herald, ND 13/08/2014 P-6

The future of robot caregivers

ROBOCARE A reliable robot as a caretaker may be better than an unreliable or abusive person, writes **Louise Aronson**

Each time I make a house call, I stay much longer than I should. I can't leave because my patient is holding my hand, or because she's telling me, not for the first time, about when Aunt Mabel cut off all her hair and they called her a boy at school, or how her daddy lost his job and the lights went out and her mother lit pine cones and danced and made everyone laugh.

I can, and do, write prescriptions for her many medical problems, but I have little to offer for the two conditions that dominate her days: loneliness and disability. Like most older adults, she doesn't want to be "locked up in one of those homes." What she needs is someone who is always there, who can help with everyday tasks, who will listen and smile. What she needs is a robot caregiver.

That may sound like an oxymoron. In an ideal world, it would be: Each of us would have at least one kind and fully capable human caregiver to meet our physical and emotional needs as we age. But most of us do not live in an ideal world, and a reliable robot may be better than an unreliable or abusive person, or than no one at all.

Problems with caregiving

Caregiving is hard, tedious, awkwardly intimate and physically and emotionally exhausting. Sometimes it is dangerous or disgusting. Almost always it is 24/7 and unpaid or low wage, and has profound adverse health consequences for those who do it. It is women's work and immigrants' work, and it is work that many people either can't or simply won't do.

Many countries have acknowledged this reality by investing in robot development. Last year in Japan, where robots are considered *iyashi*, or healing, the health ministry began a programme designed to meet workforce shortages and help prevent injuries by promoting nursing-care robots that assist with lifting and moving patients.

A consortium of European companies, universities and research institutions collaborated on *Mobiserv*, a project that developed a touch-screen-toting, humanoid-looking "social companion" robot that offers reminders about appointments and medications and encourages social activity, healthy eating and exercise. In Sweden, researchers have developed *GiraffPlus*, a robot that monitors health metrics like blood pressure and has a screen for virtual doctor and family visits.

Researchers in the United States are developing robot-caregiver prototypes as well, but we have been slower to move in this direction. Already, we have robots to assist in surgery and very basic "walking" robots that deliver medications and other supplies in hospitals. Robots are increasingly used in rehabilitation after debilitating events like strokes. But a robot that cleans out your arteries or carries linens isn't the same as a robot meant to be your friend and caregiver. Even within the medical community, this idea that machines could help fulfill more than just physical needs meets largely with skepticism, and occasionally with outrage.

Search YouTube and you can watch developmentally delayed children doing therapy with a cute blue-and-yellow CosmoBot that also collects information about their performance. Or you can see older Japanese people with dementia smiling and chatting happily with a robot named Paro that looks like a baby seal and responds to human speech. Sherry Turkle, an MIT professor and technology skeptic, questions such artificial emotional relationships in her book *Alone Together: Why We Expect More From Technology and Less From Each Other*. Yet after watching a 72-year-old woman named Miriam interact with Paro, she noted that the woman "found comfort when she confided in her Paro. Paro took care of Miriam's desire to tell her a story."

The biggest argument for robot caregivers is that we need them. We do not have anywhere near enough human caregivers for the growing number of older Americans. Robots could help solve this workforce crisis by strategically supplementing human care. Equally important, robots could decrease high rates of neglect and abuse of older adults by assisting overwhelmed human caregivers and replacing those who are guilty of intentional negligence or mistreatment.

In the next decade, robot caregiver prototypes will become much more sophisticated. Imagine this: Since the robot caregiver wouldn't require sleep, it would always be alert and available in case of crisis.

Are there ethical issues we will need to address? Of course. But I can also imagine my patient's smile when the robot says comforting words, and I suspect she doesn't smile much in her current situation, when she's home alone, hour after hour and day after day.

The New York Times

DEBATE The biggest argument for robot caregivers is that we need them.

Times of India, ND 13/08/2014 P-19

In a 1st, brain tissue with white and grey matter created

Kounteya.Sinha@timesgroup.com

London: Scientists have for the first time created brain tissue containing both white and grey matter in the lab. The tissue developed at the Tissue Engineering Resource Centre at Tufts University in Boston has the same chemical and electrical functions as of the human brain and can stay fresh for over two months.

As a first demonstration of its potential, researchers used the brain-like tissue to study chemical and electrical changes that occur immediately following traumatic brain injury and in a separate experiment changes that occur in response to a drug. The tissue could provide a superior model for studying normal brain function with assisting in the development of new treatments for brain dysfunction.

Currently, scientists grow neurons in petri dishes to study their behaviour. Yet neurons grown in two dimensions are unable to replicate the complex structural organization of brain tissue, comprising segregated regions of grey and white matter.

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

The Pioneer ND 13/08/2014 P-9

Just what the doctor had ordered

The National Eligibility-cum-Entrance Test for admission to all medical colleges is needed to ensure that every meritorious, and not just moneyed, candidate has the opportunity to study medicine in this country, writes AKANSHA MEHTA

Although the National Eligibility-cum-Entrance Test for admission to medical colleges was squashed last year, the controversy surrounding the examination refuses to die down. Neet was a brilliant piece of regulation, authored by the Medical Council of India. It came at a time when hopes about patient welfare were virtually lost.

In December, 2010, the MCI amended the 1997 Regulations on Graduate Medical Education to introduce Neet. With that, for the first time in Indian history, a benchmark was set for admission to medical colleges in India. The MCI made it mandatory for all students seeking admission to any medical college in the country to appear for this one centralised common entrance test, conducted under its own watchful eyes. Candidates had to secure a minimum of 50 per cent marks in each paper to be eligible for admission to any medical college, be it privately run or enjoying minority status or reeving Government aid.

To rein in the mayhem private medical colleges had created in the public health system, with misinterpretations of the landmark TMA Pai judgement which had liberalised the education sector, some decisive action was badly needed. In one stroke, the MCI was able to prevent the entry of unqualified, incompetent and incapable persons into the healthcare system. For example, private and minority institutes could no longer admit candidates who were not meritorious but fulfilled other other considerations.

The medical education business is a lucrative one. Just one batch of 100 MBBS students, with ₹25 lakh capitation fee per head (apart from the tuition charges), can make a businessman richer by ₹25 crore in the very first year of his setting up a medical college.

Naturally, when the MCI introduced Neet, the powerful private medical college lobby, flush with funds, did not sit quiet. It promptly took the case to court. Private and minority colleges argued that the restrictions on admitting students of their choice infringed on their fundamental rights contained in Article 19(1)(g) and 30(1) of the Constitution respectively.

The Supreme Court agreed and passed a controversial judgement in favour of the private medical college lobby. The Court also pointed out a number of technical faults in the MCI's notification and declared that Neet violated Articles 19(1)(g), 25, 26, 29(1) and 30 of the Constitution of India.

Out of the three judges, one judge dissented. He felt that Neet did not violate any of the provision of the Constitution. According to him, the ruling of the Supreme Court's 11 Judge Bench in the 2002 TMA Pai case, which was reinforced in 2005 by a seven Judge Bench in the PA Inamdar case, was misinterpreted by the honourable Bench. The Union Ministry of Human Resource Development and the MCI have moved the Supreme Court with a review petition which has been admitted but is yet to commence.

In the meantime, right under the nose of the Government and other statutory authorities constituted to regulate the fee structures of medical colleges, private institutions are demanding exorbitant amounts for admission. Reportedly, a student seeking admission to medical colleges this year will have to spend about one crore rupees to earn an MBBS degree. About ₹35 lakh to ₹50 lakh is charged as tuition fee while the remaining is taken by the institute in cash and usually off the books.

A private university in Chennai, is charging nine lakh rupees per annum for its five-year MBBS programme, while another is taking seven lakh rupees for the same course. Other private colleges are charging anything between three and five lakh rupees per annum. This does not cover additional expenses such as library fees, laboratory fees and hostel charges.

Students with impressive academic records are being denied the chance to pursue a medical career because they cannot afford a degree in medicine. So, they are moving to careers in engineering or management. This is worrisome.

The medical profession is being rapidly filled by people who are not necessarily well-qualified but had the money to pay for the degree. Such degrees, secured at an exorbitant cost, become a licence to make big money. Anxious to recover their investments, these new doctors may overlook their patient's health. Patients, who put their health and lives in the hands of the doctor, have no say in the matter. The Government must rise to the occasion and protect public health.

All eyes are on the review petition pending with the Supreme Court. It is hoped that better sense will prevail and the Supreme Court will take cognizance of the fact that it is not just the religious and commercial rights of a few individuals that are at stake, but the larger issue of life and health of the citizens of India that must be taken into consideration.

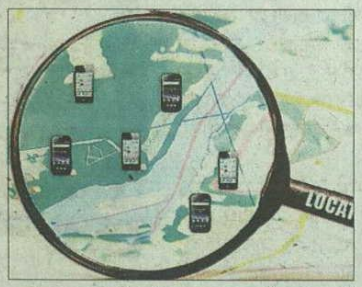
(The writer is a student at the RML National Law University, Lucknow)

NAI DUNIYA ND 13/8/2014 P-6

मुसीबत में फंसे लोगों के लिए एप व डिवाइस

जयपुर (ब्यूरो)। जयपुर में जल्द ही एक ऐसा सेफ्टी डिवाइस और एप शुरू होने वाला है जो मुसीबत में फंसे लोगों तक तुरंत पुलिस की मदद पहुंचा देगा। अभी जयपुर पुलिस इसका ट्रायल कर रही है। ट्रायल में यह 80 फीसदी तक सफल रहा है। सितंबर से इसे सेवा को जयपुर पुलिस कमिश्नरेट के सभी थाना क्षेत्रों में शुरू कर दिया जाएगा।

जानकारी के अनुसार भारत सरकार की संस्था सीडैक ने इलेक्ट्रॉनिक पर्सनल सेफ्टी सिस्टम योजना के तहत यह एप और डिवाइस तैयार किया है। यह डिवाइस चाभी के छल्ले जैसा है जिस पर एक बटन लगा है। बटन दबाते ही सीधे पुलिस तक सूचना पहुंच जाती है और पुलिस जीपीएस सिस्टम के जरिए मुसीबत में फंसे व्यक्ति तक पहुंच सकती है। डिवाइस के अलावा एक एप भी है जो साधारण एंड्रायड फोन में 'ईपीएसएस डॉट आईएन' नाम की



साइट से डाउनलोड किया जा सकता है। इस एप से भी मुसीबत में फंसा व्यक्ति पुलिस को सूचना दे सकता है। जो लोग यह डिवाइस या एप लेंगे, उनका एप के जरिए ही ऑनलाइन रजिस्ट्रेशन होगा। जैसे ही व्यक्ति बटन दबाएगा कंट्रोल रूम में उसकी जानकारी फ्लैश होगी। ऐसे में किसी दूसरे व्यक्ति के पास भी यह एप या डिवाइस है तो जानकारी उसी व्यक्ति की आएगी, जिसके नाम से रजिस्ट्रेशन है। हालांकि पुलिस वहीं पहुंचेगी जहां से बटन दबा है, क्योंकि इसमें जीपीएस तकनीक काम में ली जाएगी।

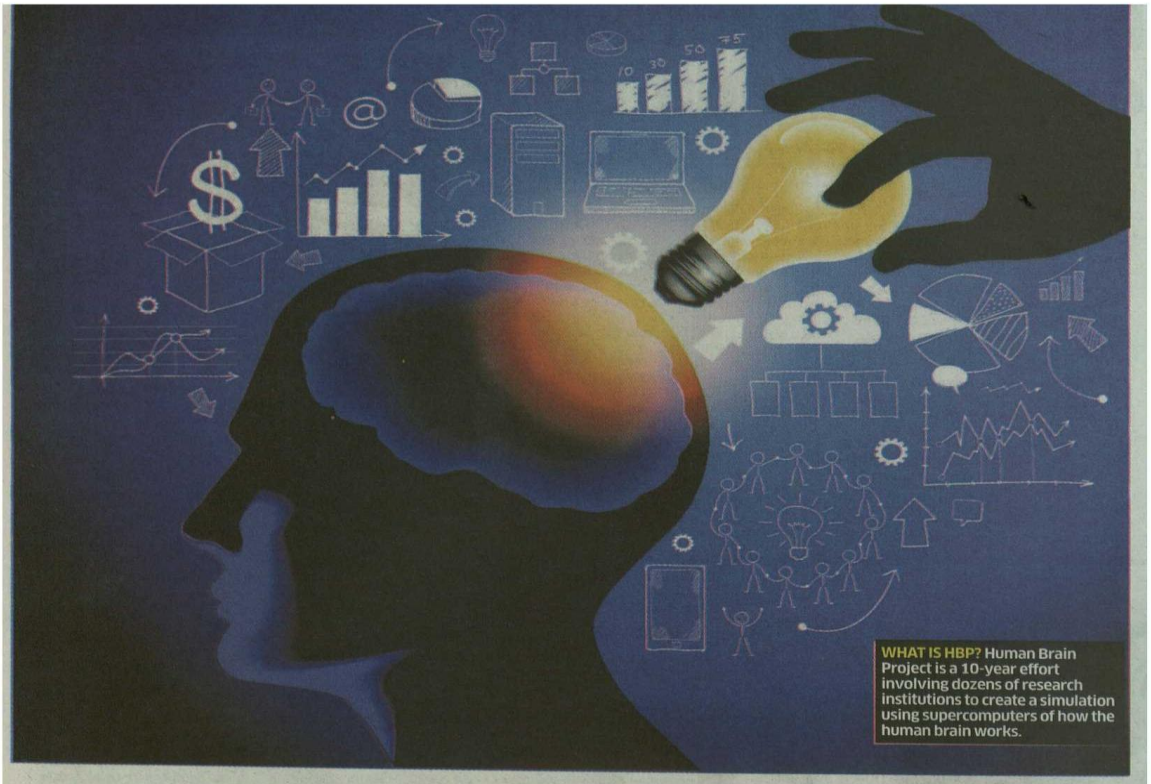
यूं काम करेगा डिवाइस

जो भी व्यक्ति बटन दबाएगा, उसकी सूचना कंट्रोल रूम पर पहुंचेगी। जीपीएस से डिवाइस की लोकेशन मिल जाएगी। कंट्रोल रूम से नजदीकी पीसीआर वैन को सूचना दी जाएगी और पुलिस मौके पर पहुंच जाएगी। कमिश्नरेट के अधिकारियों के अनुसार अभी जयपुर के 35 थानों में 150 लोगों को यह डिवाइस और एप वाले मोबाइल दिए गए हैं। प्रयोग 80 फीसदी तक सफल रहा है। अगस्त के आखिर में या फिर सितंबर में तक कमिश्नरेट के सभी थाना क्षेत्रों में इसे शुरू कर दिया जाएगा।

प्रयोग 80 फीसदी सफल

जयपुर के एडिशनल डीसीपी समीर दुबे ने बताया कि जयपुर इसे लागू करने वाला पहला शहर होगा। उन्होंने बताया कि डिवाइस के लिए सीडैक ने दिल्ली आईआईटी से एग्रीमेंट किया है। वे इसे विकसित कर रहे हैं। अभी ट्रायल के लिए डिवाइस बाहर से मंगाया गया है। जो लोग डिवाइस लेंगे उन्हें बाजार से एक सिम कार्ड लेना होगा और इससे उनका अपने आप रजिस्ट्रेशन हो जाएगा। सिम किसी भी सर्विस प्रोवाइडर का हो सकता है। कमिश्नरेट के अधिकारियों के अनुसार अभी जयपुर के 35 थानों में 150 लोगों को यह डिवाइस और एप वाले मोबाइल दिए गए हैं। प्रयोग 80 फीसदी तक सफल रहा है।

Deccan Herald, ND 13/08/2014 P-6



WHAT IS HBP? Human Brain Project is a 10-year effort involving dozens of research institutions to create a simulation using supercomputers of how the human brain works.

Brain mapping hurdles

DISSENT More than 180 neuroscientists have asked the European Commission to reconsider the technical goals of the world's largest brain-mapping projects, writes **Antonio Regalado**

The European Union agreed last year to invest more than one billion Euros in the Human Brain Project, or HBP, a 10-year effort involving dozens of research institutions to create a simulation using supercomputers of how the human brain works.

But according to a letter released by dissenting scientists, the project is doomed by opaque management and the pursuit of goals not widely shared by neuroscientists. "We believe the HBP is not a well-conceived or implemented project and that it is ill-suited to be the centrepiece of European neuroscience," the letter says.

Governments, including those of the United States and China, have all launched large neuroscience projects to study the brain. But the brain is so massively complex — it has roughly 86 billion neurons and trillions of connections, that there's little consensus on how to study it.

Europe's HBP has been particularly controversial because it emphasises large-scale mapping of the brain and computer simulations over traditional, small-scale bench research. The project's core goal, according to its website, is "to build a completely new information computing technology infrastructure for neuroscience."

Signers of the letter, including neuroscientists from the University of Oxford and the Institut Pasteur, intend to boycott 50 million Euros per year of neuroscience research grants that have been linked to the EU project.

"Why should an information technology project determine neuroscience funding?" says Zachary Mainen, a researcher at the Champalimaud Centre for the Unknown in Portugal, which gathered the signatures after a component of the project it was involved with was cancelled. "It's not a project that was planned by the neuroscience community. They say they are going to simulate the brain, but I don't think anyone believes that."

According to a report in *The Guardian*, the neuroscientists hope to influence a review of the project by European officials that is expected to be complete by the end of the summer.

"Paradigm shift"

The HBP is led by Henry Markram, a neuroscientist at the École Polytechnique Fédérale de Lausanne in Switzerland, who says critics are upset because there's a scientific "paradigm shift" underway that threatens their way of working.

"It's a natural reaction when you move from an old paradigm to a new one. It happened with the Human Genome Project," says Markram. "That was also about large-scale, systematic teams working together, and you also had the individual labs saying 'Oh my, I am going to be out of business.' It's very similar to that."

Within two years, Markram says, the HBP will release the first phase of its technology platform which will let any scientist contribute data and run simulations. He says this will bring neuroscience up to speed with disciplines like astrophysics or climate research, where scientists use simulations all the time. "You can't measure everything in the Universe, but you can simulate it," he says. "You can't measure all of the brain, either, so we are going to have to predict a lot of it."

That focus on computer simulations is what's generating the most withering criticism. Konrad Kording, a neuroscientist at Northwestern University, calls the European project "useless and misleading" and says there is "genuine concern that the neuroscience community in Europe will be damaged by a very high-profile project that is deeply misguided."

The problem, says Kording, who is a German citizen, is that it's simply too soon to invest heavily in large-scale computational models of the brain. "The HBP is premature, we do not have the data needed, we do not know what we need to simulate, and we lack ways of thinking computationally about the brain. And yet, the HBP focuses on massive scale simulations that are currently not helpful," he says.

> "FOCUS ON COMPUTER SIMULATIONS IS WHAT'S GENERATING THE MOST WITHERING CRITICISM FOR THE HBP...

Kording helped shape the US BRAIN Initiative, a large neuroscience programme announced by President Obama last year. That initiative, which made its first awards in May is broadly focused on developing new technologies for directly measuring the activity neurons and mapping brain circuits.

While a few US researchers have grumbled that the US project is also too top-down and could discount truly creative research, the initiative has wide support. Even dissenting neuroscientists have kept their objections private in the hopes of participating in a funding windfall that the National Institutes of Health said in June could be as much as $4.5 billion over 12 years.

What western counterparts say

Ed Boyden, an MIT researcher who, like Kording, is closely involved in the Obama initiative, says the US effort involves "small, dynamic teams working in traditional, often collaborative fashion. And the funding is being parceled out at somewhat normal levels."

"The US project is a lot better than what is going on here. The worst you can say about it is that it is bland and consensual. What we have in Europe is a narrow, non-consensual project," says Mainen.

Markram, however, is sticking to his contention that scientists need computer models, not just more data. There's already $7 billion a year spent globally on neuroscience research, yet it produces little benefit for society, Markram says, and no one has time to read the 1,00,000 scientific papers published about the brain each year either.

"There is a ton of data being generated but there is no plan for the data. That is the crisis in neuroscience. The new paradigm is about sharing the data and integrating the data. With that, you can perform experiments not possible in the lab," he says.

NYT