IIT-Delhi alumni creates first map of neural circuitry

LONDON: Women have sharper memory while men coordinate things better.

An Indian Institute of Technology-Delhi alumni has created the first ever map of neural circuitry inside a human brain which has confirmed that women’s brains are designed for social skills and memory while men are for perception and co-ordination.

However, there is one field in which women beat men hollow - multitasking, finds the study that look at brain connectivity.

A new brain connectivity study from Penn Medicine published on Monday has found striking differences in the neural wiring of men and women that’s lending credence to some commonly-held beliefs about their behaviour.

In one of the largest studies looking at the “connectomes” of the sexes, Ragini Verma, an associate professor in the department of radiology at the Perelman School of Medicine at the University of Pennsylvania found greater neural connectivity from front to back and within one hemisphere in males, suggesting their brains are structured to facilitate connectivity between perception and coordinated action.

In contrast, in females, the wiring goes between the left and right hemispheres, suggesting that they facilitate communication between the analytical and intuition.

Ragini who completed her masters in mathematics and computer applications followed by a PhD in computer vision and mathematics from IIT Delhi says “These maps show us a stark difference — and complementarity — in the architecture of the human brain that helps provide a potential neural basis as to why men excel at certain tasks, and women at others”.

According to Verma, on average, men are more likely better at learning and performing a single task at hand, like cycling or navigating directions, whereas women have superior memory and social cognition skills, making them more equipped for multitasking and creating solutions that work for a group.

In the study, the researchers found that females displayed greater connectivity in the substantia nigra region, which contains the cerebrum, the largest part of the brain, between the left and right hemispheres. Males, on the other hand, displayed greater connectivity within each hemisphere.

By contrast, the opposite prevailed in the cerebellum, the part of the brain that plays a major role in motor control, where males displayed greater inter-hemispheric connectivity and females displayed greater intra-hemispheric connectivity.

These connections likely give men an efficient system for coordinated action, where the cerebellum, which involves perception, and the front of the brain, which involves action, are bridged together, according to the authors.

The female connections likely facilitate integration of the analytic and sequential processing modes of the left hemisphere with the spatial, intuitive information processing modes of the right side.

The authors observed only a few gender differences in the connectivity in children younger than 13 years, but the differences were more pronounced in adolescents aged 14 to 17 years and young adults older than 17.

Past studies have shown sex differences in the brain, but the neural wiring connecting regions across the whole brain that have been tied to such cognitive skills has never been fully shown in a large population.

In the study, Verma and colleagues investigated the gender-specific differences in brain connectivity during the course of development in 949 individuals (531 females and 418 males) aged 8 to 26 years using diffusion tensor imaging (DTI).

DTI is water-based imaging technique that can trace and highlight the fibre pathways connecting different regions of the brain, laying the foundation for a structural connectome or network of the whole brain.

The brain is a roadmap of neural pathways linking many networks that help us process information and react accordingly, with behavior controlled by several of these sub-networks working in conjunction.

The findings were also consistent with a Penn behavior study, of which this imaging study was a subset of, that demonstrated pronounced sexual differences.

Females outperformed males on attention, word and face memory, and social cognition tests. Males performed better on spatial processing and sensorimotor speed. “It’s quite striking how complementary the brains of women and men really are. Detailed connectomes maps of the brain will not only help us better understand the differences between how men and women think, but it will also give us more insight into the roots of neurological disorders, which are often sex related.”
Next steps are to quantify how an individual's neural connections are different from the population; identify which neural connections are gender specific and common in both and to see if findings from functional magnetic resonance imaging (fMRI) studies fall in line with the connectome data.

Amar Ujala ND 12/3/2013   P-5
Role Models: IIT Grads Reject Oracle's Crore & Settle for Lakhs
Better profile reason for opting out of lucrative offers

DEVINA SENGUPTA & SREE RADHA D BASU
MUMBAI | KOLKATA

Two 21-year-old, soon-to-graduate IIT-Kanpur engineers stunned tech major Oracle by turning down offers of ₹1.31 crore ($210,000) each, a top person involved in the process told ET. Both have opted for other companies that offered lesser pay, but gave roles the students liked better.

They may have opted for Google, which offered ₹68.34 lakh ($110,000), or Tower Research Capital, a US-based financial services firm, which rolled out a package of ₹74.55 lakh ($120,000). "This just shows that not everyone is running after money," a placement team member, who did not wish to be named, said. "These students are mature; they know money does not reflect everything."

The rapidly unfolding drama on Day 2 of the campus placement season at IITs threw more surprises. Zomato, an online food and restaurant listings start-up, offered the highest salary on Day 2 at IIT Bombay, more than what marquee brands, including Samsung India R&D, Citicorp, Xerox Research, Adobe and American Express, were willing to pay.

Zomato hired four students from IIT-Delhi and Bombay at a uniform package of ₹26 lakh each. Forty-one companies were present at IIT-Bombay. On Monday, ET had reported that Oracle had made crore-plus offers at IIT-Madras.

At Kanpur, Oracle had shortlisted three students from computer science background on Sunday and four in the waiting list. Two from the waiting list have since been hired to make up for the dropouts, a placement team member at IIT-Kanpur said. Oracle has also hired students from IIT-Madras and Bombay, all at similar crore-plus salaries. A Google spokesperson said the company was hiring from India for software engineer profile for their US, UK, Australia and India locations, but declined to comment on compensation.

170 offers at IIT Kharagpur

Season of Plenty

₹26 LAKH
Zomato offered to 4 students from IIT-Delhi and IIT-Bombay

<table>
<thead>
<tr>
<th>Institute</th>
<th>Cos Hiring</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITT-Bombay</td>
<td>Samsung with India R&amp;D profile, Oracle India, Xerox Research, Adobe and American Express</td>
</tr>
<tr>
<td>IIT-Kharagpur</td>
<td>Goldman Sachs, Credit Suisse, Opera Solutions, Google Inc, Schlumberger Asia Services</td>
</tr>
<tr>
<td>IIT-Madras</td>
<td>LinkedIn, Citicorp Services India, Intel, Eaton Technologies</td>
</tr>
</tbody>
</table>

(93 offers on Day 1; 48 offers on Day 2)

IIT-Roorkee 80 offers on Day 1; 8-10 on Day 2
IIT-Guwahati Moojic and Capillary Technologies
170 Offers at IIT Kharagpur

From Page 1
Companies hired aggressively across all IITs.
"IIT Kharagpur believes in building relationships and companies have responded enthusiastically, hiring the highest number of candidates on Day 1," says SK Barai, professor-in-charge, training and placement, IIT Kharagpur. Twenty companies, including Goldman Sachs, Credit Suisse, Opera Solutions, Google Inc and Schlumberger Asia Services, rolled out 170 offers (including 75 PPOs) at IIT Kharagpur. Real estate portal Housing.com was among the recruiters from the start-up space. More startups are expected.

On Day 2 at IIT Madras, social networking sites like LinkedIn picked up five students, Citicorp Services India hired 10, Intel Technology recruited 6 and Eaton Technologies made 10 offers.

"We received 93 offers on the first day, and till the end of session 1 on day 2, there have been 48 offers. That’s a total of 141 offers, not including PPOs," Lt Col (Retd.) Jayakumar, deputy registrar (students and placement), IIT Madras, said.

IIT Roorkee received 80 offers on Day 1 and around 8-10 companies hired on the second day of placements. At IIT Guwahati, some 70 students have been selected by 15 companies, including Microsoft, Google, Tata Motors, Morgan Stanley, Flipkart, ITC and Dell.

IIT Guwahati also saw average salaries of ₹24 lakh, Natesan Srinivasan, faculty-in-charge, training & placement, IIT said.
Big firms bulk hire at IITs

Samsung hires 14 for offices in US, Korea, offers $135k package

Mumbai: Post-midnight developments at the premier IIT-Bombay campus, early on Monday, left several students thrilled. High-profile companies not just offered seriously high pay packets, they also went in for bulk hires on campus. A similar situation played out at other IITs in the country as well on the first two days of placements.

Samsung Korea, for one, hired around 14 candidates from IIT-B— the highest so far. Google picked up around 10 students.

Samsung Korea, which made an offer of $135,000 on campus, excluding performance-based incentives, hired 14 candidates for both its US and Korea offices. Last year, it had hired only one candidate. Google hired three students for its California office and seven for India. Microsoft recruited nine students at the IIT-B campus placements—five for US and four for India.

As most of these companies made bulk offers, by the end of the first day, the offers tallied around 180, up from last year’s 173. The second slot on Day Two will go on till midnight of Monday.

“By the end of the first day, more than 150 unique offers were made. Of these, 75% were for international postings,” said Avijit Chatterjee, professor-in-charge of placements at the institute.

In the management consultancy sector, the average gross salary is around Rs 17 lakh.

Deutsche Bank hired 10 students, and Goldman Sach went for 16 from the Powai campus. The average gross salary in the consulting sector was around Rs 12.5 lakh.

Boston Consultancy, McKinsey and Bain picked up maximum students in this sector. In the oil and gas sector, Rs 15 lakh was the average gross salary offered to students.

Oracle, so far the highest payer at the institute, has made an offer of $211,000.

Elsewhere, at IIT-Madras, a student bagged the Oracle offer with the same package. Some firms that made bulk offers include Intel Technology with six, Nomura Structured Finance Services with five, Eaton Technologies and Citicorp Services India with 10 each.

At IIT-Kanpur on Sunday, students accepted around 125 offers from 20 companies. On Monday, more than 50 students accepted offers. As many as 225 companies are scheduled to interview students this year compared with 170 last year.

The highest package, so far, at Kharagpur was $125,000.

For the full report, log on to www.timesofindia.com
182 students offered jobs on Day One of placements at IIT-Bombay

360 APPLICANTS Engg and information technology top the list, average salaries offered rose by 10-15%

HT Correspondent 

collected from the Indian Institute of Technology-Bombay (IIT-B) received job offers at the end of Day One of campus placements. According to sources, there has been a 10% to 15% rise in the average salaries offered at the end of the first day.

Around 360 students out of the 1,000 studying on the campus had participated in the drive on the first day which saw companies such as technology major Microsoft hire a bulk of the candidates. Google stuck to its quota of five to ten candidates while other big names such as Goldman Sachs, Boston Consulting Group, Morgan Stanley, IBM and Schlumberger also made offers.

While the placement sessions began at 9 am on Sunday, they continued well into the night.

The ongoing placements, a part of the first phase, began on Sunday and will end on December 10.

While the offers received by the students on Day Two will be compiled on Tuesday morning, it brought good tidings for students. The number of recruiting firms increased from 28 on Sunday to 40 on Monday, thereby multiplying the number of offers.

Major companies such as Airbus, Amazon, Samsung (India), Oracle and Axis Bank among others were part of the companies participating in placements on the second day.

"There was an apprehension surrounding placements this year because of the economic downturn, but we are seeing a good turnout of firms this year as well. This has lifted the spirits of our students," said Avijeet Chatterjee, professor-in-charge of placements at IIT-B.

Chatterjee added that so far, the placements have been identical to last year. There were 50 companies registered for the first phase while we had around 340 companies last year.

Even the types of companies recruiting this year were similar to last year, he added.

Companies from the field of engineering technology and information technology have been dominant. Some of the recruiters are also from diverse fields such as consultancies and investment banks.

"Goldman Sachs, Bangalore, offered me a package of Rs50 lakh per annum. I am apprehensive about relocating but I have decided to take up the offer," said a student, on condition of anonymity.
प्लेसमेंट्स: लौटा करोड़ ₹ का करिश्माई पैकेज

श्रीरामा डी बसु/देविना सेनगुप्ता,
मुंबई/कोलकाता

आशिकर तीन साल बाद आईआईटी कैम्पस में एक करोड़ रुपये से ज्यादा के पैकेज के ऑफर किए आए हैं। आईआईटी, मद्रास के पानाल फाइनल प्लेसमेंट के पहले दिन कंप्यूटर साइंस के दो स्टूडेंट्स को (फायर) 2 लाख 10 हजार डॉलर (काले 31 लाख रुपये) का ऑफर मिला। हालांकि इंटरनेशनल ने ऐसे ऑफर से इकार किया है, लेकिन प्लेसमेंट प्रौद्योगिकी से जुड़े रुझानों ने बताया कि अमेरिकी कंपनियों के प्लेसमेंट में देशी-विदेशी कंपनियों स्टूडेंट्स को ले रही है हायो-हाथ।

देशी-विदेशी कंपनियों के 'ओफरलेस' ने करोड़ रुपये से भी ज्यादा का ऑफर दिया है। इसमें ज्यादातर बोस्टन भी शामिल है। टॉप ऑफरर मिल्सबिशी, एप्पल, ओरिकल के अलावा जोर्जिया जैसी भारतीय स्टाईल ऑपरेटिंग कंपनियों से मिले हैं।

महाराष्ट्र में कंपनियां: आईआईटी, मद्रास में डोमेस्टिक कंपनियों की ओर से ऑफर करके 48 लाख 68 हजार रुपये पर युगल गया, जो दिल्ली में 28 लाख 82 हजार रुपये। आईआईटी बंगालुरु और गुवाहाटी जैसे स्टांडर्ड्स पर भी कंपनियों के मुद्दों में महाराष्ट्र के लिए बेसी थी।

छात्रों के प्रति सीधी ओपरेटिंग कंपनियों के भी आईआईटी बंगालुरु और गुवाहाटी के लिए शामिल है। इंटरनेशनल रूप से जुड़े लोगों की मानी आईआईटी बंगालुरु के लिए स्थानीय रूप से 1 लाख 50 हजार डॉलर (93 लाख रुपये) ऑफर करने वाली है। आईआईटी गुवाहाटी में सबसे ज्यादा पैकेज 1 लाख 20 हजार डॉलर (74 लाख रुपये) ऑफर करने वाली है।
आईआईटी कानपुर के दो छात्रों को 1.20 करोड़ का वेतन पैकेज

संतोष सिंह

कानपुर। आईआईटी कानपुर के कंप्यूटर साइंस एंड इंजीनियरिंग डिपार्टमेंट के दो स्टूडेंट्स को अमेरिका की आईटी कंपनी ओवेकल ने सालाना 1.20 करोड़ रुपये का वेतन पैकेज दिया है। यह आईआईटी कानपुर में अब तक का सर्वाधिक वेतन पैकेज है। इसके अलावा कंप्यूटर साइंस एंड इंजीनियरिंग के ही सात स्टूडेंट्स को सालाना 75-80 लाख रुपये का वेतन पैकेज मिला है। इस बार कैप्स फ्लेम्सेंट में बीटेक-एमटेक डबल डिग्री प्रोग्राम के स्टूडेंट्स की जबरदस्त जीएमएस है। प्लेसमेंट के दूसरे दिन ही आईआईटी के 200 स्टूडेंट्स का कैप्स सेलेक्शन हो गया है।

आईआईटी में चल रहे कैप्स फ्लेम्सेंट के दूसरे दिन सोमवार को सालाना वेतन पैकेज का रिकॉर्ड टूट गया है। 2012 में फेसबुक ने यहां के स्टूडेंट्स को 90 लाख से एक करोड़ का वेतन पैकेज दिया था। अमेरिका की आईटी कंपनी ओवेकल ने कंप्यूटर साइंस एंड इंजीनियरिंग के बीटेक-
Students at IIM-Rohitak

By Mail Today Bureau

The Indian Institute of Management (IIM), Rohitak, completed its summer placements by securing internships for its 152 students across 69 companies.

Despite an increase in batch size from 129 to 152, IIM-R finished the placement process earlier than last year. The institute was able to leverage the advantage of being the only IIM in National Capital Region. The highest stipend on campus was 1 lakh. The average stipend saw an increase of 34 per cent from the previous year. The enthusiasm and participation of the industry led to the placement of the entire batch of students across diverse domains.


In its fifth year of operation, students at IIM Rohitak's latest batch are from leading institutes such as the IIMs, NIFT, BITS, SRCC and other reputed institutions from across the country. The institute's success in various competitions, highly published management and HR conclave, frequent industry interaction, guest lectures and emphasis on social initiatives have drawn widespread appreciation from the corporate world.
Thomas P. Abraham
Chennai, Dec. 2

The current age of nanochips and nanotechnology has created another set of
innovators — the co-founders of an IT product development company —
brothers Shravan Kumaran,
13, and Sanjay Kumaran, 12.
The two are studying in the
XI grade and XII grade, respectively, at Vaala
Billabong International
School, Chennai.

Shravan is the Co-founder
and President of their
company GoDimensions,
while his younger sibling is
the other Co-founder
and CEO.

The two brothers, the
youngest mobile application
programmers in India and
among the youngest in the
world, have developed seven
mobile applications that are
currently available on Apple
Inc’s App Store. Besides, they
have created three Apps for
Google Inc’s Android Play
Store. Till date, these Apps
have been downloaded more
than 60,000 times from 62
countries, they say.

So, how did it all start? “We
were always interested in
computers. We used to
fiddle with our dad’s
computer, initially,” says Shravan with a
smile.

Their father, an IT
professional, started them on
QBASIC and JAVA. They then
moved on to mobile Apps
themselves. By 2011, the two
brothers had already
developed about 150 test
Apps. Soon, GoDimensions

Nanoventure: Shravan Kumaran (left), President, with his
brother Sanjay Kumaran, CEO, Go Dimensions. — Bijoy Ghosh

(www.godimensions.com) followed. Their first App was
a game called Catch Me Cop,
where a cowboy escapes from prison and there is a
nationwide hunt for him.

There are multiple levels of
this App, with varying speeds
and cops. It was released in
January 2012, and
download in over 25
countries, they say.

They are now planning an
App through which users get
latest tech news. For instance,
when a new technology or
gadget is released in the US, it
takes months for it to reach
countries like India. Users of
the App get information on
the release as it happens
globally, they say.

So, how do the two handle
the fame and recognition that
have come their way?

“Initially, some of our
school friends would open
doors for us, and address us
with a ‘sir’. That was funny.
But we put a stop to it. We
wanted to lead a normal life
and have normal friends,”
says Shravan.

The two boys have visited
sciences of schools, colleges
and management institutes across
India, addressing about
60,000 students and sharing
their experiences.

Recently, they spoke at
IIM-Bangalore’s flagship
event, Eximus as the youngest
entrepreneurs in India.

Besides they have made a
slew of presentations at
various forums in India,
including the CII and the
DRDO, as well as addressed
a gathering of over 200 CEOs
in South Korea.

“Till date, we have earned
$500 from the download of
the Apps,” says Sanjay. Going
forward, they aim to scale it
up into a global New Gen
mobile Apps company, with
50 per cent of global smart
phones running their Apps.

“But we will give 15 per
cent of whatever we earn to
charity,” they say.

Clearly, the nano
entrepreneurs have taken
inspiration from IT sector
philanthropists Bill Gates,
Narayana Murthy and Azim
Premji.

thomas.abraham@thehindu.co.in
Developmental education

At the 12th convocation ceremony of Rajiv Gandhi University, Doimukh, Arunachal Pradesh, President Pranab Mukherjee said that people of India needed to work harder to get past the present state of moral challenges. He said this while expressing his concern about a need for focused education in India. Mukherjee said that educational institutions play an important role in inculcating certain moralistic values like performing one's duties and being compassionate to all. Stressing on the importance of education, he asserted that it breeds open mindedness towards divergent perspectives and that education is any society's bedrock.

Though India had done well in terms of economic development, the country is still far from being considered a developed society. This was because development didn't only constitute a growth of infrastructure but of minds and values too and holistic education would serve the purpose of bridging this gap. The President was in Arunachal Pradesh for a two-day visit.

He said bringing back quality in higher education was a must because according to a survey, Indian institutes didn't figure anywhere in the top 200 ranks and this is after ancient universities in the country didn't just rank for one or two years but for 1,800 years. India was poised to become a super power and quality expansion was required more than physical expansion.

"There is no dearth of quality teachers and students, what we need is quality education and an atmosphere for that." Education and research had to improve in order to prevent students from opting to study abroad. Mukherjee said India has an archaic approach to education and reforms were required in it. He then went on to urge students to create essential research matter on border trade advantages and methods by which the Northeast's economy can be integrated with national and global economies.

This would help the region to develop. He said Arunachal Pradesh was going through a massive transition and important spheres in the economic sector like hydel power and tourism can drive this transition far but it was only through education that this change could be made.

He said that the state was a goldmine for conducting research because of its natural resources and biodiversity and that Rajiv Gandhi University must prioritise the fields of research that it wishes to undertake. "You must carry out inter-disciplinary research on natural resource management. You must conduct research on challenges in hill economy, conflict between traditional and modern institutions, border trade opportunities and integration of the northeast economy with the national and global economies," he said addressing the students.

Rajiv Gandhi University was first known as Arunachal University and provides courses in Economics, Engineering, Management and Medical Education and life sciences. Late Indira Gandhi had laid the foundation stone for this university on 4 February 1984.
Having worked in the technology industry for several years, I have witnessed some fundamental changes in the sector over the last few months. Given the volatility in the market, many of these changes will impact the way graduates will now have to prepare for a career in the industry. They have to rethink the nature of capabilities, both capacity and abilities, needed to succeed in a new work environment.

Skills in learning, cross-cultural communication, creativity and accountability are now prerequisites to enter the workforce even as the need for strong and distinctive technical and domain skills remain vital.

It is important for graduates to understand that the ultimate responsibility for preparing them, setting in charge of their own personal development. The construction of a quality education at the college level builds a strong foundation but it is the intrinsic drive and self-motivation, the key ingredients in building distinctive skills, which an employer is interested in while hiring a candidate.

A young graduate who wishes to be future ready should take the responsibility of understanding the emerging trends in his/her chosen field and find out how it affects the opportunities in the workplace.

I would like to bring here some of the beneficial habits I observed in my colleagues, whom I work towards a path of self-development:

1. **Learning**: Industry now realizes that people are learning on a relative scale, it will be individual roles and responsibilities for which we will progress faster.

2. **Communication**: In a world where people are working on a relative scale, it will be individual roles and responsibilities for which we will progress faster.

3. **Drive and Change**: When you drive your passion, it will be evident faster.

4. **Innovation**: Only a few have the ability to “Think and Tell”. A world where performance management process assesses people on a relative scale, it will be individual roles and responsibilities for which we will progress faster.

5. **Quality Education at the College Level**: Quality education at the college level builds a strong foundation, but it is the intrinsic drive and self-motivation of a candidate that an employer is interested in while hiring.

---

**Quality education at the college level builds a strong foundation, but it is the intrinsic drive and self-motivation of a candidate that an employer is interested in while hiring.**

— Prithvi Shergill, Chief Human Resources Officer, HCL Technologies

N O MATTER how proficient a candidate is individually, success tomorrow is delivered only to those who have the ability to team with others and communicate authentically. The importance of ethical consistency and confidence in such communication is important.

Future ready organisations will grow if they find people who have the distinctive ability to drive change and innovation. At HCL, we have a track record of demonstrating these behaviours through initiatives across engineering and management institutes in India, which include competitions such as the Ideashop, where students share their big ideas that can shape the future of management.

The writer is the Chief Human Resources Officer, HCL Technologies.
China launches its first lunar rover to explore the surface of the moon

Stepping stone to greater things

The launch of China’s first moon rover, named Yutu or Jade Rabbit, signifies a big leap for the Chinese space programme. Similar to American and Soviet missions in the past, the Chinese rover will explore the surface of the moon and look for natural resources. This mission builds on China’s already impressive space programme that can boast of five manned space missions. Adding to this is the successful launch of a space laboratory that sent a man to the moon and built a permanent Chinese space station by 2020.

In fact, the vitriol of the Chinese space programme is a tribute to how far China has come both economically and scientifically - in the last two decades.

For those who scoff at the Americans and Soviets have already done lunar rover missions, it is nevertheless an important technological milestone that China, playing catch-up, must go through before it can compete with other space-faring powers. And as competition is good, it can spur other nations such as the US to rethink their space programmes, which otherwise the Obama administration had cut back on. The scientific significance of space missions is immense and indispensable to our growth and advancement.

By launching its first moon rover mission, China might take pride in its new step towards superpower status. But its space mission is a lateshow; it also cannot affect the US and the former Soviet Union's established themselves as competing space faring nations with their moon landings dating back more than four decades. The rover mission will be conducted to explore geological surveys and search for natural resources, which too were completed successfully by India's Chandrayaan-1 that failed to discover water on the moon and the radiation environment in the vicinity.

Besides, China is still years away from sending a human to the moon.

That China has joined the US and Russia as the third nation with the capability of probing the moon is not, in itself, a significant challenge to American supremacy. The Chinese programme still lags behind when compared with the US and Russia and sometimes they just rip off Russian technology. China has now become well placed to land a probe on the lunar surface because of the Obama administration's decision to abandon NASA's plans to return to the moon and not because the US is incapable of setting up a permanent presence on the moon in space.

A totalitarian regime in Beijing does not have to seek permission at different levels of government or seek budgetary approvals. The Chinese government can fast-track its investment in energy-saving technologies in its attempts to tackle worsening pollution problems. These outcomes of China’s massive economic growth. Instead of investing in a space programme that is supposed to have military objectives, the government should have pushed technological innovations that can resolve an ecological crisis.

Soon, doorstep delivery by drones

Amazon CEO Unveils Service That Could Transform Online Shopping

Chidanand Rajghatta | TNN

Washington: Better known in some parts of the world for delivering death from the sky, drones could soon be delivering life-saving parcels, from medicines to mail, to your doorstep. In a thrilling leap of technology — and a major PR coup — Amazon’s CEO Jeff Bezos on Sunday revealed an experimental drone-based home delivery service that can deposit a package at your front door or roof-top in as little as 30 minutes from the time you place an order online.

"I know this looks like science fiction, it’s not," Bezos told CBS 60 Minutes on Sunday, demonstrating a working prototype of an eight-rotor helicopter drone called an “octocopter” that can pick up packages up to 5 lbs from Amazon’s fulfillment centres and fly them up to 10 miles. He said the service, dubbed Amazon Prime Air, could be ready for customer use in “four or five years”.

The technology is not new. In fact, one of the pioneers of the flying mini-robot is the Indian-American roboticist Vijay Kumar at University of Pennsylvania (also alumnus of IIT Kanpur) who is known for his research in the control and coordination of multi-robot formations. But the visionary Bezos, known for his out-of-box thinking, has been the first to seize the commercial application of the technology, leaving others such as Fed-Ex, UPS, and Wal-Mart to play catch up.

Amazon’s octocopters operate autonomously, and once an Amazon employee enters a delivery recipient’s location, the flying robot uses Global Positioning System (GPS) to deposit the package at designated coordinates.

“It’s very green, it’s better than driving trucks around,” Bezos said, revealing that the company is working on building in redundancies and reliabilities — such as making sure the drone does not land on someone’s head or crash into electric poles.
IIT-Kgp wins Sweden India Nobel Quiz

IIT-Kharagpur won the grand finale of Sweden India Nobel Memorial Quiz 2013, held at Jesus and Mary College, New Delhi, on November 27. The team of three comprising Somsish Ghosh, Ajaya Biswanathan and Saswata Panigrahi had won while pitted against teams from six other states. The inter-college quiz competition is organised every year by the Embassy of Sweden in India in cooperation with leading Swedish businesses in India as a part of the Sweden India Nobel Memorial Week, which celebrates the spirit of the Swedish innovator, entrepreneur and philanthropist Alfred Nobel. The winners get an all-expense paid trip to Sweden, where they will visit the headquarters of partner companies, universities and the Nobel Museum.