

Newspaper Clips
November 18-24, 2017

November 24

IIT Delhi researchers develop a device which can prevent heart attack, measure soil moisture and detect explosives

<http://www.firstpost.com/tech/news-analysis/iit-delhi-researchers-develop-a-device-which-can-prevent-heart-attack-measure-soil-moisture-and-detect-explosives-4224989.html>

Can there be one solution for preventing heart attacks, measuring soil moisture and detecting explosives?

All these may sound disjointed, random problems, but scientists say it is possible to address them using the same concept or technology platform. Researchers at Indian Institute of Technology, Delhi, have achieved this.

The solutions are all based on a technology platform that can detect a chemical binding between a source molecule and a target molecule in a device with very high sensitivity, and integrating them with highly sensitive mechanical and electronic transduction in nanodevices.

A heart attack occurs because blood flow to the heart gets blocked for some reason or other and cardiac muscles starts dying. If this can be diagnosed early on, the patient can be saved. The standard procedure is to conduct ECG when a patient complains of chest pain. Treatment is started immediately if the test shows abnormalities. But, many times abnormalities do not show up in ECG report. In such cases, doctors have to conduct blood tests.

The test works by detecting biomarkers for myocardial infarction in a blood sample. Stress generated when cardiac muscle starts to die induces production of proteins like troponin and myoglobin. These biomarkers appear in blood samples. The device detects these. It is a nanomechanical platform that integrates chemistry with mechanics and electronics.

High technology is one thing, being handy and practical is another. The devices have been available for some years now. However, there is a need to make them more affordable for the poor and also make them easier to operate. A team of researchers led by the Director of IIT, Delhi, Ramgopal Rao, have achieved this.

Speaking to *India Science Wire*, he noted, "When we set out our framework for development of the sensor we told ourselves: we should be able to detect the markers within ten minutes, the cost of test should be affordable and it should not require a super specialist to administer, any doctor even at a primary health care center should be able to use it. Only then it would be socially relevant and practical. We are thrilled that we have been able to achieve this."

As regards the soil moisture sensor, he said, the technology was presently being field tested in farm condition. "Such technologies are available in the international market. But they are unaffordable and bewildering to mostly uneducated Indian farmer. We need technologies that are affordable and easily

operable by Indian farmers. If they cost Rs.10,000 in international market, we need them at Rs.100. There is no shortcut to developing technologies on our own”.

On the device for detecting explosives, he said it was also in the final stages of technology development.

Prof V Ramgopal Rao is a well-known nanotechnologist. He was earlier the chief investigator for the Centre of Excellence in Nano Electronics project at IIT-Bombay, where he played a key role in establishing a startup called NanoSniff Technologies Pvt Ltd.

Born in a small town Kollapur in Telangana, he did his bachelors from the Kakatiya University in technology. He completed M Tech from IIT-Bombay and doctorate from Munich in Germany. He started his career in nanoelectronics and for a long time, his research work was on complementary metal oxide semiconductors.

Prof Rao has over 400 publications in the area of electronic devices and nanoelectronics in international journals. He is a recipient of many awards including the Shanti Swarup Bhatnagar prize, Infosys Prize and Prof C.N.R. Rao National Nanoscience Award. He holds 32 patents including 13 US patents. Many of them have been put into use for commercial purposes.

Among other things, he has had a stint at chipmaker Intel. There his work mainly focused on extending the life of batteries used in mobile phones. Many of his inventions form part of the microprocessors produced by the company.

NEED MOCK TESTS TO TAKE JEE-ADVANCED: BENGALURU STUDENTS

[HTTP://BANGALOREMIRROR.INDIATIMES.COM/BANGALORE/OTHERS/NEED-MOCK-TESTS-TO-TAKE-JEE-ADVANCED-BENGALURU-STUDENTS/ARTICLESHOW/61772357.CMS?](http://BANGALOREMIRROR.INDIATIMES.COM/BANGALORE/OTHERS/NEED-MOCK-TESTS-TO-TAKE-JEE-ADVANCED-BENGALURU-STUDENTS/ARTICLESHOW/61772357.CMS?)



Aspirants want to practise before appearing for test that has gone online

Meghana C, a second Pre-University student of a private college on the outskirts of Bengaluru, has basic computer knowledge, but is not sure that she can tackle a comprehensive test online.

On August 20 this year, the joint admission board, the policymaking body for all Indian Institute of Technology (IIT) admissions, took a decision that might make any apprehension in taking the tests online a big blow to the candidates chances. IIT Madras director and JAB 2017 chairman Prof Bhaskar Ramamurthi said, "It has been decided that the JEE (Advanced) will be conducted in online mode from 2018 onwards."

Meghana wants to study computer science and is gearing up to take the Joint Entrance Examination (JEE).

The JEE-Main examinations are the gateway for qualifying to the JEE-Advanced. Earlier the HRD ministry had introduced an option of taking JEE Mains online so that the tests can be taken both offline and online.

"For the Mains, we have an option and I plan to take the test offline because I have a better hold of the test when I am writing and I can keep a track on it too. But, if I get selected and get to the Advanced test part, then I will have no option but take it online," Meghana said.

She said it is very difficult for her. "The JEE board should give us some mock online tests on their site so that we can practise. Now that the decision is taken, let it hold, but mock tests can help students even from rural areas to have a chance to crack the test," she said.

Another JEE aspirant from the city said students in the city too are affected by this decision. "When the test is offline, we feel more in control and are confident. Taking a test online without any practice is not good. We have a month's gap between the exams and it will be so helpful for us if we have mock tests," city JEE aspirant said.

Experts too said that mock tests will help the students. Dr Sridhar G, an alumnus of IIT and managing director of Deeksha, said, "If mock tests are put up on the JEE website, students can familiarise with the exam way."

"Students from rural areas may need more practice on the computer. It will help them see how to save an answer and how to re-check it. We have advised our students to opt for offline exams so they know what they are answering. Imagine a college which doesn't have a good computer facility and the students are keen on cracking the exam."

Others too said students, who do not use a computer regularly at home, will be affected. YK Jayaramappa, CEO, BASE, said, "The concern may be applied especially to students from rural areas. It is advisable for all students to have as many online mock tests as possible. Considering the technical glitches faced by the students in the recently held KVPY exam, we need to wait and see how seamlessly the authorities can conduct the exam."

Apple looks to hire from IIT-M this year

<http://www.thehindu.com/todays-paper/tp-national/tp-tamilnadu/apple-to-recruit-iit-m-students/article20745067.ece>

Over 1,100 students register this year

For the first time, students of the Indian Institute of Technology-Madras will see tech giant Apple Inc. participate in the campus recruitment process.

Other first-timers include Unique Identification Authority of India (UIDAI), UBS AG, Nasdaq Stock Market, Alvarez and Marsal India, Country Garden, Halma India, Rubrik, and Sekisui Chemical.

According to the Institute, a total of 270 companies have registered so far for the recruitment drive. This year, 50 start-ups will also feature in the recruiters' list.

The Institute has, from this year, dispensed with the graveyard slot that begins at midnight of November 30 and runs up to 6 a.m. of December 1, the first day of recruitment. According to placement officials this was done to reduce stress on students.

Last year 250 companies had registered and offered 400 job profiles.

The first phase of campus recruitment will be held from December 1 to 10, with a break on December 5.

Manu Santhanam, advisor, training and placement, credited the students and staff of the placement office with bringing in a large number of recruiters.

"We have already seen a major jump in the number of pre-placement offers. So we are hoping that the success translates into placements too," he said. As much as 43% of the recruiters are from core engineering areas, research and development sector; about 25% are from finance, analytics and consulting sectors.

A total of 114 students received pre-placement offers through internships. According to the Institute, it is a 56% increase as last year only 73 students had received such offers.

Over 1,100 students from various disciplines have registered for placement this year.

With more research scholars also becoming eligible, the number of candidates is expected to increase, Mr. Santhanam said.

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QS Rankings 2018 for BRICS region: IIT Bombay trumps IISc Bangalore, makes it to Top 10

<http://www.timesnownews.com/education/article/qs-rankings-2018-for-brics-region-iit-bombay-iisc-bangalore-indian-universities-in-top-100/131195>

New Delhi: There is some good and not so good news for Indian universities. In the latest set of international university rankings released by Quacquarelli Symonds, QS, IITs Bombay, Delhi and Madras along with IISc Bangalore have made it to Top 20 universities. The list mentioned refers to the QS Rankings for 2017 of Top Universities in BRICS or Brazil, Russia, India, China and South Africa region. IISc continues to slip. In an earlier ranking too, the top institute in the country had failed to make a mark.

In the rankings, IIT Bombay draws the top spot at number 9 among the Indian universities, pushing back IISc Bangalore to tenth position. This is a slip for IISc Bangalore which was at number 6 last year. IIT Delhi has also slipped from 15th position to 17th position while IIT Madras has gained a position from 19 to 18th rank in 2018 rankings. The top slots, however, have all been picked by Chinese Universities with Tsinghua University, Peking University and Fudan University picking up the first, second and third rank respectively.

Extending the rankings, Delhi University has picked the 41st position, followed by University of Calcutta at number 64 and Jadavpur University at number 74. The complete list of Indian Universities in Top 100 of QS World University Rankings 2018 for BRICS region is provided below. A total of 14 universities from India have made it to top 100.

List of Indian Universities with Rank in the QS World University Rankings 2018 BRICS Region Top 100

Rank	Name of the University
9	Indian Institute of Technology Bombay (IITB)
10	Indian Institute of Science (IISc) Bangalore
17	Indian Institute of Technology Delhi (IITD)
18	Indian Institute of Technology Madras (IITM)
21	Indian Institute of Technology Kanpur (IITK)
24	Indian Institute of Technology Kharagpur (IIT-KGP)
41	University of Delhi
51	Indian Institute of Technology Roorkee (IITR)
52	Indian Institute of Technology Guwahati (IITG)
64	University of Calcutta
74	Jadavpur University
82	University of Mumbai
85	Anna University
100	Indian Institute of Technology, Hyderabad

Speaking to HT, UGC Chairman VS Chauhan commented, "Indian education has expanded and we are trying to change a lot of regulations which are made log ago. In this there is space for rankings and the government is also realizing this that the universities are a matter of prestige for the country." India is the second country after China in terms of representations in the QS World University Rankinsg 2018 for BRICS regions.

IIT Ropar Professor awarded with prestigious DBR Ramalingaswami Re-entry Fellowship

<http://indiaeducationdiary.in/iit-ropar-professor-awarded-prestigious-dbr-ramalingaswami-re-entry-fellowship/>



Ropar: Dr. Srivatsava Naidu, Assistant Professor, Centre for Biomedical Engineering, Indian Institute of Technology Ropar (IIT Ropar) has been awarded the Ramalingaswami Re-entry Fellowship by the Department of Biotechnology, Ministry of Science and Technology for a period of 5 years.

The fellowship aims to attract highly skilled Indian researchers working overseas in various cutting edge disciplines of biotechnology and other related areas, by providing them an attractive avenue to pursue their R&D interests in Indian institutions.

Dr. Naidu's research proposal focuses to understand the molecular perturbations caused due to derailed basal transcription mechanisms which plays a major role in oncogenic transformation. The outcome of the study will enrich the current understanding of molecular events deciding cell fate, particularly during oncogenesis, which may ultimately exploited for therapeutic and diagnostic purposes.

Designed to recruit top research scientists back to India, the fellowship is awarded based on the candidate's achievements, quality of research, proposed research plan and its relevance to solve current unmet needs in the various fields of biotechnology

'Major' Earthquake Might Rock Uttarakhand Soon, Say Scientists

<https://www.ndtv.com/india-news/major-earthquake-might-rock-uttarakhand-soon-say-scientists-1778805>

Scientists participating in the event were unanimous in their view on the soon to occur earthquake and asked the state government to work towards building tremor-resilient infrastructure.



Scientists said the earthquake might have devastating effects.

DEHRADUN: Scientists have predicted the likelihood of a major earthquake to hit Uttarakhand adding that the development might have a devastating effect. A two-day national workshop on disaster resilient infrastructure in the Himalayas concluded in Dehradun today with scientists highlighting the high probability of a quake in the region.

The last major tremor occurred in the state at least 600 years ago.

Scientists participating in the event were unanimous in their view on the soon to occur earthquake and asked the state government to work towards building tremor-resilient infrastructure.

In his keynote address, Vinod K Gaur, a professor at the Indian Institute of Astrophysics in Bengaluru, emphasised on the need to create awareness so that quake resistant building techniques are adopted by the people at the grassroots level.

Handbooks can be published for general category houses and made available to all the people, he said.

Noting that Uttarakhand was in the Central Seismic Gap, where exists a high probability of a major earthquake, they said it was imperative for disaster mitigation agencies and the state government to take proactive steps for the amelioration of any impending disaster.

The objective of the workshop was to provide a platform to the scientists, research community officials of various departments and professionals to share information, knowledge and suggestions on the subject of disaster resilient construction.

Professor M L Sharma from IIT-Roorkee informed about the status of the current earthquake early warning system that was deployed in Uttarakhand and also underlined the need for expansion of this network.

Scientists also spoke about the extra care that needs to be taken for the design of structures in hill slopes and the implications of wrong design or construction practices. They also stressed on requirement of specific construction guidelines for hilly regions.

In the concluding session, it was decided that the state would work to the best of its ability to ensure disaster resilience with special emphasis on earthquake resilience.

Scientific and academic institutes would collaborate and assist the state government in this effort.

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IIITM-K wins NITI- Aayog prize in hackathon

<http://www.thehindu.com/todays-paper/tp-national/tp-kerala/iiitm-k-wins-niti-aayog-prize-in-hackathon/article20631045.ece>

The inaugural edition of international blockchain hackathon held in New Delhi

A team of research students from the Indian Institute of Information Technology and Management-Kerala (IIITM-K) has brought laurels to their institution, bagging the NITI Aayog prize in the inaugural edition of the Proffer Hackathon held at IIT, New Delhi.

The international blockchain hackathon was jointly organised by NITI Aayog, the policy think tank of government of India, and Harvard-based blockchain start-up Proffer from November 10 to 13. The IIITM-K team, comprising of Nikhil V. Chandran, Adarsh S. and Anoop V.S. of the Data Engineering Lab mentored by D. Asharaf emerged as the winners in the India Chain category.

Their award-winning entry was AgroChain, a blockchain-based transparent market place where farmers and consumers could implement a cooperative farming method.

In AgroChain, farmers could list the potential crops and the expected yield on their farm on the distributed public ledger. The consumers could also view the details and check for the farmer's credibility based on the previous cultivation and supply. This creates a transparent and tamper-proof digital market platform for farm products. There will be a rating mechanism to build the credibility of farmer and consumer based on the previous experiences in the agro market.

More than 1,900 students and young professionals from 28 countries had signed up to participate in the event in person and on remote mode. Microsoft, IBM, Accel, Coinbase, and Amazon AWS sponsored \$17,000 in prizes for the top five blockchain-based applications addressing problems in government/enterprise infrastructure, finance, energy markets, supply chain, decentralised Aadhaar identities, and information exchange, among others.

A panel of judges from Coinbase, IBM, Microsoft, Harvard, BoostVC, and government of India assessed the projects. About 93 participants from MIT, Harvard, Stanford, Oxford, Cambridge, IITs and top engineering institutions around the world submitted projects.

Blockchain technology

The objective of the Hackathon was to look beyond currency use cases to see how blockchain technology could make a difference to governments, economies, businesses and individuals.

All CBSE Entrance Exams (UGC NET, JEE, NEET, CTET) in 2018 Will Be Conducted by National Testing Agency (NTA) & Here's What Will Change

<https://chandigarhmetro.com/cbse-2018-entrance-exams-ugc-net-neet-jee-ctet-conducted-by-national-testing-agency-nta/>

CBSE conducted all entrance examination will now be handed over to the National Testing Agency soon as per the direction of the Union cabinet. The Central Board of Secondary Education (CBSE) approved the proposal of creating a separate National Testing Agency (NTA) that will take over all the entrance tests that are currently conducted by the Central Board of Secondary Education (CBSE).

NTA to take over all five entrance exams conducted by CBSE

As per the guidelines of the Union Cabinet, CBSE will now conduct only board examinations for class 10 and 12. The other five entrance examinations of CBSE including National Eligibility and Entrance Test (NEET), Joint Engineering Entrance (JEE), University Grants Commission (UGC) National Eligibility Test (NET), tests of Jawahar Navodaya Vidyalayas and Central Teacher Eligibility Test (CTET). Now all these five entrance tests will be handed over to the NTA who will take charge of conducting them.

NTA will initially begin conducting these five entrance examinations and would gradually take over all other all India level entrance and admission examination as per the roadmap set by the Union cabinet. The NTA conducted CBSE 2018 entrance examinations across India will now be conducted online and that too at least twice in a year so that a large number of students can appear for the test and can get equal opportunity. Not only this, all the students residing in the rural and semi-urban areas will have the facility of getting centres at their nearby sub-districts.

More about NTA & other entrance exams that it will take over soon

National Testing Agency (NTA) was established as a self-sustaining and autonomous body to conduct all sorts of entrance tests in India required seeking admission once the schooling is over. The thumbs up that NTA has got from the Union cabinet for conducting all five entrance examinations in 2018 that are till date conducted by CBSE, will benefit over 4 million students who seek admission in India's well reputed and prestigious colleges. NTA is also guided to take over other prestigious all India level entrance exams over the period of time soon including IITs, AICTE and IIMs.

The decision was taken by the Union cabinet to relieve CBSE from conducting all the entrance examinations 2018 and help focus on the core board examination of class 10 and 12.

University team forges new research opportunities and development in India

<http://mancunion.com/2017/11/20/university-team-forges-india/>

The team of academics from the medical and various science departments provided support in the founding of a new medical school and committed to new joint research projects

A university delegation has recently returned from a trip to India which sought to open up research and funding opportunities with some of the country's biggest companies, as well as to assist in the foundation of a new medical school.

The group, comprised of academics representing a range of departments from medicine to environmental sciences, travelled to the state of West Bengal in the east of the country, where plans are underway to build a new school and training facilities for doctors.

The head of the delegation, Professor Stephen Flint, described the purpose of meetings with officials and staff at the forthcoming medical facilities as "helping them to fast-track the complex challenge of setting up a medical school from scratch".

Academics including Professor Douglas Corfield of Manchester's Division of Medical Education helped familiarise the staff with medical training techniques such as problem-based learning.

Professor Flint, Manchester's Associate Vice President for Internationalisation, identified the shortage of hospitals in West Bengal as the driving factor behind the need for new medical training facilities. West Bengal's population far surpasses that of the UK with over 90 million people resident there. The new hospital is to be situated at Kharagpur, an industrial city three hours' drive from West Bengal's capital, Kolkata.

Links with the region were established through the Tata Medical Centre where another Manchester researcher, Professor Vaskar Saha, works six months out of the year at the Tata Translational Cancer Research Centre.

According to Professor Flint, the trip could create more links with Manchester and opportunities for students in the future.

"We have signed an agreement with the Indian Institute of Technology Kharagpur (IIT KGP) to collaborate across a range of research areas, and we hope this will lead initially to jointly supervised PhD students who spend time in both institutions." he explained. He added that this could eventually enable students to travel to Kharagpur as a study abroad destination.

Established in 1951, IIT KGP is the oldest such institution in India, and its headquarters are based on the site of a former detention camp for Indian freedom fighters, dating back to the British colonial era. During the trip, plans were confirmed for the development of a world-class programme in health informatics run jointly with Manchester, a commitment to which had already been made with the signing of a Memorandum of Understanding between the two institutions during a visit from Manchester representatives this June.

Professor Siddhartha Mukhopadhyay, IIT KGP's Dean of Alumni Affairs and International Relations spoke of the collaboration's great potential to develop research programmes with global impact and create world-class training schemes, as well as joint research projects in areas including Smart Textiles, Earth-Environment-Water-Sciences, Advanced Materials and Biomedical Informatics.

During the trip, the delegation also met with representatives from some of the region's most significant academic and research institutions, such as the Indian Institute of Chemical Biology, Indian

Statistical Institute, and the Universities of Jadavpur and Kolkata, to discuss new possibilities in research and funding.

Spanning fields of engineering and biomedical sciences, conversations were held with such giant companies as Graphite India and Tata Steel, the owners of the UK's largest steelworks and employers of almost 8,000 here, concerning material science research.

"Tata Steel have recently opened a biomaterials division, and we presented the cutting edge research on biomedical 'smart' materials being undertaken in the School of Materials," Professor Flint explained, adding that this could open up the possibility of receiving research funding from Tata.

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EDMC, IIT-D join hands for Ghazipur landfill project

<http://www.dnaindia.com/delhi/report-edmc-iit-d-join-hands-for-ghazipur-landfill-project-2561457>



An agreement was signed between the EDMC and IIT-Delhi at municipal corporation headquarters

In a bid to avoid recurrence of the recent cave-in incident at the Ghazipur landfill site, wherein two people were killed, the East Delhi Municipal Corporation (EDMC) on Monday joined hands with the Indian Institute of Technology- Delhi (IIT-D) to work for the cause.

Superintendent Engineer, Arun Kumar on behalf of the EDMC and professor Ramesh Dutta on behalf of IIT-Delhi signed the agreement at the municipal corporation's headquarters. "A group of faculty members of IIT-Delhi would provide their technical advice and expert opinion to the EDMC on stability analysis of the slope of the landfill waste, which is parallel to the canal," the municipal corporation said in a statement.

"The faculty members would advise on the short-term stabilisation measures for the slope, parallel to the canal, based on the result of the stability analysis. The EDMC would be free to choose from the remedial measure(s) based on feasibility and after concurrence of the consulting group," it added.

The Ghazipur landfill is the oldest dumpyard in the national Capital, spread over 29 acres. "Stability analysis of the slope would cover variables such as slope inclination, slope height, pore pressure, seismic forces etc. The stability analysis would take about 12 weeks to complete," the EDMC informed.

According to the corporation, the EDMC will select a remedial agency with adequate experience in similar works as per the technical advice of the consulting group of the IIT- Delhi. The slope development work will be undertaken in two phases.

"In the first phase of the development work, stabilisation analysis of the slope would be done and in the second phase that part of the slope which had caved-in would be stabilised. The whole project would be carried on in the presence of technical experts. The agreement has been signed for a period of one year with the consulting fees of Rs 16 lakh to be paid by the municipal corporation," the officials stated.

- In September, a part of the massive dumpyard had caved-in at the Ghazipur landfill, killing two people, prompting the Lt Governor to shut the site for waste dumping.
- Now the EDMC and the IIT-Delhi have come together to avert any such incident in future and find a technical solution to the problem.

Bicycle Sharing Bubble Burst in China, but in India it's Still Ballooning

<http://bwdisrupt.businessworld.in/article/Bicycle-Sharing-Bubble-Burst-in-China-but-in-India-it-s-Still-Ballooning/20-11-2017-132223/>

A cycle in Delhi can make the same distance as a car or motorbike in the same time, finds out this founder of a bike sharing startup.



On the eve China's bike sharing economy burst out of its safe bubble and met the realities of a cold world, wrote one bike sharing startup's founder, "I was filled with arrogance".

Bluegogo, a bike sharing startup from China will soon be a thing of the past. But China is still bike sharing central. The two leading bike sharing startups in China, Mobike and Ofo combined have raised close to 2 billion dollars. The past 12 months witnessed at least, in the very least, going by media

counts, over ten startups not just start business in the bike sharing sector but raise money with all the fervor of raging bulls.

A senior lecturer on transport at University of Huddersfield, Alexandros Nikitas, writes in her article, "The Global Bike Sharing Boom and Why Cities Love a Cycling Scheme," In 2004, only 11 cities had adopted bike sharing. Today, more than 1,000 public bicycle schemes of varying sizes and specifications run in more than 50 countries, across five continents."

In India, Ola Cabs reportedly started their bike rental pilot, Ola Pedal, at IIT Kanpur earlier this month.

Zoomcar, a self-drive, car sharing platform, has launched PEDL. This tech enabled cycle sharing service is expected to have over 10,000 cycles on the road by the ends of 2017.

The newbie entrepreneurs are testing out bicycle sharing as a business too. Vansh Taneja of dockless bicycle sharing app, Letscycle.in says, "We are competing with few other IIT's like IIT Bombay and IIT Delhi to launch cycle sharing [operations] asap".

Raj Chauhan, founder of Letscycle.in chronicles his path to convincing people to cycle. His experiments had him clocking over 500km riding all over Delhi to get first-hand experience:

"You'd think cycling in India is hard; decrepit infrastructure, pollution and horrible traffic. But if you really think about it, most traffic on Indian roads are made up of two wheelers.

So I took it upon myself to actually ride cycles as my primary means of transport before I can convince other people to do so. And the results were surprising even to me. It just so happens that you can make the same distance you would in a car or bike. Traffic is generally slow moving, for a motor vehicle that is. For a cycle it can be a comfortable pace. You do not worry about speeding vehicles trying to overtake you. More often than not, it's the cyclist who can overtake other vehicles and manoeuvre comfortably in rush hour conditions.

It has been six months since then that I've been spreading the bike sharing gospel to promote dock less bicycle sharing in India and approaching colleges for the same. Truth be told, we had limited success. First it was convincing people that cycling is actually a viable way to commute within campuses and then it was running into extensive bureaucracy.

Eventually it happened. The floodgates of the bike sharing market opened, and a variety of companies jumped in, from Indian unicorns Ola Cabs, to Zoomcar to the Chinese heavyweights, all preparing for their eventual launch in the Indian market.

And that is fantastic news for customers. In the coming few months, you will see station-less bicycles all across India's major urban centers. Currently Letscycle as well as other players have been anchored to colleges and university campuses. That will soon change, our ultimate goal is to solve the last mile conundrum. We are not just selling a service to go from point A to point B on a bicycle, we're offering the convenience of never having to think about everyday logistics .

And Urban India needs it more than anywhere else; we face some of the worst infrastructure and pollution problems. But that just makes it the perfect storm for dockless bike sharing apps like Letscycle to swoop in. Rest assured, in a year's time, you won't book a cab to the nearest metro station

because the smart cycle will be a better option. The bicycle sharing revolution is here - we just hope to be a small part of it.”

IIT Kharagpur to host inter-IIT sports meet in 2019, allocates Rs 10 crores in preparation

<http://indianexpress.com/article/education/iit-kharagpur-to-host-inter-iit-sports-meet-in-2019-allocates-rs-10-crores-in-preparation-4947933/>

The 2017 Inter-IIT sports meet is being held in December in Chennai with a total of 23 IITs participating in 13 different categories during the event.

The Indian Institute of Technology (IIT) Kharagpur has announced that a fund of Rs 10 crore has been allocated to upgrade and renovate the sports facilities of institute. This is in preparation for the inter-IIT sports meet which will be conducted in 2019.

According to a press statement by IIT Kharagpur, an annual sports budget of Rs 1.5 crore has been set aside. It will also set up two synthetic courts each for tennis, volleyball and basketball along with an athletic track and an indoor stadium.

“The enhanced focus on sports activities would strengthen the wellness initiatives as a whole. Sports tend to inculcate leadership qualities and decision-making powers into individuals,” said William Mohanty, President of Technology Students’ Gymkhana.

The institute is already home to an athletics stadium, a cricket and football ground and a number of outdoor courts and a swimming pool. TJ Hyman, coach to Leander Paes, has also been contacted by the varsity’s alumni for a training programme along with Warren Rhomfeld of the US Professional Tennis Association.

The 2017 Inter-IIT sports meet is being held in December in Chennai with a total of 23 IITs participating in 13 different categories during the event. Next year the meet will be hosted by IIT Delhi followed by IIT Kharagpur in 2019.

Govt patronage crucial for thriving of libraries

<http://www.thehansindia.com/posts/index/News-Analysis/2017-11-21/Govt-patronage-crucial-for-thriving-of-libraries/340697>

In India, engineering education lacks quality and only less than 24% graduates are employable. Similar is the situation in other professional courses. Research, especially PhD theses, are also lingering with a comment of lack of quality and plagiarism.

The reasons for this situation in this country may be due to lack of teachers, infrastructure and accountability. Lack of quality is a consequence of non-achievement of exalted objectives of education, resulting in lack of knowledge/capabilities in learners.

Libraries and librarians can make a difference and improve the quality, both in education and research, by providing access to authentic information to faculty, researchers and students. It is a known fact that information is a commodity the cost of which is increasing year after year. Libraries are community centres which make all efforts to provide needy information.

Now-a-days, libraries are being neglected by governments as well as institutions, allocating meagre budgets, which lead to cutting down on subscriptions to high quality magazines and journals. Even text books are old but they are procured as new editions. MHRD/ UGC gives funds to provide journals to select universities. From 2018, such subscriptions will also be stopped, putting institutions in great distress.

Under N-List, about 7,000 journals and about two lakhs of e-books were given by INFLIBNET at nominal subscription, which will also be discontinued. The government has also started levying GST on subscriptions, which increased increased burden on libraries going for subscriptions.

The MHRD/UGC should prepare standardised plans for resource sharing for enhanced access to published information, library resources, research data, at least among public-funded institutions. The government does not seem to have any serious plans for optimising access to knowledge resources available in institutions.

IIT-Delhi spends about Rs 16 crore a year on purchase of resources. One can imagine the total amount spent at least by government-funded institutions and it is the duty of funding agencies to see that every paisa is optimally used.

The Concept of Open Access (OA) can make lots of authentic resources (journals, books, research articles) available at free of cost. USA and many countries have made it mandatory to publish all public-funded research output in OA journals. But India is yet to adopt such policy widely, barring one or two departments. Such apathy of the government has resulted in purchase of public-funded data/output at enormous cost.

The government is guided by influential people but not knowledgeable professionals to make things move in right direction and resolve issues. The OA resources are generally authentic, as standard publishers are associated with them. It is necessary to remember that last year they found that more than 990 journals published from India are predatory. One has to be cautious to publish and procure quality output.

When one looks at free books, there are three types of websites / digital libraries which give millions of books. They are: copyright expired books, OA books, and pirated editions. The books include general/subject and text books. Single website may include both public domain and payment books.

For example, Hathi Trust Digital Library gives more than 16 million documents and 37% of them are in public domain. National Digital Library of India claims to have 65 lakh documents and every item is freely accessible. If anyone searches Hathi Trust Digital Library, one may find about 19,000 documents on William Shakespeare, out of which over 11,000 are in public domain.

There are many such websites/digital libraries. www.pdfdrive.net has 300 million documents (public domain) wherein one may get needed resources free of cost. OA text books/ curriculum-based lessons are accessible. It may be worth to note that every website has its own norms and users should learn how to make use of them.

The new trend is to make articles available – prior to their publication – at preprint websites which are free for consultation. These articles will have almost same information like published articles, which may be revised and published in journals at later time, which needs to be purchased. There are plenty of such resources on free online education sites, content pages. The librarians offer competent help to access such resources.

They can also train readers in using the reference management tools, through which they can create list of references for research projects and organisation of citations into specific formats for preparation of manuscripts/bibliographies. The governments should establish and support the libraries at various levels to support quality education and research.

ई-यंत्र के जरिए रोबोटिक्स को बढ़ावा देगा आईआईटी बॉम्बे, 800 शिक्षकों को किया ट्रेड जो छात्रों को पढ़ाएंगे रोबोटिक्स

<https://www.livehindustan.com/career/story-iit-bombay-will-promote-robotics-through-e-yantra-scheme-1656793.html>

इंजीनियरिंग कॉलेजों में रोबोटिक्स टेक्नोलॉजी के महत्व को देखते हुए आईआईटी बॉम्बे रोबोटिक्स के बारे में छात्रों की समझ विकसित करने के लिए 'ई-यंत्र' पहल को आगे बढ़ा रहा है। 'ई-यंत्र' मानव संसाधन विकास मंत्रालय के तहत सूचना संचार प्रौद्योगिकी के माध्यम से राष्ट्रीय शिक्षा मिशन (एनएमआईसीटी) द्वारा प्रायोजित कार्यक्रम है।

मंत्रालय के एक अधिकारी ने बताया कि इसे आईआईटी बॉम्बे आगे बढ़ा रहा है। इसका मकसद छात्रों को रोबोट बनाने और उससे जुड़ी तकनीकी जानकारी देना है। साथ ही अगली पीढ़ी के इंजीनियरों, रोबोट विशेषज्ञों की एक व्यवस्था तैयार करना है। 'ई-यंत्र' के तहत आईआईटी बॉम्बे प्रोजेक्ट वर्क के माध्यम से छात्रों में रोबोटिक्स की वास्तविक समझ विकसित करने में मदद करेगा।

आईआईटी बॉम्बे ने कई तरह की पहल की

ई-यंत्र के तहत आईआईटी बॉम्बे ने कई तरह की पहल की है, जिसमें ई-यंत्र रोबोटिक्स प्रतियोगिता, ई-यंत्र लैब की स्थापना, ई-यंत्र कार्यशाला का आयोजन, ई-यंत्र विचार प्रतियोगिता का आयोजन तथा ई-यंत्र संसाधन विकास केंद्र की स्थापना शामिल है। इस पहल के तहत छात्र रोबोटिक्स में थ्योरी और प्रैक्टिकल दोनों का अनुभव प्राप्त कर सकते हैं। मानव संसाधन विकास मंत्रालय ने अभी तक 32 क्षेत्रों में 259 लैब शुरू किए हैं और कई कार्यशालाओं का आयोजन भी किया जा चुका है। आईआईटी

बॉम्बे में ई-यंत्र कार्यशालाओं के जरिए 800 से अधिक शिक्षकों को प्रशिक्षित किया गया है, ताकि वे विभिन्न कॉलेजों में छात्रों को रोबोटिक्स पढ़ा सकें।

छात्रों और शिक्षकों से शुल्क नहीं लिया जाता

ई-यंत्र लैब स्थापित करने की पहल कॉलेज स्तर का आयोजित किया जाने वाला कार्यक्रम है। इसमें कॉलेजों को रोबोटिक्स लैब स्थापित करने के लिए प्रेरित किया जाता है। इसका मकसद कॉलेजों में रोबोटिक्स की पढ़ाई के लिए आवश्यक आधारभूत ढांचा तैयार करना और शिक्षकों को प्रशिक्षित करने की व्यवस्था तैयार करना है। इस कार्यक्रम के तहत रोबोटिक्स लैब स्थापित करने में मार्गदर्शन और सहयोग के लिए शिक्षकों को दो चरणों में प्रशिक्षण प्रदान किया जाता है। साथ ही इसकी कार्यशालाएं निःशुल्क होती हैं। इन कार्यशालाओं में शामिल होने वाले छात्रों और शिक्षकों से कोई शुल्क नहीं लिया जाता है।

ये छात्र ले सकते हैं भाग

ई-यंत्र रोबोटिक्स प्रतियोगिता हर वर्ष आयोजित होने वाला कार्यक्रम है। इसमें विज्ञान व गणित विषयों से ग्रेजुएशन कर चुके छात्र, विभिन्न स्ट्रीम से इंजीनियरिंग की डिग्री या डिप्लोमा लेने वाले छात्र हिस्सा ले सकते हैं। इस प्रतियोगिता में चयनित छात्रों को रोबोटिक्स पर आधारित किट उपलब्ध कराये जाते हैं। चयनित छात्र रोबोटिक्स से संबद्ध प्रणाली और माइक्रो कंट्रोल प्रोग्रामिंग के माध्यम से रोबोट बनाने की बुनियादी समझ विकसित करते हुए प्रतियोगिता में हिस्सा लेते हैं। प्रतियोगिता के विजयी छात्र आईआईटी बॉम्बे में समर इंटरनशिप करने के पात्र बनते हैं।

Team of CPCB & IIT conduct survey on untreated sewage that goes into Ramganga

<https://timesofindia.indiatimes.com/city/bareilly/team-of-cpcb-iit-conduct-survey-on-untreated-sewage-that-goes-into-ramganga/articleshow/61744534.cms>

BAREILLY: A team comprising officials from Central Pollution Control Board (CPCB), IIT-Delhi, Jal Nigam and Uttar Pradesh Pollution Control Board (UPPCB) has started survey of drains and Ramganga River in Moradabad from Tuesday. The team is conducting survey to estimate the amount of untreated sewage that goes into Ramganga for setting up sewage treatment plant (STP) here.

R K Singh, regional officer, UPPCB said, "As 19 drains in Moradabad discharge untreated waste into Ramganga, the team has been taking samples from the river to estimate the amount of untreated sewage that goes into Ramganga. This survey will help in preparing the blue print for assessing the capacity of STP needed here and to divert the direction of drains from river to other location. Once the STP comes here, the treated water will be given to farmers and remaining will be discharged into Ramganga."

TOI had earlier reported that a three-year research conducted by a professor of MJP Rohilkhand University under the aegis of UP Council for Agriculture Research on Ramganga from its originating point in Pauri Garhwal district to Kannauj where the river merges with Ganga revealed that Moradabad site is the most polluted. For instance, though the permissible limit for dissolved oxygen in river is 5 mg/litre, it was found to be 0.79 mg/l, 0.92 mg/l and 1.10 mg/l in winter, summer and monsoon respectively in 2016-17 at Katghar site of Moradabad. "We conducted survey at two different sites in Moradabad and found that Ramganga becomes most polluted in the city," said Neelima Gupta who conducted the research.

IIT Kanpur awaits cloud cover to test artificial rain to cut air pollution

<http://www.hindustantimes.com/environment/iit-kanpur-awaits-cloud-cover-to-test-artificial-rain-to-cut-air-pollution/story-PWqjtMTmojQAWCYIpChz4L.html>

Scientists at IIT Kanpur will be running trials in Lucknow and Kanpur for a cloud seeding technology that holds promising for cutting pollution in Delhi NCR.



Researchers at the Indian Institute of Technology in Kanpur are waiting for adequate cloud cover to begin trials for artificial rain to lower severe air pollution that has choked the Uttar Pradesh city as well as state capital Lucknow.

The Union government's department of science and technology has asked IIT Kanpur scientist Sachchida Nand Tripathi to test cloud seeding for inducing rain.

Tripathi's team has a mixture ready and are waiting for cloud formation to try the technology.

"The mixture can be dispersed from near the exhaust of an airplane, how much is dispersed and at what rate can be regulated," he said.

Cloud seeding for rainfall has gained currency in public discourse of late after a swathe of northern India, including New Delhi, was shrouded in a toxic haze because of farmers burning post-harvest paddy stalks, dust, factory exhaust and vehicle fumes.

Similar conditions engulfed Kanpur and Lucknow, two of UP's most densely populated cities, prompting authorities to explore options for artificial rain to rinse out the pollutants from the air.

"There are two things we are trying to understand through studies: whether cloud seeding works and whether it is needed," said Ashutosh Sharma, secretary at the department of science.

"The studies should be completed in a few months," he added.

Drought-prone Maharashtra, Andhra Pradesh and Karnataka had conducted trials, but the success rate was patchy.

"It is still to be seen how different pollutants react to it and how long the impact will last," Sharma said.

In cloud seeding, materials such as everyday salt, dry ice or silver iodide are used to induce condensation in clouds that are not likely to normally bear rain. These foreign agents cling to the vapour and turn them into water droplets or ice crystals. When these become heavier to float, they drop down in the form of precipitation.

Besides seeding through aircraft, firing artillery shells containing rain-inducing chemicals is an effective method of injecting clouds. Latest studies suggest common salt may be the best option.

At least 52 countries have cloud-seeding programmes, according to the World Meteorological Organisation.

China has been using the technology for over a decade. This year, they approved a \$168-million plan for weather modification that relies primarily on cloud seeding technologies.

Critics of artificially induced rain are sceptic about the experiment.

"We have been trying it in India and it has not been successful," said Devendra Pradhan, a scientist with the India meteorological department.

Pradhan thinks the expensive technology may not work for New Delhi because of its poor success rate in India. And since the effects are temporary, it is similar to using a helicopter and spraying water, he said.

Startup Odisha Gets Major Boost with a Centre of Excellence in Virtual & Augmented Reality at IIT Bhubaneswar

<http://bwdisrupt.businessworld.in/article/Startup-Odisha-Gets-Major-Boost-with-a-Centre-of-Excellence-in-Virtual-Augmented-Reality-at-IIT-Bhubaneswar/21-11-2017-132286/>

Startup Council of the state sanctioned a matching grant of Rs 2.5 crores to IIT Bhubaneswar Research & Entrepreneurship Park for setting up a Centre of Excellence for Virtual & Augmented Reality for Immersive Visualization (VARCoE).

The Government of Odisha has been working aggressively towards making Odisha the foremost startup hub of the country. It entered into a partnership with Invest India in March this year to provide professional support for strengthening the local startup ecosystem in the state and bring it at par with global standards.

The MSME Department of the government of Odisha, led from the front by Additional Chief Secretary Mr L. N Gupta and the young Invest India team have been instrumental in effectuating change from the ground level. 130 startups from across the state from sectors as diverse as agriculture, AR/VR, IoT, Renewable Energy, Human Resource and even Aeronautics have already been given recognition under Odisha Startup initiative. Of these 130 startups, 20 startups are also receiving financial benefits directly from the state. Besides, a number of networking and guest speaker sessions have been organised to give startups the right exposure.

In what is likely to be a major fillip to the growing prominence of Bhubaneswar as the next big Startup City, Startup Council of the state sanctioned a matching grant of Rs 2.5 crores to IIT Bhubaneswar Research & Entrepreneurship Park for setting up a Centre of Excellence for Virtual & Augmented Reality for Immersive Visualization (VARCoE). The centre has already received a philanthropic contribution of Rs 2.5 crores from Smt Susmita Bagchi. Besides, Software Technology Parks of India (STPI) has committed another 2.5 crores for the centre. The centre is likely to catapult Bhubaneswar as the hub for startups operating in the AR&VR domain and bring in access to world class infrastructure and technology as well as provide global connects in this space.

Underscoring the importance of mentors in the journey of great startups, the Council also approved the creation of a Startup Odisha mentor network. This would be ably complimented by providing the startups in the state training in functional and leadership skills through regular bootcamps and training sessions which will help them compete at the international level.

IIT-Hyderabad accelerates work to develop lithium-ion battery

<https://telanganatoday.com/iit-hyderabad-accelerates-work-to-develop-lithium-ion-battery>

Though automobile companies had designed electric cars using metal-oxide batteries in the past, they were proved to be a failure.



Sangareddy: At a time when the Central and State governments were preparing to adopt National Electric Mobility Mission Plan (NEMMP) and e-mobility Policy, respectively, aimed at replacing all vehicles with electric ones by 2030, an important step is being laid by an IIT-Hyderabad team, which had commenced work to produce a prototype lithium-ion battery for cars and other vehicles.

Assistant Professor at Department of Chemical Engineering Chandra Shekar Sharma and project fellow Manohar Kakunuri discovered that making lithium-ion batteries would be possible using carbon nano particles derived from candle soot.

Though automobile companies had designed electric cars using metal-oxide batteries in the past, they were proved to be a failure since they need to be recharged quite frequently, which is not viable financially and there were no recharge stations along the Indian roads.

Unlike metal-oxide batteries, lithium-ion batteries, which were being used in mobiles, laptops and other electronic gadgets, lasts long but the carbon particles used in these small batteries were found not suitable for making high-capacity batteries for cars.

In an exclusive chat with *Telangana Today*, Chandra Shekar Sharma, however, said they had discovered that carbon nano particles of candle soot were suitable for making high-capacity lithium-ion batteries. He further said they were granted Rs 2.6 crore fund by Ministry of HRD under Imprint (Impacting Research Innovation and Technology) to his team.

The IIT team and Dr Tata Narsing Rao, Associate Director at ARCI (International Advanced Research Centre for Powder Metallurgy and New Materials), commenced their work to develop the prototype lithium-ion batteries for cars.

Commenced in May, 2017, the project is expected to reach the final stage in May 2020. The work of the team was widely appreciated after it was published in a science journal. Sharma said they were working to make the battery a commercial success. We just do not want be part of this transformation to 100 per cent e-vehicles by 2030 but lead the change with our work, he said.

IIT Hyderabad develops device to diagnose infectious diseases

<http://www.thehindubusinessline.com/news/science/iit-hyderabad-develops-device-to-diagnose-infectious-diseases/article9968541.ece>



A team of researchers from Indian Institute of Technology, Hyderabad, has developed a new device that promises to help detect infectious diseases at low costs and very early.

The device uses a biochip and a nanomaterial based on Zinc Oxide. As a proof of concept it has been demonstrated in rapid detection of malaria.

The biochip comprises of a sensing platform integrated with a three-electrode system. The sensing electrode consists of antibody conjugated nanofibers. In the case of the device which has been tested, nanofibres were conjugated with histidine-rich protein II antibodies, which are specific to malarial antigen. Upon recognizing the presence of even a trace of malaria's biomarkers in blood serum, the device registered a signal. It is calibrated to assess the quantitative level of infectious biomarker present in the sample. Samples obtained from a hospital were tested using the device.

The device can also quantify the extent of infection and does not require a trained technician to use it. "It can be used as a point of care device. It will be particularly useful in rural areas where diagnostic facilities are not available readily. People in endemic areas can keep the device at home and when someone in the house falls sick, they test if there is infection," Shiv Govind Singh, leader of the team, said while speaking to India Science Wire.

The device is highly sensitive. It can detect malaria parasite at a concentration of even as low as a trillionth of a gram in a millilitre. This means it can detect minutest presence of a parasite, and help detect the infection on day one itself.

Dr. Singh said he and his team members were working on taking the device to the next level wherein the diagnosis could be transmitted to a medical professional via a smart phone. In addition, they are working on a device through which several diseases could be detected in one go.

The research team included Brince Paul and Asisa Kumar Panigrahi (IIT Hyderabad) and Dr. Vikrant Singh from School of Medicine, University of California. The study results have been published in journal ACS Applied Materials and Interfaces.

Man who made IITs a dream come true for many: Ramaiah's book released by VP

<http://www.hindustantimes.com/education/man-who-made-iits-a-dream-come-true-for-many-ramaiah-s-book-released-by-vp/story-JfWwelL4jlqjwktFoEduBO.html>

The fact that coaching is required to secure a seat in Ramaiah's institutions is a testimony to the standard of excellence in his institutions, Venkaiah Naidu said in Hyderabad on Monday

Educationist Chukka Ramaiah made efforts to make admission into IITs affordable and accessible to the rich and poor students alike, vice president M Venkaiah Naidu said on Monday.

He was speaking after releasing a book written by Ramaiah.

Ramaiah was responsible for making admission to IITs affordable and accessible to rich and poor students alike, an official release quoted Naidu as saying at the event here.

The fact that coaching is required to secure a seat in Ramaiah's institutions is a testimony to the standard of excellence in his institutions, Naidu said.

Ramaiah's experiences would be a guiding spirit for teachers, he said.

There is a need to inculcate a sense of pride among students in speaking in their own mother tongue, he said.

Efforts should be made to see that students respect their teachers and elders, he said.

The book by Ramaiah is titled Modati Patham (first lesson).

Speaking on the occasion, Telangana deputy chief minister K Srihari said Ramaiah worked to make IITs accessible to all meritorious students.

He announced the state government would provide copies of the book to all state libraries, the release said.

A leading Telangana activist, Ramaiah is also known as IIT Ramaiah an acclaimed expert in IIT coaching in mathematics.

November 18

Sight restored, children identify faces

<http://www.thehindu.com/sci-tech/science/sight-restored-children-identify-faces/article20550615.ece>



Trigger Treating lens and corneal defects can get the brain to learn about the visual world, says Prof. Tapan K. Gandhi (centre)

They differentiated faces from non-faces with 90% accuracy

Children born visually impaired due to cataract and who gained sight through surgery were able to differentiate faces from non-faces in about two months with over 90% accuracy, a study reports. The kids were also able to recognise by sight the objects they knew by touch in just about a week's training. Five children aged 9-17 years thus regained sight showing that the brain retains the ability to acquire certain sensory skills even after several years of impairment.

"There is a general notion that kids who are born visually impaired [due to cataract] cannot gain sight beyond the first few years of life. But this appears not true in many cases. Current medical facilities can treat defects in lenses and corneas, and the brain can then begin to learn about the visual world," explains Prof. Tapan K. Gandhi, Department of Electrical Engineering at IIT Delhi and first author of the paper published in the *Proceedings of the National Academy of Sciences*.

"We can't call these children as totally sightless, since structurally the eye may be normal and vision potential exists. They can certainly gain vision once the cataract is removed. The quantum of improvement may depend on factors like density or position of cataract. The reason for cataract in several cases is not known, though a major part is played by intra-uterine infection in the pregnant mother due to rubella virus," explains Dr. Sumita Agarkar, Deputy Director, Department of Paediatric Ophthalmology at Sankara Nethralaya, Chennai who was not associated with the work. "We have done such sight-restoration surgeries in infants as young as six weeks and even on a 25-year-old man."

Treatment and testing

The children for the surgery were identified through an initiative called Project Prakash started by Professor Pawan Sinha from MIT, the corresponding author. Five children from Uttar Pradesh and Rajasthan with dense bilateral cataracts were operated upon in 2011.

The researchers examined the children's ability to classify images as 'faces' or 'non-faces'. The children were shown 300 images that ranged from non-faces and facelike images to genuine faces. The face classification performance was very poor initially. The test was repeated after a week and every month up to two years. "The face is one of the most complex objects in the world... We saw steady improvement in the facial classification skills of the children," Prof. Gandhi adds.

This study addresses a long-standing question of whether skills can be developed later in life, after the critical early age of development, and whether the brain can meaningfully interpret the visual world.

The researchers also found that patients can quickly learn to connect touch with sight. They were made to identify shapes blindfolded and then were made to see and identify. Within weeks after the surgery, kids could connect what they touch to what they saw.

Though they do not develop vision as sharp as normally sighted people's, the brain quickly acquired the ability to identify objects, shapes, and faces. The results were published in *Nature Neurosciences*.

"We found that although the brain does not possess cross-sensory mapping immediately after sight onset, it can acquire it after as little as a week of experience. We hypothesise that the brain discovers similarities in the dynamic information generated when a child is exploring objects simultaneously through touch and vision. These results have implications about brain plasticity as well as about strategies of sensory learning," explains Prof. Sinha in an email to *The Hindu*.

IIT Ropar joins hands with Macquarie University for research and academic collaborations

<https://timesofindia.indiatimes.com/city/chandigarh/iit-ropar-joins-hands-with-macquarie-university-for-research-and-academic-collaborations/articleshow/61690947.cms>

ROPAR: The Indian Institute of Technology (IIT Ropar) signed a Memorandum of Understanding (MOU) with Macquarie University Sydney today. The MOU was signed to enhance relations between the institutes and to develop an academic and cultural interchange in teaching, research and other programs and activities. The overall framework of the MOU includes faculty exchange programmes, joint research activities, joint conferences, academic meetings, academic materials, student exchange programmes and joint projects. The MoU broadly aims at the development of bilateral research between Macquarie University and IIT Ropar in the field of Biomedical Research, Cognitive Sciences, Geological sciences etc.

The MoU also envisages support of mapping mutual strengths in terms of telecom sciences and water management.

To disseminate information regarding fellowships available in Australia, the MoU would also provide a common platform to IIT Ropar for jointly organizing the workshops programs for students and faculty.

The MOU was signed by Professor Tracy Rushmer, Associate Dean Higher Degree Research, Associate Professor Earth and Planetary Sciences, Faculty of Science and Engineering, Macquarie University and Prof. Sarit Kumar Das, Director, Indian Institute of Technology, Ropar. In addition, representatives from IIT Ropar, were present during the signing ceremony of the MoU.

Speaking about the Prof. S.K Das, Director IIT Ropar said, "It is an honour for us to have associated with Macquarie University. This MOU will strengthen the relations between the two institutes and help grow in the academic front as well as research collaborations. We look forward to a great journey ahead"