

Newspaper Clips
February 17-25, 2018

February 25

IIT Roorkee discovered the antibacterial mechanism of a natural compound obtained from plant species

<https://www.indiatoday.in/education-today/gk-current-affairs/story/iit-roorkee-discovered-the-antibacterial-mechanism-of-a-natural-compound-obtained-from-plant-species-1176144-2018-02-23>

In a recent development, the Indian Institute of Technology, Roorkee discovered the antibacterial properties of a natural compound found in plant species. This compound is the chlorogenic acid which also possesses aromatic properties as well.

X-RAY CRYSTALLOGRAPHY UNVEILED THE AROMATIC PROPERTY

The research team at IIT lead by Dr Pravindra Kumar from Department of Biotechnology used the state of the art technique of X-ray crystallography to look deep into the bacterial metabolic pathways. It unravelled the molecular basis of bacterial inhibition caused by the compound.

CHLOROGENIC ACID

Chlorogenic acid is the ester of caffeic acid and quinic acid. It functions as an intermediate in lignin biosynthesis. The formula of the compound is $C_{16}H_{18}O_9$ and its name refers to the polyphenol family of esters.

WORD FROM IIT ROORKEE ABOUT THE RESEARCH

After establishing the fact that how much we need the essential component of clinical healthcare- the antibiotics, Dr Pravindra said:

We wanted to identify new compounds, which could aid in the development of new generation antibiotics. With the study, we have successfully identified and proved the antibacterial properties of chlorogenic acid. The overall structural blueprints obtained from this study can further be exploited with the goal of producing a more efficient new class of antibiotics in order to combat antibiotic-resistant bacteria.

OTHER MEMBERS OF THE TEAM WHO WERE PART OF THE RESEARCH AT IIT

- Dr. Shivendra Pratap
- Dr. Aditya Dev
- Vijay Kumar

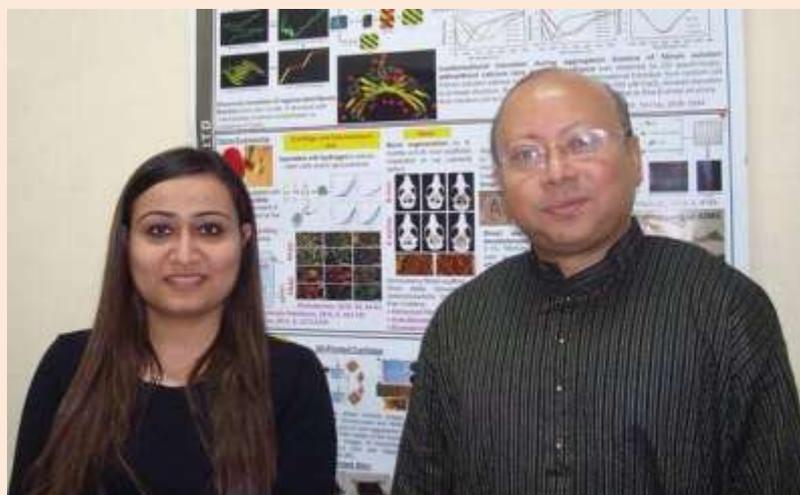
- Ravi Yadav
- Manju Narwal
- Shailly Tomar

Findings from this study were published recently in the Scientific Reports in Journal of Nature publishing group.

February 24

IIT Delhi researchers develop scar-tissue model for screening drugs

<http://www.thehindu.com/sci-tech/science/iit-delhi-researchers-develop-scar-tissue-model-for-screening-drugs/article22845167.ece>



No animal testing: "The pharma industry can use our model to develop anti-fibrosis and anti-scar medicines," says Sourabh Ghosh

The team replicated all the five features and two signalling pathways that form scar tissue

Researchers at the Indian Institute of Technology (IIT) Delhi have for the first time developed a 3D scar-tissue model through tissue engineering. The two-member team led by Prof. Sourabh Ghosh from the Department of Textile Technology at IIT Delhi was successful in replicating the early inflammatory microenvironment that initiates a cascade of events that lead to scar development.

Drugs currently available to reduce scarring in the case of deep wounds that affect all the layers of the skin have limitations owing to poor understanding of scar tissue formation and the signalling pathways responsible for its development. This is particularly so as results of scar tissue models created in animals have limitations when extrapolated to humans. Also, the European Union directive to find alternatives to animals testing makes Prof. Ghosh's relatively simple in vitro scar-tissue model ideal for drug testing.

Optimised cocktail

The researchers first encapsulated fibroblasts from healthy human skin within the collagen gel. Three days after an optimised cocktail of three cytokines were added to the media, differentiation of dermal fibroblasts into myofibroblasts was triggered. Myofibroblasts are bigger in size than fibroblasts and have greater contractile power, something that is essential to close the wound. Scar-specific proteins are expressed by myofibroblasts.

“There was an increase in the scar-specific proteins and gene expression with increasing duration of culture. By day 14, scar-tissue similar to what formed naturally on human skin was formed,” says Shikha Chawla from the Department of Textile Technology at IIT Delhi and first author of a paper published in the journal *Acta Biomaterialia*.

Typical features

In addition to the differentiation of fibroblasts into myofibroblasts, the researchers witnessed other typical features that cause scar formation. For instance, during the wound-healing process, excessive fibrous extracellular matrix is produced.

While there is excessive production of extracellular matrix proteins, the secretion of matrix metalloproteinase, whose role is to degrade certain proteins such as ECM, is reduced. As a result, the tightly regulated balance between synthesis and degradation of matrix components get disturbed, and the skin gets thicker and stiffer. There was also increased expression of alpha smooth muscle actin, a cytoskeleton protein, in the in vitro scar model. “The alpha smooth muscle actin is a characteristic marker of myofibroblasts. The cytoskeleton protein is expressed as a thick bundle that stretches the cell thereby causing contraction,” says Chawla.

“All these features that make the scar tissue thicker and stiffer in humans are already known. Using tissue engineering strategies, we are now able to replicate these features in the in vitro 3D model,” says Prof. Ghosh.

“In addition to these five features, the scar model was also able to replicate two important cellular signalling pathways through which scar tissue are formed,” says Prof. Ghosh. “Since the scar tissue formed in vitro followed similar signalling pathways as natural scar tissue, new drug molecules and immunomodulatory strategies designed to manipulate one or both the pathways might help in modulating scar tissue formation.”

Implications

Creating scar tissue in the lab has great implications for the pharmaceutical industry. “The cosmetic and pharmaceutical industries, which are developing anti-fibrosis or anti-scar medicines, need not have to test them on animals. They can use our tissue-engineered model instead,” he says.

The team is now using selective peptide domains and a 3D bioprinting strategy to develop progressively more complex in vitro scar tissue, which would recapitulate more hallmark features that are critical for tissue fibrosis.

Prime Minister's Research Fellowship, PMRF applications starts from today, check how to apply, eligibility

<http://www.timesnownews.com/education/article/pmrf-prime-ministers-research-fellowship-applications-start-feb-24-check-eligibility-important-dates-how-and-where-to-apply-pmrf-in/201949>



New Delhi: Applications for the Prime Minister's Research Fellowship, PMRF are starting from today. Candidates interested in the research fellowship are required to apply online on the official website pmrf.in. The application process starts from today, which is February 24, 2018. As many as 1000 students would be selected under the scheme to receive a fellowship and admission to the 23 IITs and IISc Bangalore along with a monthly pay of Rs. 70,000 for the first two years, Rs. 75,000 per month for the third year and Rs. 80,000 for the fourth year. Check how to apply, eligibility, important dates, and instructions here along with selection process and requirements.

The students who are selected for the fellowship would be offered admission will be offered admission to the PhD program in one of IITs or IISc. Apart from the remuneration mentions of Rs. 70,000 per month for the first two years, following which they would get Rs. 75,000 per month for the third year and Rs. 80,000 per month in the fourth year, each fellow would get Rs. 2.0 lakh per year for a period of 5 years to cover any academic contingency as well as expenses for international travel/ paper presentation, etc. The fellowship is aimed at selecting the best 1000 minds across various technical fields.

As per the guidelines now available, final year students of IITs, NITs, IISERs and centrally funded IIITs are eligible to apply. The students include those who are in the four-year undergraduate or five years integrated M.Tech. or integrated M.Sc. program in the said institutes. Students of these institutes who have been awarded degrees from in the past five years are also eligible to apply. Please note, students who have completed their bachelors from a different engineering college (not included in the list) but have completed their M.Tech from IIT or the listed institutes are NOT eligible to apply for the fellowship.

Also, candidates are required to have scored a minimum CGPA/CPI of 8.0 on a 10.0 scale. Please note, for the students in the integrated program or the dual degree program, the CGPA or CPI of UG part (first four years) will be considered.

Important dates for Prime Minister's Research Fellowship Application 2018

Start of Online Application: February 24, 2018 (at 10:00 am)

Close of Online applications: March 31, 2018

Tentative dates for interviews at Nodal institutions: May 15, 2018, onwards

Tentative date for announcement of results: June 1, 2018

Selection Process for PMRF 2018

Candidates who fulfil the eligibility criteria are required submit their details in the application form along with a project abstract of not more than 1000 words in a PDF format. The abstract should formulate a problem of study in the correct format with the name of the candidate on the top. The candidate is required to submit an original abstract in his/her own words. This abstract would be used to assess the applicants' analytical ability as well as research skills. Once shortlisted, the candidates would then have to appear in a GATE like single entrance test for the chosen domain followed by an interview.

Steps on how to apply as well as direct link to apply online for PMRF 2018

Candidates can start from tomorrow, February 24, 2018. The online application portal would be opened on pmrf.in from 10:00 am today and would be available until March 31, 2018. Candidates are required to fill the form, provide Aadhaar card details and other documents as may be asked in the application form. The direct link to the website is also provided here. Candidates can go through the details, the FAQs and other important information provided on the website. Fee payment can be done online. Steps on payment of fee and how to fill the forms are also provided on the official website.

IIT Madras to train would-be architects on optimum use of glass

<https://timesofindia.indiatimes.com/city/chennai/iit-madras-to-train-would-be-architects-on-optimum-use-of-glass/articleshow/63061080.cms>

Chennai: In a bid to promote efficient use of glass in the construction sector, IIT Madras will design the content for a new course offered by the National Programme on Technology Enhanced Learning (NPTEL) that aims to reach out to budding architects and civil engineers. Through the course, NPTEL is seeking to create awareness on judicious and appropriate use of glass which is crucial for energy efficiency in any building.

An MoU was signed between NPTEL, IIT Madras and Glass Academy Foundation, a non-profit organisation. The institute said the course is the first of its kind to be offered as an MOOC in an open learning mode in the country. Other IITs too will work alongside IIT Madras while providing content for the course.

Highlighting the importance of the initiative, Padma Shri awardee and chairman of Glass Academy advisory board C N Raghavendran said, “Traditional materials have been the subject of study and training for decades. However, modern day glass as a material in construction is yet to become a subject of study and training in academic institutions.”

With the support of IIT Madras, NPTEL said it aims to take the course to 1,600 colleges and educational institutions in the country. “The course will tap into a niche area, uncommon in academic circles, as in spite of advancements in the field, there are few, if any, formal academic courses that educate budding civil engineers and architects on efficient use of glass,” said NPTEL, which is funded by the MHRD and currently offers 227 courses with a learner enrolment base of over 9.8 lakh.

Andrew Thangaraj, NPTEL coordinator at IIT Madras, said collaboration with industry is the next step for NPTEL to help college graduates be prepared for the job market.

‘India has got talent, but we need to nurture it ’

<http://www.newindianexpress.com/cities/kochi/2018/feb/24/india-has-got-talent-but-we-need-to-nurture-it--1778020.html>

KOCHI: “What we need is innovative minds. India has got talent, but we need to nurture it. There is a need to re-look our education system. Now we are giving emphasis on numbers. We should have a system to review the quantity and quality of work,” says Goutam Chattopadhyay, a senior research scientist with the Jet Propulsion Laboratory of Nasa. Goutam, who arrived in Kochi to deliver a talk on the space explorations of Nasa at Cusat, shares his thoughts with Express about nurturing talents.



Goutam Chattopadhyay

What do you think lacks in our education system?

We should have an education system that encourages innovating thinking. Our policy makers have to think about it. China, for example, has invested so much in research. I think India has to give more

autonomy to its research institutes. Institutes like the IISc and IITs should have the liberty to make decisions. They should be provided freedom to set up research labs and concentrate more on innovative research. Compared to China, the number of research students coming from India is very low. We have to concentrate on the quality and quantity of research.

What should be done to promote research?

We have to think out of the box. In USA, a scientist like me accepts a student only after identifying a project proposal to work on, Whereas in India we first take students and then think about the project. We have to change our mindset. There should be more interdisciplinary coordination among research institutes. If one department does not talk to the other, how can they have innovative ideas.

You have been associated with the Mars Rover project of Nasa. How was your experience?

The question everyone asks is why do we go to Mars. For us at Nasa it is the search for intelligent life. I am associated with the Jet Propulsion Lab of Nasa. We develop robotic machines for Nasa. For generations we have been wondering whether there is life beyond our planet. So we have been searching for probability of life out there. Mars is very similar to earth and we are trying to find out whether there is presence of methane and water, the signature of life, in Mars. We have found that water existed in Mars. Mars Rover Curiosity has provided much information about Mars, but we have to explore other areas of the planet. The Mars 2020 mission addresses high-priority science goals, including key questions about the potential for life on Mars. The mission will take the next step by seeking signs of habitable conditions and searching for signs of past microbial life.

How do you see India's Mangalyaan and Chandrayaan missions?

It is a proud and hopeful achievement. It is not a small thing that ISRO has achieved the feat in the first attempt itself. Such endeavours can inspire a generation of students with scientific temper. I think Government of India should spend more money on space research.

What about the contributions of Indians to Nasa's space programmes?

Around one third of the researchers at Nasa are Asians and Indians have contributed enormously to Nasa's space endeavours. It is a dream for everyone interested in space science to work with Nasa. There is no dearth of talent and if you have talent you will be hired.

How do you see the talent pool at Cusat?

I came to Cusat to interact with the researchers and professors here as part of Erudite, the scholars-in-residence programme. One of the jobs of Nasa is to spot talent. We spread the word and inspire the next generation to develop innovative ideas. Cusat has talent and we need to nurture it.

18 years with Nasa

Goutam Chattopadhyay, a native of Kolkata, completed his engineering degree in Electronics & Telecommunication at BE College, Shibpur. He had even cracked IIT entrance exam but could not study since his family could not afford it. From BE College, he went to Tata Institute of Fundamental Research in 1987. In 1992, he went to the US to pursue higher studies, doing his masters at the University of Virginia and then Ph.D at California Institute of Technology (Caltech). On completion of the Ph.D in 1999, he was selected by Nasa.

February 23

India Steps Up Its 5G Efforts

<http://www.lightreading.com/mobile/5g/india-steps-up-its-5g-efforts-/d/d-id/740821>

India's government is making a serious effort to have an impact in 5G, the next-generation mobile technology in which operators are starting to invest.

It aims to launch 5G by 2020 and in its recent annual budget allocated 5 billion Indian rupees (\$77 million) to 5G development. Some of those funds will go toward a mammoth research project involving around 200 researchers, students and teachers from the five Indian Institutes of Technology (IIT).

As part of the research, authorities will set up a 5G test bed to support telcos and startups with the development of 5G products and solutions. The IITs at Chennai, Mumbai, Delhi, Hyderabad and Kanpur will work alongside the Indian Institute of Science in Bangalore on this test bed.

But that is not the only initiative. India's Finance Minister recently announced that the Department of Telecommunication (DoT) will set up a development center to work on 5G technology in partnership with IIT Chennai.

IIT Delhi has also recently signed a 5G Memorandum of Understanding with Swedish equipment vendor Ericsson AB (Nasdaq: ERIC). As part of this "5G for India" program, Ericsson will set up a Center of Excellence, with a 5G test bed and incubation center, at the institute. IIT Delhi will also carry out research into addressing some of the country's unique challenges with 5G technology.

All of this comes in advance of planned spectrum auctions later this year. It also follows progress on the standardization of 5G new radio technology in late 2017.

But it marks a radical step for India, which has not traditionally played a role in the development of new technologies. With their rock-bottom tariffs, operators have been wary of investing in technology R&D.

What is generally accepted, however, is that a lot of 5G innovation is happening in the Asia-Pacific region, with China and South Korea playing key roles in this development. India is now worried about missing out, and some of its telcos are trying to become more proactive. Reliance Jio, perhaps the most innovative of the country's operators, recently organized an open source event, India Digital Open Summit that tried to come up with India-specific innovations.

Even so, India's government will have its work cut out to make its presence felt in 5G. The sum of \$77 million pales in comparison with the \$800 million that China's Huawei Technologies Co. Ltd. will spend on 5G R&D this year. South Korea's government, meanwhile, is already testing 5G in the 23MHz spectrum band, and will run a pilot in April this year. It also plans to hold a 5G spectrum auction in 2018. India's best hope may be that technology pioneers elsewhere take into account the particular needs of the Indian market.

U of T signs agreement with IIT Bombay during Canada's trade mission to India

<https://www.utoronto.ca/news/u-t-signs-agreement-iit-bombay-during-canada-s-trade-mission-india>



Welcome hoardings were installed by Punjab government in Amritsar, India, for Prime Minister Justin Trudeau's visit.

Siddharth Gautam is in the business of forging connections between people – so it's fitting that he landed a spot on Prime Minister Justin Trudeau's trade mission to India.

The trip has led to \$1 billion in investment deals that Trudeau announced this week, and for Gautam, it's been an opportunity for his U of T startup Weedoo, a platform that connects entrepreneurs with experts, to get a boost in the world's second most populous country.

"U of T – and Canada in general – has emerged as a leader in developing cutting-edge technologies," says Gautam, who graduated last year from U of T. "And India has the population to use those technologies, so even getting a small section of the market converts into huge business for startups.

"That's why we are aiming to launch Weedoo in India almost at the same time as Canada."

Helping U of T entrepreneurs find new markets in India by developing their networks there is among one of many priorities behind an educational partnership signed Tuesday between the University of Toronto and the Indian Institute of Technology Bombay (IITB). The partnership is among the 66 initiatives unveiled during the trade mission to India, and it hopes to create a bridge between students and researchers in both countries.

The agreement between U of T and IIT Bombay aims to increase opportunities for the exchange of students, faculty and researchers between India and Canada. It also hopes to promote the sharing of sound city-building practices in both India and Canada, as well as train the next generation of Indian faculty – in essence, helping to build the country's academic capacity.

"It's a brain chain, not a brain drain," says Professor Christopher Yip, U of T's associate vice-president of international partnerships. "This is really an opportunity for both institutions to interchange students, interchange researchers, work on complementary projects and really expose the trainees and the faculty to each others' institutions, expertise and opportunities.

For U of T startups like Gautam's Weedoo, the partnership will allow "exposure of Canadian innovation to the Indian space, and India innovation into the Canadian space," Yip adds.

The partnership builds on U of T's ongoing work with India's Smart Cities initiative. The effort by Prime Minister Narendra Modi calls for a major urban renewal and retrofitting program for 100 Indian cities to make them more sustainable through technology-based "smart solutions" for everything from transit to housing. U of T researchers have been collaborating on various Smart Cities projects, including helping India build earthquake-resistant buildings, developing smart buildings with sensors to help with energy consumption, and working directly with the city of Pune – one of the first to be named to the Smart Cities initiative.

"I'm very happy to see U of T collaborating with institutions like IIT Bombay," says Dinesh Bhatia, the consul general of India in Toronto, pointing to U of T's Smart Cities work in India. "It's very important that academic institutions collaborate with each other because that's where the minds lie, that's where the ideas lie, and the governments and the public generally benefit from these types of collaborations."

U of T officials expect the partnership with IIT Bombay will expand into different departments and fields.

As part of the India trade mission, U of T is also a member of a larger pan-Canadian Mitacs agreement. The federally funded program, which offers fellowships and semester-long research internships, has agreed to provide funding for up to 50 U of T students going to India, and the country sending 15 students here.

Most of the Mitacs students allocated for U of T will be working on Smart Cities projects for India, Yip says.

"The focus on Smart Cities is timely because of the challenges of big megacities," Yip adds. "India is going to have vast experience in big city development. Toronto is also a big city but has a completely different environment, different kind of weather, different population density, different kinds of transit systems, different kinds of challenges.

"So researchers will be looking at what can Torontonians learn by being there, and what can Indian folks learn by being in Toronto."



As for the trade mission, Gautam (pictured left with Science Minister Kirsty Duncan), was invited to participate after attending an event in Ottawa with his father, a director at the Canadian arm of industrial technology firm Grintex India. Gautam is also a Grintex employee.

Gautam says he's hoping Weedoo, co-founded with fellow alumnus Wayne Zhang, will ultimately play a key role in building a link between India and the Department of Computer Science Innovation Lab (DCSIL) – the U of T accelerator that helped launch the startup – via a series of “mentorship nights” in different cities.

“The plan is that Weedoo will not only be the tool used to register users for the event, but it will also run the mentor’s nights by matching mentors and mentees,” Gautam says.

Indore: Researchers develop nanoparticles capable of detecting humidity accurately

<http://www.freepressjournal.in/indore/indore-researchers-develop-nanoparticles-capable-of-detecting-humidity-accurately/1226297>



Indore: Researchers from Indian Institute of Technology Indore (IIT-I) have developed nanoparticles that can be used to measure humidity of a region accurately. According to a report published by Research Matters, the researchers developed shape-controlled cobalt ferrite (CoFe₂O₄) nanoparticles (NP) and tested its ability to sense the humidity of a region.

“Cobalt ferrite NPs emerged as suitable candidates for a number of technological applications like biosensors, gas sensors and magnetic recording media due to their inherent magnetic, electrical, and mechanical properties along with high chemical stability,” the research states.

Humidity denotes the amount of water vapour in atmosphere. Apart from affecting climate of a region by factors like dew, precipitation and fog, humidity in a region can also affect life. Humans and other animals which uses sweating as a means to control body temperature are affected as high humidity could reduce the amount of sweat produced, and thus affects our ability to effectively manage our body heat.

For their study, researchers including Yogendra Kumar, Alfa Sharma and Parasharam M Shirage used a solution method to produce the nanoparticles, which allowed greater control over the shape of the final product. By controlling the reaction time and amount of solvent, the researchers produced three types of NPs—spherical, cubic and hexagonal NPs for this study.

They then tested the humidity sensing ability of all three types over a broad humidity range of 8-97% at room temperature. A high resolution transmission electron microscope (HRTEM) was used to validate the morphology and size of the three types of NPs, with the size varying between 23.5 to 25 nanometers.

The results suggest the morphology of the NPs playing an important role in the sensing ability of the NPs, with the hexagonal cobalt ferrite NPs displaying the highest humidity sensitivity value and good response and recovery time, among the three shapes.

The team also provided a theoretical basis for the humidity sensing of cobalt ferrite using Freundlich adsorption isotherm model. According to the researchers “the morphology-dependent humidity sensing performance of cobalt ferrite NPs indicates that they are most suitable for room temperature-based next-generation high-performance humidity sensors”.

Axilor Ventures lands in IIT-M to fuel Chennai startups

<https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/axilor-ventures-lands-in-iit-m-to-fuel-chennai-startups/articleshow/63039377.cms>

CHENNAI: Early-stage seed fund Axilor Ventures, led by Infosys cofounders S Gopalakrishnan and SD Shibulal, expanded operations to Chennai, with a 65-seat facility for entrepreneurs at the IIT-Madras Research Park that incubates startups from the IIT campus.

The facility will be used to leverage the academic expertise from the institution in areas such as industrial tools based on Internet of Things and artificial intelligence applications in enterprise processes. Additionally, it would also serve as a centre for citybased earlystage startups looking to apply for and scale up with the fund’s seventh accelerator programme. It will primarily help startups funded by Axilor and those which are a part of the fund’s current accelerator programmes based out of Chennai and other cities that could take advantage of IIT-Madras’ expertise in deep-tech.

“Chennai is an apt location for Axilor’s first market expansion. Not only is it credited with some of the country’s best startups, but also education institutions, like IIT Madras,” Axilor chairman Gopalakrishnan said on Thursday. “Axilor’s launch in IIT-Madras strengthens our ties with the institution and we will continue to explore the potential of investing in startups coming out of there.”

Detect Technologies, which provides solutions and services for asset monitoring in the oil, gas and energy sectors; and MAXIML that works to improve efficiency and safety of industrial applications are some of Axilor’s investments in startups incubated at IIT-Madras.

“Within enterprise deep tech, we could be looking at speech technology, artificial and machine learning applications in enterprise processes, areas in computer imaging and computer vision, industrial IoT and electric vehicles,” said Asutosh Upadhyay, Axilor’s head of programmes.

On the reason behind choosing Chennai for its expansion, Axilor cofounder and CEO Ganapathy Venugopal said: “Five out of our 25- odd investments are from Chennai. We already work with a few startups here. We are working with a few other IITs and IIITs, but the Chennai relationship is the strongest and the ecosystem is also nascent.”

February 22

Sportech18 the Annual Sports Festival by IIT Delhi Is Set For the Finest Athletes to Fight for the Coveted Sportech Gold

<http://edtimes.in/2018/02/sportech-the-annual-sports-festival-by-iit-delhi-is-set-for-the-finest-athletes-to-fight-for-the-coveted-sportech-gold/>

It is almost time for the 16th edition of North India's largest collegiate fest, Sportech by IIT Delhi. The event that will take place over the course of 3 days from 23rd to 26th February 2018 takes immense pride in hosting the best athletes from across the country each year.

With this year's theme being 'Parakram-The Journey Within', it is going to be a power packed season as the team of Sportech calls upon you to recall your journey of becoming a sportsperson, to celebrate the hard work and effort you've put in over the years rather than the glory and the medals you have earned.

The team behind the event always strive for excellence and that is why they have been able to create a niche for themselves. Apart from just focussing on traditional sports, there will also be a plethora of varied informal events, Sportech weekenders, social initiatives and other interactive sessions.

All these reasons lead to an immense crowd of around 35,000 with around 45 colleges from across the country participating in the event. Sportsmen formed over 15 disciplines will battle it out for the coveted Sportech trophy at the excellent on-campus sports facilities of IIT Delhi including indoor badminton courts, table tennis courts, and the recently renovated squash courts.

With a long list of around twenty competitive events, covering sports like the track and field, cricket, tennis, basketball, aquatics, etc, the event has something for everyone.

The informal events are just as quirky, including but not limited to baseball, kho-kho, rock climbing, lan gaming etc. Sportech also has a glorious history of hosting celebrated celebrities like Bhaichung Bhutia, Mohammad Kaif, Mary Kom, Sushil Kumar and other distinguished athletes.

Sportech is the perfect stage set for the finest athletes, to fight it out for the coveted Sportech gold. The annual sports festival of IIT Delhi also promotes sports which do not receive their due credit and tries to spread a healthy sports culture.

With a wide range of social initiatives being implemented this year like "(S)He Can Be You", wheelchair basketball, etc, their aim is to use this amazing opportunity provided for the betterment of the society.

Apart from the core sporting events, there will also be a range of informal events for athletes to blow off steam after a strenuous day of competing. The team of Sportech will be organizing fantasy leagues, aeromodelling competitions, gaming arenas, interactive sessions with celebrities and lots more. The event welcomes everyone to be a part of this magical time and showcase your talent and skills.

IIT Indore develops nanoparticles capable of accurately detecting atmospheric humidity

<https://researchmatters.in/news/iit-indore-develops-nanoparticles-capable-accurately-detecting-atmospheric-humidity>



Researchers from Indian Institute of Technology Indore, Indore have developed shape controlled cobalt ferrite nanoparticles, which can be used to accurately measure the humidity of a region.

Humidity denotes the amount of water vapour in the atmosphere. Apart from affecting the climate of a region by affecting factors like dew, precipitation and fog, humidity in a region can also affect life. Humans and other animals which uses sweating as a means to control body temperature are affected as high humidity could reduce the amount of sweat produced, and thus affects our ability to effectively manage our body heat. South and Southeast Asia are among the most humid places, with many coastal areas in these regions recording the highest humidity values, due to their proximity to large bodies of water. Humidity in an area could also mean bad news to our electronic devices, leading to corrosion and other defects as a result of water vapour interacting with the electronics of a device. All these factors have led to a huge interest in accurate humidity sensors and humidity controllers.

In their latest research, scientist from IIT Indore developed shape controlled cobalt ferrite (CoFe₂O₄) nanoparticles (NP) and tested its ability to sense the humidity of a region. Cobalt ferrite NPs have emerged as suitable candidates for a number of technological applications like biosensors, gas sensors, magnetic recording media etc, due to their inherent magnetic, electrical, and mechanical properties along with high chemical stability.

For their study, the researchers used a solution method to produce the nanoparticles, which allowed greater control over the shape of the final product. By controlling the reaction time and amount of solvent, the researchers produced three types of NPs—spherical, cubic and hexagonal NPs for this study. They then tested the humidity sensing ability of all three types over a broad humidity range of 8-97% at room temperature. A high resolution transmission electron microscope (HRTEM) was used to validate the morphology and size of the three types of NPs, with the size varying between 23.5 to 25 nanometers.

The results suggest the morphology of the NPs playing an important role in the sensing ability of the NPs, with the hexagonal cobalt ferrite NPs displaying the highest humidity sensitivity value and good response and recovery time, among the three shapes. The team also provided a theoretical basis for the humidity sensing of cobalt ferrite using Freundlich adsorption isotherm model.

According to the researchers “the morphology-dependent humidity sensing performance of cobalt ferrite NPs indicates that they are most suitable for room temperature-based next-generation high-performance humidity sensors”

February 21

IIT Madras, GAVS Technologies to pursue joint research in Artificial Intelligence and Analytics

<https://techobserver.in/education/iit-madras-gavs-technologies-pursue-joint-research-artificial-intelligence-analytics>

This is aimed at enhancing the predictive analytics based Zero Incident Framework



Indian Institute of Technology, Madras and GAVS Technologies will pursue a joint research and innovation in Artificial Intelligence and Analytics, aimed at enhancing the predictive analytics based Zero Incident Frameworkplatform developed by GAVS, said a statement. For this, GAVS Technologies and IIT Madras have signed a MoU.

Under the MoU, they will conduct projects in the areas of smart machines and automation through collaborative innovation and research under the aegis of Robert Bosch Centre for Data Science and Artificial Intelligence (RBC-DSAI) at IIT Madras. They intend to work together to submit ideas for joint research in AI science and technology in IT infrastructure management.

The projects under this initiative will be jointly headed by two professors from IIT Madras - Prof. Nandan Sudarsanam, Department of Management Studies, Prof. Balaraman Ravindran, Department of Computer Science and Engineering and Balaji Uppili, Chief Delivery Officer, GAVS Technologies.

IIT-Bombay students come up with novel gift gesture to provide solar study lamps

<http://www.freepressjournal.in/mumbai/iit-bombay-students-come-up-with-novel-gift-gesture-to-provide-solar-study-lamps/1224282>

Mumbai: Students of Indian Institute of Technology-Bombay (IIT-B) have created an initiative to provide 70 lakh solar study lamps to remote villages in five states Assam, Bihar, Jharkhand, Odisha and Uttar Pradesh. Villagers including women and youth are being trained by IIT-B students to repair and create these lamps for continuous development.

These lamps work on solar energy apart from providing light can be used as charging device for electronic devices like mobile phones. Initially, over one lakh lamps were created by students along with the guidance from their faculty. The Ministry of New and Renewable Energy, Government of India, has sanctioned these lamps which aims to benefit over 70 lakh students.

Students, research associates and faculty have created an in-house unit called Solar Urja through Localisation for Sustainability (SOULS) at IIT-B. Sana Rahman, a research associate, said, "We aim to create devices which are local and affordable for the people. We want people to have access to the ordinary facilities at an economic rate so that the common man can afford it."

Students claimed they want to focus on localisation, affordability and sustainability through SOULS. Harshad Supal, a student said, "Solar energy is easily available and is a renewable source of energy. People think harnessing solar energy is expensive so we want to create devices which are cost effective and can last for a longer duration."

In order to make the villagers self reliant, students are conducting training sessions to educate villagers to create, manage and repair these devices on their own. "We cannot always cater to these remote villages personally so we are training villagers to manage these devices and create more on their own in simple methods," Supal added.

Apart from this initiative, students are also working on creating devices like checking haemoglobin without pricking or piercing for a blood sample, solar cooking, home lighting and water pumping which work on renewable sources of energy. A student said, "If we are provided necessary funding and support by the government we can create devices which can help develop the undeveloped and marginalised sections of society."

IIT Kanpur scientists look at techniques available to control diesel engine emissions

<https://researchmatters.in/news/iit-kanpur-scientists-look-techniques-available-control-diesel-engine-emissions>



Researchers from Indian Institute of Technology Kanpur, Kanpur have come up with a potential roadmap to control diesel engine pollution, by looking at the different techniques available to curb emissions from a diesel engine.

Diesel fuel is generally produced as a byproduct of crude oil. Other means of extraction are also available, providing biodiesel. Diesel engine, first introduced in the late 1800s, is a type of internal combustion engine that compresses air and the fuel together to power the engine. The combustion of air and diesel produces oxides of nitrogen and soot, which if inhaled could cause damage to internal organs, leading to cancer.

Technological advancement over the decades of its existence has also meant engines which are much more efficient at burning their fuel and lower emission of pollutants. However, small amounts of pollutants are still emitted, even today.

Researchers from IITK have looked at the various options available to control emissions, and categorized them under two baskets-- active control techniques and passive control techniques.

Active control techniques refers to methods which reduce the pollutants within the combustion chamber itself. These include include advancement in the combustion chamber design, use of smarter electronic fuel injection system, exhaust gas recirculation, high-pressure multi-fuel injection with precise injection timing, homogeneous charge compression ignition, etc. all of which restrict the formation of pollutants.

However, not all the pollutants are restricted from forming by just active control. To meet modern emission regulations, active control are teamed with passive control techniques. Passive control technique refers to after-treatment of the emissions to further reduce pollutants. These include after-treatment devices like diesel oxidation control, diesel particulate trap, NO_x absorber, selective catalytic reduction.

An efficient combination of both these control techniques leads to lower pollutant emissions. The present research provides a guidebook to all the methods, both active and passive, that are currently available to control emissions and could lead to diesel engines with ever lower emission rates.

IITKGP student wins award at Clean Energy Conference in Paris

<https://www.indiatoday.in/pti-feed/story/iitkgp-student-wins-award-at-clean-energy-conference-in-paris-1174293-2018-02-21>

Kolkata, Feb 21 (PTI) A fourth year undergraduate student of the IIT Kharagpur has won an award at an international conference on Clean and Green Energy in Paris, an IIT KGP statement said today. Ankur Mehta, a chemical engineering student, was awarded the Best (Oral) Presentation Certificate in the seventh edition of the three-day International Conference on Clean and Green Energy (ICCGE-2018) in Paris from February seven, it said. The ICCGE is a premier forum for leading global scientists and engineers to present their new theoretical, experimental and applied research projects on clean and green energy. While undergraduates do participate in this conference, it is rare for an undergraduate student to top the presentation category while competing with senior researchers and faculty, it said. Ankur was chosen the best speaker in the Energy and Power Engineering session after he presented his research paper. Ankur's B.Tech thesis project was on producing bio-ethanol from bamboo shavings. The session in which Ankur topped had representations from eight countries and the presenters ranged from undergraduate students to professors, the statement said. The substrate used to make bio-fuel is a non-edible lignocellulosic waste material which does not conflict with food sources, Ankur said He thanked his research supervisor Professor Saikat Chakraborty of the Department of Chemical Engineering for guiding him to work intensively on optimising the process of bio-fuel production. "Since bamboo shavings are abundantly available across the tropics, this process of converting them to second generation bio-fuel has a significant potential for commercialisation," Chakraborty said. Ankur has the option to publish his paper either in the IOP Conference Series: Earth and Environmental Science or the Journal of Clean Energy Technologies. Since the ICCGE conference is in the IITKGP's Best Conference list, Ankur's travel and registration expenses were funded by the institute, it said.

Scientists find new cancer treatment using nano particles

<http://www.livemint.com/Science/XTAYimOwV4g572BS8frBuO/Scientists-find-new-cancer-treatment-using-nano-particles.html>

Under the new mode of cancer treatment using nano particles, the anti-cancer drug will directly target tumour cells without harming the healthy cells of the body



The research trials for prostate cancer in mice have shown promising results.

New Delhi: Indian scientists have come up with an innovative mode of cancer treatment using nano particles, under which the anti-cancer drug will directly target tumour cells without harming the healthy cells of the body.

Scientists at the Department of Science and Technology have fabricated highly biocompatible porous polydimethylsiloxane (PDMS) nanoparticles as a versatile vehicle to deliver anti-cancer drugs to the nuclei of tumour cells without utilizing any intrinsic ligands (ions or molecules). The nucleus of any cell contains the majority of its genetic material.

Anti-cancer drugs can be delivered to the nuclei of cells either in a free drug form, or via nano-vehicles-based delivery systems. Targeting the drugs directly to the required cellular compartments like nuclei reduces their non-specific interactions with other cell components which can limit their efficiency and cause side effects, scientists said.

The research trials for prostate cancer in mice have shown promising results.

“We experimented with ligand-free, enhanced intra-nuclear delivery of Doxorubicin (Dox), an anti cancer drug, to different cancer cells via porous PDMS nano-particles. Dox was loaded into the pores of PDMS nano-particles. These Dox-loaded PDMS nano-particles showed enhanced cytotoxicity (the quality of being toxic to cancerous cells) in comparison to free Dox,” said Ashutosh Sharma, secretary, Department of Science and Technology. Sharma is also a part of the research team.

The research originally done at Indian Institute of Technology (IIT), Kanpur, showed that PDMS-Dox delivery system shows efficient and enhanced transportation of Dox to tumour cells which can be harnessed to develop advanced chemotherapy-based approaches to treat prostate and other cancers.

“Further, it was also found that DNA damage of the cancerous cells was more through nano particles in comparison to free Dox. The therapeutic efficiency of PDMS-Dox drug delivery system was tested in prostate cancer in mice which showed enhanced tumour reduction (66%) as compared to free Dox,” Sharma said.

The delivery of anti-cancer drugs directly to the nuclei of tumour cells can greatly enhance their therapeutic efficacy because the nucleus is the master regulator of numerous oncogenic hallmarks such as cell proliferation and apoptosis (the normal death of cells during growth).

In addition to these, the nucleus is also responsible for the transcriptional regulation of oncogenes (cancerous genes) or tumour suppressor genes. Tumour suppressor gene is the one that protects a cell from one step on the path to cancer. When this gene mutates to cause a loss or reduction in its function, the cell can progress to cancer, usually in combination with other genetic changes.

UGC forms four-member empowered expert committee

<https://www.indiatoday.in/pti-feed/story/ugc-forms-four-member-empowered-expert-committee-1174216-2018-02-20>

The University Grants Commission today constituted a four-member Empowered Expert Committee (EEC), which is being entrusted to conduct the appraisal of applications for shortlisting 20 Institutions of Eminence (IoE).

N Gopalaswami, former chief election commissioner of India is the chairperson of the committee.

The members of the committee are Tarun Khanna, Jorge Paulo Lemman, Professor at Harvard Business School; Pritam Singh, former director of IIM, Lucknow, and MDI, Gurugram; and Renu Khator, chancellor, University of Houston System.

The government is likely to announce the names of the selected institutions by April 2018.

The committee was constituted by the UGC after the approval of the central government, as per the UGC (Institutions of Eminence Deemed to be Universities) Regulation, 2017, and UGC (Declaration of Government Educational Institutions as Institutions of Eminence) Guidelines, 2017.

The government has received 103 applications from public and private higher education institutions.

The deadline for the applications has been extended to February 22. The previous deadline was December 31.

The IoE project for internationalisation of Indian campuses and creating world class universities was rolled out by the Ministry of Human Resource Development (MHRD) in September 2017.

By March-April 2018, 20 (10 each from public and private category) institutions will be accorded the status of Institutions of Eminence with a mandate to achieve world class status over a period of 10 years.

As per the guidelines issued by the UGC, those institutions in the top 50 of the National Institute Ranking Framework (NIRF) rankings or those who have secured ranking among top 500 of the Times Higher Education World University Rankings, QS University Rankings or Shanghai Ranking Academic Ranking of World Universities are eligible to apply.

The EEC shall conduct its appraisal based on the document submitted by the applicant as well as any other measure of demonstrated commitment to the cause of developing an Institution of Eminence.

The committee would engage with the institutions to study their proposals and rank the institutions for their suitability for inclusion in this scheme. The recommendation will then be placed before the UGC which will forward the same to the MHRD within 15 days. The ministry will then issue the orders on selection of institutions.

The institutions declared as Institutions of Eminence will be free from the usual regulatory mechanism to choose their path to become institutions of global repute with emphasis on multi-disciplinary initiatives, high quality research, global best practices and international collaborations.

Unlike the other institutions in the country, these institutions will have the liberty to enrol up to 30 per cent foreign students.

Moreover, selected public institutions will be able to recruit up to 25 per cent foreign faculty, while there will be no such limit for selected private institutions.

February 20

Now, a diagnostic lab in your phone

<http://www.thehindu.com/news/cities/Delhi/now-a-diagnostic-lab-in-your-phone/article22801686.ece>

Portable device can conduct dozens of tests with accuracy

A recent report by an IIT-Delhi professor has unveiled a portable device that can read dozens of diagnostic test strips with a 99.12% correlation as compared to lab-grade scanners.

Developed by a Bangalore-based medical diagnostic firm, Inito, the small and portable ₹3,000 device has achieved the performance of a ₹3 lakh bulky lab reader.

“The device allows access to diagnostic labs right in people’s home. Smartphone ownership in India is growing rapidly and now anyone with a smartphone can monitor their body in a few simple steps,” said Dr. Satish Dubey, Instrument Design Centre, IIT-Delhi.

Mr. Dubey’s report states that the device uses a patent-pending imaging technology called ‘flat lens’, which allows the device, paired with a smartphone, to conduct dozens of diagnostic tests.

The first test that Inito has launched is a Fertility Monitor, targeted at couples trying to have a baby. Tests to check diabetes, thyroid and vitamin D level will soon be added to the device.

Varun A.V., co-founder of Inito, said: “Reliability is one of the most important attributes of a medical device. Achieving the performance of strip readers that are 100 times more expensive and 10x bulkier in a small and portable form factor like Inito is a proof of the cutting-edge technology that Inito has built.” The device, priced at ₹3,195, is currently available online and will be sold from pharmacies soon.

Baby steps towards a landfill-free Delhi

<https://timesofindia.indiatimes.com/city/delhi/baby-steps-towards-a-landfill-free-delhi/articleshow/62989223.cms>



NEW DELHI: As the problem of waste management spirals out of control, the three corporations have help at hand in the form of experts from IIT-Delhi who will guide them on flattening of slopes at the existing landfill sites and extracting methane gas from garbage. Three landfill sites — Ghazipur

(east Delhi), Bhalswa (north) and Okhla (south) — were declared exhausted a long time ago, but the corporations continue to dump garbage there for want of alternative locations.

Delhi generates about 9,000MT of waste on a daily basis. With no segregation taking place at source, garbage dumped at the landfill sites releases excessive methane, leading to frequent fires, which, in turn, add to air pollution in the capital.



In September last year, two people had died after a large part of the Ghazipur landfill — which should have been closed 15 years ago — collapsed, sweeping several people on a road nearby into a canal. After the incident, lieutenant governor Anil Bajjal directed the corporations to ensure that waste was not dumped at the already exhausted sites. However, civic officials insisted that developing new engineered landfill sites would take anywhere between six and 12 months.

While north and south corporations have earmarked locations for this purpose, EDMC is yet to make much progress in this regard. Experts from IIT-Delhi will now help EDMC devise ways to flatten the side-slopes of the Ghazipur site to ensure that another landslide doesn't happen.

“According to the agreement, a group of experts from IIT-Delhi will advise us on the stability analysis of the Ghazipur landfill waste slope parallel to the canal. A remedial agency will be hired to provide conceptual designs for developing the slopes,” a senior EDMC official said. While the analysis would take about 12 weeks to complete, the slopes would be developed within 4-6 months, the official said. EDMC also plans to rope in a private agency to help convert solid waste into thermal and power energy.

North corporation, on the other hand, has earmarked a 12-acre site near Bhalswa to develop an engineered landfill site, which will have a dedicated waste-to-energy plant. South corporation, too, has allotted a 50-acre site at Tekhand for the purpose. An SDMC official said: “The engineered landfill sites will have a dedicated waste-to-energy plant for processing the waste, and the residue will be dumped at the landfill. These plants will have a processing efficiency of up to 95%, which will help do away with the concept of landfill sites in the future.”

The existing waste-to-energy plants at Ghazipur and Okhla have a capacity to process 1,300 MT of waste each where as the one at Narela-Bawana can process 2,000 MT.

Now anti-smog gun for PWD roads in Delhi: Innovation or eyewash?

<https://www.hindustantimes.com/delhi-news/now-anti-smog-gun-for-pwd-roads-in-delhi-innovation-or-eyewash/story-dr5DlvwX4ILTPVAE6zS9XO.html>

When the machine was used last time in December, the Central Pollution Control Board had given an adverse report about it.



The anti-smog gun was flagged by Delhi environment minister Imran Hussain on Monday.

As the Delhi government on Monday announced the deployment of an 'anti-smog' gun for major city roads, experts have already started raising questions about the effectiveness and timing of the exercise.

The device sprays atomised water (tiny droplets of water) up to a height of 50 metres, creating an artificial mist, which is expected to stick to air-borne pollutants and bring them down to the ground.

However, when one such device was tested at Anand Vihar in December, near a pollution monitoring station, it had little impact on air quality readings.

"The use of this anti-smog gun is expected to suppress air-borne particles and dust on road surface. It will operate on the PWD-maintained roads during non-peak hours, and its results or impact on reduction in air pollution will decide the future course of this campaign," said Delhi environment minister Imran Hussain, who flagged off the device at Delhi secretariat on Monday.

When the machine was used last time in December, the Central Pollution Control Board (CPCB) had given an adverse report about it. The pollution levels, instead of dipping, had spiked drastically even as gallons of water were sprayed throughout the day.

“This is a cosmetic measure. It won’t help much. When it was done in Anand Vihar, there was little-to-no impact. How much area or air this machine can impact is a serious question,” said Dipankar Saha, former air laboratory chief of the CPCB.

Anti-smog guns are usually used to control pollution in a small place such as a stadium. They can also be used in coal mines, cement factories and thermal power plants to control dust pollution. However, they are usually not considered suitable to bring down pollution levels in metropolises like Delhi which has multiple sources of pollution that contribute throughout the day, experts said.

The timing of this “experiment” is also under scanner as February is supposed to be one of the cleanest months of the year in Delhi.

“This can be one of the emergency measures when air quality reaches ‘severe plus’ levels. But we are putting it in place in one of the clean months. The focus should be measures on the ground like stopping garbage burning, controlling road and construction dust, and decongesting busy traffic points,” Saha said.

The Delhi environment minister on Monday also said that the government is exploring various ways for the reduction of air pollution in the Capital.

“The use of anti-smog gun is one of such steps to assess its impact in reducing air pollution. The Delhi government will undertake trial of many more new technologies in its fight against pollution in the National Capital,” Hussain said.

Earlier, on Friday, the government installed an “anti-pollution tower” under the Indraprastha Marg flyover, near ITO. This tower is fitted with exhaust fans to suck in polluted air. A machine inside the tower then removes nearly 90% of the particulate matter, helping to bring down pollution levels and spews fresh air out. If this pilot project is successful, more such machines would be installed.

Experts say such purifiers are known to work indoors and in a city like Delhi, where pollution levels are high, weather dynamic and sources of pollution multiple, these won’t achieve the desired results.

Dilip Ganguly, assistant professor at Centre for Atmospheric Sciences in IIT-Delhi, said these measures are just eyewash. “There needs to be serious measures. We need to focus on larger sources like vehicular pollution and waste burning. These (anti-pollution tower and anti smog gun) won’t work in Delhi. These are not efficient measures which can help the pollution situation,” he said.

Bhopal: Scholars to brainstorm on how to measure happiness

<http://www.freepressjournal.in/bhopal/bhopal-scholars-to-brainstorm-on-how-to-measure-happiness/1224384>

Bhopal: How to measure how happy a person is? What makes one happy? These and other weighty and abstract questions would be the subject-matter of a two-day workshop to be held in the capital on February 22-23. Specialists from all over the world have been invited at the meet, which will dwell on developing a happiness index for state government. The participants would also be given a presentation on the activities of Anand Department.

The specialists would be asked to suggest the criterion to be used for measuring happiness. The criterion on which there is unanimity or near-unanimity will then be used to craft the happiness index.

The workshop will also discuss the modalities of introducing a course on happiness in educational institutions. What more can be done to make the people of the state happy (or happier) would also be on the agenda of the meet. Nine specialists from abroad and 15 from other states of the country have been invited at the meet. Besides, activists working in this field in the state will also take part in the event.

The foreign invitees include Prof Raj Raghunathan, McCombs School of Business, University of Texas, Austin, USA; Dr David Jones, managing director, Talent Enterprise, Dubai, UAS, Radhika Punshi, director of Innovations and Solutions, Talent Enterprise, Dubai, UAS, Dr Heidi Karst, post-doctoral researcher, University of Waterloo, Canada, Prateep Nyak, Professor, University of Waterloo, Canada, Tshoki and Karma Wangdi from the Centre for Bhutan Studies and GNH Research, Bhutan, Satinder Singh Rekhi from USA, Dr Saeemdu Chetri among others.

The Indian specialists who will be joining the discussion include Prof R.C. Tripathi, head, psychology department, University of Allahabad, Prof Purnima Singh, professor of psychology, HSS, IIT, Delhi, Dr Kamlesh Singh, professor, HSS, IIT, Delhi, Prof Girishvar Mishra, MGAHV, Wardha, Prof Janak Pandey, Allahabad University, Prof Vijay Kumar Shotriya, University of Delhi, Ganesh Bagadia, IIT, Kanpur, Puspphant, AOL, Bengaluru, Marina Walter, UNDP, New Delhi, Sidharth Singh and Sudhir Goghate, IOFC, Panchgani, Preeti Mehta, Isha Foundation, Mumbai, Vishwapati Trivedi, retired IAS officer, New Delhi, Rahul Asthana, Kanpur and Prof Raj Sekharan Pillai, former V-C, IGNOU, Udaipur.

February 19

Indian American philanthropists Romesh and Sunil Wadhvani set up artificial intelligence center in Mumbai

<https://www.americanbazaaronline.com/2018/02/19/indian-american-philanthropists-romesh-and-sunil-wadhvani-set-up-artificial-intelligence-center-in-mumbai-432566/>



Prime Minister, Shri Narendra Modi at the inauguration of the Wadhvani Institute for Artificial Intelligence, in Mumbai, Maharashtra.

Supported by the Maharashtra government, the institute is the first of its kind in India.

Indian Prime Minister Narendra Modi on Sunday inaugurated the Wadhvani Institute for Artificial Intelligence on the Kalina campus of the Mumbai University.

The Wadhvani Institute for Artificial Intelligence, a nonprofit independent research institute that aims at developing AI technologies for social gain, will help improve productivity and lead to equitable development, said Modi during his speech.

Founded by Indian American tech entrepreneurs Romesh and Sunil Wadhvani, the institute will work in domains of societal importance, including agriculture, health, education and infrastructure.

“With each wave of new technology, new opportunities arise,” said Modi. “It opens an entirely new paradigm of opportunities. New opportunities have always outnumbered old ones.”

“This optimism spells from my firm faith in the ancient Indian thinking that blended science and spirituality and found harmony between the two for the greater good of mankind,” he added.

The institute is the first of its kind in India that focuses on further developments in artificial intelligence and is supported by the state government of Maharashtra.

The institute will have 10 data scientists from across the world in the initial stage.

The mission of the institute is to be a hub for collaborations between AI scientists from top global institutions, social-impact organizations, and governments by creating and curating high-quality open-access datasets to foster innovation.

The research team at the Wadhvani Institute is collaborating with MIT, Stanford, University of Southern California, NYU, University of Washington, CMU, Alan Turing Institute, IIT Bombay, IIT Madras and IIT Delhi, among other institutions.

In addition to providing space for the institute, the Government of Maharashtra has also offered to provide a test bed for piloting our projects.

“The institute will develop AI-based solutions to serve the bottom 20% of society. Unique initiative!” tweeted CEO of Niti Aayog Amitabh Kant.

February 18

Toyota organises safety awareness program at IIT Delhi

<https://www.siasat.com/news/toyota-organises-safety-awareness-program-iit-delhi-1320306/>

New Delhi [India]: The Indian counterpart of Toyota Kirloskar Motor launched a safety awareness program at Indian Institute of Delhi on Saturday.

It was aimed at improving the road safety crisis in the country by inculcating safe road behavior in children and youth.

The event was conducted in association of Delhi Traffic Police and IL&FS Education and Technology Services Limited as part of the Toyota Safety Education Program.

The program was attended by over 250 school kids from Delhi, Mumbai and Bangalore.

The safety awareness program was further supported by World Health Organization (WHO), National Council of Educational Research and Training (NCERT), Delhi Traffic Police, hospitals and non-government organisations.

A series of events were held including Quiz rounds, skit competitions and demonstrations dedicated to the theme of road safety.

Vice president of Toyota Kirloskar Motor Naveen highlighted the need of road safety programs with respect to the high rate of road accidents in India.

He said, "India loses about 3% GDP each year due to road mishaps. Beyond losing valuable lives, the social and economic impact caused by every road accident is sizeable to affect our country's productivity"

He further added that, "we at Toyota, safety dominates our mission in the country, and we have been zealously implementing interventions to improve the road safety profile of our country since 2005".

The Toyota Safety Education Program was conducted on the basis of the feedback received from various schools. It focused on sustainability and bringing attitudinal change among the school children.

IIT-M in process of creating India-specific cancer genome database

<http://www.thehindu.com/sci-tech/health/iit-m-in-process-of-creating-india-specific-cancer-genome-database/article22789183.ece>

IIT-Madras is in the process of creating an India-specific cancer genome database aimed at early detection and development of better treatment strategy for the disease.

The National Cancer Tissue Biobank (NCTB), a first of its kind community-based initiative in the country, is collecting cancer tissues from Indian patients "to generate a cancer genome database which was not available so far."

Prof S. Mahalingam, the faculty-in-charge of NCTB, said different types of cancer tissues were being collected for this purpose.

"This [collection of samples] is critical for identifying the specific changes happening in our own population to develop the diagnostic kit for early detection [of cancer] and this will help us to design a better treatment strategy," he told PTI.

Prof Mahalingam, from the Department of Biotechnology at IIT-M, said creation of such a genome database would also help in developing a specific drug for India's population.

For instance, the available medication for cancer treatment was "based on the western [countries'] population" and developed for them though these were being used in India too, he said.

While there was an 80-90% success rate of these medication in treating cancer in the western countries, it was less than 50% in India, Prof. Mahalingam said.

Creation of such a pool with samples of different types of cancer and their study would give an indication on what is going on in the community regarding the disease. There could be differences in the way two persons affected with the same type of cancer respond to the treatment, he said.

Tissue samples are collected from medical and education institutes the NCTB has tied up with and only the “unused” ones of a patient are brought to the bio bank for further research, Prof. Mahalingam said.

The samples, ranging from breast cancer and oral cancer to gastro-intestinal cancer, are taken after prior consent from the patients and their families and strict confidentiality is maintained, he said.

Till now, the NCTB has samples collected from over 1,800 patients and it has tied up with nine medical and educational institutes in Chennai and Puducherry for this purpose, he said, adding efforts are on to expand this association.

Further, any cancer researcher in the country can get tissue from this bio-bank “through proper channels,” Prof. Mahalingam said.

“They need to have an ethical clearance from their host institutions. We also have an ethics committee, monitoring committee. Any Indian researcher can approach us,” he said.

February 17

IIT-Delhi sets up centre to solve pollution problem

<http://indianexpress.com/article/education/iit-delhi-sets-up-centre-to-solve-pollution-problem-5067180/>

The centre will provide a platform to IIT-Delhi faculty to undertake multidisciplinary research projects, focused on studying and resolving air issues in Delhi-NCR. It was inaugurated on Friday by L-G Anil Baijal

To provide sustainable solutions to problems of air pollution in Delhi-NCR, Indian Institute of Technology (IIT) Delhi has established a Centre of Excellence for Research on Clean Air (CERCA). According to officials, CERCA has been established for the purpose of undertaking research on air pollution — one of the biggest problems in the city.

The centre will provide a platform to IIT-Delhi faculty to undertake multidisciplinary research projects, focused on studying and resolving air issues in Delhi-NCR. It was inaugurated on Friday by L-G Anil Baijal. It was set up with the help of Arun Duggal, an alumnus, who agreed to extend financial assistance for research programmes of CERCA.

“Aimed at enhancing public understanding and participation in promoting clean air initiatives, the Centre will help spruce collaborations with the industry on clean air equipment and emission reduction initiatives,” said a statement from the institute. Initial research activities will focus on assessment and prediction of air quality using data from numerical models.

IIT, AIIMS audits find more than fly in the soup

<https://timesofindia.indiatimes.com/city/delhi/iit-aiims-audits-find-more-than-fly-in-the-soup/articleshow/62953631.cms>



NEW DELHI: A Food Safety and Standards Authority of India (FSSAI) third-party food safety audit of campus kitchens at 12 top Central institutions of higher education has found that providing good food to the best brains in the country isn't a priority for most institutions. A majority of the institutions have failed to clear the food safety audit. Common problems, especially for those ranked lower in the audit, include cleaned utensils retaining food residue, rodent droppings around the kitchens, reheating of food several times, kitchen staff wearing shoes in the kitchen that are meant for the outside, choked bathrooms and overflowing sinks where utensils are cleaned.

FSSAI conducted the audits according to their draft food safety and standards (food safety auditing) regulations of 2017 for IIM Ahmedabad; Indian Institute of Science, Bangalore; All India Institutes of Medical Sciences, Delhi; IIT Mumbai; IIT Guwahati; IIM Kozhikode; IIT Delhi; Indian Institute of Science Education and Research (IISER), Kolkata; IIT Chennai; AIIMS Jodhpur; IIT Roorkee; and IIT Kanpur.

At each institution, all kitchens and canteens were audited. Only most of IIM Ahmedabad's and IIT Roorkee's campus kitchens managed to pass the audit. The rest failed.

The auditors assessed the canteens, hostel kitchens, guesthouse kitchens and cafeterias on six parameters — design and facilities, which checks how the cooking area is maintained and whether they have safe food-grade cooking utensils and equipment; control of operations, or how food is actually prepared; maintenance and sanitation; personal hygiene; training and record keeping; and other comments, if any. The maximum score possible was 114, a score less than 77 was considered "non-compliant".

FSSAI officials told TOI they are at present writing to all 12 institutions with detailed audit reports and grades and asking them to conform to norms as soon as possible. A summary of the audit results accessed by TOI shows even institutions with relatively better grades were re-using vegetable oil, fungal or mould growth was found in vegetable storage areas, and the dough machines were rusted. "Personal hygiene is a major issue in nearly all kitchens," said an official. A premier medical education institute with one of the lowest scores was found to have shoes stored in the kitchen raw material storage area and an overflowing bathroom meant for kitchen staff.

At the other institutions the gaps include food storage areas used by kitchen staff as changing rooms, cockroach and other pest infestations, food and raw materials stored on the floor, drains not netted to prevent rat infestation, no cleaning and sanitation records, and stagnant water near the utensil-cleaning area. Many, it was found, were not FSSAI licensees either.

When contacted about the audit results, FSSAI CEO Pawan Kumar Agarwal said, “The idea is not to name and shame these institutions. We are still communicating the results to them. But they will have to meet the norms. The positive news is that some are coming forward to improve their kitchens.”

Last year, a student found a dead rat in his south Indian thali at an IIT Delhi hostel. In Indore, recently, 15 students of a private engineering college fell ill after allegedly eating food contaminated by a dead lizard.