# Newspaper Clips
## April 8 & 10, 2017

## April 10

## Significant traces of lead in ambient air samples: IIT study
http://indianexpress.com/article/cities/delhi/significant-traces-of-lead-in-ambient-air-samples-iit-study-4606918/

The samples were collected on National Highway 2 to see how much traffic coming in from outside Delhi contributes to the formation of particulate matter.

The site was set up to monitor PM2.5 levels and characterise the components to determine concentrations of elements.

Significant traces of lead was found in ambient air samples near a kerbside monitoring site set up on Mathura Road by researchers from the IIT-Delhi.

Though leaded petrol has been phased out in the capital for nearly a decade now, lead concentration was observed to be quite high in samples taken over two phases in 2014 and 2015. The study was conducted by IIT-Delhi, University of Birmingham and Desert Research Institute, USA, and was funded by UKIERI, British Council.

The site was set up to monitor PM2.5 levels and characterise the components to determine concentrations of elements.

“Fine PM concentration is of main concern since these particles can enter the respiratory system and get deposited in the lungs. They affect both respiratory and cardio-vascular systems… and can cause mortality and morbidity,” the report states.

“Since unleaded petrol is in use at the moment, we expected to find very little traces. Initially, we attributed the high concentration of lead to batteries that might have been disposed nearby but this was not the case,” said Isha Khanna, a researcher, who is currently pursuing a PhD in environmental studies at IIT-Delhi. “Lead has a high residual time and takes a while to decompose,” she said. Studies have shown that presence of lead in the human body can lead to toxic effects.

The IIT-Delhi’s September 2016 technical report ‘Receptor Modelling of Fine Air Pollutants’ also found several other alarming elements such as copper, zinc, cadmium and arsenic.

“This was a location-specific study and it’s unique in that PM2.5 categorisation was not available in the Delhi-NCR area, In fact, it’s available in very few places in India so this served as an in-depth categorisation of PM2.5,” said Mukesh Khare, professor of environmental engineering in IIT-Delhi, who lead the research team in India. “The findings are significant for

mitigation policy but since this was a two-season data collection, more sampling in other areas should be conducted," he said.

The samples were collected on National Highway 2 to see how much traffic coming in from outside Delhi contributes to the formation of particulate matter. The team used two sets of filters: teflon filters to capture traces of metals and irons and quartz filters to capture organic material.

The study was designed to fill the gap on the contributions of different sources to the concentrations measured. Such information is currently insufficient for India, Khare noted.

## 40 Percent of Faculty Members are Vacant in IITs, Central Universities

https://techfactslive.com/40-percent-faculty-members-vacant-in-iits-central-universities/25245/

Union HRD Minister (Human Resource Development) **Prakash Javadekar** announced that there are **40 percent** vacancies of faculty members in both Central Universities and IITs. He said that the recruitment process needs to be done to bring out the qualified faculty members.

"We too can offer world class conveniences and infrastructure to the students here, but there are limitations. We do not have faculties. There are 40% vacant posts in the Central Universities and IITs," the minister said.

He also added that "I have asked IIT councils to go abroad and contact our research students, who have gone there to seek further research and they too are ready to come back and serve the country."

According to the reports, all the research students are ready to come back, but the only problem is that the conducting of recruitment process which is troublesome in **IITs and Central Universities.** But to bring highly qualified faculties the government needs to focus more on the recruitment process.

Talking about establishing **20-World Class Universities**, Prakash Javadekar said, "We will not give them the title of world class. They will have to earn it with the kind of roadmap they plan to become the world class universities. The category of 10 private and ten public sector institutes will be issued soon."

"We will improve our quality for our students and with that improved education, we will also bring other students froma all over the world," Javadekar added. The UGC Chairman **Prof. Ved Prakash**, NAAC Director **Prof. D.S Chauhan**, Symbiosis International University Chancellor **Dr Divya Yeravdekar** and others were present for the meeting.

## Universities in India need more basic amenities, not just rankings

http://www.hindustantimes.com/editorials/universities-in-india-need-more-basic-amenities-not-just-rankings/story-E4Nt8UjsnvjjoxQ2m8H87K.html

Outside the main metros, institutes of higher education have barely any facilities. It would be more useful to invest in infrastructure than in a rankings system.

Outside the main metros, institutes of higher education have barely any facilities. More investment in educational infrastructure is the need of the hour.

Six out of the top ten colleges in the recently released National Institutional Ranking Framework (NIRF) of the Ministry of Human Resource Development (MHRD), are in Delhi. Of the other four, one is in Kolkata, two in Chennai and one in Tiruchirapalli. This skewed distribution of places of quality higher education in the country should be cause for alarm.

If centres for academic excellence exist only in Delhi and one or two other cities, this means that students in the rest of the country can only hope to get a second-rate education in universities and colleges. Investment in infrastructure and pedagogy is mostly centred around this handful of institutes. Even prestigious universities such as Osmania University, which celebrates its centenary this year, barely have any amenities to speak of. As recent news reports have shown, students in Osmania University's hostels don't even have mattresses on their iron cots, and have apparently been using banners and polythene covers as bedsheets. Science labs, outside of the elite colleges and IITs, have terrible infrastructure and barely any safety equipment. In smaller universities, even the bare essentials for labs are hard to come by. In such a scenario, the Union HRD minister Prakash Javadekar has said that educational institutions performing well in the annual ranking will be awarded with more funding, enhanced autonomy and various other benefits.

This could create a vicious circle,in which those who have the infrastructure do well, and get more funding; and those who don't have any facilities continue to do badly, and yet receive no financial help. This approach will only strengthen those institutes that already have the best benefits (such as they are) available to them. What is required is not a government-funded ranking system, but more government investment in education and allied infrastructure; and more attention to smaller, state-funded universities. Bodies such as the UGC need to make sure that non-top-rung universities in the country too have the basic necessities to ensure that students can get a decent shot at higher education. As more and more private universities, some of them with questionable credentials come up, government universities and colleges have a responsibility to provide affordable, good quality educational opportunities to everyone, especially to those living outside prominent metros.

## In Mumbai: Now, a robot that can deliver medicines to patients

http://www.hindustantimes.com/mumbai-news/in-mumbai-now-a-robot-that-can-deliver-medicines-to-patients/story-FhvUXOUUwuvZbBfECFvzXN.html

We are all familiar with vending machines. From automatic ticket vending machines at railway stations, to coffee vending machines in offices, all of them reduce our dependence on others and save time. Now, a team of engineering students from Fr Conceicao Rodrigues College of Engineering (CRCE) in Bandra have made a robotic vending machine that dispenses medicines in hospitals.

Medibot, as the device is called, is fed with medicines and it moves from one hospital bed to the next. The patients are provided with radio-frequency identification (RFID) tags — similar to the plastic tokens of Mumbai Metro — that have the data about the quantity of medicines the patient has been prescribed.

As soon as the patient scans his tag on the RFID reader on the robot, it dispenses the medicines.

Medibot was declared as the 'most innovative solution' at an annual national level embedded systems and robotics competition held by Indian Institute of Technology, Bombay (IIT-B) on Saturday. The competition, known as 'eYantra Ideas Competition' is part of an IIT-B initiative to train engineering students in embedded systems — the electronics at the heart of modern machines — to help provide practical solutions for real world problems.

Under eYantra, several colleges in India are providing practical knowledge of embedded systems and robotics at dedicated laboratories. The students, including many from the city, are using this knowledge to come up with innovative projects.

For example, a group of students from Vivekanand Education Society's Institute of Technology have developed a kiosk that can provide assistance to travellers at airports in their mother tongue. The traveller just has to ask a question in a microphone like 'flights to Dubai' or 'where is the washroom' and the screen displays the necessary information. The kiosk uses 3D maps to make it more convenient for travellers to find their way around the airport.

"The entire communication system at airports is in English. As a result, many people, who don't understand the language, often get lost . Our kiosk serves as a communication companion and makes people self-reliant," said Gresha Bhatia, a professor who guided the students.

Similarly, another team of students from Ramrao Adik Institute of Technology designed a robot that can find its way around the obstacles. The pre-programmed machine is capable of sensing an obstacle and finding the nearest path to the destination. "Most of the industries use line follower robots, which move in a straight line and stop if there's an obstacle in the way. As a result they fail to deliver the goods on the designated spot. But our robots keeps looking for a path, even if it is surrounded by hurdles," said Kashif Arif Shaikh, one of the team members.

According to Kavi Arya, a professor at IIT-B and principal investigator of e-Yantra, these competitions help students gain practical knowledge about embedded systems while inspiring them to come up with original ideas for their engineering projects, instead of plagiarising existing projects or purchasing one from the market. "Most engineering graduates are not knowledgeable. They are just trained to clear examination," he said.

At a time when the job market is shrinking for engineers, Arya suggests these projects can also morph into start-up ideas.

**What is e-Yantra?**

e-Yantra is an initiative by the Indian Institute of Technology, Bombay (IIT-B) that aims at creating the next generation of embedded systems engineered with an outlook to help provide solutions to some of the real world problems. The initiative started in 2012 and is sponsored by the Ministry of Human Resource Development (MHRD).

**What does it have to offer?**

e-Yantra Robotics Competition

e-Yantra Robotics Competition (eYRC) is an annual contest held for undergraduate students in science. Selected teams are given a robotic kit that has accessories and video tutorials to help them learn basic concepts in embedded systems and microcontroller programming. Abstracts of real world problems assigned as “themes” are then implemented by the teams using the robotic kits. In 2016, over 22,000 students across the country participated in the competition.

e-Yantra Lab Setup Initiative

e-Yantra Lab Setup Initiative (eLSI) is a college-level program, that focuses on encouraging colleges to setup robotics labs and guides them too. Three robotic kits are given to each participating college and a two-phased training is arranged for teachers. So far, eYantra labs have been set up in 233 engineering colleges around the country.

e-Yantra Ideas Competition

e-Yantra Ideas Competition (eYIC) solicits innovative projects from teams of eLSI colleges to ensure sustained use of the robotics labs. It aims at nurturing engineering projects embedded systems and robotics while providing a platform for teams to showcase their projects.

**Studentspeak**

“I was always curious about electronic objects and wanted to utilise the technology for different purposes. Nowadays, automation has reached every industry and robots are being deployed everywhere.”

Kashif Arif Shaikh, student

**Teacherspeak**

“The students have become more confident and are coming with original ideas after participating in e-Yantra competitions. Many are looking to use their projects for their start-ups.”

Saraswathi Krithivasan, project manager, e-Yantra

## April 8

## IIT-KGP to lead India in becoming a Clean Energy Destination

http://indiatoday.intoday.in/story/iit-kgp-to-lead-india-in-becoming-a-clean-energy-destination/1/923473.html

Kolkata, Apr 7 (PTI) IIT-Kharagpur will lead a UK-India joint virtual centre in clean energy in partnership with a consortium to develop solutions for integration of renewable energy into Indian and UK power grid.

The multi-institutional centre at IIT-KGP, which is named UK India Clean Energy Research Institute (UKICERI), will work towards technological innovations on a range of issues related to power network, storage and Solar PV systems, to promote massive scale integration of Solar power at different voltage levels for on and off-grid, a spokesman of the Institute today said.

The consortium partners will develop high performance micro, string and central inverters, he said.

"The proposed research aims at making energy generation and delivery system a reliable, affordable and sustainable option in both UK and India. This will be carried out through research in power electronics, power network, accurate forecasting, energy storage and their smooth integration," Prof Chandan Chakraborty of the Electrical Engineering Department, IIT-KGP, who is leading the project in India, said.

An experimental Solar power park at IIT-KGP will showcase technologies developed by the team.

The team from India involves several premiere institutes along with PSUs such as Power Grid Corporation of India Limited, Power System Operation Corporation Limited, Gujarat Power Corporation Limited etc and private organisations such as Veeral Controls Pvt Ltd, Tata Power Solar, Ecosense, Agni Power and Electronics Pvt Ltd, Vikram Solar, Hertz Power Control etc.

The University of Loughborough will lead the project from UK along with Imperial College, London, Manchester University, Warwick University and five other universities and many industries from that country.

The highlight of the consortium is development of indigenous technology for promotion of Solar power industries in India and UK, Prof Chakraborty said.

"We are excited to take part in a major clean energy initiative that requires very high quality research along with technology development, demonstration and deployment. We hope the results of this work will bring in a jump in technologies for Solar energy," IIT-KGP Director Prof P P Chakrabarti said.

The project is an outcome of the India?UK Strategic Partnership and consolidate collaborative research activities on renewables, network and storage technologies.

## IIT Kharagpur Will Lead UK-India Joint Virtual Centre

http://www.ndtv.com/education/iit-kharagpur-will-lead-uk-india-joint-virtual-centre-1678692

KOLKATA:  According to a statement released by Indian Institute of Technology Kharagpur (IIT - Kharagpur) today, the pioneer institute will lead a United Kingdom -India Joint Virtual Centre in Clean Energy. This Joint Virtual Centre will be in partnership with a consortium to develop innovative solutions for integration of renewable energy and storage into the Indian and UK power grid, reported Indo-Asian News Service.

The University of Loughborough will lead the project from UK along with Imperial College, London, Manchester University, Warwick University and five other universities and many industries from that country, reports PTI.

UK-India Clean Energy Institute (UKICERI), the multi-institutional centre at Indian Institute of Technology Kharagpur will work towards technological innovations on a set of areas related to power network, storage and solar photovoltaic (PV) systems. Major purpose of this is to promote massive scale integration of solar power at different voltage levels for on and off-grid.

An experimental Solar power park at IIT-KGP will showcase technologies developed by the team.

"This will also target remote isolated areas that are not connected to the national grid and are dependent on local electricity generation, which makes them vulnerable in times of shortage of power," the statement said.

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Both countries already have a UK India Education Research Initiative (UKIERI) which started in April 2006 with the aim of enhancing educational links between India and the UK. UKIERI has been recognized as a key multi stakeholder programme that has strengthened the educational relations between the two countries and been successful in covering all segments of the education sector.