NEWS CLIPS

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Modi govt schemes on LPG, power could save India 2.7 lakh lives each year: IIT study

April 18, 2019 https://theprint.in/science/govt-schemes-on-lpg-power-could-save-india-2-7-lakh-lives-each-year-iit-study/223279/

Led by IIT-Delhi researchers, the study dwells on the impact of government schemes such as Ujjwala on curbing outdoor pollution.

A woman in Uttar Pradesh cooks on LPG-connected stove

Government schemes aimed at curbing household pollution could alone help prevent as many as 2.7 lakh premature deaths every year, without additional measures such as traffic restrictions, a study led by IIT-Delhi researchers has found.

According to the study, if household pollution is omitted completely, an additional 18.7 crore people would be breathing in air compatible with the Indian annual air-quality standard — taking the total population enjoying the luxury to 58.5 crore.

The results, however, do not apply to heavily-polluted cities such as Delhi, and pertain to areas where the use of coal- and wood-fired stoves and kerosene lamps contributes to pollution.

The study, conducted by a team from the IIT-Delhi Centre of Atmospheric Sciences, in collaboration with the School of Public Health at University of California Berkeley and the Delhi-based pollution research agency Urban Emissions, was published in the American journal Proceedings of the National Academy of Sciences this week.

It dwells on the impact of government schemes such as Ujjwala, which envisages the replacement of solid cooking fuels such as coal with LPG in all households, and Deen Dayal Upadhyay Grameen Jyoti Yojana, for rural electrification, on curbing overall pollution, not just within households.

"We wanted to see what the health benefit from reduction in ambient air pollution would be if these schemes are implemented successfully," study co-author Sagnik Dey of the IIT-Delhi Centre for Atmospheric Sciences told ThePrint.

The enemy inside

Multiple reports have suggested that the rise in particulate matter linked to household-related activities is nearly as lethal a cause of pollution as the usual suspects such as vehicular and industrial emissions.

"There is no doubt that air pollution has become the biggest environmental risk in India with a very large health burden," Dey said.

"As much as 77 per cent of the Indian population is exposed to polluted air that does not meet the Indian standard, which is already four times higher than WHO standard."

Household air pollution (HAP)

According to a World Health Organisation report released late last year, as many as 98 per cent of children in India live in unsafe pollution level, with the toxic air stalking them inside their homes as well.

Household air pollution (HAP) is a common symptom of developing nations like India where biomass fuel like coal, wood and kerosene are used in large quantities everyday to power household items including lamps.

As of 2017, according to the "State of Global Air 2019" study quoted in the PNAS research, 60 per cent of India's population was exposed to household air pollution in 2017.

Air quality might be affected by many different types of contributors, but the most common indicator of pollution is the amount of particulate matter in the air we breathe. The most common of these measures are particulate matters of sizes 2.5 micrometres/microns and 10 microns, called PM 2.5 and PM 10, respectively.

PM10 are particles like dust and pollen, while PM2.5 are produced by emissions from vehicles as well as indoor fuel. PM2.5 particles are deadlier as, being smaller, they can enter lungs and the blood stream much more easily.

The study

The Pradhan Mantri Ujjwala Yojana (2016) intends to provide 8 crore "below poverty level" households with LPG connections by 2019. According to the latest data from January, about 75 per cent of the planned LPG connections had been dispersed by January 2019.

The Deen Dayal Upadhyay Grameen Jyoti Yojana, launched in 2014, claimed 100 per cent rural electrification in May 2018, though with the caveat that a village is considered electrified if 10 per cent of the households have electricity.

According to the researchers, there are four main factors that contribute to household air pollution. In the order of decreasing contribution, they are, biomass for cooking, space- and water-heating, and kerosene for indoor lighting.

The study envisaged seven scenarios where the use of each of these pollutants was decreased by varying degrees. Acknowledging that 100 per cent success for any scheme in a country as "socioeconomically and behaviourally diverse" as India was not possible, they lay out three "realistic scenarios": a) the first "assumes that 75 per cent of all emission from residential cooking and lighting and 50 per cent of all emission from space- and water heating in a district are eliminated", b) a moderate scenario "where 50 per cent of the residential cooking and lighting are phased out and 25 per cent of space- and water heating are eliminated", and c) slow progress, "which assumes that 25 per cent of all emissions from residential cooking and lighting are mitigated and the government fails to devise any policy for mitigating space heating and water heating".

"Complete success in implementation of any social scheme is a challenge due to multiple factors," Dey told ThePrint, "So we also wanted to see what the benefits are for intermediate success using multiple scenarios."

While an ideal implementation of the schemes — that means, 100 per cent coverage — could help avert 13 per cent of India's premature mortality burden, the study found, scenarios A and B could register a decline ranging from 5-8 per cent, with PM2.5 exposure falling from 13 to 21 per cent.

"Triple health benefits are expected from reduction in household emissions," said Dey.

"Firstly, reduction in household exposure everywhere would lead to reduced health burden. Second, reduction in ambient exposure is expected at larger spatial scale in the highly polluted Gangetic Plain where districts would come under touching distance of meeting Indian annual air quality standard."

"Thirdly, since both ambient and household exposure would reduce, background disease rates are also expected to reduce," he added.

Delhi: IIT scholar asks for votes of the educated
April 18, 2019 https://timesofindia.indiatimes.com/city/delhi/iit-scholar-asks-for-votes-of-the-educated/articleshow/68929117.cms

Nikhil Gupta is an IIT Madras alumnus. And he is taking part in the race to the Parliament without any party's backing. He has been nominated by Research Scholars of India (RSI) to contest from South Delhi. What makes his case unique is that he is asking for the votes of "educated citizens".

Gupta is a junior research scholar disillusioned by the previous governments' attitude towards academics, recruitment of teachers and "false" job promises. He is with Centre of Biomedical Research of Sanjay Gandhi Postgraduate Institute of Medical Science, Lucknow. With no stipend hike since 2014 and no communication from the government on this, scholars across institutions have joined hands to launch a nationwide movement demanding a better stipend. Gupta was a core member of RSI which spearheaded the struggle in the campuses of centrally-funded technical and research institutions, including the IITs, NITs and IISERs, and many central universities.

Gupta is being supported and funded by research scholars of IITs, NITs, IISc and AIIMS, and will file his nomination on April 22.

"We research scholars from various IIT's, NIT's, IISc, AIIMS and other universities were fighting for our rights and dignity for long. Since September 2018, we have been asking for hike in fellowship, regularity in fellowship and fighting against the mental torture and harassment of scholars. We also stand in solidarity with several issues recently raised by Delhi University's ad-hoc teachers like non-implementation of honorarium for guest faculty, regularisation of ad-hoc faculties as well as issues like unification of state PSCs and UPSC. We also want a time-bound process of all government exams and inquiry into SSC scam. I have been nominated to carry the voices of researchers and academics to Parliament," said Gupta.

Ivory Education launches Business Analytics program
https://news.careers360.com/ivory-education-launches-business-analytics-program

Ivory Education has launched a Certificate Programme in Business Analytics. The program will commence from July 2019.

Business Analytics is a game changer that will help organizations excel by compiling, analysing and interpreting information that will be useful for business. This program has been designed for building state-of-the-art skills in the area of Business Analytics. It covers all the modules required to excel in this area.

Ivory offers this program in association with leading IITs including *IIT Delhi*, IIT Kharagpur and IIT Madras. The program is conducted by most eminent professors of IITs in the area who will be conducting live classes. On the completion of the program, the students receive a certificate from the IIT conducting the program.

Speaking on the program, Kapil Rampal, Director, Ivory Education said, "Ivory is one of the pioneers in the area of Business Analytics with the support and participation of leading institutions and corporations. We are also making every endeavour to bring the program to every important part of the country. It will help make our country competitive at a global level."

Ivory invests in capacity building of universities and institutes, especially in the areas such as cutting-edge technologies, research and course development. It does by investments, industry initiatives and joint ventures.

In order to aid working professionals, the program is also enabled with a remote access option as well. The program is one of the lowest priced programs in the area. Various scholarships are also available for deserving students.

The sector currently has a shortage of over 100,000 professionals in India alone. Internationally, the numbers are even higher.

Towards A Startup Ecosystem: IIT Delhi to Support Budding Entrepreneurs to Boost Research in Deep-Tech

April 17, 2019 https://swarajyamag.com/insta/towards-a-startup-ecosystem-iit-delhi-to-support-budding-entrepreneurs-to-boost-research-in-deep-tech

In order to boost its research ecosystem, the Indian Institute of Technology - Delhi (IIT-D) has decided to back startups and research scholars willing to start a business in "emerging futuristic" technologies, including artificial intelligence (AI) and machine learning, LiveMint has reported.

According to the report, director of IIT-D V Ramgopal Rao said that the institute has created a platform to support "emerging futuristic technologies requiring advanced R&D (research and development) ". Under the initiative, startups focusing on connected intelligent systems, advanced materials, drug discovery, mixed reality and medical research will be taken on board following a selection process.

Besides free work spaces and mentoring, the institute will provide candidates with a range of benefits including seed funding and connecting them with venture funds.

"If you have a great idea in deep tech space, IIT-D will take care of the rest. The program provides comprehensive support for converting your idea into a startup, including a fellowship and accommodation to the budding entrepreneur as well as funds for the development of proof of concept," Rao was quoted in the report as saying.

The move will not only be beneficial for startups and research scholars but will also be advantageous for the institute as it will benefit from their research output, patent and industry academia collaborations.

These new startups will reportedly be housed in newly established technology research park of IIT-Delhi in Sonipat, Haryana.

IIT-Delhi is one of the six institutions of eminence (IoE) in India.

IIT Delhi to rope in startups to boost deep-tech research
April 14, 2019   https://www.livemint.com/education/news/iit-delhi-to-rope-in-startups-to-boost-deep-tech-research-1555238287662.html

- IIT Delhi will provide candidates with a host of benefits such as seed funding and connecting them with venture funds
- IIT-Delhi has been talking about spending over Rs. 2500 crore including the Rs. 1,000 crore IoE grant

The Indian Institute of Technology-Delhi (IIT-D) has decided to back startups and research scholars willing to start a business in deep technology, including artificial intelligence and machine learning to boost its research ecosystem. V. Ramgopal Rao, director, IIT-D said that the institute has created a

platform to support "emerging futuristic technologies requiring advanced R&D". Startups focusing on connected intelligent systems, mixed reality, advanced materials, drug discovery and medical research, will be taken on board following a selection process.

The premier institute promises to provide candidates with a host of benefits such as seed funding and connecting them with venture funds, besides free workspaces and mentoring. It believes the initiative will play a crucial role for industrial growth in future.

"If you have a great idea in deep tech space, IIT-D will take care of the rest. The program provides comprehensive support for converting your idea into a startup, including a fellowship and accommodation to the budding entrepreneur as well as funds for the development of proof of concept," Rao said.

While the move is a plus for startups and research scholars, the IIT-Delhi, one of the six institutions of eminence (IoE) in India, will benefit from their research output, patent, from industry academia collaborations as well. IIT-Delhi's newly established technology research park in Sonepat will house these start ups not older than 3 years.

The plan document of the IIT underlines that while Indian has witnessed start up success in services and e-commerce businesses, deep technology startups are far and few.

"While recent major successes amongst the start-ups have primarily been in several services/e-commerce businesses…there are relatively less, technology-based start-ups which can truly claim to be working in contemporary deep technology domains. It is being felt that there is a need for a viable support mechanism that can attract interested early stage career scientists /engineers who are interested in the innovation-driven entrepreneurial journey," the IIT document said underling the motive behind their move.

IIT-Delhi has been talking about spending over Rs. 2500 crore including the Rs. 1,000 crore IoE grant in enhancing its research facilities, physical infrastructure and outreach in the next few years. IIT Delhi was ranked third best institutions in India by a government ranking and has a place among top 200 universities in the world as per the QS World University Ranking.

With the infrastructure, mentorship and funding support, the plan is "designed to help techno-entrepreneurs to take the quantum leap towards commercialization," the IIT said indicating that it will help young firms joining their research ecosystem in patents and commercialization of products. The institution said while deep technology ideas are highly risky, they have substantial market potential. The IIT said it will prefer startups whose founders have a doctorate degree though others with masters in technology, medicine, pharmaceuticals will not be turned down.

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The IITs, IISERs have lost the plot on what science really means and how it connects with society

Educational institutes and higher learning centres should devote a substantial chunk of their resources to solve local problems for vikas to be meaningful.

The writer is with Centre for Technology Alternatives for Rural Areas, IIT Bombay. He is currently on deputation to IIT Goa.
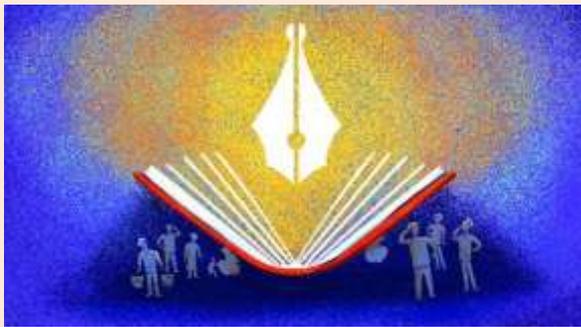
Large water supply schemes based on surface water — that are needed — are moribund. Illustration by CR Sasikumar.

As another election gets underway, we see the political class engaged, yet again, in a war of words — claims and counterclaims on what was delivered, of jumle-baazi and corruption. Sadly, there is no analysis of why is vikas— basic amenities, jobs and growth for small enterprises — not being delivered or why there is no coherent plan for the purpose. Instead, what we have is more rights-based beneficiary and good intentions.

The fact of the matter is that the politicians cannot deliver vikas even if they wanted to. They are the junior-most partner of largely spectators, touts and fixers in the bureaucrat-scientist-politician triumvirate which rules this nation. The sooner we citizens and our politicians realise this, the better.

Indeed, there are about 2,000 elite bureaucrats — the IAS — and a similar number of senior professors, scientists, social scientists and experts from elite centrally-funded institutions — the IITs, JNU, scientific and multilateral agencies — who determine what happens to most of our people. It is what they think and do, or fail to do, that decides how buses run, droughts or anganwadis are managed, what is taught in colleges, and how local businesses survive.

As an example, consider drinking water in Parbhani, a district in the drought-prone Marathwada region of Maharashtra. Traditional rural water supply schemes, which were based on wells, have

failed long ago as groundwater levels plummeted and these wells went dry. This happened because cropping patterns changed and more land was brought under well irrigation. Of course, there was no systematic study of either of this by our elite institutions since this is not what they consider science. Regional universities are simply incapable of formulating such research and carrying it out, unhindered by the bureaucracy.

Large water supply schemes based on surface water — that are needed — are moribund. No new techniques of design and optimisation have come up. The Water Supply Department is supposed to spend 1 per cent of its expenditure on monitoring and evaluation. The secretary has not bothered to establish protocols and standards or to set up a network of trusted institutions. As a result, "jar water" and RO plants abound. Many "jar water" plants are illegal and their quality is doubtful. There is no easy certification. Getting an ISI label is tied up in bureaucracy and red-tape, leading to corruption.

Yet another example is the recent BEST bus strike in Mumbai. For nine days, the common people were held to ransom by an argument between the management, which wants to reduce losses, and the employee union, which wants an increase in wages. And yet, there is no report in the public domain on the actual operations of BEST, the routes that are profitable, the crew and vehicle utilisation and the social welfare that it provides. This should have come from an IIT or an IIM. In the absence of such factual analysis, the can was kicked down the road, with few changes in planning or operations. The same situation prevails in social sectors such as public health, where an absence of analysis is a primary cause of paralysis.

Why is this happening and what is to be done? The IAS system, itself an enormous concentration of power, has great faith in its own competence and does not allow any factual analysis or review. This has prevented the emergence of a long-term plan for any sector. The IITs, IISERs etc. have lost the plot on what science really means and how it connects with society and the real world. Let alone documenting and analysing the lived reality, they live in cocoons of borrowed rigour, which they call "global science". Their prestige comes from their monopoly over central funds and the right given to them by Parliament to conduct national-level competitive exams in the name of science. This has destroyed an important purpose of science — the means for the common man to speak truth to power. It has converted the university into a franking machine instead of an institution which empowers the community.

What our political parties should now do is to unravel the bureaucrat-scientist elite nexus through political means. A huge number of problems lie before us. Problems of planning and efficiency, nutrition and health, poorly-run small factories and disappearing forests and rivers. These threaten our very existence as a peace-loving and multi-cultural society. Solving these problems requires concrete steps to democratise knowledge and power and localise the ability to act. It also needs a revitalised university and an immersive curricula which prepares our youth to meet these challenges. So here are our top 10 suggestions to our politicians, our vikas manifesto: The All India Services Act, 1951, will be amended so as to ensure accountability and competence and allow lateral entry at all levels, including the state and the district.

The secretary of each department at the state level will bring out every two years, a public document assessing the delivery levels, knowledge and practices within the department, the key

problem   areas,   and   a   long-term   vision.
A deputy secretary level position will be created within each department to handle monitoring, assessment and knowledge management. This should be done by creating a network of regional institutions and enterprises, who will support and conduct the required applied research.

Centrally-funded institutions like the IITs, IIMs, and IISERs will devote 20 per cent of their curricula, faculty time and funding in solving regional problems. They should do this through innovative multidisciplinary field-work based curricula, in partnerships with state agencies and regional universities. These institutions and their partners will create a state-level knowledge network which implements a "Right to Know" — a right to an analysis of failures of public services and problems of small enterprises.

Centrally-funded agencies such as the Department of Science and Technology will disburse 50 per cent of their funds directly to state-level science and technology councils with guidelines on research topics and measurements of outcomes. Central and state scientific agencies will strive to make most useful data public, for example, maps in all formats, data from irrigation, agriculture and other departments.

Research in the form of case studies in key areas of sustainability, natural resources, small industries, public amenities, social welfare will be encouraged. Institutions like IISc, IITs and JNU will administer a journal of development research as an avenue for reporting such work. School curricula will include a substantial component of local and regional relevance — local maps, village handbooks, measurement of local produce, field trips to facilities such as bus depots or rice mills, and visits by local functionaries. Colleges and educational institutions at the district level will have an important role in studying the outcomes of development programmes and providing professional support to state agencies. This will be done by students, faculty members and fresh graduates through innovative curricula and mechanisms.

All national entrance exams will slowly be modified from ranking exams to qualifying exams in the spirit of the Constitution. States will have a more constructive role in student admissions into elite institutions so that graduates contribute to the national and state economy and society.

The above agenda will establish a new balance between science, the state and the community, and a social understanding to sustain it. Only when this emerges, will we see vikas and jobs which deliver value. It is also the only way to approach more vexing problems of sustainability, equity and culture.

CoE for Drone Development Soon At IIT Hyderabad
https://www.expresscomputer.in/news/coe-for-drone-development-soon-at-iit-hyderabad/35180/

In a bid to speed up the development of drones in India, Japan-based Terra Drone Corporation, Terra Drone India and the Indian Institute of Technology, Hyderabad, have announced a pact to establish a first-of-its-kind Centre of Excellence for Unmanned Aerial Vehicles (UAVs) in India.

According to the tripartite Memorandum of Understanding (MoU), the centre will be set up at IIT Hyderabad.

"We are creating a unique educational ecosystem that combines interactive learning with cutting-edge research, strong industry collaboration and entrepreneurship," said Dr UB Desai, Director, IIT Hyderabad. "We are excited about developing drone-based solutions for domains like 5G communication, agriculture, transportation and Artificial Intelligence (AI), said Desai.

With its presence in six continents and more than 20 countries, Terra Drone Corporation is one of the world's largest providers of industrial drone solutions. The company is at the forefront of several innovations in the aviation industry, including promoting the application of AI technologies in drones and providing advisory services to the ongoing 'flying car' project in Japan.

"As the world's fastest-growing major economy, the potential for commercial drone market in India is huge," noted Toru Tokushige, CEO, Terra Drone Corporation.

Part of the Terra Drone Group, Terra Drone India offers a complete sales-service-support module for the drone ecosystem in India. "The UAV ecosystem in India is rapidly evolving and drones are set to become an integral part of future working environments in several industries," said Prateek Srivastava, CEO, Terra Drone India.

Terra Drone will support IIT Hyderabad to organise workshops, seminars, lectures and joint projects that leverage cutting-edge unmanned technologies and drone LiDAR systems. Terra Drone India would also offer internship programmes to talented students and prepare them for the real-world technology applications.

April 18

IIT Bhubaneswar Takes Lead in Collaborating With Foreign Institutes through SPARC

http://www.pragativadi.com/iit-bhubaneswar-takes-lead-in-collaborating-with-foreign-institutes-through-sparc/

The Ministry of Human Resources Development embarked upon an ambitious program, "The Scheme for Promotion of Academic and Research Collaboration" (SPARC) aimed at further improving the academic and research collaborations between Indian Institutions and the best of institutions in the world to jointly solve problems of national and/or international relevance.

IIT Kharagpur has been given the responsibility of being the national coordinator with other nodal Institutes of India and has invited a lot of proposal from all IIT's. The scheme plans to support about 600 such joint collaborations across 100 Indian Institutions over a period of two years with a total budget of Rs 418 Crores.

The salient features of SPARC initiative are visits and long-term stay of top international faculty/researchers in Indian institutions to pursue teaching and research and visits by Indian students for training and experimentation in premier laboratories worldwide. IIT Bhubaneswar currently got the approval of as many as eleven research proposals out of the twenty-five submitted. While the review process is currently on for the other projects, these approved projects got technical approval and sanction of Rs. 6, 18, 37,534.

Prof. R.V Raja Kumar, Director, IIT Bhubaneswar said, "The objective of the SPARC program is very noble, it will certainly enable us in forging new relationships with reputed research groups across the globe and I compliment the Ministry for providing this kind of an opportunity to the Institutions. As you may be aware, MHRD has been constantly encouraging the IIT's to further progress to find a place in the top global class of Institutes. We at IIT, Bhubaneswar have been encouraging our faculty to forge such relationships and hence there has been very enthusiastic response in submitting proposals and achieved good success in this direction. IIT Bhubaneswar with its quest for being well respected amongst the global class of Institutes has been trying to recruit foreign faculties in regular courses for longer periods with the objective of providing a related flavour of education and has been successful for the last three years. SPARC will, in turn, give a further boost to enhance the vigour of this endeavour. Some of the very notable universities with which if Bhubaneswar through SPARC will partner are University of Dundee, Brunel University, U.K., University of Minds, Chicago, University of Minnesota, University of California, New York University, U.S.A, Nanyang Technological University, Singapore and the University of Auckland, New Zealand."

The eleven approved proposals are in the key areas such as Earth, Green and Renewable Technologies, Affordable Health Care, Energy, and Water Sustainability, Advanced Sensors and Electronics Communications, Advanced Intercitscipinaty Sciences and Technologies for Forensics,

Security and Safety. The SPARC grants will help IIT Bhubaneswar to collaborate with international universities from U. K., U.S.A. Singapore, and New Zealand along with world-class faculties and researchers from across the globe to undertake joint research work and to offer short term courses to the students.

The expected outcomes include tangible results in terms of large quantity of high quality research publications, solution to key national and international problems, development of niche courses that can be converted to scalable on-line offerings, development of internationally used textbooks and widely read research monographs, creation of next-generation manpower trained in sophisticated instrumentation, imbibing of best practices from top international academicians and researchers, strong bilateral and international cooperation and improved world reputation and ranking of Indian Institutions.

April 17

देश में बड़े साइबर अटैक का खतरा, आईआईटी खोज रहा तोड़

https://www.livehindustan.com/uttar-pradesh/story-big-cyber-attacks-in-the-country-2492247.html

ई-मेल फ्रॉड, डाटा चोरी, वेबसाइट हैकिंग से भी बड़ा खतरा देश के जरूरी संसाधनों को है। हैकर देश के क्रिटिकल साइबर असेट्स (वाटर ट्रीटमेंट, पॉवर, न्यूक्लीयर प्लांट्स) को निशाना बना सकते हैं। आईआईटी ने साइबर अटैक की आशंका को देखते हुए इससे बचने के तरीकों की खोज शुरू कर दी है। वैज्ञानिक देश में लगे सभी क्रिटिकल साइबर असेट्स पर शोध कर रहे हैं। कंट्रोलिंग सिस्टम में मिलने वाली कमियों से संबंधित प्लांट को अलर्ट भी कर रहे हैं।

आईआईटी कानपुर में देश को साइबर अटैक से बचाने के लिए कई शोध चल रहे हैं। संस्थान में बनी अत्याधुनिक उ-3-क (सी थ्री आई) लैब में वैज्ञानिकों की एक टीम देश के क्रिटिकल असेट्स को हैकर से बचाने पर कार्य कर रही है। टीम के सदस्य रोहित ने बताया कि भविष्य में साइबर अटैक डाटा हैकिंग के लिए नहीं बल्कि क्रिटिकल साइबर असेट्स को नुकसान पहुंचाने के लिए हो सकते हैं। वाटर

ट्रीटमेंट, पॉवर, न्यूक्लियर प्लांट्स पर यदि हमले होते हैं तो सिर्फ आर्थिक नहीं बल्कि कई तरह के नुकसान होंगे। जैसे यदि वाटर ट्रीटमेंट प्लांट का कंट्रोलिंग सिस्टम हैक कर लिया जाता है तो उसका संचालन किसी दूसरे के हाथ में चला जाएगा। वह कहीं से भी पानी को शुद्ध बनाने वाले केमिकल की मात्रा बढ़ा या घटाकर नुकसान पहुंचा सकता है। आजकल सभी प्लांट्स कंप्यूटराइज्ड सिस्टम से संचालित हो रहे हैं। हैकर यदि सप्लाई प्वाइंट को रोक देता है तो पानी से ही बड़ा ब्लास्ट हो सकता है। इससे आर्थिक, इंजीनियरिंग के नुकसान के साथ पानी की सप्लाई पूरी तरह ठप हो जाएगी। आईआईटी के वैज्ञानिक यह पता लगा रहे हैं कि किसी भी प्लांट के कंट्रोलिंग सिस्टम को कैसे सुरक्षित बनाया जाए। कहां-कहां सुरक्षा मानकों की चूक होती है, उनके चेकिंग प्वाइंट्स कौन से हैं और कैसे बच सकते हैं। कई प्लांट का काम पूरा हो चुका है। इसमें मिली कमियों की रिपोर्ट संबंधित प्लांट को भेजी गई है।

साइबर अटैक से हो सकती हिरोशिमा जैसी हालत

आईआईटी के वैज्ञानिकों का मानना है कि साइबर अटैक से हिरोशिमा जैसी तबाही हो सकती है। जापान में न्यूक्लियर बम से हमला हुआ था लेकिन हैकर को कहीं जाने की जरूरत नहीं है। अगर हैकर्स ने किसी न्यूक्लियर प्लांट को हैक कर लिया तो उससे भी भयानक स्थिति उत्पन्न हो सकती है। इसलिए न्यूक्लियर प्लांट जैसे सभी क्रिटिकल साइबर असेट्स को अत्यधिक साइबर सुरक्षा में रखना जरूरी है।

यूक्रेन के पॉवर प्लांट पर हुआ था हमला

यूक्रेन में 27 जून 2017 को साइबर हमला हुआ था। यह हमला देश के मंत्रालय, न्यूज एजेंसी, बैंक के साथ मुख्य रूप से पॉवर प्लांट पर हुआ था। इससे आर्थिक नुकसान के साथ लोगों की दिनचर्या बुरी तरह प्रभावित हुई थी। इस अटैक से उबरने में यूक्रेन को काफी वक्त लग गए थे।

रूस व इजरायल में जारी है साइबर अटैक

रूस व इजरायल के बीच पिछले कुछ वर्षों से लगातार साइबर अटैक का सिलसिला चल रहा है। इसी कारण वे दोनों देश एक दूसरे से किसी भी तरह की मशीनरी या अन्य चीजों की खरीदारी नहीं कर रहे हैं। कारण, इससे अटैक का खतरा अधिक बढ़ जाता है।

IIT Bombay and Bureau of Indian Standards (BIS) signs MoU

https://www.theindianwire.com/education/iit-bombay-and-bureau-of-indian-standards-bis-signs-mou-120577/

Day of signing Memorandum of Understanding (MoU) between IIT-Bombay and BIS

Bureau of Indian Standards (BIS), the national standards body of India and Indian Institute of Technology (IIT) Bombay signed a Memorandum of Understanding (MoU) on April 16, 2019, an official release on the website declared. The reason rests behind signing the memorandum is to collaborate in the field of standardization and conformity assessment.

Benefit

According to the MoU, IIT Bombay will develop infrastructure support for R&D Projects of relevance to standardization. BIS will provide financial support to IIT Bombay for such R&D Projects. The Terms and Conditions for infrastructure support and finance will be jointly worked out based on the nature and the duration of the R&D Projects.

The MoU also envisages that IIT Bombay will provide IT based technological solutions regarding various activities of the Bureau, including Conformity Assessment processes, as and when required.

About BIS

Bureau of Indian Standards (BIS) was formed by Government of India on April 1, 1987 under the Bureau of Indian Standards Act. The initiative was taken to create a statuary organisation as the national standards body. The motive was to run an organisation with adequate autonomy as well as flexibility in its operations to achieve harmonious development of the activities of standardization, certification marking and connected matters.

IIT Madras launches DST centre of excellence for climate monitoring

https://www.jagranjosh.com/news/iit-madras-launches-dst-centre-of-excellence-for-climate-change-monitoring-148595

Indian Institute of Technology Madras (IITM) has launched a 'DST Centre of Excellence (CoE). This has been launched in connection to Climate Change Impacts on Coastal Infrastructure and the Adaptation Strategies. IITM launched it on 15 April in its campus. A per the reports, it is going to play a major role in helping all those communities who live in coastal regions of India and most of the time they have to face the impact of climate change.

The Centre of Excellence (CoE) is established by the Department of Science and Technology (DST) of the Government of India at IIT Madras campus under Indo-German Centre for Sustainability (IGCS) centre. The CoE was inaugurated by Prof. Bhaskar Ramamurthi, the Director of IIT Madras. The function was attended by Dr. Akhilesh Gupta, Head, SPLICE division, DST, many other eminent researchers and a group of faculty members from IIT Madras.

The new CoE is responsible to carry out research so that climate change can be predicted and a proper monitoring can be ensured for important coastal infrastructure like ports and major industries. Apart from this, this will also help in keeping a track of the impact that the climate change can have on coastal communities. The research will also be done in order to know related things about tropical cyclones and extreme rainfall. The research is focused on saving the coastal infrastructures in the long run which get damaged due to change in the weather.

The research is also aimed at studying about overall vulnerability of coastal infrastructure and the communities living thereby so that the risk can be minimised and appropriate designing adaptation can be done. It is well known that the frequent climate change and rise in sea level drastically impact the availability of water and its quality as the fresh water reserves mix with saltwater. Therefore, the study will also be aimed at effective waste management system.

Researchers at IIT Roorkee find new method to detect breast and ovarian cancer

https://www.jagranjosh.com/news/researchers-at-iit-roorkee-find-new-method-to-detect-breast-and-ovarian-cancer-148594

Researchers at the Indian Institute of Technology, Roorkee have found a new method to detect breast and ovarian cancer which is responsible for one-fifth of the cancer-related death across the world. As opposed to the traditional method using blood samples, the research published in the journal, 'FASEB Bioadvances' details the use of the whole saliva as a body fluid for early detection of breast and ovarian cancers.

The research team led by Kiran Ambatupudi of the Department of Biotechnology at IIT Roorkee has identified certain proteins present in the saliva which act as a potential biomarker indicative of breast and ovarian cancer metastasis.

The team of researchers compared the samples from healthy individuals against the samples collected from stage IV breast and ovarian cancer patients and also ovarian cancer patients who have undergone at least three cycles of neoadjuvant chemotherapy.

The early detection of breast and ovarian cancer has been difficult using traditional methods such as mammography, blood flow patterns by colour flow Doppler imaging and trans-vaginal ultrasound examination, due to high diagnostic costs and radiation exposure because of the heterogeneous and symptomatic nature of breast and ovarian cancers, Ambatupudi said.

"Our attempt was to utilize saliva as a non-invasive sample source to identify specific protein biomarkers, which indicate breast and ovarian cancer metastasis. In patients who have undergone

three cycles of chemotherapy, the salivary proteins can also act as an indicator of the patients' response to chemotherapy"

Ambatipudi also added that although it is essential to clinically validate these proteins in a large cohort of subjects the results of the present study serve as an initial step towards the development of saliva-based clinical tests.

About Indian Institute of Technology- Roorkee

Indian Institute of Technology - Roorkee is among the primer of institutes of education in engineering, basic and applied research. The Institute offers Bachelor's Degree courses in 10 disciplines of Engineering and Architecture and Postgraduate's Degree in 55 disciplines of Engineering, Applied Science, Architecture, and planning. The Institute also has a facility for doctoral work in all Departments and Research Centres.

April 16

Mumbai: 3 best medical device innovations at IIT-B get Rs 50 lakh grant

https://www.freepressjournal.in/mumbai/mumbai-3-best-medical-device-innovations-at-iit-b-get-rs-50-lakh-grant/1505082

At the Fifth Annual Symposium and Medical Device Expo on April 12 and 13, IIT-Bombay's BETiC (Biomedical Engineering and Technology incubation Centre) unveiled 20 low-cost medical device innovations that it fostered over the last year.

Three of the best innovations—Ayulynk Smart Stethoscope, which records and send heart and lung sounds of rural patients to urban doctors for accurate diagnosis; Diabetic Foot Scanner, which prevents long-term ulceration and amputation, and Hybrid Plaster Splint that immobilises fractured bones to prevent further damage during transportation — walked away with Rs50 lakh Biotechnology Ignition Grant Award from Biotechnology Industry Research Assistance Council (BIRAC), New Delhi.

The money will be used for pilot production, testing and marketing of the products, informed Dr Rupesh Ghyar, Senior Executive Officer, BETiC. BETiC was established at IIT-B in 2014, followed by satellite centres at VNIT Nagpur and COE Pune in 2015.

The innovation centres are funded by Rajiv Gandhi Science & Technology Commission (RGSTC), Government of Maharashtra, and Dept of Science and Technology (DST), Govt of India, and aims to boost indigenous medical device innovation and entrepreneurship.

The 36-year-old Aneesh Karma, who was afflicted by polio in his childhood and a native of Bulandshahr in UP, had his Knee Ankle Foot Orthosis (KAFO) as one of the 20 novel medical devices showcased at the expo. According to participating doctors, KAFO is required by those affected by polio, paralysis and accidents.

Some organisations provide similar callipers for free to poor patients, but these have issues related to comfort and convenience while imported devices are highly expensive. KAFO is both user-freindly and inexpensive. Innovators at BETiC work closely with each other, guided by top doctors and mentors, to bring innovative ideas to life.

Many start their own company with the help from Society for Innovation & Entrepreneurship (SINE), the technology business incubator of IIT-B to take the products to market. BETiC at IIT-B and 10 partner institutes in Maharashtra have over 100 researchers working closely with doctors to develop novel and affordable medical devices. In the last five years, they have filed 50 patents and licensed 12 technologies to start-up companies and industry partners.

Mumbai: Got phlegm or chest illness? It could be due to ammonia in air

https://timesofindia.indiatimes.com/city/mumbai/got-phlegm-or-chest-illness-it-could-be-due-to-ammonia-in-air/articleshow/68899080.cms

It isn't just particulate matter in the city's air that is a cause of concern. According to a study by city-based researchers, concentration of ammonia in the air is the cause for phlegm in nearly 3.4 million people and other chest illnesses in 6.8 million people citizens.

The study by researchers from IIT-B, National Environmental Engineering Research Institute (NEERI) and the Sustainable Approach for Green Environment found that the concentration of ammonia (NH_3) was particularly high in Chembur's Maravali, which has a fertilizer plant. "The annual average

concentration in Mumbai is 85µg/m3, including Maravali, and 56µg/m3, excluding Maravali. The annual average concentration at Maravali is 342 µg/m3, 6.1times more than the spatial average concentration of Mumbai, excluding Maravali," said the study. The National Ambient Air Quality Standards has set annual average limit at 100µg/m3.

10MN PEOPLE HIT

Ammonia concentration	Classification Effects
50 to 150 µg/m3	Moderate | Irritation of throat, eye and skin; also causes cough and mucus build-up
150 to 500 µg/m3	High | Pulmonary edema and lower lung inflammation
500 to 5,000 µg/m3	Very high | Death from prevention of oxygen uptake by haemoglobin in a relatively short time period

Source: Agency for Toxic Substances and Disease Registry

Ammonia concentration data was collected from ambient air quality monitoring network system operated by BMC and NEERI. Among the nine locations studied, while Maravali had the highest concentration, Andheri ranked second with a concentration of 62 µg/ m3. The least concentration of 32 µg/m3 was found at Kalbadevi. "Apart from fertilizer units, the other source of ammonia is solid waste," said Awkash Kumar, author of the study, ex-IIT student and founder of SAGE.

The study found that 45% of population in Maravali was exposed to illnesses. At Andheri, the fertilizer plant is 10km away, yet the concentration is high due to high population density. "Ammonia levels are high in isolated places due to sewage drains and solid waste. Ammonia disperses faster. It has short-term impacts," said Rakesh Kumar, director, NEERI and the study's co-author.

IIT Kharagpur researchers create algorithm for marketing & sales on social media

https://economictimes.indiatimes.com/news/politics-and-nation/iit-kharagpur-researchers-create-algorithm-for-marketing-sales-on-social-media/articleshow/68898061.cms

The algorithm is applied to the data derived from select social media pages of test products.

The algorithm identifies social media influencers who could have more influence on potential buyers based on opinions and social ties on a popular social networking platform.

Researchers at the Indian Institute of Technology Kharagpur (IITKgp) have developed an algorithm that tracks marketing and sales activities on social media. This low-cost solution would especially benefit micro, small and medium enterprises (MSMEs), according to the researchers. The solution is a model based on a computerised algorithm to identify social media influencers (with large contacts and followers) who have more reach and impact on social media.

The algorithm is applied to the data derived from select social media pages of test products. This is a great way to optimise marketing for companies with fewer resources, said professor MK Tiwari, who is leading the research at IIT Kharagpur.

 "Such model would enable them to reach out to the right set of influencers at a lower cost and use their influence to increase sales and profit maximisation," said Tiwari.

The algorithm was first tested on Facebook pages along with few other social media platforms. It used online retail products, with focus on fashion and apparel.

The IITKgp researchers will now take this up to the next level, which is commercialisation stage, by engaging with industry, especially MSMEs who typically use social media for selling their products through tech startups or IT companies.

The algorithm identifies social media influencers who could have more influence on potential buyers based on opinions and social ties on a popular social networking platform. In this research, the relation strength between influencers and adopters (potential customer) is considered to be the time difference between their comments.

"We already know that comments on social media affect potential buyers," said Tiwari. "We have considered the personal valuation of the adopters based on their comments. Initially, we segregated the adopters and the influencers based on their valuation and the threshold value to become an influencer."

In the second model, peers' connections are considered to influence a user. The work has funded by the human resource development ministry under the scheme of centres for training and research in frontier areas of science and technology.

April 14

JEE Advanced 2019: जेईई एडवांस्ड के लिए 3 मई से रजिस्ट्रेशन

https://www.livehindustan.com/career/story-jee-advanced-2019-registration-from-3-may-check-importants-dates-2488790.html
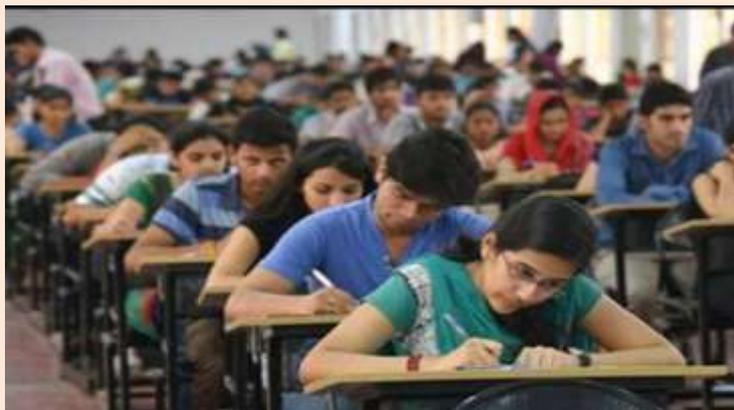
JEE Advanced Registration 2019: आईआईटी रुड़की ने जेईई एडवांस्ड का इंफॉर्मेशन ब्रोशर जारी कर दिया है। आईआईटी संस्थानों में प्रवेश के लिए आयोजित की जाने वाली संयुक्त प्रवेश परीक्षा (जेईई) एडवांस्ड के लिए 3 मई से ऑनलाइन रजिस्ट्रेशन शुरू होंगे।

इच्छुक उम्मीदवार 9 मई को शाम 5 बजे तक ऑनलाइन आवेदन कर सकेंगे। जेईई मेन परीक्षा 2019 में बेहतर प्रदर्शन करने वाले करीब ढ़ाई लाख विद्यार्थी जेईई एडवांस में बैठ सकते हैं। पिछले साल 2,24,000 अभ्यर्थियों ने यह परीक्षा दी थी। जेईई एडवांस्ड का आयोजन 27 मई को किया जाएगा। इस साल जेईई एडवांस्ड का आयोजन आईआईटी रुड़की करा रहा है। देश-विदेश के 161 शहरों में आयोजित होने वाली इस परीक्षा में भारतीय शहरों में स्थित केंद्रों पर परीक्षा देने वाले अभ्यर्थियों को पंजीकरण शुल्क के रूप में 2600 रुपये देने होंगे।