NEWS CLIPS

May 18-24, 2019

Highlights of the Week@IITD

GATE 2020: IIT Delhi considering Biomedical Engineering as new subject

May 21, 2019 https://news.careers360.com/gate-2020-iit-delhi-considering-biomedical-engineering-new-subject

The GATE 2020 exam will witness Biomedical Engineering as a new subject from the upcoming session, as per the sources from IIT Delhi. The detailed brochure and prospectus for GATE 2020 mentioning the subject details and syllabus will be released by IIT Delhi in September, 2019. The GATE 2020 exam will be conducted by Indian Institute of Technology, Delhi in February 2020. GATE 2020 registration will start from September 2019. Students who are studying in the final or pre-final year of their UG engineering course will be able to apply for GATE 2020 exam.

The institute is in the process of undermining the coursework and syllabus for GATE 2020 Biomedical engineering paper. Once finalised, the detailed pattern and syllabus will be intimated in the official brochure of GATE 2020, say the officials from IIT Delhi, GATE office.

GATE 2020 Official Website

The GATE 2020 official website will be launched in the month of September 2019. The conducting institute prepares and launches new website for GATE every year. As IIT Delhi is conducting the GATE 2020 exam this year, the website will be released by the institute. The GATE 2020 official website will provide all the details regarding exam dates, registration process, syllabus etc.

GATE 2020 Application Form

The GATE 2020 application form will be released by IIT Delhi in the month of September. Students

have to fill the application form in online mode and appear for the exam. The detailed application process will be mentioned in the GATE 2020 brochure regarding the procedure.

GATE is the most coveted and anticipated exam for engineering graduates in India. Students who qualify GATE becomes eligible to take admission in M.Tech/M.E. courses in reputed institutes like IITs, NITs,CFTIs. Students who qualify GATE are also recruited by many PSUs like SAIL, BHEL etc. with high paying job.

IIT Delhi launches joint PhD with Taiwan's National Chiao Tung University

May 18, 2019 https://indianexpress.com/article/education/iit-delhi-launches-joint-ph-d-with-taiwans-national-chiao-tung-university-5733786/

The admission process is open and selected students will be given scholarships which will include international travel. The degree will be allotted by IIT-Delhi and NCTU jointly and the research will be carried in both the institutes under mentorship from a professor from each institute.

Both the universities signed a Memorandum of Understanding (MoU) to establish and offer a Joint Doctoral Degree Program (JDP).

The Indian Institute of Technology (IIT) Delhi has launched a joint PhD with the Taiwan-based National Chiao Tung University (NCTU). Students who will be admitted to the programme will spend half of their time in both the institutes. The selected candidate will have a mentor from each of the countries.

The application process for the programme is open. One has to be selected in the IIT-Delhi for PhD and thereafter apply to research with the NCTU, informed IIT-Delhi dean research and development, BR Mehta. "Once a candidate is selected, they will have to apply for NCTU. Based on the candidate's research match-making would be done and mentors from each institute will be selected for them," he said.

Similarly, students from NCTU will also be selected to research under IIT-Delhi professors. Students selected from both the institutes will be given scholarships under which their research and

international travel expenses will be covered. An additional scholarship will be given to scholars whose research agenda matches with that of the industry-interest.

“While there is no specific area of interest specified for the research, those who have industry-specific research will get preference as well as additional scholarship. Taiwan’s market and NCTU are known for their work in the field of semiconductors and opto-electronics. Thus students who have a research interest in these areas have higher chances of selection,” he said.

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The joint degree is the result of a memorandum of understanding (MoU) signed by the two institutes today – May 17, 2019. The MoU shall remain in force for a period of five years. It can be renewed thereafter in writing for successive five-year periods.

An academic and student exchange will be developed through the programme and students who complete the course requirements shall be awarded a joint degree for thesis by both the institutions. Students will be admitted at both institutions under the JDP.

Director, IIT Delhi, V. Ramgopal Rao said, “I hope that in next one or two years we will reach a triple-digit figure in terms of student enrolment under this Joint Doctoral Degree Program with NCTU. The target is to have over 200 joint PhD students under this programme, with support from industries.”

Both institutions seek to work together and carry out joint research and academic activities in a mutually beneficial way and to look for synergies across each other’s doctoral programmes.

May 24

JEE Advanced Admit Card 2019 Released at jeeadv.ac.in, Direct Link, steps Here

https://www.news18.com/news/india/jee-advanced-admit-card-2019-released-at-jeeadv-ac-in-direct-link-steps-here-2157615.html

The JEE Admit Card, JEE Advanced Admit Card 2019, JEE Advanced Admit Card 2019, was released on Thursday and available for download at the JEE advance’s official website at jeeadv.ac.in.

JEE Advanced Admit Card 2019 Released | The JEE Admit Card, JEE Advanced Admit Card 2019, JEE Advanced Admit Card 2019, was released on Thursday and available for download at the JEE

advance's official website jeeadv.ac.in. The Indian Institute of Technology (IIT), Roorkee has hosted the JEE Advanced 2019 admit card through a direct link at the JEE Advanced candidate portal. Candidates, who have qualified the JEE Mains, are eligible to appear for the JEE Advanced exam, and have to download their JEE Advanced Admit Card from the IIT's Roorkee official website or JEE Advanced candidate's portal, by entering their exam credential.

JEE Advanced Admit Card 2019: Steps to download

Follow the below listed steps and download the JEE Advanced Admit Card 2019, JEE Advanced Admit Card 2019-

Step 1: Visit the official website, jeeadv.ac.in
Step 2: Click on the link 'JEE advanced 2019 admit card'

Step 3: Enter the details like JEE advanced registration number, date of birth, mobile number, email id
Step 4: Click on login button
Step 5: The JEE Advanced Admit Card 2019 will appear on the screen
Step 6: Download and take a print out

Check the details printed on your JEE Admit Card, JEE Advanced Admit Card 2019 as well as any one of the ID proof documents and carry it at your exam center. Without the same, candidates will not be allowed to sit in the JEE Advanced examination.

For the academic year 2019-20, the Joint Entrance Examination (JEE) Advanced is scheduled for May 27 and will be conducted by the Indian Institute of Technology (IIT). Reportedly, approximately 1.35 lakh candidates have registered for the exam.

May 23

IIT Gandhinagar students build affordable, portable CPR machine

https://www.moneycontrol.com/news/trends/iit-gandhinagar-students-build-affordable-portable-cpr-machine-4005211.html

The students built the machine at an expense of Rs 6,000 as against the Rs 4,00,000-worth CPR device found in hospitals.

India is the unfortunate capital of coronary diseases globally and reports about 80 deaths due to cardiac arrest per hour on an average.

Two main reasons behind this staggering number are the dearth of life-saving equipment and the cost of treatment, which is unaffordable for most.

Attempting to bring this number down, Kratika Bhagtani and Karthik Karvaje -- two students of IIT Gandhinagar-- developed a portable CPR (Cardio-Pulmonary Resuscitation) machine.

The students believe their invention is what the Indian healthcare system needs at the moment.

According to a report by The Better India, the portable CPR machine is compact. It can give chest compressions at proper depth and optimal rate, which helps ventilate the lungs and keep the airway open; it also indicates the compression rate.

Hardly the size of a laptop, the machine weighs less than 1kg. It is also very simple to use and requires just its handle to be rotated. An electric motor can be attached to the machine if any user wants the manual operation to be replaced.

While they built the machine at an expense of Rs 6,000, if commercialised, it could be worth Rs 10,000 as against the Rs 4,00,000-worth CPR device found in hospitals.

Kratika, 20, hails from Rajasthan's Kota and was inspired by her father who is a doctor. She said she had first thought of coming up with such a device when her father discussed with her about patients who died on their way to the hospital, in cases where the ambulance took too long to respond.

Karthik, 22, is a native of Karnataka. He said that reducing the number of deaths reported was his prime motivation. He believes proper CPR can save the lives of many who die of cardiac arrest in India. Many people die because of the lack of know-how on how to properly give a CPR. Therefore, they wanted to design a machine that can be operated with minimal training.

The students developed this device as a part of the Invent@IITGN programme held at the educational institute. The six-week summer course was held in India for the first time in 2018, and it was organised by professors Alan Wolf and Eric Lima, who founded the original US programme.

Twenty select students from various IITs in the country took part in it. They had a budget of up to Rs 50,000 to innovate, build, and test a prototype. The best inventions won prizes.

For the portable CPR machine, Kratika and Karthik won Rs 1 lakh of prize money.

May 21

Boost for cancer therapy: IIT-Bombay develops gel for slow, continuous drug delivery

https://timesofindia.indiatimes.com/city/mumbai/boost-for-cancer-therapy-iitb-develops-gel-for-slow-continuous-drug-delivery/articleshow/69419399.cms

Bringing new hopes of cancer treatment with minimal side-effects, researchers at IIT-Bombay have developed a hydrogel for delivery of drugs in the body. The research found that the hydrogel, which can be naturally removed from the body after use, continued to release drug in the body even after 120 hours, ensuring a slow and continuous release necessary for successful chemotherapy, as burst releases are harmful.

Derived from the serum of cows—called bovine serum albumin (BSA)—in a saline solution, hydrogels are jelly-like materials that are mostly liquid but exhibit solid-like properties. They are formed by a network of synthetic or natural polymers dispersed in water. When kept steady, they retain their shape—as if they were solid—due to the multiple molecules cross-linked to create a solid-like structure. Hydrogels made with a naturally-occurring polymer, like a protein, are used in medicine as they are biocompatible and can be naturally removed from the body after use. They have a broad range of applications in drug delivery, tissue engineering, sensing, and making artificial organs. Prof Chebrolu Pulla Rao from IIT-B, who led the study, said, “Significant progress has been made in the field of cancer treatment. However, several challenges still exist, and there is a dire need to develop new systems and strategies to address these challenges. Hydrogels serve as an efficient platform in this regard.”

The researchers also studied the rate at which the hydrogel released the loaded anticancer drug by measuring the amount released at regular intervals. They also tested the rate of drug release at various levels of acidity and found that it was relatively slow and continuous. It was highest at an acidity level that corresponds to that of cancer cells. “The release is sensitive to acidity, which is a boon since the pH (scale of acidity) of cancer cells are also acidic,” says Rao.

The proposed BSA hydrogel is versatile and can carry drugs to treat other conditions also. “There can be various other potential applications of these gels, which are being explored. These can be loaded with other specific drugs for external applications such as wound healing or antimicrobial activities,” Rao added.

Is the gel ready for use? Not yet. “We have just completed the basic studies to explore the properties of the gel, and now plan to go ahead for in vivo (in a living organism) studies. Only when the results of the in vivo studies are positive, its commercial importance can be thought of,” Rao said. Since the gel is not patented, any researcher could use it for further studies.

IIT research may pave way for easy detection of cancer cells

https://www.tribuneindia.com/news/himachal/iit-research-may-pave-way-for-easy-detection-of-cancer-cells/775955.html

The Indian Institute of Technology (IIT), Mandi, research team has shown how water is distributed inside biological cells using fluorescent nanodots. Their preliminary research indicates that the distribution of water inside normal cells is different from that inside cancerous cells, which, if understood better through future studies, could enable an alternative, easy way of detecting cancer cells.

Their research work was undertaken by a team led by Dr Chayan K Nandi, Associate Professor, School of Basic Sciences, IIT Mandi and was published recently in the Journal of Physical Chemistry C.

The study shows that the human body is composed of trillions of cells with their own specialised functions. Cells have multiple constituents of which water amounts to 80 per cent. Water molecules are close and weakly attached to one another through feeble bonding forces called ‘hydrogen bonds’.

The hydrogen bonds are dynamic and change according to the interactions of water with the surroundings. The subtle changes in intra-cellular water, governing the cellular functionality, may initiate a series of bio-macromolecular dysfunction that can lead to cancer or neurological disorders.

Dr Nandi’s team at IIT Mandi has synthesised a fluorescent nanodot, a material that is in the scale of nanometres – about 80,000 times smaller than the width of human hair. By introducing these nanodots into cells, Dr Nandi and his research team have shown that the hydrogen bonds and hence water contents are different in different parts of the cell. More important is the observation that the hydrogen bonding network is different in cancer and normal cells.

Their work provides the first evidence that the nuclei of cancer cells contain more free water than normal cells.

New campus for IIT brain research centre

http://www.newindianexpress.com/cities/chennai/2019/may/21/new-campus-for-iit-brain-research-centre-1979578.html

The new premises of Centre for Computational Brain Research (CCBR) at Indian Institute of Technology - Madras, was inaugurated on Monday, said a statement issued by the institute.

The new premises of Centre for Computational Brain Research (CCBR) at Indian Institute of Technology - Madras, was inaugurated on Monday, said a statement issued by the institute. The new premises will house researchers and staff of the CCBR. Kris Gopalakrishnan, the co-founder of Infosys and an alumnus of IIT-M, inaugurated the new campus. The centre is funded by his contributions.

The CCBR at IIT-M is a high-level research centre dedicated for understanding the workings of the brain and using these basic principles to further enhance computer science. In a statement, IIT-M Director Bhaskar Ramamurthi said, “We plan to build a large human brain imaging facility. Within five years, we will come out with some really good results and new knowledge.”

IIT Roorkee Design Innovation Center Organizes Himalayan Summit

https://career.webindia123.com/career/education-news-events/2019/iit-roorkees-design-%20innovation-center-organizes-himalayan-summit-22-05-2019.ht

Design Innovation Center (DIC), IIT Roorkee organized a Himalayan Summit on the Design Innovation Challenges in the Himalayan Region on 21 st of May 2019. Various NGOs, scientists, academicians working in the Himalayan region shared their work during the summit. They highlighted various challenges being faced by them. This summit provided opportunities to different DICs to select their problems and identify potential field collaborators.

Design Innovation Center at IIT Roorkee, under the 'National Initiative for Design Innovation' scheme was set up in multi-dimensional space with the long sighted vision, primarily to address the problems of the Himalayan Region. DIC IIT Roorkee extends to fuel its research mandate through Innovation in various sectors aiming at resolving human issues.

The focus of this summit was the Himalayan region which makes most of the northern part of our country and offers a vast potential for various activities. Human greed is resulting in uncontrolled exploitation of different natural resources, which is one of the reasons for various climate change issues. Furthermore, limited availability of employment is leading youth to migrate to metro cities. Thus, the activities in this green region also has many inherent challenges.

Several issues related to the challenges in the Himalayan Region such as sustainable development, cottage industry, agriculture, livelihood, clean water, transportation, medical facilities, education and technological development were broadly discussed in the summit. The summit was attended by a large number of students of various institutes apart from various organisations working for the development of the Himalayan region. Padmashri Dr. Anil P Joshi, Founder HESCO, Uttarakhand and Prof. Pradyumna Vyas, Former Member Secretary, India Design Council and former Director of National Institute of design, Ahmedabad, while addressing the gathering, mentioned various opportunities in the region and indicated the need for developing sustainable measures to face the challenges. Prof Vyas emphasized on formulating design and development policy for the mountain states in the country. He said that we need a circular eco system to strike balance between " People" "Planet" and "Profit" and it's time to go for the concept of the smart villages. On the other hand Padmashri Dr. Anil P Joshi, said that Himalaya does not need us we need Himalaya and IIT Roorkee can play the most influential role in solving Himalayan problems.. Prof. Parida emphasised on development of sustainable transportation systems for Himalayan regions by DIC and other concerns. They emphasized that DICs can play a larger role in the process.

Prof. Ajit K. Chaturvedi, Director, IIT Roorkee, who was the chief guest of the inaugural session, said "The Himalayan region holds a lot of significance for us, not just culturally, but we believe it is our duty to come up with solutions to the various challenges that people living in this region face. This summit has been conceived in order to take this endeavour forward through our Design Innovation Centre."

It is expected that this summit will usher a new dimension in working of DICs where DICs and their spokes can think of various challenges of the Himalayan region where design approach may provide cost effective and sustainable solutions. Prof. Apurbba Kumar Sharma, Coordinator, DIC, IIT Roorkee, informed that DIC has already taken up a number of projects related to the Himalayan region and a few products have been developed to provide solutions to some local problems. Some of these products are - Crop Harvester for Terrains, Development of Green Furniture Based on Forest Waste Materials, Low cost mechanical wheelchair, hydro-dissection device. DIC is also working on development of a High Yield Loom Design for Uttarakhand Local Weavers.

About IIT Roorkee (https://www.iitr.ac.in/)
IIT Roorkee is an institute of national importance imparting higher education in engineering, sciences, management, architecture and planning, and humanities and social sciences. Since its establishment in 1847, the Institute has played a vital role in providing technical manpower and know-how to the country. In the Times Higher Education Asia University Rankings 2019, the institute has been ranked 3rd among the IITs, while on the citations criterion it has been ranked 1st among all the Institutes in India. IIT Roorkee is an institution with pioneering contribution in the field of education, training, research and development, advisory services in various fields including hydro, hydrology, water resources, geology, earthquake, renewable energy and environmental management advisory and has world class laboratories related to hydropower and water sector.

May 20

IIT-Madras job fair connects startups with rural talent

https://timesofindia.indiatimes.com/city/chennai/iit-madras-job-fair-connects-startups-with-rural-talent/articleshow/69416531.cms

Ramya Muruganantham, a computer science graduate from University College of Engineering in Ariyalur, cannot contain her excitement as she explains her first-ever experience of meeting numerous potential employers under one roof.
Ramya is one among the 400 freshers who participated in the Startups Job Utsav 2019, a job fair connecting rural and small-town engineers to startups, held at IIT-Madras' Research Park, on Saturday.

Organised by IIT-M's Incubation Cell (IIT-M IC) along with IIT-M Research Park and TiE-Chennai, in collaboration with Titan LeAP and Mahindra Pride Classroom, the job fair was aimed at connecting startups incubated at IIT-M to an untapped pool of engineering talent from tier-2 and 3 cities and towns in Tamil Nadu.

Over 40 tech startups and small businesses from the IIT-M ecosystem registered for the placements to grow their business supported by the under-utilised engineering talent from rural Tamil Nadu.

India Today MDRA Survey: IIT Bhubaneswar Ranked 9th Best Engg. College in Country

http://www.pragativadi.com/india-today-mdra-survey-iit-bhubaneswar-ranked-9th-best-engg-college-in-country/

The weekly magazine India Today announced its annual list of best engineering colleges in India on 18th May, 2019 which will be published in the upcoming issue of the magazine dated 27th May, 2019.

Indian Institute of Technology (IIT) Bhubaneswar has been ranked '9th' under Best Government Engineering College category for the year 2019. The ranking was undertaken by the Marketing and Development Research Associates (MDRA) is a marketing research and consulting organization in India with focus on quantitative and qualitative research. The parameters broadly cover "Intake quality & Governance," "Academic Excellence," "Infrastructure & Living Experience," "Personality & Leadership Development," and "Career Progression & Placement".

"At IIT Bhubaneswar, we have been rising the standards of the operations of the Institute in all fronts such as quality of education including learning, teaching, strengthening of research and fostering innovation towards providing holistic development of students and also are raising of improving quality faculty base including scaling up of the current infrastructure. It is indeed very satisfying to see the Institutes position or rank is going up in all the ranking frameworks in the country as well as at global level. We are committed to making IIT Bhubaneswar a globally respected Institute" said Prof. R.V. Raja Kumar, Director, IIT Bhubaneswar.

IIT Bhubaneswar scaled up to 9th position from 10th position in comparison to last year's India Today-MDRA Ranking of Engineering Institutions. Moreover, to give more realistic, relevant and updated information, MDRA has evaluated colleges based on current year data. According to the National Institutional Ranking Framework (NIRF) ranking, IIT Bhubaneswar (BBS) has been ranked 17th among all the engineering institutes of the country, overall13th rank in India in Times Higher Education Asia University Rankings 2019 and overall 20th rank in India among the Times Higher Education Emerging Economies University Rankings 2019.

IIT Kanpur alumnus gifts $100,000 to the institute

https://www.thehansindia.com/hans/young-hans/iit-kanpur-alumnus-gifts-100000-to-the-institute--530895

The gift is of Dr Dev Joneja is to upgrade the Class of 1984 Faculty Research Fellowship to an Endowed Chair.

The gift is of Dr Dev Joneja is to upgrade the Class of 1984 Faculty Research Fellowship to an Endowed Chair. Dr. Joneja's gift will enable their faculty to continue to pursue new frontiers of research. "IIT Kanpur has always believed that its alumni are its greatest asset. We thank Dr. Joneja for this generous contribution to his batch endowment which will significantly aid the students and faculty to continue their work on cutting-edge technological innovations across various disciplines," said Prof. Abhay Karandikar, Director, IIT Kanpur.

Dr. Joneja is currently the Chief Risk Officer at Exodus Point Capital Management. Previously, he was the Global Head of Risk and Analytics at Millennium Management LLC and has also served as its

Senior Managing Director. Prior to joining the firm in 2009, Dr. Joneja was at Lehman Brothers for 13 years, most recently as the Head of Fixed Income Research and as the Global Head of Lehman Indices and POINT. He has also served as a Research Analyst at Barclays Capital and as a faculty at the Graduate School of Business at Columbia University in New York. Dr Joneja graduated from IIT Kanpur in 1984 with a B.Tech in Mechanical Engineering and earned his Ph.D. from Cornell University.

May 18

IIT Bombay fabricates wearable supercapacitor

https://www.thehindu.com/sci-tech/science/iit-bombay-fabricates-wearable-supercapacitor/article27172600.ece

Stored energy can power GPS location-based transmitters or 1.8 volt LED

Researchers at the Indian Institute of Technology (IIT) Bombay have fabricated a wearable supercapacitor that can store and deliver large amount of electrical energy, exceeding other similar devices. The wearable energy storage device can be stitched on to any fabric and can deliver power ranging from microwatt to milliwatt. The energy stored in the device can power GPS location-based transmitters or a 1.8 volt LED.

“The idea is when the supercapacitor is integrated with a piezoelectric energy generator then it will become completely self-sustaining. And when stitched to the fabric, the supercapacitor can be used for powering GPS location-based devices or a LED lamp or even charge small electronic devices,” says Prof. Chandramouli Subramaniam. He is from the institute’s Department of Chemistry and the lead author of a paper published in the journal ACS Applied Materials & Interfaces.

Novel electrode

The electrode of the supercapacitor was fabricated by uniformly coating cotton yarn with carbon nanotubes (CNTs). The coating is done by dipping the yarn into carbon nanotube ink, where the CNTs are dispersed in water using a surfactant (detergent).

The coating converts the electrical insulating yarn into a metallic conductor thereby behaving like an electrode. “The yarns coated with carbon nanotubes exhibited a finite electrical conductivity,” says Prof. Subramaniam.

As the supercapacitor is targeting wearable and portable electronics, liquid electrolytes are out of the reckoning. So the researchers prepared a solid electrolyte film just 150 micrometre thick by mixing poly vinyl alcohol and potassium hydroxide in appropriate proportions.

“We stitched the solid electrolyte with CNT-coated yarn both vertically and horizontally. Capacitors were formed wherever the CNT wires criss-crossed each other and sandwiched the electrolyte,” Prof. Subramaniam says. “By increasing the number of stitches, and therefore, the number of capacitors, the amount of energy stored can be increased.” A 1x1 sqcm electrolyte will have at least a few hundred capacitors.

The researchers laminated the electrolyte film containing CNT wire electrodes to protect it. The laminated capacitors retained flexibility and sturdiness without compromising on performance and power.

The ions in a solid matrix are typically trapped and hinder energy storage capabilities. To overcome this, the polymer matrix was controllably hydrated with water vapour to enhance the mobility of the ions. Similarly, to increase the interaction between the CNT wire and electrolyte, the wires were treated with acid. Acid treatment improved the interface between the CNT wire and the electrolyte. "The combination of mobile ions in the electrolyte and better interface between the wire and the electrolyte increases the capacity to store electrical energy," he says.

Application

"Energy stored in just nine capacitors can power a LED of 1.8 volts," says Mihir Kumar Jha from the Department of Chemistry at IIT Bombay and the first author of the paper. "Depending on the application, we can increase the number of capacitors made in a small area and integrate to increase the total amount of energy stored in the system."

High performance

The laminated supercapacitor demonstrated unchanged performance even when subjected to extreme and harsh mechanical testing — striking repeatedly with a hammer, complete flexing, bending and rolling, and washing in a laundry machine in the presence of hot water, detergents and high spinning action. "This is possibly the first demonstration of a wearable device that can withstand rigorous washing conditions," says Jha. Moreover, being lightweight, it does not hinder user movement in any way.

IIT Kharagpur and University of Edinburgh Joint Workshop to address challenges of rural drinking water in India

https://www.indiatoday.in/education-today/news/story/iit-kharagpur-and-university-of-edinburgh-joint-workshop-to-address-challenges-of-rural-drinking-water-in-india-1528093-2019-05-18

A joint workshop between IIT Kharagpur and the University of Edinburgh (UoE) on Rural Water Quality and Management bear fruit.

The Joint Workshop on Rural Water Quality and Management (RWQM-2019) organized by UoE and IITKGP is a part of a multi-institutional, multi-disciplinary drive for better rural water quality and management.

Many of India's villages may witness a sea change in water quality, management and distribution when the ideation of five projects that evolved out of a joint workshop between IIT Kharagpur and the University of Edinburgh (UoE) on Rural Water Quality and Management bear fruit. The workshop held at IIT Kharagpur during May 14-16 brought together scientists, engineers, social scientists, social workers as well as people from industry from India and abroad to brainstorm about an issue that is critical to promote socially inclusive development throughout the world.

Funds

The workshop was funded by the Global Challenges Research Fund (GCRF) of UK which supports cutting-edge research that addresses the challenges faced by developing countries.

Scope of the project

The scope of these projects is huge as they will tap not only the interdisciplinary expertise of IIT Kharagpur and the UoE, as well as that of the other participants in the dialogue and eventually involve government officials, local institutions, and community-based organizations. But, this is also because many of these projects intend to scale up from the cluster of 20-24 villages as the first point of study, to a thousand villages or more.

Words from the faculty

Prof Pulak Mishra of the Department of Humanities and Social Sciences, IIT Kharagpur, who coordinated the workshop on behalf of IIT Kharagpur said,

"This joint international workshop aimed at stimulating new collaborative research projects in different aspects of water quality and management in rural areas, including the critical issues such as water treatment, wastewater management, water contamination, energy-water-food nexus, water and ecosystems, etc.

Emphasis has also been given on understanding the potential role of policies, local level institutions and community based organizations in this regard."

Prof Kate Heal from the School of GeoSciences, UoE, is part of the project that focuses on "Improving the quality of life of rural communities by empowering them with skills and knowledge in water quality management".

"Good quality water is sometimes a lower priority below other issues," she said. Her team will try to generate community awareness of water quality so as to create a demand for change from within the community. The team will also test different strategies for nudging behaviour change in the community to maintain the safe water option.

Description about the projects

The other projects intend to create a "smart village" by addressing the problems of water and sanitation, a digital data platform on rural water that would bring together all available information on water policies and facts, the use of 'Natural-based solutions to water problems in rural India', and to 'Match water needs with water technologies' through a portal that would facilitate data analytics.

All the teams include not only researchers from the two organizing institutions but also those from potential partner institutions and organizations such as IISWBM, Kolkata, Presidency University, NALCO, Vidyasagar University, and non-profit organizations such as ATREE (Ashoka Trust for Research in Ecology and the Environment) and Arghyam.

One common perspective of all these projects is to take into account not only the local hydro-geology, the social and economic circumstances but also cultural practices.

Several of these projects are looking at learning, using and perhaps upgrading traditional knowledge.

Prof. Dimitri Mignard, School of Engineering, UoE, said:

"We are not going to the local community to tell them what to do but to share with them our ideas."

Prof Robertson said,

"IIT Kharagpur is a particularly important place in research regarding rural development. The setting of the Institute also provides an enormous opportunity of engagement with rural populations". The workshop included field trips to the nearby villages. In one of them, IIT Kharagpur has set up a multi-filtered, UV treated water facility that the villagers run and manage.

The workshop introduced the participants to the problem areas regarding rural water in India and the years of research and action undertaken by IIT Kharagpur in rural welfare through the talks delivered by the three plenary speakers - Prof. Binay K. Dutta or the School of Environmental Science and Engineering, Prof. Manas K. Mandal of the Department of Humanities and Social Sciences, and Prof. Shirshendu De, Department of Chemical Engineering, IIT Kharagpur.

Prof. De's laterite based low-cost arsenic removal technology has won a societal award from the National Research Development Corporation and has been widely implemented in households and schools in Murshidabad, Malda, Midnapore, South and North 24 Parganas.

Prof BC Meikap of the Department of Chemical Engineering, IIT Kharagpur, said:

"Through this workshop we tried to network and develop rural water related multi-disciplinary projects in collaboration with the University of Edinburgh, industry, NGOs and other stakeholders. These will go a long way in solving the critical issue of drinking water in rural India if funding agencies join hands with IITKGP and UoE," said Prof. Meikap, who has been part of the organizing committee of the workshop.

Signing off after a gruelling three days of the workshop, where the moderator, Dr Sara Shilton, Head of Researcher Development, UoE, kept everyone on their toes, Prof. Robertson said,

"We have to draw in every bit of human knowledge and practical sense to solve the huge problem of water. That is what we tried to do through this workshop. We wanted to develop mega conversations with many partners, but also individual connections that are integral to the process."

In the valedictory session, Prof Partha Pratim Chakrabarti, Director, IIT Khargapur highlighted the ongoing mega projects at IIT Khargapur in different critical areas, said,

"This workshop is extremely important in developing research ideas for solving the problems related to bettering life in rural areas."

IIT-M to help potters design microwave-friendly wares

https://www.thehindu.com/news/cities/chennai/iit-m-to-help-potters-design-microwave-friendly-wares/article27166732.ece

Researchers of the Indian Institute of Technology-Madras will help potters in Tiruvallur to design microwavable products.

The IIT-M signed an agreement with the Indian Oil Corporation Limited's corporate social responsibility arm on Thursday to take the idea forward.

Abhijit Deshpande, in-charge of the Rural Technology Action Group at the institute, is working on an idea provided by Centre for Social Development, a Nagercoil-based non-governmental organisation.

The aim is to equip traditional potters with tools and skills to develop a range of microwavable clay products. Mr. Deshpande said the RUTAG had supported scientists at the Central Glass Research Institute in Kolkata. It was extending that experience to the pottery project."We are only enabling the potter. The IOCL will provide the financial support for the project," he said. At Tiruvallur, a common facility would be set up and the potters would be provided the skill sets and the equipment. "We will do the handholding initially in terms of marketing. Our idea is to make clay products a lot more affordable," Mr. Deshpande said.

Composition of Clay

The institute has tweaked the composition of the clay to make the surface of the utensils less porous so that they can be used in microwaves. The institute will be part of the project for two years till the production is up and running.

Bhagavathee Swaran of the CSD mooted the idea, harking back to his early training as a potter. He will offer the technical support with respect to mould design and identifying the potters who require the intervention.

The NGO has done the preliminary survey and settled on Gummidipoondi and adjacent blocks. But the location for setting up the unit is yet to be finalised, Mr. Swaran said. "We can establish a new unit with production technology and product design. We need the State government's support to take it forward," he noted.

IIT Madras Incubation Cell organises startup job utsav

https://www.thehindubusinessline.com/news/education/iit-madras-incubation-cell-organises-startup-job-utsav/article27171545.ece

Over 40 technology start-ups from the IITM Incubation Cell and the IITM Centres of Excellence participated in the event held at the IIT Madras Research Park

Indian Institute of Technology Madras (IITM) Incubation Cell along with IITM Research Park and TiE-Chennai on Saturday organised the first edition of 'startup job utsav,' in collaboration with Titan LeAP and Mahindra Pride Classroom. This is to connect IITM incubated start-ups as well as micro, small and medium-sized enterprises (MSMEs) in Chennai to the new engineering talent pool from rural Tamil Nadu.

Over 40 technology start-ups from the IITM Incubation Cell and the IITM Centres of Excellence participated in the event held at the IIT Madras Research Park. The event provided a platform for startups to utilise the aspiring and 'smart minds' from various Tier 2 and Tier 3 cities of Tamil Nadu.

According to a press release, the start-ups were from various sectors such as manufacturing, automobiles, electric vehicles, robotics, Internet of Things (IoT), agritech and more.

Over 500 engineering graduates (2019 batch) from technology institutes from rural towns in Tamil Nadu, affiliated to Anna University across disciplines, explored the various job opportunities at the event. Graduates were pre-trained by Mahindra Pride Classroom on employability and life skills.

Mahindra Pride Classrooms have till date delivered the enhancing employability skills module through 1,307 classrooms to 56,380 students of select university /colleges /polytechnics /ITIs in Kerala, Tamil Nadu, Maharashtra, Telangana and Andhra Pradesh. The module focuses on upgrading one’s skills, like speaking English, life-skills, aptitude, interview, group discussion and digital literacy for a duration of 54 hours, the release said.