



NEWS CLIPS

September 15-21, 2018

Highlights of the Week@IITD

Murthal varsity signs pact with IIT-Delhi

Sept 16, 2018 <https://www.tribuneindia.com/news/haryana/murthal-varsity-signs-pact-with-iit-delhi/653860.html>

DCR University of Science and Technology, Murthal, has signed a Memorandum of Understanding (MoU) with the Indian Institute of Technology (IIT), Delhi, to speed up the village development programmes under Unnat Bharat Abhiyan in Sonapat district.

University's Vice Chancellor Rajendra Kumar Anayat said as per the MoU, the technological inventions and research outputs of the university will be implemented in villages at the ground level, especially for water management, solid waste disposal, improving agricultural productivity, solar energy promotion of commercial agriculture to enhance the income of villagers, drip irrigation and to improve skills of rural youth.

"The university is also working to organise short-term skill training programmes for rural women in stitching, weaving and cookery and in carpentering, welding and masonry for men to enable the unemployed youth to start their own small-scale works and improve their income sources," he said.

He stressed that researchers should take up the problems and issues of rural areas at Ph D and M Tech level and the evolved solutions should actually be implemented at the ground level. The IIT, Delhi, will provide basic financial and technical assistance in the process of collaboration, he added.

Prof Vijay Sharma and Prof Shailja Sikarwar, who signed the MoU, said the solid waste generated from kitchens and from agricultural waste in fields in the district was highly biodegradable and rich in nutrients. It can be efficiently used in developing high-quality organic manure as well as energy generation.

Sept 21

IIT Gandhinagar professor bags Ramanujan fellowship

<https://www.dnaindia.com/ahmedabad/report-iit-gandhinagar-professor-bags-ramanujan-fellowship-2665814>

A professor of the Indian Institute of Technology, Gandhinagar, has bagged the prestigious Ramanujan fellowship to work on programming stem cells to develop healing technologies for Alzheimers, Parkinson's.

After spending five years in Europe, professor Dhiraj Bhatia has come back to India to research further on DNA nanodevices to programme stem cells for regenerative medicine and biomedical applications.

An assistant professor in biological engineering at IITGn, Bhatia has been awarded the fellowship by the Science and Engineering Research Board (SERB). Instituted by the Government of India, the Ramanujan Fellowship is awarded to Indian scientists and engineers from all over the world who want to return to India from abroad to engage in scientific positions in India.

Bhatia's work in Europe focussed on cell biology and biomedical applications.

"My research lies at the interface of nanotechnology, cell biology and microscopy. I feel humbled to be selected for this prestigious fellowship. I will now further my research on DNA nanodevices to program stem cells for regenerative medicine and biomedical applications. I'll also focus on understanding membrane traffic in stem cells which will help to design strategies for programming stem cells for therapeutic applications like developing healing technologies for diseases such as Alzheimers, Parkinsons and Spinal-Cord Injury," Bhatia said.

Sept 20

IIT-KGP develops model to predict variability and trends in rainfall

<https://menafn.com/1097462219/IITKGP-develops-model-to-predict-variability-and-trends-in-rainfall>

Researchers at IIT Kharagpur have developed a new statistical model which can be used to predict variability and trends in rainfall over different climate regions of India.

The model, developed by researchers of the Center for Oceans, Rivers, Atmosphere and Land Sciences (CORAL), takes into consideration both local and remote factors causing weather changes, an IIT-KGP statement said today.

Here's more.

Most weather forecast models consider local factors that affect rainfall

Local factors

Many of these local and remote factors that affect weather conditions have been known to the scientific community, the statement said, adding, most weather forecast models typically consider local factors that affect rainfall.

Because of this, there used to be significant uncertainties in such predictions as each independent factor has a certain impact, which may not match with actual conditions, it said.

IIT professor explains summer and winter monsoon rainfall variability

Rainfall variability

"Our study finds that the summer monsoon rainfall variability is governed by the surface temperatures of the Eastern Pacific, Central Pacific, Atlantic, and the north Indian Oceans, and equatorial zonal winds," the statement said quoting Prof Jayanarayanan Kuttippurath.

However, the winter monsoon rainfall variability is largely controlled by the surface temperature of the North Atlantic and extratropical oceans, Kuttippurath said.

Here is how the model works

Technique

"In our model, we've used a technique which removes the impact of individual factors to find the trends in rainfall. The model can be used to find the contribution of individual factors to rainfall and can be applied to estimate the trends and variability of rainfall," Dr. Prijitha J Nair said.

Nair is the lead researcher who conceived and coordinated this study.

Model has been developed using data of over 38 years

Model

The model can predict any type of weather conditions in the world by changing the relevant factors affecting the changes.

It has been developed using data over a period of 38 years and has predicted significant changes in Indian rainfall from the perspective of global climate change.

The data analysis conducted revealed significant positive trends (0.43mm/day/dec) in the north-west for summer rainfall during 1979-2017.

Incremental shift of Indian monsoon from east to west: Data

Data

"There are scientific evidences of major climate shifts over centuries. These do not happen overnight but through gradual changes in weather conditions over time," Professor Arun Chakraborty, who supervised the research, was quoted as saying in the statement.

"The data shows there has been an incremental shift of Indian monsoon from east to west.

However, this would require further studies," Chakraborty said.

IIT Madras, ONGC sign agreement to boost operational lifecycle of platforms

https://www.business-standard.com/article/companies/iit-madras-ongc-sign-agreement-to-boost-operational-lifecycle-of-platforms-118091901065_1.html

The synergy between IEOT and IIT-M will be continued to develop a technology-based tool for monitoring, assessment, inspection and maintenance of structural integrity of existing platforms



Indian Institute of Technology Madras (IIT-M) has announced a collaboration with Oil and Natural Gas Corporation Limited (ONGC) to enhance the operational life cycle of the latter's existing platforms and reduce running and operating cost by optimum use of offshore survey requirements.

IIT-M is going to develop a database management system for all the more than 280 platforms of ONGC and develop software for structural integrity management system (SIMS) as well.

Industrial Consultancy and Sponsored Research, IIT Madras, and Institute of Engineering and Ocean Technology (IEOT), ONGC, signed the agreement for the collaborative R&D project titled 'Development of Structural Integrity Management System (SIMS) For Offshore Platforms of ONGC'.

The existing offshore platforms in Mumbai High have been operational for more than three decades. Though the design life has exceeded in some cases, oil and gas production still continues as their reservoirs are producing. Hence considerable effort has been spent on maintaining the structural stability and strength of these platforms for the past 10 to 15 years by both ONGC and IEOT in terms of mitigation measures such as underwater strengthening of members, removal of marine growth and many other activities, including load shedding in some cases.

The synergy between IEOT and IIT-M will be continued to develop a technology-based tool for monitoring, assessment, inspection and maintenance of structural integrity of existing platforms to fulfil operational and regulatory requirements for prolonged production of oil and gas, said S Nallayarasu, professor in the department of ocean engineering.

The project also aims to develop the location-based design criteria specific to the platforms operated by ONGC in this region. This will become a starting point for the development of codes and standards, which do not exist as of now, for offshore platforms in India. SIMS software is being developed in line with the Government of India's Make in India policy under the umbrella of ONGC-PAN IIT programme.

Sept 18

IIT Jodhpur set to get new director, Piani Chaudhary to join soon

<https://www.jagranjosh.com/news/iit-jodhpur-set-to-get-new-director-piani-chaudhary-to-join-soon-146886>



The Indian Institute of Technology (IIT) Jodhpur is all set to get a new director. Professor Piani Santanu Chaudhary will soon take the rein of the institute from CVR Murthy. Professor Chaudhary is currently serving as the Director of Central Electronics Engineering Research Institute (CEERI).

Professor CVR Murthy, who completed his tenure on September 10, 2018, will remain the director until Prof Pilani Chaudhary takes the charge of IIT Jodhpur. Currently, Professor Prof Pilani Chaudhary is coordinating technology projects which involve nearly 11 institutes under Indian Digital Heritage Programme of DST. The programme is basically into the developing the digital techniques for the digital restoration and preservation of heritage sites at Hampi. He is also currently working as a faculty member in IIT Delhi and will be the third Director of IIT Jodhpur. Prof Pilani Chaudhary has also completed his Ph.D. degree in the area of Computer Science and Engineering from IIT Kharagpur in 1989.

According to some media report, Prof Chaudhary has an area of interest in image processing, machine learning, and embedded systems. With such interest, he has developed a scheme for a cloud-based image super-resolution scheme. This is a new technique of video compression based on parametric compression. Currently, he is working on various other projects which are 'Development of robust document analysis and recognition system for printed Indian scripts (OCR)', 'Vision based activity monitoring for surveillance applications (NRB)', 'Design of an embedded processor for smart camera systems' and others.

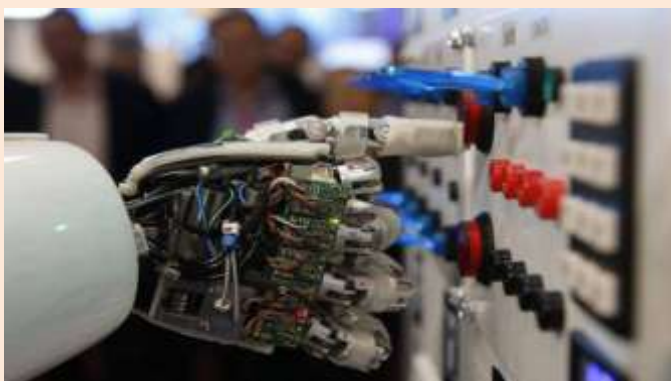
Prof Pilani Chaudhary is a B.Tech graduate in Electronics and Electrical Engineering from IIT Kharagpur. He has as many as 259 research papers published in various national and international journals and has 12 patents filed under his name.

Sept 17

Mindtree & IIT-Madras create faculty fellow position for AI, digital research

<https://www.moneycontrol.com/news/technology/mindtree-iit-madras-create-faculty-fellow-position-for-ai-digital-research-2957181.html>

The association will help IIT-Madras, which is engaged in honing talent in digital technology along with industry-specific knowledge and resources, accelerate the growth and adoption of data science and AI globally



Technology services firm Mindtree has partnered with the Indian Institute of Technology Madras to set-up a dedicated faculty fellow position in data science and artificial intelligence (AI).

The association will help IIT-Madras, which is engaged in honing talent in digital technology along with industry-specific knowledge and resources, accelerate the growth and adoption of data science and AI globally.

IIT Madras has begun a process to identify the faculty member who will be named to the Mindtree Faculty Fellow Position.

“Considering the speed with which technology is evolving such partnerships are vital for the business ecosphere,” IIT Madras Director, Bhaskar Ramamurthi said.

He added that AI, data sciences and machine learning are new territories for most organisations, and the association with Mindtree "will give our students and teachers valuable exposure to industry needs."

Organisations across industries are trying to keep pace with the rapid technological transformation driven by AI, data analytics and machine learning. Through this endowment, Mindtree will help accelerate the development of technology innovation in these fields.

“AI and data science are key priorities for our clients as these technologies offer immense potential to create new business opportunities,” said Rostow Ramanan, CEO and Managing Director of Mindtree. “IIT Madras is one of the global leaders in this field and the collaboration between Mindtree and IIT Madras will help accelerate innovation and push the boundaries of knowledge,” he added.

Mindtree will further extend the partnership with IIT Madras to include research projects focusing on related topics such as personalisation, conversational interfaces and natural language generation.

IIT-B teams up with IBM to promote AI research

<https://mumbaimirror.indiatimes.com/mumbai/civic/iit-b-teams-up-with-ibm-to-promote-ai-research/articleshow/65834994.cms>



Institute first in India to join AI Horizons Network, which has already partnered with top universities like MIT

Indian Institute of Technology, Bombay, has joined hands with IBM as part of a multi-year collaboration to foster research in Artificial Intelligence (AI).

The move will see the institute joining the IBM-run AI Horizons Network, which has already partnered with several top universities, including Massachusetts Institute of Technology. The

institution is the first in India to sign up for the programme.

“This partnership will enable IIT-B to work in collaboration with researchers around the world on the frontiers of AI, focusing on industrially relevant problems. We hope it will make a significant impact on the field,” said Devang Khakhar, director, IIT, Bombay.

While the collaboration does not involve any new funds to the institute, it will give IIT students and staff access to latest research on AI.

According to the institute, teams will investigate new techniques for representing AI data across documents, graphs, charts, and other forms of multimedia content. The collaboration will also promote training and building domain-specific AI agents (chatbots, for instance) which, in turn, will aid humans in complex decision-making such as making investment choices in financial services.

“Over its 20-year history, IBM Research - India has been at the forefront of research advances in technologies like AI and blockchain. We have always had strong collaborations with leading academic institutions in India,” said Arvind Krishna, senior vice president, Hybrid Cloud and director, IBM Research.

While the tie-up does not fetch the institute any funds, it will give students and staff access to the latest research on AI.

Sept 15

छात्रों ने बनाया ऐसा शैंपू जो बिना पानी के धोएगा बाल

<https://www.livehindustan.com/career/story-iit-delhi-students-made-waterless-shampoo-for-humans-2172840.html>

आईआईटी दिल्ली में शोधकर्ताओं ने एक ऐसा वाटरलेस शैंपू तैयार किया है, जिसकी मदद से लोग बिना पानी के अपने बाल को साफ रख सकेंगे। यह उन्हें नहाने का एहसास कराएगा। आईआईटी दिल्ली में 22 सितंबर को मनाए जाने वाले उद्योग दिवस से पहले गुरुवार को संस्थान में शोध करने वाले छात्रों ने अपने उत्पाद प्रदर्शित किए।

आईआईटी दिल्ली के शोधकर्ता शिवम ने एक ऐसा ड्रोन पेश किया है जो ऊंचाई पर सैन्य कार्यों में मददगार साबित होगा। उनका ड्रोन 25 किलोग्राम तक वजन उठाने में सक्षम है। उनका ड्रोन इस तरीके से तैयार किया गया है कि ऊंचाई पर भी तेजी से उड़ सकता है। इसके ऊपर के पंख इस तरह डिजाइन हैं कि यह बेहद कम शोर करता है। वे लेह और लद्दाख के इलाकों में इसका परीक्षण करेंगे।

वारलैस शैंपू

आईआईटी दिल्ली के प्रोफेसर अनुराग राठौर के निर्देशन में संस्थान के वर्तमान और पूर्व छात्रों द्वारा बनाए गए शैंपू और बॉडी वॉश का प्रदर्शन किया गया। इसमें पानी की जरूरत नहीं पड़ती। दिल्ली के रहने वाले पुनित ने 'क्लेन्स्टा इंटरनेशनल' स्टार्टअप शुरू किया है। उन्होंने बताया कि वाटरलेस शैंपू

सैनिकों को काफी फायदा पहुंचाएगा। उन्होंने बताया शैंपू और बॉडी बाथ लगाकर साफ तौलिये से पोछना होता है। पुनीत के साथ इस प्रोजेक्ट में आईआईटी दिल्ली के पीएचडी छात्र विनीत भी शामिल हैं। .

60 रुपये में सांप के काटने का इलाज करने वाली दवा

सांप के काटने पर अब सस्ती विषरोधी दवा के जरिए इलाज हो सकेगा। इसकी कीमत 60 से 70 रुपये के करीब होगी। अभी एक डोज की कीमत 500 रुपये है। आईआईटी दिल्ली के प्रोफेसर अनुराग राठौर ने इसे तैयार किया है। प्रोफेसर अनुराग के मुताबिक दवा को आसानी से सुदूर इलाकों में ले जाया जा सकेगा। वर्तमान में उपलब्ध विषरोधी को ठंडे स्थान पर रखना अनिवार्य है। शोध में तैयार दवा का इस्तेमाल अधिक तापमान पर भी हो सकेगा।

1 घंटे में टीबी की बीमारी के बारे में पता चल जाएगा

इंडस्ट्री दिवस से पहले आईआईटी के शोधकर्ता छात्रों की एक ऐसी डिवाइस के बारे में भी बताया गया जो सिर्फ एक घंटे में टीबी की बीमारी का पता बता देती है। शोधकर्ताओं का दावा है कि आमतौर पर टीबी की जांच में 4 दिन का समय लगता है। शोधकर्ताओं ने बताया कि टीबी एक खतरनाक बीमारी है। जब यह शुरुआती स्टेज में होती है, तभी इसका पता लगना और उपचार जरूरी होता है।

रामगोपाल राव (डायरेक्टर प्रोफेसर, आईआईटी दिल्ली) ने कहा - 22 सितंबर को हमारे संस्थान में इंडस्ट्री दिवस मनाया जाएगा। कार्यक्रम में कई बड़ी तकनीकी कंपनियों के सीईओ मौजूद होंगे। इस साल आईआईटी दिल्ली के 400 छात्रों को पीएचडी की डिग्री मिलेगी। आईआईटी संस्थानों में इस साल सबसे अधिक पीएचडी छात्र हमारे संस्थान से ही निकलेंगे।

IIT Kharagpur signs MoUs with University of Houston and Massachusetts for research collaborations

<https://www.jagranjosh.com/news/iit-kharagpur-signs-mous-with-university-of-houston-and-massachusetts-for-research-collaborations-146852>

The IIT Kharagpur or Indian Institute of Technology Kharagpur has signed MoUs (Memorandum of Understandings) with the University of Houston and the University of Massachusetts Dartmouth for joint academic and research collaborations. The MoU with University of Houston was signed at Houston on Friday in the presence of Chancellor Renu Khator and Director P P Chakrabarti, an IIT Kharagpur statement said on Saturday.

Petroleum engineering, advanced materials, deep sea technology, covering niche aspects of chemical engineering, analytics and industrial engineering are some of the initial areas identified for collaborations, the statement said. The University of Massachusetts Dartmouth signed the MoU with IIT Kharagpur early this week for collaborative research, training and the exchange of faculty, post-doctoral fellows, students and academic and research information.

The University of Massachusetts Dartmouth initiated discussions to formulate a joint international programme on Marine Science and Technology, Director of IIT Kharagpur, Professor P P Chakrabarti said. A team of delegates from IIT Kharagpur was currently visiting the USA led by the Director.

Earlier, IIT Kharagpur signed a MoU with the Carleton University of Canada to support research collaboration, capacity building and other forms of academic partnerships. The MoU was signed at IIT Kharagpur extension campus. It will allow both the institutes to focus on opportunities in student exchange, faculty exchange and professional development programmes, a statement issued by IIT Kharagpur said on Wednesday. The two institutions will also explore possibilities of collaborative masters programmes. The MoU will cover the scope of interaction among members of faculty relating to joint research projects, visits for such purposes and when necessary, joint applications for research funding from external funding agencies, the statement said.