NEWS CLIPS

September 1-7, 2018

Highlights of the Week@IITD

IIT Delhi professor to head IIIT-Delhi

Sept 7, 2018 https://news.careers360.com/iit-delhi-professor-head-iiit-delhi

Prof. Ranjan Bose has taken over as the Director of the Indraprastha Institute of Information Technology, Delhi (IIIT Delhi). Prof. Pankaj Jalote has completed his tenure as the founding Director of the institute after serving for a decade.

Prof. Ranjan Bose is an established researcher, teacher and innovator with over 25 years of research and teaching experience, he was serving as Microsoft Chair Professor at the Department of Electrical Engineering, India Institute of Technology, Delhi (IIT Delhi). He has done his B.Tech from IIT Kanpur and MS and PhD in Electrical Engineering from University of Pennsylvania, Philadelphia, USA.

"As an institution, words are just the means and not the end to thank him enough for his efforts, leadership and affection that he paid for everyone associated with him directly or indirectly during his tenure. I am sure this legacy at the institute will be carried forward in a phenomenal manner in the proficient and passionate leadership of Prof. Ranjan Bose, the new director of the institute," said Kiran Karnik, Chairman, BOG IIIT Delhi.

His research interests lie in the area of secure communications, coding theory, ultra-wideband (UWB) communications, broadband wireless access and wireless security. He has done pioneering research in the area of 'energy-efficient and secure' wireless communication systems, with a specific mention about the use of chaos theory for secure communications. Prof. Bose has invented the concept of 'Sequence Clean', a computationally efficient algorithm and proposed a new metric that reduces the computational complexity significantly, directly impacting breast cancer detection, next-generation radar, air-traffic control and through-wall imaging.

Prof. Bose has published prolifically with 150+ publications in refereed journals and conferences and filed for 16 patents, including one granted US patent, his research work has been widely cited and referred to. He has undertaken various funded research projects amounting to over 33 Million US$. He is a recipient of URSI Young Scientist award in 1999, Humboldt Fellowship in 2000, INAE Young Engineers award in 2003, AICTE Career Award in 2004, BOYSCAST fellowship in 2005 and Dr Vikram Sarabhai Research Award in 2013. He is a senior member of IEEE (USA) and a fellow of IET (UK). At present, he is Associate Editor of IEEE Access and Member, Editorial Board of Computers & Security, Elsevier and Editor of Frequenz: Journal of RF-Engineering and Telecommunications. He has served as Head, Bharti School of Telecom Technology and Management (IIT Delhi) and was Head of Center of Excellence Cyber Systems & Information Assurance (CoE-CSIA) at IIT Delhi before joining IIIT-Delhi as Director.

IIT Delhi students bag James Dyson Award, lucrative prize money; here is what they designed

Sept 7, 2018 https://www.financialexpress.com/education-2/iit-delhi-students-bag-james-dyson-award-lucrative-prize-money-here-is-what-they-designed/1305344/

Two students from the Indian Institute of Technology (IIT) Delhi recently won the James Dyson Award from India along with a lucrative prize money worth Rs 1.70 lakh for designing convenient medical equipment.

The winners have been identified as Amit Kumar and Rituparna Guha. (Express)

Two students from the Indian Institute of Technology (IIT) Delhi recently won the James Dyson Award from India along with a lucrative prize money worth Rs 1.70 lakh for designing convenient medical equipment. The winners have been identified as Amit Kumar and Rituparna Guha in an Indian Express report. The two students have designed a wheelchair that helps in conveniently shifting the user to another medium. The wheelchair has been named Samarth and it helps in drastically reducing the efforts of a caregiver while handling patients, especially while transferring them from a wheelchair to another place or medium.

According to a press release, the two Indian winners decided to work on the specific project after realising the lack of an effective solution which can prove to be helpful while efficiently shifting the patient to and from wheelchairs. They interacted with several mobility impaired patients at the Cheshire Home for Disability and finally selected the project. They also identified that in India, there are a number of people who are suffering from paraplegia and the problem of being shifted o one place to another keeps haunting them. They worked on this project with the aim to make patients more self-sufficient.

Rituparna and Amit while talking about the project said, “Many sleepless nights at the design studio, repeated visits to the Indian Spinal Injuries Centre, Cheshire Home for Disability and rounds between wholesale markets, numerous prototypes and lots and lots of feedback brought us to what we call Samarth. We have nurtured this because we saw potential in it to reduce the pain and inconvenience caused a lot many suffering people in India.” They further talked about the next step for their project and said that the “designing the innovation for manufacturers” will be it.

According to reports, the James Dyson award is given to the winner of an international design competition that is led by a British entrepreneur. The international winner for this same will be selected from a group of hundred applications across the world later this year. A student from Indian Institute of Technology (IIT) Kanpur had won the award in the country last year designing efficient stretcher that transfers patient without any pain.

IIT-Delhi decides to double intake of foreign students in one year

Sept 1, 2018 https://www.thehindu.com/education/colleges/iit-delhi-decides-to-double-intake-of-foreign-students-in-one-year/article24843900.ece

Having got the tag of institution of eminence from the Centre, the Indian Institute of Technology, Delhi, has decided to double its intake of foreign students in the coming year. It is also looking at increasing the number of foreign students to 10% of its strength in five years.

“For international students, we are creating some fellowships now. We hope to have at least double our international student intake in one year. We now have about 100 foreign students, but we want

to increase this to 200 students. And we want to reach a target of at least 1,000 students in five years. That will be 10% of our total student strength. That is our target," said a highly placed source at the IIT-Delhi.

The induction of foreign students is being seen as necessary to enhance the global ranking of institutions, as the institute of eminence status is aimed at helping Indian institutions break into the global league.

The QS ranking of higher educational institutions across the world ranks them on five parameters — foreign faculty, foreign students, student-faculty ratio, research and perception. The IIT-Delhi gets zero ranking with regard to foreign students as of now.

As institutions of eminence, IIT-Delhi, IIT-Bombay and IISc are eligible for an additional grant of ₹1,000 crore from the Centre.

Sept 7

IITKGP delegation visiting US for scholar hunt

https://www.business-standard.com/article/pti-stories/iitkgp-delegation-visiting-us-for-scholar-hunt-118090800309_1.html

As part of the international outreach programme, an IIT Kharagpur delegation is visiting the US to meet researchers looking for a career in the best higher education and R&D institutions in India.

"We are keen to engage with bright and promising doctoral students and post-doctoral fellows in the US and discuss academic career options at the Institute," Director P P Chakrabarti, head of the delegation, said in a statement Saturday.

He said the institute was striving to enhance its human resource in teaching, learning and research "by providing a fulfilling research and academic ambience to young talents, be it innovative research or developing new methods of teaching and education."

While the delegation is visiting Washington DC Saturday, it will reach Boston on September 11, Miami on September 12 and Houston on September 13 and Bay Area, California on September 16.

The team members will be meeting researchers interested in various academic positions and looking for a career in one of the best higher education and R&D institutions in India can meet the team from IITKGP at any of the events.

Chakrabarti will also meet the administration of George Washington University Law School with which IIT KGP already has a technical collaboration agreement.

He will also hold meetings on academic and research collaboration with the administration of the Association of Public and Land Grant Universities.

Similar meetings will be held with the president of the University of Massachusetts Dartmouth, chancellors of UC San Diego and University of Houston.

Two MoUs will be signed in this regard with UMass Dartmouth and Houston.

The director will meet the Indian Ambassador to the USA, Consul Generals of Houston and San Francisco and representatives of the NASA, National Science Foundation and Confederation of Indian Industries as part of the outreach programme, the statement said.

IIT-H develops new electrodes for producing rechargeable batteries

http://www.thehansindia.com/posts/index/Young-Hans/2018-09-07/IIT-H-develops-new-electrodes-for-producing-rechargeable-batteries-/410566

IIT-H develops new electrodes for producing rechargeable batteries

Dr Surendra K Martha and his team at the Indian Institute of Technology(IIT), Hyderabad have developed new electrodes for producing rechargeable lithium-ion batteries with high energy densities. A combination of nanoengineering and new materials processing techniques promise batteries with energy densities twice as high as commercially available products.

According to an IIT-H communique, it assumes significance following Li-ion batteries have become the power source of choice for a range of applications that involve portable electronics, power tools, and hybrid/full electric vehicles. Further, they hold the potential to free the automobile industry from the stronghold of depleting petroleum reserves.

And, it has the potential to give a fillip to the Indian government's goal set for 30 per cent electric vehicles (EVs) on the country's roads by 2030. The realisation of this goal and the development of next-generation lithium ion batteries hinges on improvements in the cell components and there is continuing research all over the world in developing better batteries with higher energy densities than possible in current systems. Dr Martha's studies have been published in the Journal of The Electrochemical Society, Journal of Power Sources, Ionics, Journal of Energy Storage and the American Chemical Society's open access journal, ACS-Omega, it added.

The lithium-ion cell, in its simplified form, consists of three parts: a positive electrode (cathode), a negative electrode (anode), and electrolyte that conducts the lithium ions between the two electrodes. Lithium-ion shuttles from the cathode to the anode during charging and in reverse during discharge, i.e., when current is being drawn from the battery to, say, operate your cell phone, through the electrolyte. The energy density of the lithium-ion battery is decided by the "specific capacity" of

the electrode material, defined as “the amount of charge that can be stored in the material per unit mass”, and voltage.

The material currently used for making cathodes, usually mixed oxides and phosphates of certain metals, have specific capacity in the range of 140-210 mAhg-1 and the anode material, usually graphite, around 350 mAhg-1. The energy density of cells made using such material has hovered around 100–265 Wh kg-1. Dr Martha and his team at IIT Hyderabad have developed new electrode (both cathode and anode) material with higher specific capacities than conventionally used electrodes.

Dr Martha’s lab has developed two kinds of cathode material with better capacity than existing systems. In one, they have synthesised mixtures of transition metal oxide and carbon-coated lithium manganese phosphate to form “blends” that show excellent stability under repeated cycling and very little energy loss over cycle life.

In addition, they have used nanoengineering, in which the material used to fabricate the cathode is a few nanometre in dimensions (for reference: a human hair is approximately 80,000-100,000 nanometre in diameter). The capacity of these electrodes is around 225 mAhg-1, clearly higher than those of current cathode material. In a further development, the team has doped cathode material with fluorine and magnesium, to result in capacities ~280 mAh g-1 without energy loss during cycling, the communique said.

Dr Martha’s team, in collaboration with Oak Ridge National Laboratory the USA, has developed a unique organic-binder-less, additive-free 3D electrode architecture made of silicon and carbon in nano dimensions and have coated it on a current collector made of carbon fibre, instead of copper foil that is used in conventional cells. The advantage of this material is that there is enough space between silicon and the surrounding carbon coating, which allows for volume expansion and contraction without pulverisation of the silicon. Reversible capacities over 2000 mAh g-1 at C/10 rate have been obtained for these electrodes. A provisional Indian patent has been filed for this work.

Also, the new electrodes can result in better-performing lithium batteries with higher energy density than currently possible. Indeed, the team has already shown that combining the cathode and anode materials developed by them in coin-type lithium ion cell results in energy densities greater than 500 Wh kg-1. This is more than twice the energy density seen in commercial lithium-ion cells. “I am in the process of scaling up and designing pouch and prismatic batteries from this small product”, says Dr Martha. This, in R&D parlance, is the first step in the path of commercialisation of high energy batteries that could power future electric vehicles on the Indian road.

Sept 6

IIT-Delhi to conduct safety audit of 165-km Yamuna Expressway

https://news.careers360.com/iit-delhi-professor-head-iiit-delhi

The Institute has been instructed to finish the audit by the next four months and suggest ways to reduce accidents on the route.

According to data provided by YEIDA, there have been 4,984 accidents on the expressway between October, 2012, and April 10, 2018, resulting in the death of at least 540 persons. (Burhaan Kinu / HT Photo)

The Yamuna Expressway industrial development authority (YEIDA) on Wednesday said that it has roped in the Indian Institute of Technology (IIT), Delhi to conduct a safety audit of the 165-km Yamuna Expressway connecting Greater Noida with Agra.

The Institute has been instructed to finish the audit by the next four months and suggest ways to reduce accidents on this high speed expressway.

“IIT-Delhi will start audit work in August and finish it in four months as we need to implement the suggestions in the report at the earliest. The motive of this audit is to ensure safety to motorists who use this E-way,” Arun Vir Singh, chief executive officer of the YEIDA, said.

Following criticism from the Supreme Court hearing a petition seeking motorists’ safety on the expressway, the Uttar Pradesh government had, many times, directed officials to beef up law enforcement to contain speeding and other traffic violations causing accidents killing hundreds of people. But the apex court is not satisfied with the safety measures taken so far, said officials.

According to data provided by YEIDA, there have been 4,984 accidents on the expressway between October, 2012, and April 10, 2018, resulting in the death of at least 540 persons.

YEIDA had, on December 25, 2014, hired the Central Road Research Institute (CRRI) to conduct a safety audit of the expressway after frequent accidents resulting in casualties were reported. But the CRRI recommendations hardly made any difference to enforcement, said officials.

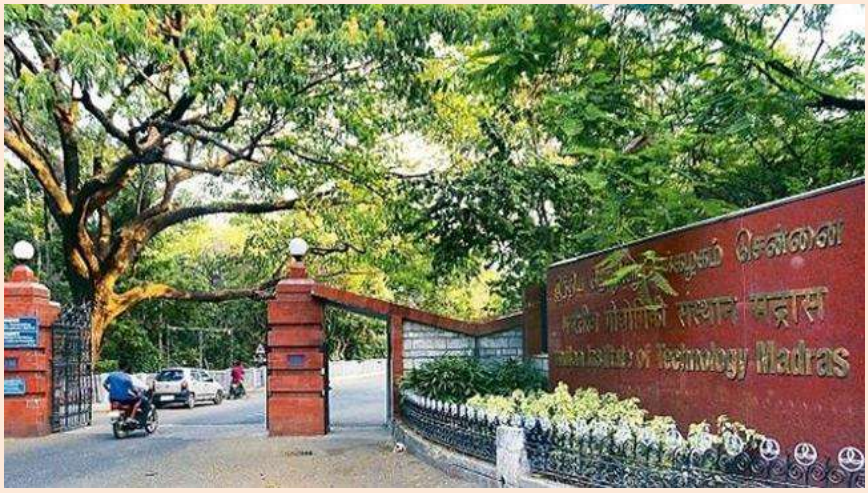
“We explored other options and tried to hire IIT Roorkee and IIT Delhi, as well as other agencies. IIT Delhi agreed to conduct the audit which will cost the authority ₹34 crore. We will implement all the suggestions of IIT Delhi for motorists’ safety,” another YEIDA official said.

According to the CRRI, the main causes of accidents on the expressway are speeding, not driving in the correct lane, drink driving and overloading of heavy vehicles. The expressway passes through six districts — Gautam Budh Nagar, Bulandshahr, Aligarh, Hathras, Mathura and Agra. The police in the six districts keeps passing the buck to one another instead of enforcing traffic rules.

The speed limit for small vehicles is 100 km/hr whereas for heavy vehicles it is 60 km/hr.

IIT Madras turns 60, becomes best engineering institute in India

https://www.indiatoday.in/education-today/news/story/iit-madras-turns-60-becomes-best-engineering-institute-in-india-1333271-2018-09-06



IIT Madras steps into its 60th year.

The Indian Institute of Technology, Madras (IIT-M) turns 60! Yes, IIT Madras enters into its **60th year.**

Moreover, it has also been adjudged as the best Institute in the overall category by National Institutional Rankings Framework (NIRF) 2018, Ministry of Human Resource Development, Government of India. The second position has been attained by the Indian Institute of Science (IISc).

The contribution of alumni, faculty, and students over the past sixty years has led to the rise of the institute to become a globally reputed education centre.

According to the website, India EducationDiary.com, Prof Bhaskar Ramamurthi, Director, IIT Madras, said, "We have taken great strides since our Golden Jubilee in 2008 in every parameter by which one may choose to measure our Institute's growth and performance. As we enter the Diamond Jubilee year, we are confident that we will accelerate even further and scale new heights in research, teaching, and innovation."

IIT Madras was founded in 1959.

Series of events in Diamond Jubilee of IIT Madras:

1. **'Technology Summits'** to be held in locations, such as the Bay Area and Houston, U.S., Toronto, Canada and London, England.
2. **'Thematic Conclaves'** will be held in Indian cities, such as Chennai, Mumbai, Delhi and Bangalore.
3. **'Campus Congresses'** would be hosted to bring together academic leaders from different parts of the world.
4. A **'Technology Day'** will also take place in campus to celebrate the Institute start-ups and applied R&D Centres.

About IIT Madras:

1. Indian Institute of Technology Madras is one among the foremost institutes of national importance in higher technological education, basic and applied research.
2. In 1956, the German government offered technical assistance for establishing an institute of higher education in engineering in India.
3. The first Indo-German agreement in Bonn, West Germany for the establishment of the Indian Institute of Technology was signed in 1959 in Madras.
4. The Institute was formally inaugurated in 1959 by Prof Humayun Kabir, Union Minister for Scientific Research and Cultural Affairs with nearly 550 faculty, 8000 students and 1250 administrative & supporting staff.

Mission of IIT Madras:

1. The advancement of knowledge through education and research, in both pure and applied science, in engineering, social science and humanities;
2. Service to the community and nation (which are referred to as extension activity) through the use if their resources both intellectual and material, particularly through continuing education for professionals working in the industry.

UGC's Anti-Plagiarism Rules Don't Make Room for Realities of Indian Academia

https://thewire.in/the-sciences/ugcs-anti-plagiarism-rules-dont-make-room-for-realities-of-indian-academia

It is difficult to imagine that people in positions of power and with strong political connections will be caught and penalised for plagiarism.

The University Grants Commission (UGC) recently approved the UGC (Promotion of Academic Integrity and Prevention of Plagiarism in Higher Educational Institutions) Regulations, 2018. These regulations are dedicated to addressing plagiarism by students, researchers and faculty at India's universities and colleges.

Plagiarism is, along with publishing in fake journals and fabrication and falsification of research, among the major offences committed by academics worldwide. Other lesser known, though common, offences include the practice of adding an author's name to a paper when she has not contributed to the research, not acknowledging conflicts of interest and general sloppiness in conducting research.

In many countries and certainly at the better universities across the world, there are regulations and strong mechanisms in place to detect and punish offenders. Still, academic fraud of one kind or another takes place everywhere.

Until recently, the UGC as well as the universities have been rather casual with matters of research fraud. As a result, existing regulations and investigative and punitive mechanisms have not deterred fraudulent activities. Offenders usually get away with small and big crimes and this has encouraged others to follow the same path. Slowly, however, the government is taking steps to address research fraud. The latest set of UGC regulations pertaining to plagiarism are an example of the government's intent to control research fraud. But it is important to understand that anti-plagiarism measures by themselves only attack one pillar of research fraud and must be combined with attacks on at least two others: fake journals and fabrication/falsification of research. It is also necessary to admit that the immediate impact of these anti-plagiarism measures will be minimal.

API and promoting research fraud

Though research performance of India's universities and other academic institutions has improved, it is overall still dismal. There are many reasons for this research deficit, of which inadequate funding is an important one but not the only factor. Indian academic institutions underperform in research because most universities have traditionally emphasised teaching over research. Indeed, research has been close to the bottom in terms of institutional priorities. However, with the growing popularity of world university rankings in which India's universities perform poorly because of low research output, the government started to take notice and take measures to address the deficit.

One of the first attempts at addressing the research deficit was the introduction of the academic performance indicator (API) in 2010. The API required all faculty members at central universities and central-government funded colleges to do research and publish – in addition to teaching and administrative duties – to benefit from the Career Advancement Scheme (CAS). Unfortunately, most state universities and colleges also adopted the API. With the widespread application of API across all

kinds of academic institutions, including undergraduate institutions that are entirely teaching-focused, faculty members were left with no choice but to publish or stagnate in their positions. These included people who lacked any basic training for research and those who were already overburdened with teaching, administrative and other responsibilities. Further, most teachers work at colleges with woeful infrastructure and where the overall academic environment is inimical to substantive research.

The result of the nearly-compulsory implementation of API was that many faculty members took recourse to plagiarism, publishing in fake journals or both. While for some, plagiarising and/or publishing in fake journals was simply a short-cut to career advancement, for most it was a necessity. In both cases, they fed each other: research-deficient faculty members plagiarised and published to catch-up or get ahead of those who were carrying out genuine research, and at some point the latter realised that they would be left behind if they did not do the same things. Many started to plagiarise, publish and flourish. This gave birth to what is now a flourishing global industry of fake journals headquartered in India.

To a great extent, the current and ongoing wave of research fraud in the form of plagiarism and publishing may have started with the API, which itself was a by-product of the growing popularity of the world university rankings. The API was created to boost India's research output and improve the rankings of its universities; instead, it gave a tremendous boost to fraudulent research.

The API is soon to be revised but the improved version falls short of recognising the proper structure and complexities of India's higher education sector and will continue to be abused.

Fake journals menace

The Indian Express recently carried a series exposing the fake journals industry in India. This has reportedly led to an immediate response from the government, with the higher education secretary R. Subramanyam issuing an order: "If any substandard/predatory journals are found to be in the list recommended by the vice-chancellors that would be held personally against the vice-chancellor concerned."

It is a pity that neither this government nor previous ones paid much attention to reports extending over more than a decade on various kinds of academic malpractices that benefitted dishonest academics and punished honest, hard-working ones. This has direct implications for the new anti-plagiarism measures that the government has put in place. Over time, a large number of academics have risen up the ranks by getting away with academic fraud and the task of restoring academic integrity is now to be placed in their hands!

To its credit, the government has in the last couple of years tried to deal with the menace of fake journals. In mid-2016, the University Grants Commission (UGC) took up the difficult task of preparing a list of legitimate journals; faculty members would have to publish only in these journals to benefit from the API. The task has so far been done rather badly. In early 2017, the UGC released a messy first list of legitimate journals that included the names of several fake journals and excluded many legitimate journals. In May 2018, it removed the names of 4,305 titles from its list, noting that these were "of poor quality," provided "incorrect/insufficient information" about themselves or made "false claims." In the process of excluding fake journals, however, it also removed several legitimate journals from the list. 'The list' very much remains a work in progress and will be for a while.

The new UGC rules

The new UGC regulations on plagiarism represent a sincere attempt to restore some credibility to Indian academia. The text of the regulations is clearly written and there seems to be little that is ambiguous or wrong with it. One can of course debate some specific aspects of the regulations but overall, it is an excellent document. However, the true test of any set of rules and regulations is whether they will be effective. In this case, it seems that anti-plagiarism measures will at best only be partially successful and that too with the passage of a considerable period of time.

In the pre-API era, only a select ambitious academics indulged in research fraud because the others did not have to publish research articles for regular career advancement. For the most part, what mattered was teaching experience measured in terms of number of years. After the API was introduced, publishing was no longer a matter of choice, as outlined above.

The Indian higher education system also experienced massive deterioration from the 1980s onwards, and certainly in terms of the kinds of people it attracted, including faculty members. Academia became for the most part a leftover profession, which one joined after failing at everything else. At the risk of generalisation, one can say that India's higher education sector is dominated by the mediocre in terms of its faculty. A simple research project involving re-examination of PhD dissertations submitted at some Indian universities, including the best ones, will almost certainly show that many of existing faculty members carried out substandard research and engaged in plagiarism and fabrication. Many of them are now heads of departments, principals, vice-chancellors and academic bureaucrats in positions of power.

The clauses regarding detection, reporting and handling of plagiarism in the UGC regulations suggest one can't be too optimistic that they will be effective. These regulations call for the creation of a Departmental Academic Integrity Panel (DAIP) consisting of the head of the department as chairman and two other members, one a senior academic from outside the department, to be nominated by the head of the institution; second, a person well versed with anti-plagiarism tools, to be nominated by the head of the department. Plagiarism cases are to be reported to the DAIP, which will also have the power "to assess the level of plagiarism and recommend penalty (or penalties) accordingly."

The UGC regulations also call for the creation of an Institutional Academic Integrity Panel (IAIP) consisting of the pro-VC/dean/senior academician of the institution as chairman, and three other members, all of them nominated by the vice-chancellor/principal/director of the institution: a senior academic from the home institution; one member from outside the home institution; and the third, a person well versed-with anti-plagiarism tools.

According to the UGC regulations, the manner of dealing with cases of plagiarism will be as follows:

If any member of the academic community suspects with appropriate proof that a case of plagiarism has happened in any document, he or she shall report it to the DAIP. Upon receipt of such a complaint or allegation, the DAIP shall investigate the matter and submit its recommendations to the Institutional Academic Integrity Panel (IAIP) of the HEI.

What could go wrong?

As stated earlier, the regulations are quite well-prepared and written – but there are immediate problems.

Assuming that the head of the department is 'clean', can we expect her to pursue charges of plagiarism against a colleague? Department heads are appointed by rotation and the current head may not take any action for fear of being harassed when someone else takes over as head. Second, if the head is someone who has herself engaged in shady practices, she is even less likely to take any action since others may target her as well. The same set of issues will come into play at the institutional level, with the IAIP.

The fact is that the success of the anti-plagiarism regulations is contingent on how they are applied by the people who run India's universities, from vice-chancellors down to faculty members. There are all kinds of structural obstacles to making the anti-plagiarism regulations work effectively. They will be successful if over time, Indian universities, especially research and teaching-cum-research institutions, open themselves up to hiring faculty on the basis of merit and with proper scrutiny. With the exception of a few institutions, this is not happening yet. For example, it has been reported that even at a premier institutions such as the Jawaharlal Nehru University (JNU), several new faculty appointments have a record of having plagiarised in their work.

Recently, Parliament was informed that over the past three years, there have been three cases of plagiarism against vice-chancellors and others where appropriate action has been taken: Chandra Krishnamurthy, vice chancellor of Pondicherry University (2015); Anil Kumar Upadhyay, reader of Mahatma Gandhi Kashi Vidyapeeth, Varanasi (2017); and Vinay Kumar Pathak, vice chancellor of Dr A.P.J. Abdul Kalam Technical University, Lucknow (2018). These numbers are ridiculously low. Of course, there is no way to know what the actual numbers of plagiarists and others who engage in research fraud are, but it would not be wrong to assume that many of them will be responsible for giving teeth to the UGC's plagiarism regulations.

In an interview, Jeffrey Beall, who ran a hugely-influential website which identified fake journals and publishers until he was forced to shut down, said, "There is no easy solution. I learned that the publishers now have much political power, and they will do anything possible, including collusion with universities, to attack their critics."

The same is true for plagiarism and plagiarists. There is no easy solution. Many plagiarists are vice-chancellors, principals, deans and occupy those positions because of their proximity to politicians. They are considered respected members of the academic community. It is difficult to imagine that people in positions of power and with strong political connections will be caught and penalised for plagiarism.

There is, however, one step that the government can take to limit plagiarism and research fraud: tweak the API to make research optional for college teachers.

Sept 3

Sea water microplastic in popular salt brands, reveals IIT-B study

https://www.hindustantimes.com/india-news/sea-water-microplastic-in-popular-salt-brands-reveals-iit-b-study/story-n7EWL1QZA7lNFBCiJmdd7L.htm

Researchers said the study has not named individuals brands because microplastic was found as a result of background sea pollution, and not during the process of extraction or manufacturing salt.

A grey mullet is shown next to microplastic found in Hong Kong waters during a Greenpeace news conference in Hong Kong, China, April 23.(REUTERS)

Most table salts sold in India are likely to contain microplastics from polluted sea water, a first-of-its-kind study for the country by the Indian Institute of Technology-Bombay (IIT-B) has revealed.

A two-member team from the institute's Centre for Environmental Science and Engineering (CESE) found 626 microplastic particles -- of which 63% comprised plastic fragments and 37% plastic fibres -- in samples of popular salt brands in India.

Researchers said the study has not named individuals brands because microplastic was found as a result of background sea pollution, and not during the process of extraction or manufacturing salt.

The US-National Oceanic and Atmospheric Administration (NOAA) classifies microplastics as measuring less than 5 millimetres, or the size of a sesame seed. They are generated when large plastic debris accumulated in the ocean degrades into tiny fragments. Microfibres, or tiny synthetic fibres, are mainly released from clothes while washing. Both microplastics and microfibres, national and international studies show, enter our food chain through sea food and now, possibly, salt.

According to a 2014 study published in a Public Library of Science journal, there are more than five trillion pieces of plastic floating in the world's oceans. Scientists worldwide have recorded the presence of microplastics in sea salt in various countries.The India-specific study is important because India is the third-largest producer of edible and industrial salt (26 million metric tonnes in 2017) after China (68 million tonnes in 2017) and the United States (43 million tonnes in 2017).

"Our results further confirm the global presence of microplastics in the sea-derived salts as reported from different parts of the world. This is the first report, with reasonable approximations, of the mass concentration of the microplastics in sea-derived salts," said professor Amritanshu Shriwastav, co-investigator, CESE. "The extensive dietary consumption of these Indian sea salts in multiple countries

exposes a significant international population to the associated health effects of microplastic ingestion."

The study 'Contamination of Indian sea salts with microplastics and a potential prevention strategy' co-authored by Shriwastav and Chandan Krishna Seth was published in Environmental Science and Pollution Research, an international peer-reviewed journal, on August 25.

"This (IIT-B study) is a first, and an interesting study," said Madhavan Nair Rajeevan, secretary, ministry of earth sciences, adding that the National Centre for Coastal Research and National Institute of Ocean Technology are spearheading a project to assess and manage sea pollution in India. "Majority of the plastic enters the sea via rivers and estuaries, and microplastic is a bigger problem. We have started discussions on assessing the source of plastic that lands into the sea, and will soon begin the project."

The World Health Organisation guidelines recommend an intake of up to 5gm salt per day for adults. With 63.76 micrograms (0.063 milligrams) of microplastics per kilogram of salt as estimated in the IIT-B study, the maximum microplastic ingestion for Indians is estimated to be approximately 117 micrograms (0.117 milligrams) every year.

Researchers said while the effects on health with an annual dose of 117 micrograms of microplastics in sea salt is yet to be established, studies have shown microplastic contamination in sea food, and their ingestion via inhalation. Therefore, they said, that the aggregate human intake of microplastics from different sources is expected to be higher, and calls for a comprehensive exposure and risk assessment.

Governments across the globe don't have any standards on safe threshold for plastic in water and food, according to a 2017 report by Orb Media that said microplastics have been shown to absorb toxic chemicals linked to illnesses, and then release them when consumed by fish and mammals.

For the IIT-B study, three packages each of eight commercial brands of sea salt – of which one brand comprised open sea salt – was obtained from supermarkets and local markets across Mumbai between June and September 2017. All 24 packages sported different lot numbers and manufacturing dates between 2016 and 2017. Salt from six brands were produced in Gujarat – it accounts for about 77% of the country's production – while the remaining two were from Kerala and Maharashtra.

An analysis of the samples showed that 80% of the microplastic fibres and fragments were smaller than 2000 micrometres (2 millimetres) and 500 micrometres (0.5 millimetres) respectively. Fibres larger than 5 millimetres, though less in number, were also found.

At 61%, polyesters were dominant in both microplastic fragments and fibres, followed by polyethylene (22%) and polyamide (16%). Of all fragments that were extracted during the study, 74% particles comprised of polyesters including polyethylene terephthalate (PET) followed by polyethylene (19% particles), polyamide (7%), and polystyrene (less than 1%). As for microfibres, 39% consisted of polyesters of which 18% was PET, 34% polyamide, and 28% polyethylene.

PET is widely used in the manufacture of plastic bottles and containers for packing food, mineral water, beverages, personal care products, and flexible films. Polyesters and polyamide are used in the textile industry. Polyethylene and polystyrene polymers are predominantly used in the packaging industry.

Over the last four years, microplastics and microfibres in sea-derived salt have been found in China, Spain, Turkey, UK, France, US, as well as in 17 brands of salt from Australia, France, Iran, Japan, Malayisa, New Zealand, Portugal and South Africa that were bought from a Malaysian market. The number of microplastic particles found in Indian salts was similar to that in salts from Spain and Turkey, but lower than those in China.

To prevent or reduce the transfer of microplastics into sea salt, the researchers demonstrated what they described as simple sand filtration of artificially contaminated sea water. "We managed to eliminate more than 85% microplastics by weight and more than 90% of the particles that has the potential to lower their overall burden on human health through experiments conducted in our laboratory. The next step will be to test our method on a large scale by collaborating with industry," said Shriwastav.

Sept 1

National Testing Agency; Free coaching for IIT-JEE and UGC Net

https://www.newsfolo.com/education/national-testing-agency-iit-jee-ugc-net-website-registration-process/154555/

National testing agency: Students preparing for competitive exams are no longer required to worry about the heavy fees of coaching. In fact, the government will now provide free coaching to students from the year 2019. For this an institution National Tasting Agency has been formed. Its work will have to transform 2,697 practice centers into teaching centers next year. According to some officials associated with Human Resource Development Ministry (HRD), this coaching centers will start working on September 8.

Significantly, this decision of the government is going to have a bad effect on private coaching centers. This is because they have been collecting huge fees from private coaching centers students and preparing them for competitive examinations. These centers will not be able to charge any fees from the students. The purpose of these coaching centers is to provide free education to the needy and Laborious students.

NTA Website and Mobile App

The NTA mobile app and website will launch on September 1 and the same day the agency will start the process for online registration of UGC-NET 2018 and JEE-Main. These registrations will run till

September 30. Practice Center will give the students the opportunity to give the mock exam only for the first time and only JEE-Main. Since NEET-UG is not currently a computer based exam, so there will be no mock examination for this.

National Testing Agency: Registration Process

In the first phase of National Testing Agency, students of JEE and UGC Net students will appear in a mock test. In order to participate in any of the mock tests of these two examinations, students will have to register on the NTA website or its app. After this the students will be able to participate in its mock test. Students can also discuss their results with teachers or mentors if they want. The National Testing Agency will be organized from 2019. It may be noted that online registration for JEE MAIN 2018 and UGC-NET will also start from 1 September 2018.

Weed That Treats Polluted Water? IIT-M Develops Low-Cost Way To Remove Toxins!

https://www.thebetterindia.com/157932/iit-madras-polluted-water-remove-toxins/

Prosopis Juliflora is an invasive weed with abundant spread in India. Called Seemai Karuvelam in Tamil and Vilayati Babul in Hindi, it has outstanding capability to survive and grow on dry arid and saline lands.

Scientists at the Indian Institute of Technology, (IIT) Madras have developed a method to make a low-cost adsorbent using the weed and apply that to treat toxic effluents.The technology converts the weed into activated carbon, which, in turn, removes organic compounds, phosphate and nitrate from polluted water.

“Synthesis of activated carbon using Prosopis Juliflora biomass is economical, and can be used to reduce the overall cost of the treatment process. This can improve management of the invasive plant and simultaneously protect the environment,” explained Dr S. Mathava Kumar, Associate Professor in the Department of Civil Engineering at IIT Madras, while speaking to India Science Wire.

The team collected the weed from within the institute campus, where it is available in plenty. They cleaned, shredded the twigs to one centimeter size and allowed it to dry. They then processed this feedstock and converted it into carbon at 500 degree temperature, and further activated it with sulfuric acid.

The researchers studied surface characteristics of the prepared activated carbon using scanning electron microscopy with electron diffraction analysis.


The researchers at IIT Madras. Right: The weed; Prosopis Juliflora

They also analysed its carbon, hydrogen, nitrogen, and sulphur composition using CHNS analyser.They confirmed the presence of functional groups using Fourier transformation-infrared radiation (FTIR) analysis, and the structure of the product by X-ray diffraction (XRD) analysis.

It was found that the Prosopis Juliflora activated carbon was effective in removing traces of organic substance like metronidazole, nutrients like phosphates and nitrates in both single-component and multi-component adsorption systems.

In addition, septic tank effluents containing trace organics such as antibiotics and essential soil nutrients are trapped onto the surface of the activated carbon, thereby preventing pollutants from entering into the groundwater or surrounding aquifers.

The adsorbent can be used in tertiary treatment of wastewater at the sewage treatment plants and in soak-pits connected to septic tanks of residential houses, apartments, schools and hospitals, said the scientists.

“After the adsorption process for nutrient removal, the recovered Prosopis julifloraactivated carbon, which is rich in nutrients, can be applied to the agricultural fields, which in turn will improve the soil nutrients, thereby increase the crop production and reduce the usage of chemical fertilizers”, commented co-researcher S.V. Manjunath.
Researchers at IIT Madras.

According to the United Nations World Water Development Report 2017, over 80 percent of wastewater is discharged without treatment globally. The conventional treatment systems designed are observed to be under-performing in the removal of these trace organics. The new research assumes importance in this context.

The team is carrying out further investigations for the surface modification of the new activated carbon material to see if its adsorption capacity could be further improved. The results of the research have been published in the journal Chemical Engineering.

AICTE and Internshala organise 'Internship Day Ceremony' to honour colleges

https://www.indiatoday.in/education-today/news/story/aicte-and-internshala-organise-internship-day-ceremony-to-honour-colleges-1328527-2018-08-31

AICTE conducted Internship Day Ceremony!

The All India Council for Technical Education (AICTE), in association with the internship and training platform, 'Internshala' conducted the 'Internship Day Ceremony' on August 25 at the AICTE Headquarters in New Delhi.

Who has attended the event?

The event was attended by Dr Satya Pal Singh, Minister of State (MHRD); Dr Anil Sahasrabudhe, AICTE Chairman; and other esteemed dignitaries from AICTE along with 170 training and placement heads from AICTE-affiliated colleges all over India.

Purpose of the event:

The event was organised to honour and acknowledge the colleges who have made remarkable efforts in helping their students secure internships during the months of April to July.

Top 3 colleges with the best internship records:

Around **8,100 students** from AICTE- affiliated colleges landed an internship through Internshala in the summer of 2018. The list of top three colleges in terms of internship records-

- Manipal Institute of Technology
- Maharaja Agrasen Institute of Technology
- Chandigarh University

Over **40 other colleges** were felicitated during the ceremony for different categories like zonal-level winners, most innovative colleges, and notable mentions.

The AICTE chairman, Dr. Anil Sahasrabudhe said, "Through internships, students would get greater exposure to the industry. Two key initiatives which AICTE has taken up are Smart India Hackathon through which students provided innovative solutions and another was mandating internships for engineering students."

Dr. Neetu Bhagat, Dy. Director, AICTE, shared the details of Internship Policy which brings in more clarity and structure around the internship scenario in India for student and college communities.
As a part of Internship Day, Internshala assisted all the colleges in providing their students with internship opportunities.

Sarvesh Agrawal, CEO and founder of Internshala expressed heartfelt gratitude toward the teachers for their contributions and said, "Today's event is a tribute and a salute to the teachers, teachers like you who work extremely hard just to see their students succeed and become responsible citizens of the country."

MHRD introduces Atal ranking for institutions to promote innovation

http://digitallearning.eletsonline.com/2018/08/mhrd-introduces-atal-ranking-for-institutions-to-promote-innovation/

To impart quality and bring innovation in higher education, the Ministry of Human Resource Development (MHRD) has launched the Innovation Cell and Atal Ranking of Institutions on Innovation Achievements (ARIIA) on Thursday at AICTE, New Delhi.

Addressing the gathering at the launch, Minister for Human Resource Development (HRD) Prakash Javadekar said, “We must create innovation culture in India and for the same we are encouraging Higher Educational Institutions to create innovation club in their campuses.”

He also said, “Without innovation no country can achieve sustainable development and prosperity.”

Innovation cell is an initiative of the MHRD and has been established within the premises of All India Council for Technical Education (AICTE) office at New Delhi. The purpose of the cell is to foster the culture of Innovation in all Higher Education Institutions (HEIs) across the country.

The primary mandate of Innovation Cell is to encourage, inspire and nurture young students by exposing them to new ideas and processes resulting in innovative activities in their formative years fostered through Network of Innovation clubs in Higher Educational Institutions.

The Union Minister also said, "21st century is century of Innovation, and the Prime Minister of India has called the decade 2010-20 as the 'Decade of Innovation', to unleash the creative potential of every Indian. India has already been improving on global stage in terms of Innovation ranking from 86th place, 5 years ago, to 57th place this year."

"If we want to deliver justice to the poor and make them prosper we need to innovate, without which it is not possible. Our young population can be converted into an asset if we innovate and for this reason, innovation is most important," Javadekar added.

The Union Minister of State for HRD Dr Satya Pal Singh was also present at the event. He said, "Innovation must become the part of our culture and it must not be limited only to engineering students, it must be open for other students as well. Innovation means original thinking and everyone can contribute their ideas to promote innovation."

Higher Education Secretary-MHRD R Subrahmanyam, University Grants Commission Chairman D P Singh and Chairman AICTE Anil Sahasrabudhe were also present during the event.

Free coaching for JEE Main, NEET aspirants likely from next year

http://digitallearning.eletsonline.com/2018/08/free-coaching-for-jee-main-neet-aspirants-likely-from-next-year/

JEE Main and NEET aspirants may avail free coaching at government teaching centers from next year. Apart from medical and engineering entrance tests, the coaching will also be provided for UGC-NET, management and pharma entrance exams.

According to a report, the Government is planning to convert around 3,000 test practice centres across the country into teaching centres. Along with conducting mock tests, the centres will provide free coaching to students for prestigious higher education entrance tests.

It is expected that the practice centres will start conducting mock tests from September 8 this year, but free coaching facility is likely to begin from May next year.

Students can start registration for practice centres from September 1.

“Government plans to convert these practice centres into teaching centres. They will not charge any fees and so will be especially helpful for talented students from sections where aspirations are high but private coaching is impossible due to financial constraints,” a senior official said.

The Government’s step is likely to hit the private coaching institutes, who huge amounts as coaching fees from students.