Newspaper Clips
May 27-31, 2017

May 31

IIT-Delhi scholar commits suicide in hostel

http://timesofindia.indiatimes.com/city/delhi/iit-delhi-scholar-commits-suicide-in hostel/articleshow/58918412.cms?from=mdr

NEW DELHI: A 29-year-old research scholar from the IIT allegedly committed suicide on Tuesday night by hanging from the ceiling fan in her hostel room inside the campus. Police have recovered no suicide note.

Officials say that the woman, Manila Devak, was in the final year of pursuing her PhD. She has been residing at the Nalanda hostel at the campus.

Police had received a call around 8pm about a suicide at the hostel from the warden. Another hostel resident gone to visit Devak and found her body.

Though the apparent cause of suicide was unclear, cops suspect depression over her studies to be the reason. Her husband and in-laws stay in Bhopal and have been informed about the incident. The body has been sent for an autopsy to the AIIMS mortuary and an inquest is being conducted under section 174 of CrPC.

My Home firm ties up with IIT-H startup

http://www.thehindu.com/news/cities/Hyderabad/my-home-firm-ties-up-with-iit-h-startup/article18662578.ece

Focus is on residential projects

The My Home Group firm, ABJA Power, has signed a memorandum of understanding (MoU) with PuREnergy, a solar energy company incubated at IIT Hyderabad.

The alliance will execute joint projects in the areas of smart and innovative solar systems; IoT (Internet of things)-based energy management, health monitoring/diagnosis of solar plants; skill development; and research and development activities, a release from the group said.

The ABJA Power will focus on the project management part, while PuREnergy will focus on the design and development part. The arrangement would focus on power projects based on the EPC model.

The MoU is part of My Home Group's foray into solar power segment, focusing on rooftop and utility scale projects catering to residential, commercial and industrial segments, the release said.

My Home Group Chairman Rameswar Rao Jupally said, "we have partnered with PuREnergy for providing smart and innovative solar systems." ABJA Power Director and CEO Roy Chowdhury said that the focus of the collaboration would be on smart and innovative solar energy systems controlled and operated by IoT technology.

"Our present focus is on residential and commercial projects to complement the smart city programmes. We have plans to enter into large-scale utility projects in the upcoming solar parks across the country," said Nishanth Dongari, founder of PuREnergy and Assistant Professor at IIT Hyderabad.

May 30

IIT Delhi's 3D bioprinted knee cartilage is India's first lab-grown printed tissue

A team of scientists from the Indian Institute of Technology (IIT) in Delhi has made a breakthrough in the development of 3D bioprinted cartilage. The research team, led by Professor Sourabh Ghosh from the Department of Textile Technology at IIT, has successfully developed a bioink that can be used to print structures like the cartilage found in human knees.

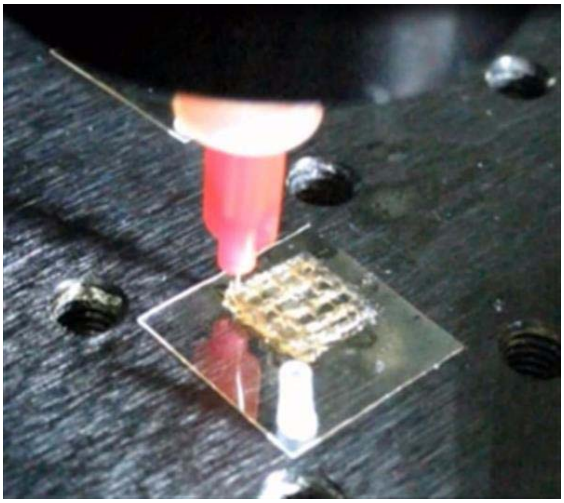
3D bioprinting is arguably one of the most promising new avenues in the medical field, which is why every breakthrough in the technology, no matter how small, is exciting to us. A recent bioprinting announcement by the IIT, not a small feat in the least, marks the first time a bioprinted tissue has been created in an India-based lab.

A new bioink developed by a team led by Professor Sourabh Ghosh contains a high concentration of bone marrow, derived from cartilage stem cells, as well as silk proteins and a few other materials. According to the research team, the 3D printable bioink was designed to not only support cell growth, but also to ensure the long-term survival of the cells.

“The silk protein has different amino acids that closely resemble the amino acids present in human tissues," explained Ghosh. "Just like cells are surrounded by proteins inside our body, the cells in the engineered cartilage are also surrounded by bioink that has a similar composition.”

As recent tests showed, the 3D bioprinted cartilage was able to remain physically stable for a period of up to six weeks. But there is still some work to be done before anyone will reap the benefits of the 3D printed cartilage cells.

Within the field of bioprinting, knees are an important subject because the articular cartilage that surrounds and protects our knees can be easily damaged and is currently difficult (if not impossible) to repair. That is, the load-bearing capacity of our natural knee cartilage has yet to be replicated in a lab, as current lab-made cartilages (called transient cartilage) eventually turn into brittle bone cells.



Preparation of a 3D bioprinted construct

The IIT’s 3D bioprinting technology could, however, offer an alternative to this, as the team has figured out a way to transform the cartilage stem cells in the bioink into chondrocyte-like cells, which are cells that produce and maintain the extracellular matrix of cartilage.

“We have succeeded in stopping this conversion of chondrocyte-like cells or stem cells into bone cells so that they remain as stable articular cartilage,” said Ghosh. This was achieved by optimizing the bioink’s silk-gelatin composition as well as the bioprinting process itself.

In realizing the bioprinting breakthrough, the IIT Delhi team worked closely with Professor Bandyopadhyay's developmental biology laboratory at IIT Kanpur. It was there that the researchers were able to produce a cell line made from bone marrow stem cells that retained its cell-like nature after months of culturing.

Ghosh says the next step in the research will be to implant the 3D bioprinted cartilage into animal knee joints to see if a) the cells remain stable and b) the cartilage can "integrate with the surrounding cartilage tissue." The research could also have applications in drug delivery and pharmaceutical studies.

The research study was recently published in the scientific journal *Bioprinting*.

Work on IIT campus getting delayed

http://www.thehindu.com/news/national/kerala/work-on-iit-campus-getting-delayed/article18618986.ece

Union HRD Ministry yet to set date for stone-laying function

The delay in fixing a date convenient for Union Ministry of Human Resource Development Prakash Javadekar to lay the foundation stone for the permanent campus of Indian Institute of Technology (IIT), Palakkad, is raising concern.

The State government had approached the Union ministry many times in the past three months for a date for the stone-laying function, but the authorities in New Delhi are yet to pay heed. In January this year, the State government had handed over the required land to the ministry to begin construction works.

'Political dimension'

The issue has now got a political dimension with Palakkad MP and CPI(M) leader M.B. Rajesh accusing the State leadership of the BJP of influencing the Union Minister to go slow on the stone-laying function. Mr. Rajesh told *The Hindu* that the Minister had given him two dates in the past three months. Each date was cancelled in the last minute.

Though five IITs were sanctioned after the NDA came to power at the Centre, only Palakkad IIT could start courses early with the State government setting up a temporary campus and completing land acquisition in time. "IITs allotted to BJP-ruled States are yet to begin classes. So they are delaying works in Palakkad. The issue is political. We have ensured all infrastructural facilities for the IIT campus. The Union government is disregarding the matter," he said. As per plan, the construction of the campus will start on 70.02 acres after the stone-laying function.

BJP's denial

BJP Palakkad district president C. Krishnakumar denied the charge of Mr. Rajesh that the party's State unit was behind the imbroglio. "Why he is politicising the issue? It seems to be a case of lack of proper communication and coordination. The State government has to approach the Union Minister and convince him of the importance of the issue," he said.

The then Union Human Resource Minister Smriti Irani had inaugurated the temporary campus on August 3, 2015. It was then said that a 500-acre permanent campus would be set up at Pudussery in three years. The temporary campus at Kozhipara near here lacks facilities to accommodate all students.

Both the Union and State governments decided to establish the IIT in Palakkad after finding its strategic location in the middle of the State and its proximity to Tamil Nadu's second largest city, Coimbatore.

The efforts to get an IIT for Palakkad began when V.S. Achuthanandan was the Chief Minister and there had been a sustained campaign since then.

Prakash Javadekar launches UGC App to fight ragging

http://timesofindia.indiatimes.com/good-governance/centre/prakash-javadekar-launches-ugc-app-to-fight-ragging/articleshow/58895065.cms

NEW DELHI: HRD minister Prakash Javadekar on Monday launched an Anti-Ragging Mobile App introduced by the University Grants Commission (UGC) here.

Speaking on this occasion, Javadekar said this mobile app will help students register complaints to counter the menace of ragging.

He said that previously, one had to visit the website to register a complaint against ragging and while records showed that timely action had resulted in the decrease in such instances, this ill has to be eliminated from its root in campuses. Javadekar said as per his knowledge, majority of senior students actually help guide their juniors and properly mentor them, but in few cases ragging happens, which needs to be eliminated completely.
"Physical or mental torture of a new student is ragging, which we won't allow. It is unacceptable and therefore this app will become a handy tool to any student who goes through such experience," the HRD minister said.

He said this app will work on android system and students can log in and register their complaints instantaneously. Accordingly, all concerned will be informed and action will be initiated immediately.

Javadekar said it is a good step for protection and will give a feeling of security to students.

May 29

Now IIT Madras students organise beef festival

http://www.oneindia.com/india/now-iit-madras-students-organise-beef-festival-2447911.html

Around 50 students of the IIT Madras took part in a beef festival. The festival was held at the IIT Madras campus to protest against the ban on sale of cattle for slaughtering. The incident took place last night where scores of students were seen seated on the lawns of the campus eating beef. The incident comes a day after Congress and CPI(M) workers organised a beef festival in Kerala. The Kerala incident caused a lot of outrage for the brutal manner in which the Congress workers killed a cow before eating it. Advertisement: Replay Ad Cases have been filed against the Congress workers in Kerala. While there has been widespread condemnation of the incident, Kerala Chief Minister P Viajayan has said that he did not need eating lessons from Delhi and Nagpur. Kerala also proposes to come out with a law to overcome the ban imposed by the centre.

May 28

UGC will have a new chairman soon

http://www.sundayguardianlive.com/news/9587-ugc-will-have-new-chairman-soon

The University Grants Commission (UGC) is all set to get a new chairman, with individual presentations by six shortlisted candidates still underway. The selection of the UGC chairman has assumed significance as the new head will lead the UGC’s restructuring. “The final rounds of presentations by six shortlisted candidates for the post of UGC chairman, which started on 17 May this year, are likely to be over by the end of this month, after which the appointment will be done,” a source said.

After completion of the individual presentation rounds, a three-member search-cum-selection committee (SCSC) headed by the Vice-Chancellor (V-C) of Vivekananda Yoga Anusandhana Samsthana, Bengaluru, H.R. Nagendra, will select three candidates out of the total shortlisted aspirants and the names will to be forwarded to the Ministry of Human Resource Development for its final approval. The MHRD has the discretion to choose any one among the three finalists for the UGC chairman's post.

According to sources, the six shortlisted names for the UGC head include All India Council for Technical Education chairman Anil Sahasrabudhe, National Assessment and Accreditation Council chief D.P. Singh, Banaras Hindu University Vice-Chancellor G.C. Tripathi, Delhi Technological University Vice-Chancellor Yogesh Singh, Rayalaseema University head Y. Narasimhulu and B.R. Ambedkar University of Social Sciences (Madhya Pradesh) Vice-Chancellor R.S. Kureel. The MHRD had constituted a three-member SCSC to search for a new UGC chairman after Ved Prakash completed his term on 3 April 2017.

The post of UGC vice-chairman is also vacant, and the commission is in the process of filling the vacancy. The MHRD has already constituted a separate search and selection committee for the appointment of the vice-chairman.

However, the UGC chairman will be appointed first and appointment of the UGC vice-chairman will follow, sources confirmed.

May 27

Indian researchers develop 3D bioprinted cartilage

http://www.thehindu.com/sci-tech/health/indian-researchers-develop-3d-bioprinted-cartilage/article18590358.ece

It is the first time that permanent cartilage similar to natural ones has been developed

Millions of people around the world suffer from degenerative joint diseases such as arthritis. Despite attempting for the last 30 years, scientists across the world have not been able to produce in the lab cartilage-like tissues that are functionally and structurally similar to cartilages seen in human knees and have load-bearing capacity. For the first time, Indian researchers have been able to achieve a measure of success in developing cartilages that are molecularly similar to the ones seen in human knees.

While scientists attempting to tissue-engineer cartilage have focussed on growing cells on porous scaffolds, in a paradigm shift, a team led by Prof. Sourabh Ghosh from the Department of Textile Technology at the Indian Institute of Technology (IIT) Delhi has been successful in 3D bioprinting of cartilage using a bioink.

The bioink has high concentration of bone-marrow derived cartilage stem cells, silk proteins and a few factors. The chemical composition of the bioink supports cell growth and long-term survival of the cells. The cartilage developed in the lab has remained physically stable for up to six weeks. The results of the study were published in the journal *Bioprinting.*

"This is the first study from India where any 3D bioprinted tissue has been developed in a lab," says Shikha Chawla from the Department of Textile Technology at IIT Delhi and the first author of the paper.

"The silk protein has different amino acids that closely resemble the amino acids present in human tissues. Just like cells are surrounded by proteins inside our body, the cells in the engineered cartilage are also surrounded by bioink that has a similar composition," says Prof. Ghosh, who is one of the corresponding authors of the paper.

Transient cartilage

While the cartilage found in the knee is an articular cartilage that is typically sponge-like and has a huge load-bearing capacity, the ones produced in the lab so far are of a different kind — transient cartilage. Unlike articular cartilage, transient cartilage becomes bone cells and, therefore, brittle within a short time. As a result, the engineered cartilage loses its capacity to bear huge load that is typically encountered in the knee.

But the 3D bioprinting approach adopted by the team allows the high concentration of bone-marrow derived cartilage stem cells present in the bioink to gradually convert to chondrocyte-like cells (specialised cells which produce and maintain the extracellular matrix of cartilage).

“We have succeeded in stopping this conversion of chondrocyte-like cells or stem cells into bone cells so that they remain as stable articular cartilage,” says Prof. Ghosh. This was done by optimising the bioink composition, 3D bioprinting process, and by using a combination of growth factors. The optimisation of the silk-gelatin bioink was done in such a manner that it activated two important signalling pathways that are responsible for minimising or inhibiting the conversion of the cartilage into bone-like tissue.

“All earlier work never evaluated for the production of articular or permanent cartilage, while we assessed and found that our strategy leads to the production of permanent cartilage in the lab,” says Prof. Amitabha Bandyopadhyay of Department of Biological Sciences and Bioengineering, Indian Institute of Technology (IIT) Kanpur, and a corresponding author.

Stem-cell like nature

The team was able to achieve this by combining the tissue engineering and 3D bioprinting expertise at IIT Delhi with developmental biology expertise at IIT Kanpur. Prof. Bandyopadhyay’s laboratory developed a well characterised, novel cell line from bone-marrow stem cells. The cell line retained its stem cell-like nature even after months of culturing under laboratory conditions.

“As a next step, we would implant this 3D bioprinted cartilage into the knee joints of animals to see if it remains stable in the knee joint and is able to integrate with the surrounding cartilage tissue,” says Prof. Ghosh. This study also opens up platforms to use 3D bioprinted cartilage on in vitro model system for assessing drug delivery and pharmaceutical studies.

IIT counselling model may help IISER deal with students' stress

http://timesofindia.indiatimes.com/city/kolkata/iit-counselling-model-may-help-iiser-deal-with-students-stress/articleshow/58865463.cms

KALYANI: IISER Kolkata is likely to follow the IITs student-counselling model to acclimatize students on their Mohanpur campus. IISER director R N Mukherjee indicated this at the institute's fifth convocation in Mohanpur on Friday. The idea came after student Sagar Mandal was found hanging in his hostal room on May 1.

Mukherjee said, "I spent many years as a faculty member of IIT Kanpur. I tried to put in place the same system of keeping close contact with students as is done in other IITs. Each student has his or her own capacity to withstand pressure and this differs with each individual. Almost everybody suffers from tension but not everyone goes to the extent of committing suicide."

"English appeared to be a problem for a student in Kanpur. When the lessons were explained to him in Hindi, he scored 80%. There are similar instances here in IISER too."

After Mandal's suicide, IISER authorities have strengthened the system of regular multi-level contacts with residential students with a view to detect stress, frustration or tension among them.Dean of students' affairs Arindam Kundagrami said, "We have strengthened the system where a senior student looks after a group of juniors and maintains liaison with the faculty . The faculty will inform deans of problems and these will be conveyed to higher authorities. So far, there was a lacuna in this mentorship programme."

Mukherjee added: "We will help Mandal's family since they are very poor."

A new combination of drugs for combating hepatitis C

http://www.thehindu.com/sci-tech/health/a-new-combination-of-drugs-for-combating-hepatitis-c/article18590401.ece

Estimates suggest that up to 1% of the Indian population may be infected with HCV

Drugs that prevent entry of the Hepatitis C virus (HCV) into the host cells are equally effective as other drugs, finds a new study from the Indian Institute of Science (IISc), Bengaluru, published recently in the *Proceedings of the National Academy of Sciences.* These drugs, called entry inhibitors, when combined with drugs that prevent the multiplication of the virus inside the host cell, or direct-acting antivirals, can be a potent combination for treating the infection.

The Hepatitis C virus (HCV) infects the liver and spreads mainly through infected needles. Estimates suggest up to 1% of the Indian population may be infected with HCV. A large number of afflicted people develop chronic infection, and sometimes even liver cancer.

A study published in early 2017 by Japanese researchers reported that a combination of three direct-acting antivirals was most powerful in treating the infection in the lab and ranked various drug combinations according to their potency. Such studies help find candidates for clinical trials.

They tested these drugs in the lab in cell culture systems called HCV replicons, which have all the properties of the virus but do not have an outer structure. “A consequence of this was that they could test all the drugs that blocked various steps in the replication process, but not drugs that could block the entry of the virus inside the cell,” said Dr. Narendra Dixit, professor in the Department of Chemical Engineering at IISc and a lead author of the new study.

He and his student Pranesh Padmanabhan asked if the rankings determined by the Japanese study are really the best or if including the entry inhibitor drugs can actually change the optimum drug combinations.

Mathematical analysis

The IISc team mathematically analysed previously published data for entry inhibitors showing how infected cells are affected when exposed to different doses of drugs for a certain time. They showed that they could rank the different entry inhibitor drugs on a scale, similar to that used for HIV drugs, instantly showing which drug was more potent.

Based on this ranking, they found the potency of the entry inhibitors spanned the range seen for direct acting antivirals, with some drugs being almost as powerful as the best direct-acting drugs.

“Entry inhibitors are a big deal because these are also mimics of the antibodies that our body produces. That is one of the ways in which our immune system works,” said Prof. Dixit. Another advantage is that they reduce the emergence of drug resistant mutations, a big disadvantage of direct-acting antivirals.

Considering this finding, the Japanese group who performed the original drug-combination study added entry inhibitors to their cocktail of drugs. They reported that a three-drug combination that included an entry inhibitor was equally powerful as the previous best three-drug combination.

“Direct acting antivirals in combination with entry inhibitors may further strengthen the armoury against HCV by both inhibition of the virus and reducing the risk of drug resistance,” said Dr. Guruprasad Medigeshi, an associate professor at the Translational Health Science and Technology Institute (THSTI), who was not involved in the study. The original observations were extended by mathematical modelling, which is turn was validated experimentally. It is, according to him, “a classic example of multidisciplinary research.”