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Forthcoming Tech Events

- International Conference on Science, Engineering & Technology
- International Conference on Advancements in Computational Sciences
- International Conference on Automation Science and Engineering
- World Congress on Cell & Tissue Science
- International Conference on Power, Electrical and Energy Engineering
- The Web Conference 2019
- Wind Energy Science Conference 2019
- International Science and Technology Conference

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Hult Prize OnCampus competition in collaboration with PASTIC organized at COMSATS University Islamabad (CUI)

Hult Prize OnCampus organized at COMSATS University Islamabad through collaboration of Pakistan Scientific & Technological Information Centre (PASTIC), Islamabad and others. PASTIC-Technology Information Services (TIS) facilitated COMSATS team Hult Prize OnCampus event.

The Hult Prize is a start-up accelerator for impact entrepreneurship which brings together the brightest college and university students from around the globe to solve the world's most pressing issues through pitching ideas and launching companies. It's the biggest and most prestigious start-up event in the world, and awards millions of dollars in investment capital to young budding entrepreneurs, including a grand prize of USD1Million. Regional and national programs are hosted world-wide and winners of these events get to



Group photo of participants and judges of Hult prize OnCampus COMSATS University, Islamabad held on 11th December, 2018. Mr. Saifullah Azim, Principal System Analyst, was one of the judges from PASTIC.

spend 8-weeks living, working, learning and playing in a castle in the UK. The OnCampus winner qualifies and competes for the finals being held at different cities of world and on-line. The winning teams from each city will then move onto a summer business accelerator, where participants will receive mentorship, advisory and strategic planning as they create prototypes and set-up to launch their new social business.

Prior to major event, Hult Prize mentorship session was held on November 12th, 2018 at COMSATS University, Islamabad (CUI). Mr. Saram Bukhari, Project Director, Center for Social Entrepreneurship, Islamabad was the resource person.

Later on, the event was divided into two rounds. The first round was held on December 6th, 2018 at CUI. Out of the 108 registered teams, only 41 qualified for the elevator pitch round. The judges of the event were Mr. Yasir Ahmed, IOT/CleanTech Lead Ignite- National Technology Fund, Mr. Saram Bokhari, Project Director, Centre for Social Entrepreneurship, Islamabad, Hassan Bin Zaheer, Chief Information Officer at Systems Limited, Mr. Iftikhar Janju, HOD at SKANS School of Accountancy, Mr. Yaseer Sajjad, General Manager Internet Audit Sialkot, International Airport Limited. Mr. Muhammad Waqas, Software Solution Architect at Nexus Technologies chaired the Hult Prize elevator pitch round and selected 15 teams out of 41.

Fifteen teams qualified for final round were Smart Home, Smart Wheelchair, Shirijon, Zero to One, Intrusive Spirit, IT on Wheels, The Utopians, The Solution Makers, Virtual Insanity, Apna Kitchen, Falcons, V-4, Soch, Team Swat and Eyeless Dreamers.

The final round was held on 11th December, 2018 at CUI. The worthy judges of the event were Mr. Saram Bokhari, Project Director, Center for Social Entrepreneurship, Muhammad Waqas, Software Solution Architect at Nexus Technologies), Mr. Hassan Bin Zaheer , Chief Information Officer at Systems Limited, Syed Ali Hameed, Executive Director of Shaoor Foundation for Education and Awareness, Nabeela Rashid, Female Entrepreneur Rung by Nabz , Khaleeq Ur Rehman, Digital Marketing Manager BizVenture Marketing, Mohammad Ali Iqbal, GM Solicitation and Evaluation Ignite, Dr. Shimail Daud Arain, CEO, Maryam Memorial Hospital & Former RCCI President and Mr. Saifullah Azim, Principal System Analyst, PASTIC.

Team Solution Makers was the winner of Hult prize OnCampus final round with the idea to create a platform where people could buy cheap stuff online through different sellers providing stuff in bulk thus creating huge jobs for mid-careers. The runner up teams were Apna Kitchen and Team Shirjoin. Team APNA Kitchen provides a platform that connects chefs to students to provide quality food and hence job creation. The idea of team Shirjoin is about making a platform for provision of reservation system, guidance online and job creation. The other sponsors of the event were CocaCola, National Incubation Center (NIC), Technology Times (media partner) and Mosiqi (music partner).

Source: Dr. Syed Aftab Hussain Shah, Sr. SIO, Technology Information Services (TIS), PASTIC (Compiled/Edited); COMSATS University Islamabad (CUI).

IDEAS 2018: Pakistani company Introduces Electrocution-Protective Garb

The IDEAS 2018 exhibition in Karachi has emerged as a platform that showcases innovations of sorts regarding the defence ecosystem of the country.

In order to combat the rising rate of deaths that occur due to electrocution, a Pakistani company has put forth a ground-breaking invention in the form of armour that shields people from suffering an electric shock and also provides protection from burns.



The invention came after the alarming rise in death toll of people that lost their lives due to electrocution and other inflicted burns. The special suit is aptly-designed for labourers employed at electric fields and other industries.

Source : www.thenews.com.pk/latest/399760-ideas-2018-pakistani-company-introduces-electrocution-protective-armour

Biodegradable, Edible Film Kills Pathogens on Seafood

A biodegradable, edible film made with plant starch and antimicrobial compounds may control the growth of foodborne pathogens on seafood, according to a group of international researchers.



"We have the ability to develop a film with antimicrobial activity that can kill foodborne pathogens on food surfaces," said Catherine Cutter, professor of food science, Penn State. "Given the recent outbreaks that we have seen with a number of food products, coming up with something that can be used by the industry to kill microorganisms on the surfaces of food is a noble area of research to investigate."

Seafood may be contaminated with bacterial pathogens, such as vibrio and salmonella. Vibrio naturally occur in marine environments, and salmonella can contaminate seafood during production or processing. Both types of bacteria are linked to gastrointestinal problems when consumed. Because both types of bacteria can survive long-term freezing conditions, the contamination of these bacteria is a concern for the seafood industry.

Freezing does not kill bacteria. However, when freezing food, ice crystals can form from the water in food. The ice crystals, Cutter says, can act like "daggers" and pierce the bacterial cell wall, causing damage to the cell.

"Vibrio and salmonella are somewhat susceptible to freezing," said Cutter. "So, if you treat bacterial cells with antimicrobials and then freeze them, the approach can be more lethal."

The researchers from Thailand used a blend of thermoplastic starch, a biodegradable polymer made from cassava - tapioca powder, and a gelatin coating containing antimicrobials known as Nisin Z and lauric arginate (LAE).

The team of researchers in Thailand then created a "culture cocktail" of the bacteria and inoculated slices of tiger prawn and big-eye snapper. The experimentally-inoculated seafood samples were tested using different compositions of Nisin Z and LAE to see which variations would give the "best kill." After dipping the samples into the edible film composed with antimicrobials, some of the slices were vacuum packaged and chilled for up to a month, and other samples were frozen for 90 days.

"If you just dip shrimp into any antimicrobial -- it's not going to stick very well," said Cutter. "But if you put the antimicrobial into an edible film, and then dip the shrimp into the film and pull it out, that film is going to form around the shrimp. The film then releases the antimicrobials over time."

Cutter emphasizes the importance of a "controlled release" of the antimicrobials over time in order to get the "maximum kill," which is made possible by the edible film's unique properties. Applying just the antimicrobials directly onto the food products would result in the antimicrobials dripping off or diluting.

"If you're going to make an edible film, you want to make a film that has similar properties to plastic," said Cutter. "You want these edible films to be transparent because consumers aren't going to buy something they can't see, you want them to be flexible, and you want the film to mold to the food product. By using edible films, you are doing it in a way that is biodegradable."

Cutter said a big challenge that the food industry faces is reducing the reliance on plastic packaging, something the food industry has been using for the past 40-50 years.

Source : www.laboratoryequipment.com/news/2018/12/biodegradable-edible-film-kills-pathogens-seafood

A Battery that would cut Electric-Vehicle costs

24M, Cambridge, Massachusetts, is reducing manufacturing costs by stripping out extraneous materials and just got \$22 million to begin building its first commercial factory.

In 2010, a pair of MIT materials scientists helped launch 24M, promising to deliver cheaper, better batteries by stripping out inactive materials in the electrodes.



Higher energy density means batteries cost less, weigh less, and last longer, promising electric vehicles without the sticker shock or range anxiety, or phones that don't demand an extra battery pack to get through the day.

The initial target market for the batteries is electric vehicles, but the company has also highlighted the potential for its technology to improve grid energy storage. 24M aims to simplify the design of the lithium-ion battery. In standard versions like the ones in a Tesla vehicle, the electrodes that carry current into and out of a cell are arranged as a series of layers and then wound together into what's known as a jelly roll. By using different materials, 24M can cast electrodes that are four to five times thicker, and immediately pair those anodes and cathodes together in a cell.

This approach avoids a number of steps in the manufacturing process and significantly cuts down the need for inactive materials like copper, aluminum, and plastics. This, in turn, reduces costs and energy needs, and ensures that more of the electrodes themselves are dedicated to the core task of storing energy. The lab-scale version of 24M's batteries has an energy density between 280 and 300 watt-hours per kilogram (Wh/kg). That exceeds the roughly 250 Wh/kg of most top-end batteries now on the market. The company is also working on a different technical path that could create lithium-ion batteries capable of reaching energy densities close to 500 Wh/kg.

Source: www.technologyreview.com/s/612614

EEC receives Emmy Award for truck-mounted X-band Weather Radar

US radar manufacturer EEC, Alabama has received an Emmy Award for the joint-development of its StormRanger mobile X-band weather radar truck, currently used for television weather forecasting and reporting.

Rich Stedronsky, director of strategic development and partnerships, EEC, said, “EEC has a long history of 'firsts' in the weather radar industry. We leaped at the opportunity of working with the station teams to develop the StormRanger trucks. Engineers, technicians and meteorologists from EEC, AMT and NBC/Telemundo stations spent countless hours designing, manufacturing and assembling the StormRangers and systems that operate within each truck.”



Created in partnership with Accelerated Media Technologies (AMT) and NBCUniversal Owned Television Stations, the mobile setup helps boost weather forecasting capabilities by taking the radar directly to the weather event being covered for the closest, most detailed view available. EEC supplied its Ranger-X5 solid-state, X-band, dual-polarization Doppler weather radar to the joint project. Mounted on the back of the AMT-built StormRanger trucks, the Ranger-X5 unit provides near-real-time data for weather phenomena up to 70 miles away. StormRangers not only detect typical metrological events such as rain, thunderstorms, tornados, snow and hail, but also smoke, as shown from recent deployments in southern California.

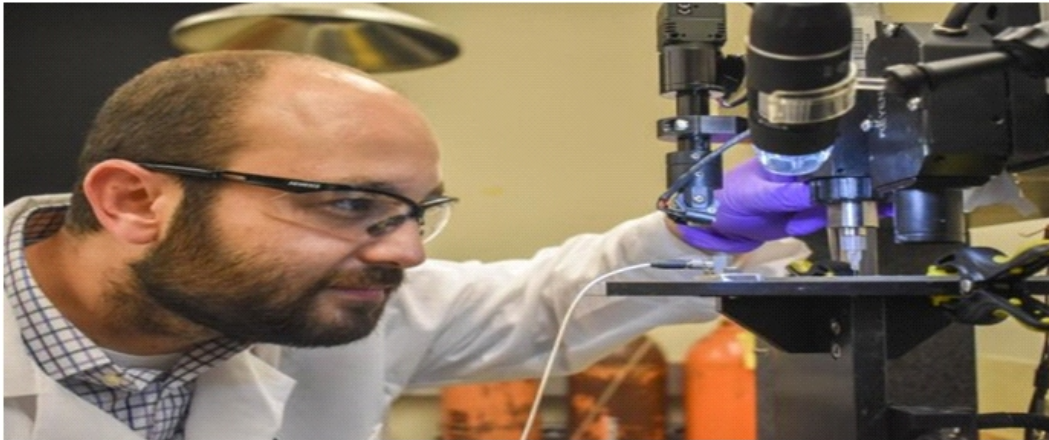
“EEC developed the Ranger X-Band solid-state technology with this precise application in mind,” said Chris Goode, president and CEO of EEC. “The NBC and Telemundo Owned Stations' network of StormRanger weather radar trucks, built around EEC's Ranger platforms, sets a new standard in the industry for real-time monitoring and warning of significant weather events. It's an honor for EEC and its partners to have our collective efforts recognized with this award.”

EEC, AMT and the NBC and Telemundo Owned Station Group will be presented with the award at the 70th Annual Technology & Engineering Emmy Awards Gala on April 7, 2019, at the NAB show in Las Vegas, Nevada.

Source: www.meteorologicaltechnologyworldexpo.com/en/industry-news.php

3D-printed Glucose Biosensors

A 3D-printed glucose biosensor for use in wearable monitors has been created by Washington State University researchers.. The work could lead to improved glucose monitors for millions of people who suffer from diabetes.



Arda Gozen, Assistant Professor, WSU School of Mechanical and Materials Engineering, in the Manufacturing Processes and Machinery Lab.

Credit: WSU

People with diabetes most commonly monitor their disease with glucose meters that require constant finger pricking. Continuous glucose monitoring systems are an alternative, but they are not cost effective.

Researchers have been working to develop wearable, flexible electronics that can conform to patients' skin and monitor the glucose in body fluids, such as in sweat. To build such sensors, manufacturers have used traditional manufacturing strategies, such as photolithography or screen printing. While these methods work, they have several drawbacks, including requiring the use of harmful chemicals and expensive cleanroom processing. They also create a lot of waste.

The researchers used a method called direct-ink-writing (DIW), that involves printing "inks" out of nozzles to create intricate and precise designs at tiny scales. The researchers printed out a nanoscale material that is electrically conductive to create flexible electrodes. The WSU team's technique allows a precise application of the material, resulting in a uniform surface and fewer defects, which increases the sensor's sensitivity. The researchers found that their 3D-printed sensors did better at picking up glucose signals than the traditionally produced electrodes.

Because it uses 3D printing, their system is also more customizable for the variety of people's biology. "3D printing can enable manufacturing of biosensors tailored specifically to individual patients" said Gozen. "Our 3-D printed glucose sensor will be used as wearable sensor for replacing painful finger pricking. Since this is a noninvasive, needleless technique for glucose monitoring, it will be easier for children's glucose monitoring," said Lin. The team is now working to integrate the sensors into a packaged system that can be used as a wearable device for long-term glucose-monitoring.

Source: www.sciencedaily.com/releases/2018/12/181207112658

Long Term Story of Climate Change

A new study shows what nine different world regions have contributed to climate change since 1900, and what will happen moving forward

The science is clear that human activities over the last century have contributed to greenhouse-like warming of the Earth's surface. Much of the global conversation around climate change fixates on what individual countries or regions are contributing to the problem, and what they will do (or not do) to reverse the tide.

Colorado State University's distinguished Professor A.R. Ravishankara, and co-author Daniel Murphy of the National Oceanic and Atmospheric Administration offer a new calculation that provides the long view of what nine different world regions have contributed to climate change since 1900. They also show how that breakdown will likely look by 2100 under various emission scenarios. Their study is in Proceedings of the National Academy of Sciences, Dec. 17. They call their calculation "cumulative radiative forcing" because it integrates the ebb and flow of climate factors throughout the past century, rather than just a snapshot of what it is today. "Radiative forcing" is a metric that measures the sun's energy that is retained by Earth. Global warming is the result of positive radiative forcing, or more energy being retained by Earth than escaping back into space.

In their analysis, the researchers found that, for example, between 1910 and 2017, China, Europe and North America each had periods of nearly no net contributions to warming. These periods were characterized by rapid industrialization and growth of GDP, when fossil fuel emissions increased but few air quality controls were enforced. But as China implements clean air standards moving forward, and the nation's emissions increase at a slower rate, its share of contributions to climate change will increase, according to the study. North America is the largest contributor now and will remain so even in 2100.

Future climate scenarios must take into account all warming contributions to date, and the effects of those contributions moving forward. Emissions reductions would not only help climate, but also human health, he says. Aggressively reduced carbon dioxide and other emissions, for the sake of the planet and for the sake of human health, are the only viable options.

Source: www.natsci.source.colostate.edu/the-full-story-on-climate-change-requires-the-long-view

Forthcoming Tech Events

National

International Conference on Science, Engineering & Technology

28-29 January, 2019

Rawalpindi

www.researchfora.com/Conference2019/Pakistan/1/ICSET/

International Conference on Advancements in Computational Sciences

18-20 February, 2019

University Of Lahore New Campus, Lahore

www.10times.com/icacs-lahore

International Conference on Automation Science and Engineering

26-27 April, 2019

Lahore Continental Hotel

www.Wrfconference.com

World Congress on Cell & Tissue Science

28 April, 2019

Lahore Continental Hotel

www.iiter.org

International Events

International Conference on Power, Electrical and Energy Engineering

26-28 April, 2019

Shanghai, China

www.cp3e.net

The Web Conference 2019

13-17 May, 2019

San Francisco, California

www2019.thewebconf.org/

Wind Energy Science Conference 2019

17-20 June, 2019

Cork Ireland

www.wesc2019.org

International Science and Technology Conference

3-5 July, 2019

Prague, Czech Republic

www.iste-c.net

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About PASTIC

PASTIC serves as a gateway for Scientific & Technological Information for R&D by catering to the information needs of researchers, entrepreneurs, industrialists, educationists, policy makers and planners through anticipatory and responsive information services.

Technology Information Section works exclusively for support and promotion of technological information on trade and industry in the country. "Technology Roundup" is a news bulletin that provides latest and innovative technology news, forthcoming events, etc. It also promotes products, technologies and services globally in sectors such as Agro-Industry, Bio-Technology, Building Material, Business, Chemicals, Electronics, Energy, Fisheries, Food Processing, Machinery, Packaging, Mining Pharmaceuticals and Textiles.

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