Weekly Discovery

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8 October 2018 - 12 October 2018

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3D PRINTING

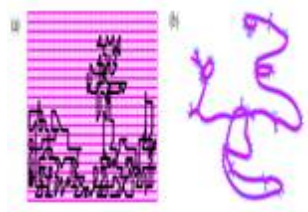
Elzelinde van Doleweerd Creates 3D-Printed Snacks from Food Waste

"Eindhoven University of Technology graduate Elzelinde van Doleweerd has teamed up with a China-based technology company to create food products 3D-printed from leftover food. The foods, which include crunchy cracker-like samples made from purple sweet potatoes and rice."

Source: Dezeen (3 October 2018)

AGEING

Multi-Scale Graph Modeling and Analysis of Locomotion Dynamics Towards Sensor-Based Dementia Assessment



"This paper presents a wireless sensing system for automatic locomotion data collection and a new multi-scale graph model for gait locomotion analysis, which are indispensable to the next vertical step for real-time monitoring of temporal degradation of dementia conditions."

Source: IISE Transactions on Healthcare Systems Engineering (4 October 2018)

CITIES

Megacities: Developing Country Domination

"Megacities are significant for businesses since they concentrate wealth, income and business opportunities ... This report offers an overview of the current economic and demographic state and future outlook of the world's megacities."

Source: Euromonitor International (October 2018)

COMPUTER VISION

Scientists 'Virtually Unravel' Burnt 16th Century Scroll

"Their technique, which involves collaborators from the UK and across the world, firstly involves using x-ray tomography, usually reserved for use in the medical field, to create thousands of thin cross sections of the scroll. In each cross-section, ink from the scroll is made visible as bright blobs."

Source: Cardiff University (3 October 2018)

DEEP LEARNING

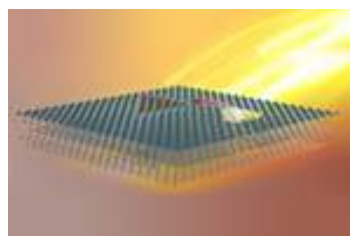
Deep Learning of Group Activities from Partially Observable Surveillance Video Streams (Conference Presentation)

"To generate the needed imagery data set for the training and testing of newly developed techniques, IRIS virtual simulation software is employed for constructing dynamic animation of high fidelity scenarios representing in-vehicle group activities under different operational contexts. The results of our comparative investigation are discussed and presented in detail."

Source: SPIE Digital Library (5 October 2018)

ELECTRONICS

Cannibalistic Materials Eyed for New Fast-Charging Electronics



"DoE scientists have discovered materials that could aid in new designs for fast-charging energy-storage devices and electronics ... the 2D materials can actually cannibalize themselves to create atomic 'building blocks' for forming stable structures."

Source: Design News (5 October 2018)

eMOBILITY

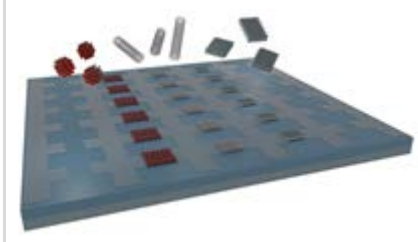
In-Depth: eMobility 2018

"... Trend Report includes Global Market Size & Forecasts, Market Drivers, Challenges, Trends, Deep Dive: Battery Technology, Deep Dive: Public Transport, Consumer Insights, Expert Opinion, Competitive Landscape, Country Analysis, and Special: EV Sales in the EU."

Source: Statista (2018)

GRAPHENE

Graphene Puts Nanomaterials in Their Place

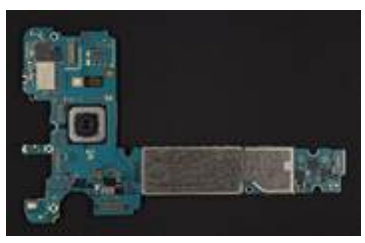


"... for the first time that is possible to electrify graphene so that it deposits material at any desired location at a solid surface with an almost-perfect turnout of 97%. Using graphene in this way enables the integration of nanomaterials at wafer scale and with nanometer precision."

Source: IBM (8 October 2018)

HACKING

The Big Hack: How China Used a Tiny Chip to Infiltrate U.S. Companies



"The attack by Chinese spies reached almost 30 U.S. companies, including Amazon and Apple, by compromising America's technology supply chain, according to extensive interviews with government and corporate sources."

Source: Bloomberg (4 October 2018)

HEALTHCARE

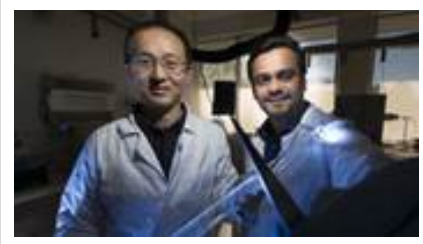
New Technology Provides Early Warning for Heart Attacks

"They use computer algorithms to examine CT scans to measure how much fat is present around heart arteries. That fat changes when an artery becomes inflamed, serving as an early warning system for heart attacks."

Source: Voice of America (9 October 2018)

MATERIALS SCIENCE

Part-Organic Invention Can Be Used in Bendable Mobile Phones



"Engineers have invented a semiconductor with organic and inorganic materials that can convert electricity into light very efficiently, and it is thin and flexible enough to help make devices such as mobile phones bendable."

Source: ScienceDaily (5 October 2018)

ROBOTIC ARCHITECTURE

Towards a 'Cyborg Future': ROB|ARCH Interview with Archi-Union's Philip F. Yuan

"designboom spoke with Philip F. Yuan, who leads Shanghai-based firm Archi-Union. The Chinese architect discusses the importance of culture and tradition, and explains how robotic fabrication can lead to a 'cyborg future'."

Source: designboom (6 October 2018)

ROBOTICS

Model Helps Robots Navigate More Like Humans Do

"MIT researchers have now devised a way to help robots navigate environments more like humans do. Their novel motion-planning model lets robots determine how to reach a goal by exploring the environment, observing other agents, and exploiting what they've learned before in similar situations."

Source: MIT News (4 October 2018)

SENSORS

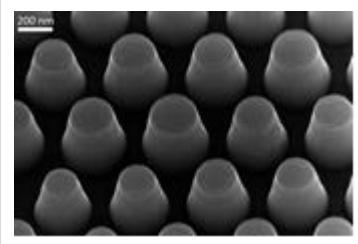
New Wristband Provides Personalized and Real-Time Tracking of UV Exposure

"Researchers from the University of Granada and RMIT University in Melbourne have developed personalised and low-cost wearable ultraviolet (UV) sensors that warn users when their exposure to the sun has become dangerous."

Source: University of Granada (2 October 2018)

SPINTRONICS

Nanoscale Pillars as a Building Block for Future Information Technology

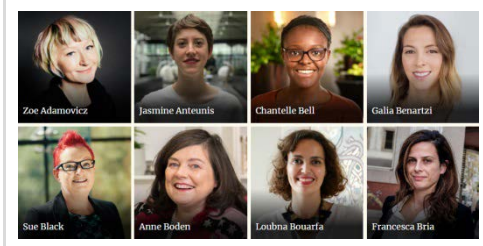


"Researchers from Linköping University and the Royal Institute of Technology in Sweden propose a new device concept that can efficiently transfer the information carried by electron spin to light at room temperature - a stepping stone towards future information technology. They present their approach in an article in Nature Communications."

Source: EurekAlert! (5 October 2018)

WOMEN IN TECHNOLOGY

Europe's Top 50 Women In Tech



"The 2018 Inaugural Top 50 Women In Technology identifies three generations of forward-thinking technologists leading more than a dozen tech sectors across the globe."

Source: Forbes (8 October 2018)