Weekly Discovery

We SHARE to inspire and ignite ideas!

7 June - 11 June 2021

The Library publishes 9 alerts focusing on Topics relevant to growth and research areas to SUTD.

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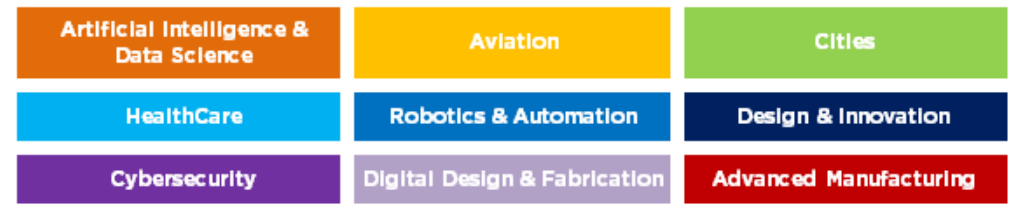


3D PRINTING

3D Printer Produces Swiss Compostable Battery

"Swiss scientists have developed a biodegradable battery that can be thrown into the compost after use."

Source: Swissinfo.ch (3 June 2021)

3D PRINTING

3D Printing Tiny Parts For Big Impact

" Boston Micro Fabrication's machines use a technology co-developed by MIT Professor Nicholas Fang to print millimeter-sized products with details at the micron scale."

Source: MIT (2 June 2021)

CHEMISTRY

What We Know About Water May Have Just Changed Dramatically

"Now, new research published in the journal Nature has added one other equally strange property to water's list of oddities. The implications of this new revelation could have a remarkable impact on all water-related processes from water purification to drug manufacturing."

Source: University of Southern California (3 June 2021)

DIGITAL WORKPLACE

A Better Way To Introduce Digital Tech In The Workplace

"After a detailed study of digital technology in a hospital, MIT Sloan professor Kate Kellogg finds that experimenting with the technology, and then working to implement the best practices through coordinated governance, can help organizations better integrate technology in the workplace."

Source: MIT News (3 June 2021)

ELECTROCHEMICAL SYSTEMS

Passing The Acid Test: Low-Ph System Turns CO_2 Into Products

"An engineering researcher from the University of Sydney, in collaboration with a team at the University of Toronto, has developed an electrochemical system that coverts a greater amount of carbon (CO_2) into valuable products."

Source: University of Sydney (4 June 2021)

ENGINEERING

Smart Bike Predicts Cars' Trajectories, Honks To Warn of Impending Crash

"A team of engineers from the University of Minnesota have created a new smart bike they claim can protect itself from collisions. The invention was described in a recent publication of *IEEE Control Systems*."

Source: IEEE Spectrum (3 June 2021)

MACHINE LEARNING & AI

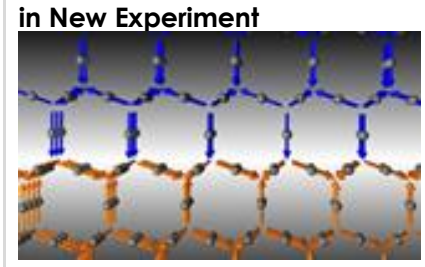
Shoot Better Drone Videos With A Single Word

"A model that enables a drone to shoot a video based on a desired emotion or viewer reaction. The drone uses camera angles, speeds and flight paths to generate a video that could be exciting, calm, enjoyable or nerve-wracking—depending on what the filmmaker tells it. Read more here."

Source: Tech Xplore (3 June 2021)

MATERIALS

Magnetism Drives Metals to Insulators in New Experiment



"Now, a new study from Feng and colleagues, published in *Nature Communications*, offers the cleanest experimental proof yet of a metal–insulator transition theory proposed 70 years ago by physicist John Slater. "

Source: Caltech (4 June 2021)

NANOMATERIALS

Researchers Continue To Refine Graphene Production Using HPC

"A team of researchers at the Technical University of Munich (TUM) has been using the JUWELS and SuperMUC-NG high-performance computing (HPC) systems at the Jülich Supercomputing Centre (JSC) and Leibniz Supercomputing Centre (LRZ) to run high-resolution simulations of graphene formation on liquid copper. Read more in ACS Publications."

Source: Phys.Org (4 June 2021)

NEW MATERIAL

New Form Of Silicon Could Enable Next-Gen Electronic And Energy Devices

" A team led by Carnegie's Thomas Shiell and Timothy Strobel developed a new method for synthesizing a novel crystalline form of silicon with a hexagonal structure that could potentially be used to create next-generation electronic and energy devices with enhanced properties that exceed those of the "normal" cubic form of silicon used today. Read more in Physical Review Letters."

Source: Carnegie Institution of Science (3 June 2021)

POLYMER MATERIALS

Healing Hydrogels

"A novel crystal that can reversibly form and deform, allows hydrogels to rapidly recover from mechanical stress. This opens up the use of such biocompatible materials in the field of artificial joints and ligaments."

Source: University Of Tokyo (4 June 2021)

QUANTUM PHYSICS

Quantum Holds The Key To Secure Conference Calls

"The world is one step closer to ultimately secure conference calls, thanks to a collaboration between Quantum Communications Hub researchers and their German colleagues, enabling a quantum-secure conversation to take place between four parties simultaneously. Read more in Science Advances."

Source: Phys.Org (4 June 2021)

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