

Weekly Discovery

We SHARE to inspire and ignite ideas!

3 JUNE 2019 - 7 JUNE 2019

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

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Artificial Intelligence & Data Science	Aviation	Cities
HealthCare	Robotics & Automation	Design & Innovation
Cybersecurity	Digital Design & Fabrication	Advanced Manufacturing

AGRICULTURE
Research Brief: Climate Change Is Already Affecting Global Food Production - and Not Equally



"The world's top 10 crops ... supply a combined 83 percent of all calories produced on cropland. Yields have long been projected to decrease in future climate conditions. Now, new research shows climate change has already affected production of these key energy sources - and some regions and countries are faring far worse than others."

Source: [University of Minnesota](#) (31 May 2019)

AIRPORT LOGISTICS
Why Do Airlines Still Mislaid 25 Million Bags a Year?



"How can an industry that employs the very latest technologies in its aeroplanes and air traffic control systems still be so backward when it comes to our luggage?"

Source: [BBC News](#) (4 June 2019)

ARCHITECTURE
Junya Ishigami's Architecture Digs Deep for House and Restaurant in Yamaguchi, Japan



"Japanese architect Junya Ishigami is constructing a cave-like restaurant in Yamaguchi, Japan that looks like it was tunnelled by giant worms. Ishigami went about creating the unique architecture by digging holes in the ground, filling them with concrete and burrowing out the soil around them."

Source: [designboom](#) (3 June 2019)

ARCHITECTURE
University of Stuttgart Makes Urbach Tower from Self-Shaping Wood



"University of Stuttgart engineers have harnessed the natural shrinking process of wood as it loses moisture to create this world-first self-twisted tower in Germany."

Source: [Dezeen](#) (3 June 2019)

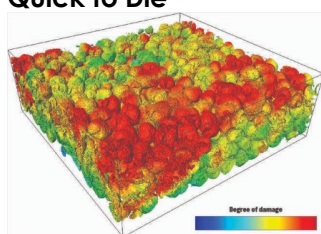
AWARDS
2019 Small Project Awards



"Most scholarly writers need calm, contemplative focus so that they can turn abstract concepts into concrete words. So first, accept reality: You can write only one thing at a time. When you sit down to write, only one project should fill your mind. The trick is to arrange your work schedule to make that happen."

Source: [The American Institute of Architects](#) (May 2019)

BATTERIES
Bad News from Science Land: Fast-Charging Li-Ion Batteries May Be Quick to Top Up, but They're Also Quick to Die



"Every time that a battery charges, lithium ions travel back and forth between a positive electrode and a negative electrode. These ions interact with particles in electrodes, causing them to crack and degrade over time. Electrode damage reduces a battery's charging capacity."

Source: [The Register](#) (5 June 2019)

BIOTECHNOLOGY
Could the Next Big Information Technology Be ... DNA?



"In this way, DNA is being used to both 'read' and 'write' information. This progress could have big implications for accelerating drug development and treating diseases."

Source: [Scientific American](#) (June 2019)

DATA ANALYTICS
Can Tracking People Through Phone-Call Data Improve Lives?



"Researchers have analysed anonymized phone records of tens of millions of people in low-income countries. Critics question whether the benefits outweigh the risks."

Source: [Nature](#) (29 May 2019)

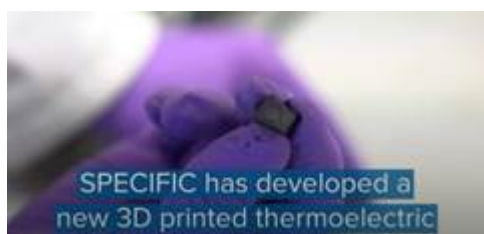
DEEP LEARNING
Deep Learning Monitors Human Activity Based on Sound Alone



"Reflected sound waves can distinguish a sitting person from a walking person." Also read at [Applied Physics Letters](#).

Source: [Nature](#) (31 May 2019)

ENERGY
Pioneering 3D Printed Device Sets New Record for Efficiency



"A new 3-D printed thermoelectric device, which converts heat into electric power with an efficiency factor over 50% higher than the previous best for printed materials - and is cheap to produce in bulk has been manufactured."

Source: [EurekAlert!](#) (5 June 2019)

INFRASTRUCTURE
Loon's Balloons Deliver Emergency Internet Service to Peru Following 8.0 Earthquake



"When a magnitude 8.0 earthquake struck Peru on Sunday, it wreaked havoc on the country's communications infrastructure. Within 48 hours, though, people in affected regions could use their mobile phones again. Loon, the Alphabet company, was there delivering wireless service by balloon."

Source: [IEEE Spectrum](#) (31 May 2019)

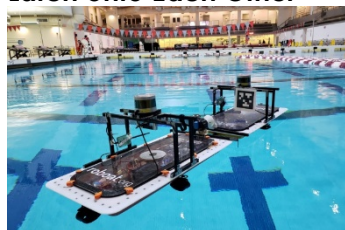
MATERIALS SCIENCE
New Material with Magnetic Shape Memory



"Researchers have developed a new material which retains a given shape when it is put into a magnetic field. Unlike previous shape-memory materials, it consists of a polymer and droplets of a so-called magnetorheological fluid embedded in it."

Source: [Paul Scherrer Institute](#) (4 June 2019)

ROBOTICS
Autonomous Boats Can Target and Latch onto Each Other



"Fleet of 'robots' could collect garbage or self-assemble into floating structures in Amsterdam's many canals."

Source: [MIT News](#) (5 June 2019)

ROBOTICS
This Robotic Sloth Is Purposely Slow



"The lazy bot is designed to track environmental changes while conserving energy."

Source: [Popular Mechanics](#) (30 May 2019)

WATER PURIFICATION
A Rose Inspires Smart Way to Collect and Purify Water



"A team led by associate professor Donglei (Emma) Fan ... developed a new approach to solar steaming for water production - a technique that uses energy from sunlight to separate salt and other impurities from water through evaporation."

Source: [University of Texas at Austin](#) (29 May 2019)

WRITING
Hyphens in Paper Titles Harm Citation Counts and Journal Impact Factors



"According to the latest research results, the presence of simple hyphens in the titles of academic papers adversely affects the citation statistics, regardless of the quality of the articles."

Source: [Science Daily](#) (31 May 2019)