

Weekly Discovery

We SHARE to inspire and ignite ideas!

25 March 2019 - 29 March 2019

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

Stay up to date by **subscribing** to any of these **9 Topical Reports** - [CLICK HERE TO SUBSCRIBE NOW](#)

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

3D BIOPRINTING

University of Wollongong Uses Stem Cells to 3D-Print Human Ears



"Researchers from the University of Wollongong in Australia have developed a 3D bioprinter that can replicate human ears for use in reconstructive surgery."

Source: [Dezeen](#) (25 March 2019)

3D PRINTING

Start Your Own 3D Printing Business: 11 Interesting Cases of Companies Using 3D Printing



"The 3D printing market is expected to grow 20% annually for the next five years, says 3D Hubs. It is time to get into the 3D printing business."

Source: [Interesting Engineering](#) (14 March 2019)

ADVANCED MANUFACTURING

The Future of Manufacturing



"In this episode of the *McKinsey Podcast*, Simon London speaks with McKinsey senior partner Katy George and partner Enno de Boer about the future of manufacturing - think digital and advanced analytics, not robots."

Source: [McKinsey & Company](#) (March 2019)

ARTIFICIAL INTELLIGENCE

Banks Use AI to Catch Rogue Traders Before the Act



"The big question is whether these sophisticated tools, alongside other factors including changes in bank culture, stricter trading limits and regulatory pressure, will lead to an era where rogue trading is an anachronism."

Source: [Financial Times](#) (25 March 2019)

AUTONOMOUS VEHICLES

Ricardo Develops Technology to Avoid Motion Sickness in Autonomous Vehicles



"A Ricardo Innovations research team has been investigating the causes and exacerbating factors for kinetosis and is using this to develop algorithms that can be used to improve ride comfort and avoid motion sickness."

Source: [Ricardo](#) (25 March 2019)

ELECTRONICS

Fabricating Silky Electronics on Demand



"Using photolithography instead of solvents, scientists in South Korea are now able to integrate silk fibroins with microelectronic components."

Source: [Asian Scientist](#) (25 March 2019)

HOLOGRAM PROJECTION

A Real Step Towards the Virtual Holodeck



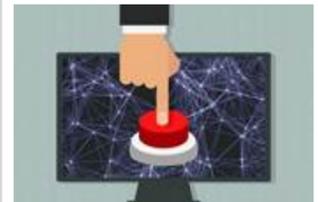
Image : Paramount Pictures (Fair Use)

"The best part is that 3D projection performance will become better and better with increasing hologram resolution because the orthogonality result becomes exact for infinite dimensions ..."

Source: [The Engineer](#) (26 March 2019)

MACHINE LEARNING

Kicking Neural Network Design Automation into High Gear

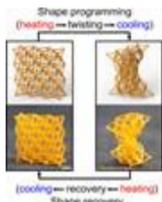


"Algorithm designs optimized machine-learning models up to 200 times faster than traditional methods."

Source: [MIT News](#) (21 March 2019)

MATERIALS SCIENCE

4D-Printed Materials Can Be Stiff as Wood or Soft as Sponge

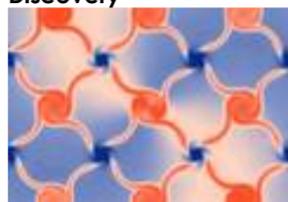


"Rutgers University-New Brunswick engineers have created flexible, lightweight materials with 4D printing that could lead to better shock absorption, morphing airplane or drone wings, soft robotics and tiny implantable biomedical devices."

Source: [Rutgers University](#) (21 March 2019)

NEW MATERIAL

The Best Topological Conductor Yet: Spiraling Crystal Is the Key to Exotic Discovery



"Realization of so-called topological materials which exhibit exotic, defect-resistant properties and are expected to have applications in electronics, optics, quantum computing, and other fields has opened up a new realm in materials discovery."

Source: [Berkeley Lab](#) (20 March 2019)

PHOTONICS

Levitating Objects with Light



"Researchers at Caltech have designed a way to levitate and propel objects using only light, by creating specific nanoscale patterning on the objects' surfaces."

Source: [Caltech](#) (18 March 2019)

PHYSICS

Radioactive Material Detected Remotely Using Laser-Induced Electron Avalanche Breakdown



"A powerful new method to detect radioactive material by using an infrared laser beam to induce a phenomenon known as an electron avalanche breakdown near the material, the new technique is able to detect shielded material from a distance."

Source: [Phys.org](#) (22 March 2019)

PHYSICS

Researchers Measure Quantum Behavior at Room Temperature, Visible to the Naked Eye



"... researchers now present the first broadband, off-resonance measurement of quantum radiation pressure noise in the audio band, at frequencies relevant to gravitational wave detectors."

Source: [Phys.org](#) (25 March 2019)

ROBOTICS

"Particle Robot" Works as a Cluster of Simple Units



"Loosely connected disc-shaped 'particles' can push and pull one another, moving en masse to transport objects."

Source: [MIT News](#) (20 March 2019)

WEARABLES

True-Meaning Wearable Displays: Self-Powered, Washable and Wearable

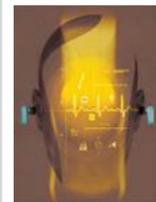


"A research team ... developed a textile-based wearable display module technology that is washable and does not require an external power source."

Source: [Science Daily](#) (21 March 2019)

WEARABLES

Your Earbuds Will Become Your Most Powerful Health Monitor



"Outfitting headphones and earbuds with sensors will make them an ideal way to keep track of your health."

Source: [IEEE Spectrum](#) (21 March 2019)

To view past Weekly Alerts [CLICK HERE](#)
For more articles or in-depth research, contact us at library@sutd.edu.sg
A SUTD Library Service©2019