

# Weekly Discovery

We SHARE to inspire and ignite ideas!

27 August 2018 - 31 August 2018

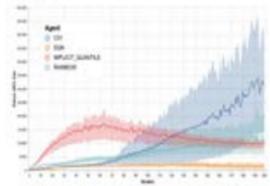
The Library publishes **9 alerts** focusing on Topics relevant to **growth and research areas** to SUTD.

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

## ARTIFICIAL INTELLIGENCE

### Google Releases Open Source Reinforcement Learning Framework for Training AI Models

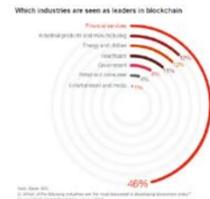


"The trouble is, reinforcement learning frameworks take time to master a goal, tend to be inflexible, and aren't always stable. That's why Google is proposing an alternative: an open source reinforcement framework based on TensorFlow, its machine learning library."

Source: [Venture Beat](#) (27 August 2018)

## BLOCKCHAIN

### Blockchain Is Here. What's Your Next Move?

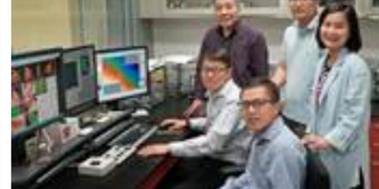


"What is the state of blockchain today? In PwC's 2018 survey of 600 executives from 15 territories, 84% say their organisations have at least some involvement with blockchain technology."

Source: [PwC](#) (2018)

## CATHODE MATERIALS

### New Cathode Material Triples the Energy Storage of Lithium-Ion Batteries



"A team of scientist at Brookhaven National Laboratory have found a way to boost the energy density of lithium-ion batteries, which could lead to longer-lasting batteries and expand the use of wind and solar energy."

Source: [Machine Design](#) (27 August 2018)

## COMMUNICATIONS

### Wireless Communication Breaks Through Water-Air Barrier



"MIT researchers have taken a step toward solving a longstanding challenge with wireless communication: direct data transmission between underwater and airborne devices."

Source: [MIT News](#) (22 August 2018)

## DESIGN FOR AGEING

### How to Design for Senior Citizens



"As architects and urban planners, there is a lot we can contribute, be it on the public policy front or directly in the physical environment. We can work with the macro scale of cities and the small scale of dwellings."

Source: [Arch Daily](#) (26 August 2018)

## HEALTHCARE DESIGN

### 2018 Design Showcase: High Point



"Each project submitted to the Healthcare Design Showcase is judged on four criteria: innovation, collaboration, aesthetics, and functionality/operational performance. Here, we highlight some of the top-scoring projects in our individual categories and some details on the features our jury applauded."

Source: [Healthcare Design Magazine](#) (24 August 2018)

## LIGHT TECHNOLOGY

### Researchers Tuned in to the Sound of Light During 3-Year Momentum Study



"A team of researchers has come a little closer to solving the mystery of how light exerts force on matter, which has been puzzling scientists for hundreds of years."

Source: [CBC](#) (27 August 2018)

## MATERIALS SCIENCE

### Adidas Concept Trainer Mimics the Effect of Running on Sand to Increase Fitness

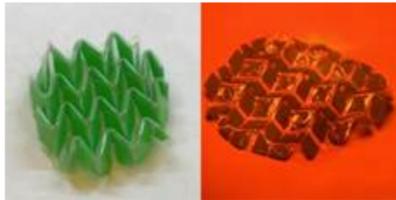


"Aarish Netarwala has designed a pair of resistance training shoes for Adidas that simulate the experience of running on soft sand for a more intense workout."

Source: [Dezeen](#) (22 August 2018)

## MATERIALS SCIENCE

### Shape-Shifting Material Can Morph, Reverse Itself Using Heat, Light



"A new material developed by CU Boulder engineers can transform into complex, pre-programmed shapes via light and temperature stimuli, allowing a literal square peg to morph and fit into a round hole before fully reverting to its original form."

Source: [University of Colorado](#) (24 August 2018)

## MEDICAL DEVICE

### Handheld Imager Poised to Provide New Insights into Eye and Brain Diseases



"Researchers have developed and demonstrated the first handheld ophthalmology instrument with resolution-boosting adaptive optics technology that can image individual photoreceptors in the eye. The new portable instrument will allow improved diagnosis of eye diseases and could enable early detection of brain-related diseases and trauma."

Source: [The Optical Society of America](#) (23 August 2018)

## PRODUCT DESIGN

### Dezeen Awards 2018 Design Shortlist Showcases the Hottest New Products and Concepts



"Today we're revealing the design shortlist for Dezeen Awards, including robotic furniture that reconfigures your home, a sofa that can be flat-packed and ceramics made from metal waste."

Source: [Dezeen](#) (23 August 2018)

## ROBOTICS

### Prepare to Be Hypnotized by These Delicate Paper Robots



"Researchers at Carnegie Mellon University have developed deceptively simple actuators (the fancy term for a motor that moves a robot) made of conductive 3-D-printed material and paper. Apply electricity to the inked material and it shapeshifts, producing smooth movements."

Source: [Wired](#) (22 August 2018)

## ROBOTICS

### Value Proposition of Robotic Total Knee Arthroplasty: What Can Robotic Technology Deliver in 2018 and Beyond?



"Due to the relative paucity of evidence, this review was conducted to compare newer generation robotic TKA systems vs. historic ones ... Comprehensive and detailed discussion of past and contemporary robotic-arm assisted TKA systems. What are the clinical and radiological outcomes and how robotic systems have evolved to offer potential advantages in 2018."

Source: [Expert Review of Medical Devices](#) (22 August 2018)

## SOCIAL SCIENCE

### The Science of What Makes People Care



"Effective communication is not simply about getting your message out. It requires you to strategically tap into what shapes people's feelings and values. Here we share five principles pulled from social science that will help you connect your work to what people care most about."

Source: [Stanford Social Innovation Review](#) (Fall 2018)

## URBAN DESIGN

### Challenging the City Scale: Journeys in People-Centred Design

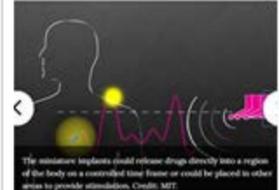


"The book examines how bottom-up processes and their design, tools and instruments generate new ideas to reinvent the city. It offers inspiration and insights to everyone, from practitioners and politicians to designers and active citizens, eager to try out new ways to produce more human cities together."

Source: [Degruyter](#) (August 2018)

## WIRELESS CHARGING

### Wireless Charging: the Breakthrough Medical Devices Are Waiting For?



"... a tiny battery-less implant, which can be powered from outside the body. The hope is that by eliminating the need for batteries, implantable devices could be made much smaller and less invasive ... In Vivo Networking (IVN), could revolutionise the design of medical devices and unlock a new frontier of better drug delivery, monitoring and personalised treatments."

Source: [Verdict Medical Devices](#) (28 August 2018)