SUTD LIBRARY

Weekly Discovery
We SHARE to inspire and ignite ideas!

14 November 2016 – 18 November 2016

ALGORITHMS
Mathematical algorithms calculate social behavior

Computer simulations can predict potential collective behavioural patterns based on observed dynamics data. The possibility of influencing, controlling and manipulating patterns of group behaviour is useful in situations requiring enhanced security and efficient evacuation.
Source: EurekAlert (14 November 2016)

ARCHITECTURE
Studio Alfredo Haberli's Haussicht Explores New Possibilities For Pre-Fab

A new method of pre-fabrication for eco homes was developed and implemented to build an ecological house in West Munich. It is not only low cost but also can be applied to build homes of various sizes and configurations.

Source: Designboom (13 November 2016)

CAR DESIGN
Winners of Le Mans 2030 Global Design Competition

The winners as well as 10 honorable mentions of this year 2017 Michelin Challenge Design are presented. The contest drew more than 1,500 participants from 80 countries. Check out these stylish designs and innovative race car technologies
Source: Michelin (2016)

DISEASE MANAGEMENT
Noninvasive blood glucose monitoring device for people with diabetes in development

Pain-free monitoring of blood glucose level by using a breathalyzer. This is a noninvasive tracking device that employs multilayer nanotechnology to detect acetone which has proven to correlate with blood-glucose levels in the breath of diabetics. More details > Video Interview

Source: MedicalXpress (14 November 2016)

ELECTRIC VEHICLES
Battery Cars a Better Choice for Reducing Emissions than Fuel Cells, Stanford Study Finds

A comparison study on the emission reduction and the cost of rechargeable battery vehicles and fuel cell ones finds that the former performs better in waste gas mitigation and will be far less expensive in the future.
Also read more at Elsevier.

Source: EurekAlert (14 November 2016)
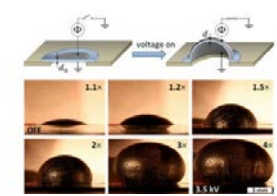
LIFESTYLE CHEMISTRY
What molecules you leave on your phone reveal about your lifestyle

Through the examination of molecules left behind on a user's mobile phone, the user's health status and preferred hygiene products can be determined. This could lead to applications in criminal profiling, airport screening and even environmental exposure studies. Read more at PNAS.
Source: Phys.org (14 November 2016)

MATERIALS
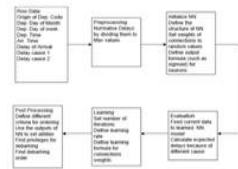## 'Bottlebrush' polymers make dielectric elastomers increasingly viable for use in devices

Discover a unique polymer material that can alter its size and configuration in the presence of a small electric field here. It has good flexibility, making the material more pliable and allowing it to be readily stretched. The polymer may be used in microfluidics, wearable devices and robotics. Find out at Advanced Materials.
Source: Sciencedaily (9 November 2016)

NEURAL NETWORKS
Researchers have a better way to predict flight delays

Source: Procedia Computer Science

A new multilevel input Artificial Neural Network (ANN) model is able to make flight delay predictions. This is achieved by ANN analysing historical data and training itself to look for patterns. You can read more at Procedia Computer Science.

Source: Sciencedaily (14 November 2016)

ONLINE RETAIL
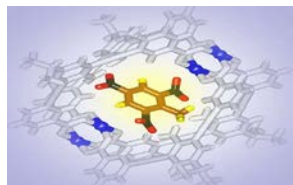## Amazon's Next Big Move: Take Over the Mall

E-commerce giant Amazon has opened up physical bookstores. This move was played due to Amazon's desire to have a greater share in the book market. Though shopping online seems to be the current trend the reality is that physical retail makes up 90% of the market.

Source: MIT Technology Review (14 November 2016)

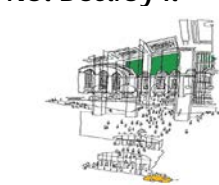---

SENSORS
New nanosensors for the detection of TNT

Discover nanosensors that may eventually make sniffer dogs a thing of the past. The nanosensors can not only detect if TNT is present, but they can also determine how much TNT there is. Find out more about them at Nano Letters.

Source: Phys.org (9 November 2016)

SKETCHING
This New Drawing App Shows How Digital Software Will Save Sketching, Not Destroy It

Introducing a sketching app, Mental Canvas, that allows you to draw freely on a virtual canvas with infinite space and easily structure your strokes into 3D illustrations, getting over the limits of traditional CAD modelling.

Source: ArchDaily (11 November 2016)

WEB
Science of the World Wide Web

A brief journey on how the internet has affected the lives of people all around the globe. From being a source of information to global social interactions and now through IOT. A stance is taken that the internet's effects on science, technology, politics and society should be studied and understood as a science.
Source: Science (11 November 2016)

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