

# Weekly Discovery

We SHARE to inspire and ignite ideas!

4 February 2019 - 8 February 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

AI  
**AI May Soon Defeat Biometric Security, Even Facial Recognition Software**



"we're now entering an era in which AI is a commodity. Threat actors will soon be able to simply go shopping on the dark web for the AI tools they need to automate new kinds of attacks at unprecedented scales."

Source: [Security Intelligence IBM](#) (31 January 2019)

AI  
**An AI Is Playing Pictionary To Figure Out How The World Works**



"Researchers at the Allen Institute for AI (AI2) believe that Pictionary could push machine intelligence beyond its current limits."

Source: [MIT Technology Review](#) (5 February 2019)

AI /BLOCKCHAIN  
**Emerging Technologies Need Diversity: Innovative Women in AI / Blockchain to Follow in 2019**



"AI and blockchain have received a reputation for being especially male-dominated in an already bro-saturated tech world. But the buzz around AI and cryptography isn't without merit as these tech are more than just one more thing to be mansplained."

Source: [Forbes](#) (3 February 2019)

CITIES  
**The Challenges of Degrowth in Cities**



"Degrowth requires us to reopen the urban planners' toolbox and develop a language that incorporates these processes over the long term. It poses new challenges to local governments and other actors involved in the urban fabric."

Source: [The Conversation](#) (31 January 2019)

CONNECTED ECOSYSTEMS  
**Digital for Social Good**



"As traditional, linear value chains are now transforming into complex, dynamic, and connected ecosystems with increasing digitisation, we are also witnessing the rise of new ecosystems that, unlike those of the past, are not bounded by traditional industries and markets."

Source: [Deloitte](#) (2018)

CREATIVITY  
**How to Unlock Your Team's Creativity**



Image Source: Getty Image

"To inspire creativity, leaders should also encourage healthy conflict and debate. Instead of micromanaging, empower others and give them the reins to explore and take risks, which can lead in unexpected directions."

Source: [Harvard Business Review](#) (31 January 2019)

DIGITAL TRANSFORMATION  
**Measuring Business Transformation Progress Around The World**



"Emerging technologies are redrawing our world. Are businesses ready? Will they transform fast enough? To find out, we've explored the status of digital transformation around the globe."

Source: [Dell Technologies](#) (October 2018)

LIGHT  
**Laser Capable Of Emitting Light Quiet Enough To Move Demanding Scientific Applications**



"Spectrally pure lasers lie at the heart of precision high-end scientific and commercial applications, thanks to their ability to produce near-perfect single-color light."

Source: [Science Daily](#) (1 February 2019)

MACHINE LEARNING  
**Machine Learning Powered Wearable Soft Robot For Patients With Limited Hand Mobility**



"The researchers devised a machine-learning algorithm to predict user intentions, which helps patients to use the device more intuitively."

Source: [Medgadget](#) (6 February 2019)

MATERIALS  
**Magnetic Teeth Hold Promise For Materials And Energy**

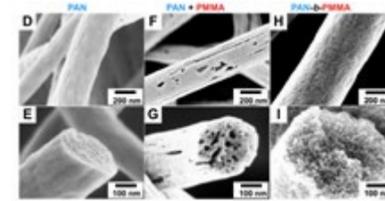


Image Source: Kisailus Biomimetics & Nanomaterials Lab

"A better understanding of the biomineralization process, combined with a thorough understanding of chiton tooth architecture and mechanics, could help scientists not only improve wear-resistant coatings and tooling, but also help grow nanoscale materials for energy and water-based applications."

Source: [University of California](#) (31 January 2019)

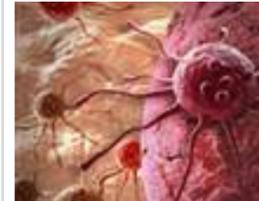
MATERIAL SCIENCE  
**Chemistry Researchers Use Block Copolymers to Create First Carbon Fibers with Uniform Porous Structure**



"After tweaking a longtime conventional method of chemically producing carbon fibers, Liu now has developed a process to synthesize porous carbon fibers for the first time with uniform size and spacing."

Source: [Virginia Tech](#) (1 February 2019)

MEDICAL  
**Russian Researchers Create Intelligent Software System For Lung Cancer Diagnostics**



"Researchers developed an intelligent software system - Doctor Alzimov, for lung cancer diagnostics. It analyzes patients' computed tomography results within 20 seconds and provides an image which the pathology is clearly marked."

Source: [News Medical Life Sciences](#) (1 February 2019)

PATENTS  
**The Patents Behind Pasta Shapes**



"The various shapes can be categorized based on the means by which they are formed: by hand, rolled into sheets, or extruded. For each pasta making method, there have been a number of inventions to ease and mechanize the process."

Source: [Smithsonian](#) (1 February 2019)

ROBOTICS  
**A Step Closer to Self-Aware Machines**



"Columbia Engineering researchers have made a major advance in robotics by creating a robot that learns what it is, from scratch, with zero prior knowledge of physics, geometry, or motor dynamics."

Source: [Columbia University](#) (30 January 2019)

ROBOTICS  
**MIT Robot Combines Vision and Touch To Learn The Game Of Jenga**



"In the basement of MIT's Building 3, a robot is carefully contemplating its next move. It gently pokes at a tower of blocks, looking for the best block to extract without toppling the tower, in a solitary, slow-moving, yet surprisingly agile game of Jenga."

Source: [MIT News](#) (30 January 2019)

SUPPLY CHAIN  
**Top 10 Ways Internet Of Things And Blockchain Strengthen Supply Chains**



"Blockchain shows potential for increasing the speed, scale, and visibility of supply chains, eliminating counterfeit-goods transactions while also improving batching, routing and inventory control."

Source: [Enterprise Irregulars](#) (2 February 2019)