

Weekly Discovery

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23 SEPTEMBER 2019 - 27 SEPTEMBER 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

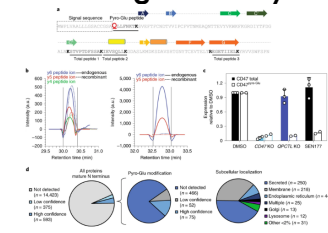
ARCHITECTURE
The Great Tiny House Debate: What it Means to Downsize the Dream



"Between housing crises and homelessness, mounting debt and downsizing, home ownership has become increasingly less attainable. The tiny house movement is a direct response to these forces, with cities and designers asking whether micro dwellings can address pressing issues or if they are glorifying unhealthy living conditions."

Source: [ArchDaily](#) (19 September 2019)

BIOMEDICAL ENGINEERING
Scientists Enlist Tiny Biomagnets for Faster Drug Discovery



"A new platform brings together CRISPR genome editing with magnetic cell sorting to reveal new drug targets for cancer and regenerative medicine."

Source: [Science Daily](#) (23 September 2019)

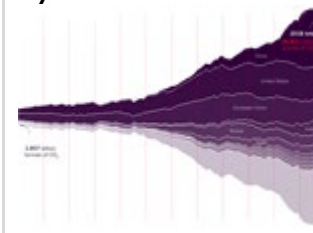
BUSINESS TOOLS
Change the World 2019: Where Business Creates Virtuous Circles



"The Change the World list recognizes companies that have had a positive social impact through activities that are part of their core business strategy. The 4 factors are: Measurable social impact, Business results, Degree of innovation and Corporate Integration."

Source: [Fortune](#) (September 2019)
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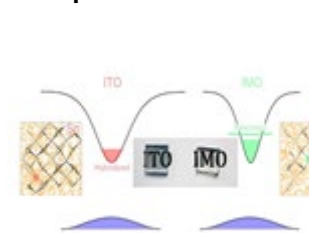
CLIMATE
The Hard Truths of Climate Change — by the Numbers



"A set of troubling charts shows how little progress nations have made toward limiting greenhouse-gas emissions."

Source: [Nature](#) (18 September 2019)

CONDUCTOR
New Research Gives Breakthrough for Transparent Conductors



"In a paper published in [Materials Horizons](#), scientists used a combination of experimental and theoretical approaches to explain how replacing tin with the transition metal molybdenum creates a vastly superior material – IMO – that has twice the conductivity of ITO."

Source: [University of Liverpool](#) (17 September 2019)

DATA SCIENCE
Growth Lab's New Data Tool Identifies Diversification Opportunities for 130 Countries



"Harvard's Growth Lab today launched [Country Profiles](#), a unique data visualization tool that guides users on an interactive journey through a country's economic structure and dynamic growth patterns ultimately revealing the strategy necessary to achieve greater prosperity."

Source: [The Harvard Gazette](#) (20 September 2019)

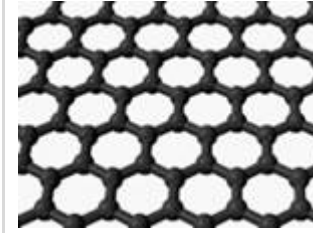
ELECTRONICS
A Battery with a Twist



"The researchers have developed a prototype for a flexible thin-film battery that can be bent, stretched and even twisted without interrupting the supply of power."

Source: [ETH Zurich](#) (24 September 2019)

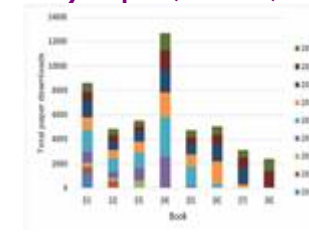
GRAPHENE
New Study Determines That Graphene Can Be Considered a 3D Material



"This Realization is said to be important for understanding its mechanical properties and for developing novel graphene-based devices."

Source: [Graphene-info](#) (24 September 2019)

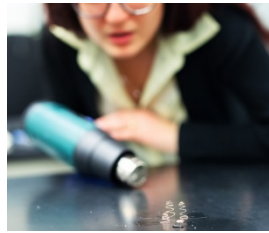
HEALTHCARE
Ten Years of Knowledge Representation for Health Care (2009–2018): Topics, Trends, and Challenges



"We reviewed the title, the abstract, and the keywords of the 112 papers that were accepted to the workshop, identified the medical and technological topics involved in these works, provided a classification of these papers in medical and technological perspectives and obtained the timeline of these topics in order to determine interest growths and declines."

Source: [Artificial Intelligence in Medicine](#) (September 2019)

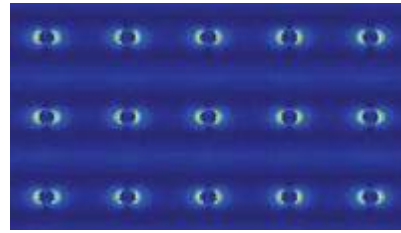
MATERIALS SCIENCE
Researchers Recreate Living 3D Displays



"Now, a research team from the University of Iowa and the University of Illinois at Urbana-Champaign is developing a smart skin inspired by the cephalopod which can be used in 3D displays, as interfaces for the visually impaired, and to help reduce drag on marine vehicles."

Source: [The University of Iowa](#) (19 September 2019)

NANOLASER
Tiny, Biocompatible Nanolaser Could Function Inside Living Tissues



"Just 50 to 150 nanometers thick, the laser is about 1/1,000th the thickness of a single human hair. At this size, the laser can fit and function inside living tissues, with the potential to sense disease biomarkers or perhaps treat deep-brain neurological disorders, such as epilepsy."

Source: [Northwestern University](#) (23 September 2019)

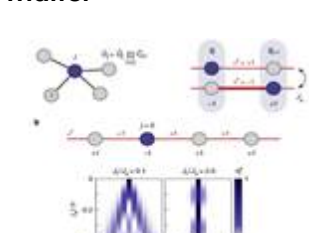
PHYSICS
A New Way to Turn Heat into Useful Energy



"Scientists have figured out how to capture heat and turn it into electricity. The discovery could create more efficient energy generation from heat in things like car exhaust, interplanetary space probes and industrial processes."

Source: [Science Daily](#) (23 September 2019)

PHYSICS
A Novel Tool to Probe Fundamental Matter



"The origin of matter remains a complex and open question. A novel experimental approach could be exploited to better test the theories of physicists."

Source: [Science Daily](#) (16 September 2019)

ROBOTICS
The Tuna-Inspired Robotic Fish Can Swim as Fast as Real Fish



"The Tunabot is built from 3D-printed steel and resin, covered in a stretchy plastic skin. It mimics an adolescent tuna, but without any fins other than the tail. The robotic fish is 25.5 centimeters long, 4.9 centimeters thick and 6.8 centimeters high – this makes it a lot smaller than a real tuna. The skin of the robot tuna is around 1.5 millimeters thick."

Source: [Tech Explorist](#) (24 September 2019)

SOLAR ENERGY
Even Short-Lived Solar Panels Can Be Economically Viable



"That means that, as long as newer solar panels are electrically and physically compatible with the racking and electrical systems, it can make economic sense to replace the panels with newer, better ones as they become available, while reusing the rest of the system."

Source: [MIT News](#) (19 September 2019)

TRANSLATION TECH
The New Technology That Could Turn Small Businesses into International Companies



"Advancements in machine translation technology are helping consumers, gamers and small businesses."

Source: [Market Watch](#) (19 September 2019)