SUTD LIBRARY

Weekly Discovery
We SHARE to inspire and ignite ideas!

4 NOVEMBER 2019 - 8 NOVEMBER 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

---

ARCHITECTURE
Singapore Founders' Memorial Shortlist Includes Kengo Kuma and DP Architects

"In January 2019, Singapore invited architects to submit design proposals for a new memorial dedicated to the country's founders and the values that helped shape the nation. Now, after much deliberation, the jury has selected a total of five proposals by firms such as Kengo Kuma and Associates and DP Architects."

Source: designboom (31 October 2019)

ARCHITECTURE
This Mushroom Building Cleans Our Air as It Grows

"While materials ranging from concrete to insulation are wrecking our environment, the Growing Pavilion is made entirely from materials that grew on this planet."

Source: Fast Company (31 October 2019)

AUTONOMOUS VEHICLES
Better Autonomous "Reasoning" at Tricky Intersections

"MIT and Toyota researchers have designed a new model that weighs various uncertainties and risks to help autonomous vehicles determine when it's safe to merge into traffic at intersections with objects obstructing views, such as buildings blocking the line of sight."

Source: MIT News (4 November 2019)

BATTERY TECH
Revolutionary New Technology Charges an Electric Car in Just 10 Minutes

"The fear that an electric car's battery simply won't have enough power to get you where you need to go has been shown to put many people off EVs."

Source: Hot Cars (1 November 2019)

BIOPRINTING
Living Skin Can Now Be 3D-Printed with Blood Vessels Included
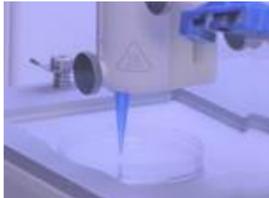
"Researchers at Rensselaer Polytechnic Institute have developed a way to 3D print living skin, complete with blood vessels. The advancement, published online today in Tissue Engineering Part A, is a significant step toward creating grafts that are more like the skin our bodies produce naturally."

Source: Rensselaer Polytechnic Institute (1 November 2019)

CITIES
First Smart Forest City in Mexico Designed by Stefano Boeri Architetti

"Commissioned by Grupo Karim's, and designed by Stefano Boeri Architetti, the first Smart Forest City in Mexico will focus on innovation and environmental quality. The city balances green and built spaces, and is completely food and energy self-sufficient."

Source: Arch Daily (29 October 2019)

CYBERSECURITY
Hackers Can Use Lasers to 'Speak' to Your Amazon Echo or Google Home

"By sending laser-powered 'light commands' to a smart assistant, researchers could force it to unlock cars, open garage doors, and more."

Source: Wired (4 November 2019)

EARTH OBSERVATION
Global Earth Observation Market, Forecast to 2029

"The earth observation market is currently undergoing multiple technology and business model disruptions, largely driven by NewSpace participants in the market. Multiple small-satellite operators have entered the market and some of them have already launched their satellites. Frost & Sullivan's research indicated that over 12,000 small-satellites will be launched in the coming decade covering both installation and replenishment phases of multiple constellations."

Source: Frost & Sullivan (31 October 2019)

HEALTHCARE
Double-Sided Tape for Tissues Could Replace Surgical Sutures

"New adhesive that binds wet surfaces within seconds could be used to heal wounds or implant medical devices."

Source: MIT News (30 October 2019)

HEALTHCARE
Philips Develops Breakthrough Technology to Identify Infection Before Observable Symptoms

"Philips and the U.S. Department of Defense develop breakthrough technology using AI to identify infection more than 48 hours before observable symptoms."

Source: Bio Spectrum (23 October 2019)

HOLOGRAMS
New Printer Creates Extremely Realistic Colorful Holograms

"Researchers have developed a new printer that produces digital 3D holograms with an unprecedented level of detail and realistic color. The new printer could be used to make high-resolution color recreations of objects or scenes for museum displays, architectural models, fine art or advertisements that do not require glasses or special viewing aids."

Source: OSA (31 October 2019)

NANO MANUFACTURING
Light-Based 'Tractor Beam' Assembles Materials at the Nanoscale
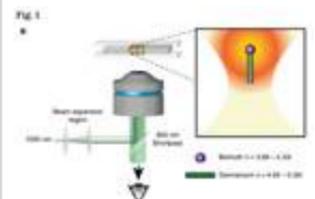
Source: Nature Communications

"Researchers at the University of Washington have developed a method that could make reproducible manufacturing at the nanoscale possible."
Read more at Nature Communications.

Source: Science Daily (4 November 2019)

ROBOTICS
First in Flight: Robobee Powered by Soft Muscles
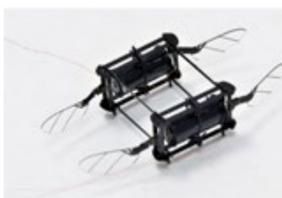
"Researchers at SEAS and the Wyss Institute for Biologically Inspired Engineering have developed a resilient RoboBee powered by soft artificial muscles that can crash into walls, fall onto the floor, and collide with other RoboBees without being damaged. It is the first microrobot powered by soft actuators to achieve controlled flight."

Source: The Harvard Gazette (4 November 2019)

WEARABLES
Mechanically Transformative Electronics, Sensors, and Implantable Devices
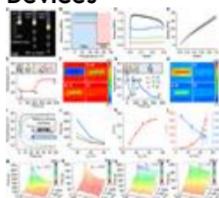
"Here, we report design concepts, materials, physics, and manufacturing strategies that enable these reconfigurable electronic systems based on temperature-triggered tuning of mechanical characteristics of device platforms."

Source: Science Advances (1 November 2019)

WASTE MANAGEMENT
New Technology Turning Plastic Bottles into Roads

"Ninety percent of the plastic we use ends up in landfills, or in the world's oceans. Now, a Scottish firm has invented a way to recycle that hard-to-use plastic for a role that requires durability: paving roads and highways."

Source: 10 Daily (3 November 2019)

WATER MANAGEMENT
An Intelligent Network for Better Water Management

"Droople's smart meters record not just water flow rates and temperatures, but also peak usage times and total consumption—valuable data for facilities managers seeking to cut costs. The system consists of a series of smart flow meters installed at the point of use that collect data and send them through a low-power wide-area network (LoRaWAN) to a cloud-based software program."

Source: Tech Xplore (4 November 2019)