

# Weekly Discovery

We SHARE to inspire and ignite ideas!

14 - 18 September 2020

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  
**This Tool Is Mapping Every Tree In California To Help Stop Megafires**



"The tool, called the California Forest Observatory, uses AI and satellite images to create an ultradetailed view of the state's forests—aiding work to prevent the type of catastrophic megafires that the state is experiencing now."

Source: [Fast Company](#) (14 September 2020)

ARTIFICIAL INTELLIGENCE  
**AI-Controlled Sensors Could Save Lives In 'Smart' Hospitals And Homes**



Researchers explain how computer scientists and clinicians are trying to reduce fatal medical errors by building "ambient intelligence" into the spaces where patients reside. Read more in [Nature](#).

Source: [Stanford University](#) (9 September 2020)

ARCHITECTURE  
**2020 International Architecture Awards Winners Announced**



"The Chicago Athenaeum: Museum of Architecture and Design and The European Centre for Architecture Art Design and Urban Studies have announced the 2020 International Architecture Awards. The global architecture award for the world's best new buildings and urban planning celebrated 125 plus projects for its 2020 edition from over 38 nations."

Source: [ArchDaily](#) (11 September 2020)

BIOMEDICAL  
**N95 Masks' Efficiency Can Be Restored With Electricity: Smart Masks May Follow**



Recharging N95 masks restores filtering ability to like-new levels for reuse—and opens the door for battery-operated masks that retain effectiveness throughout the day

Source: [IEEE Spectrum](#) (14 September 2020)

BIOTECHNOLOGY  
**New Technology To Fight Plagues And Pathogens In Crops**



"Researchers...have developed a new technology that will help fight, in a natural way that is respectful towards the environment, against the plagues and pathogens that affect crops.."

Source: [Phys.org](#) (10 September 2020)

COMPUTING  
**Computational Modelling Explains Why Blues And Greens Are Brightest Colours In Nature**



"The researchers, from the University of Cambridge, used a numerical experiment to determine the limits of matt structural colour – a phenomenon which is responsible for some of the most intense colours in nature – and found that it extends only as far as blue and green in the visible spectrum."

Source: [University of Cambridge](#) (11 September 2020)

COVID-19  
**Graphene Facemask to Deactivate Coronaviruses and Bacteria**



Researchers at the City University of Hong Kong have developed a face mask containing laser-induced graphene that can kill bacteria and has demonstrated potential in deactivating coronaviruses.

Source: [Medgadget](#) (14 September 2020)

COVID-19  
**Voice of the Industry: Coronavirus Impact on Companies, Employees and Consumers**



"In April and June 2020, Euromonitor International surveyed over 6,800 professionals on the business impact of Coronavirus (COVID-19)...Watch our on-demand webinar as we reveal the survey results and offer insights into how industries are navigating changes in operations, employees, revenue and consumer behaviour."

Source: [EUROMONITOR](#) (September 2020)

DATA MANAGEMENT  
**IFRS 17: Managing Data To Optimise Cloud Strategy**



"Data is one of an organisation's most valuable assets. But the variety of technology platforms and applications that firms use to manage the data can make optimising it difficult...Because of these challenges, attempts to adopt cloud or multi-cloud strategies — such as moving all enterprise data into a cloud-hosted 'data lake,' or company-wide repository — are rarely successful.."

Source: [PWC](#) (September 2020)

DESIGN  
**The Future of Packaging : Can a Shift in Product Design End the Plastic Waste Crisis?**



"More than 8m tonnes of plastic end up in oceans every year, so building a system that moves away from our 'take, make, waste' economy is crucial. We look at the possible iterations of a shower gel bottle to explore how a new economic model could be achieved."

Source: [Guardian](#) (11 September 2020)

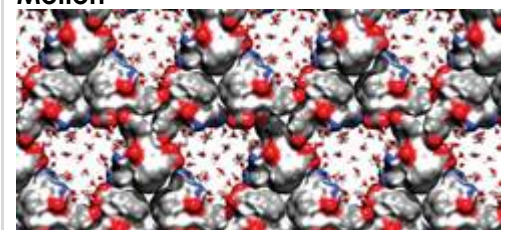
DESIGN  
**The Science Behind Adidas's New World-Record Running Shoe**



"Almost every running shoe company is building carbon-fibre plates into its top-end trainers. Adidas has done something different – it's created energy rods."

Source: [Wired](#) (14 September 2020)

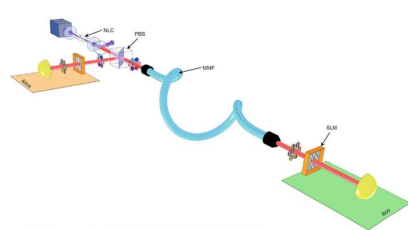
GREEN ENERGY  
**Harvesting Clean Energy From Water Evaporation – Morphing Crystals Convert Evaporation Energy Into Motion**



New study details the molecular-level design of materials that enable clean and sustainable water evaporation energy to be harvested and efficiently converted into motion with the potential to power future mechanical devices and machines.

Source: [SciTech Daily](#) (14 September 2020)

QUANTUM TECH  
**One Photon's Transmission Usefully Controls Another**



Theoretical calculations suggest that it's possible for each photon to travel through its own independent scattering channel and for the consequent scattering effects to be removed.

Source: [Physics Today](#) (10 September 2020)

SECURITY  
**How Hackers Can Pick Your Locks Just By Listening**



Researchers at the National University of Singapore have come up with a way to pick locks based on the sounds that they make while turning inside locks. Read more [here](#).

Source: [Popular Mechanics](#) (10 September 2020)

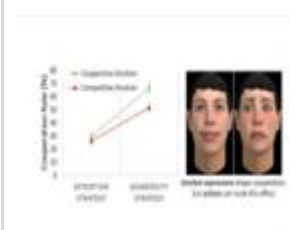
SMART CITIES  
**The Economic Case for Greening the Global Recovery through Cities: 7 priorities for national governments**



"This paper explores seven priorities for national governments, ... deliver quick and durable health and environmental benefits for citizens, all whilst contributing to long-term urban resilience."

Source: [Coalitions for Urban Transition](#) (14 September 2020)

TECHNOLOGY  
**Future Autonomous Machines May Build Trust Through Emotion**



Army research has extended the state-of-the-art in autonomy by providing a more complete picture of how actions and nonverbal signals contribute to promoting cooperation.

Source: [EurekAlert!](#) (15 September 2020)