

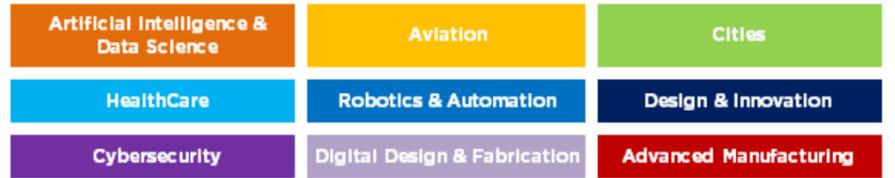
# Weekly Discovery

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10 Aug – 14 Aug 2020

The Library publishes **9 alerts** focusing on Topics relevant to **growth and research areas** to SUTD.

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AI  
**New AI Dupes Humans into Believing Synthesized Sound Effects Are Real**



"Using machine-learning, AutoFoley determines what actions are taking place in a video clip and creates realistic sound effects."

Source: [IEEE Spectrum](#) (10 August 2020)

AI  
**Russian developers created a platform for self-testing of AI medical services**



"Experts from the Center for Diagnostics and Telemedicine have developed a platform for self-testing services which is based on artificial intelligence and designed for medical tasks, such as for analyzing diagnostic images."

Source: [EurekAlert!](#) (7 August 2020)

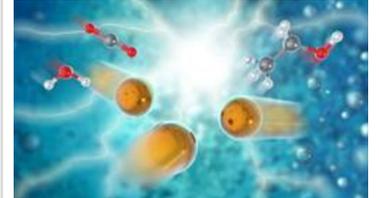
ARCHITECTURE  
**What Happens Next to Beirut's Bomb-Damaged Buildings?**



"Amid the rubble, the city's contemporary and historic architecture scenes begin to consider the future."

Source: [Architectural Digest](#) (6 August 2020)

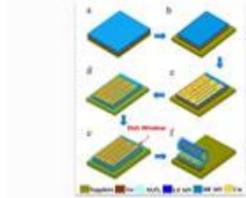
CHEMISTRY  
**Turning carbon dioxide into liquid fuel**



"A research team has discovered a new electrocatalyst that converts carbon dioxide (CO<sub>2</sub>) and water into ethanol with very high energy efficiency, high selectivity for the desired final product and low cost. Ethanol is a particularly desirable commodity because it is an ingredient in nearly all U.S. gasoline and is widely used as an intermediate product in the chemical, pharmaceutical and cosmetics industries."

Source: [Argonne](#) (5 August 2020)

COMPONENT  
**Electronic components join forces to take up 10 times less space on computer chips**



"A new study demonstrates the successful integration of the individual elements that make up electronic filters onto a single component, significantly reducing the amount of space taken up by the device."

Source: [University of Illinois](#) (10 August 2020)

DRUG DISCOVERY  
**New process fast-tracks drug treatments for viral infections and cancer**



"Discovering antiviral and anticancer drugs will soon be faster and cheaper thanks to new research from SFU chemist Robert Britton and his international team."

Source: [Technology.Org](#) (10 August 2020)

FINTECH  
**FinTech: Top 25 FinTech CEOs of 2020**



"Technological advances, changing demand for financial products and competition in financial services are all driving a new wave of fintech startups and investments that have drawn attention to the industry in recent years."

Source: [Technology Innovators](#) (11 August 2020)

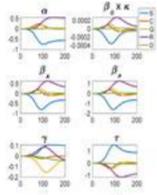
GENE EDITING  
**The First Gene-Edited Squid in History Is a Biological Breakthrough**



"Recently, a group of marine scientists managed to engineer the first genetically altered squid using the DNA editing tool CRISPR."

Source: [One Zero](#) (11 August 2020)

MATHEMATICS  
**Researchers Show Mathematically How to Best Reopen your Business after Lockdown**



"To help entrepreneurs decide on how they can safely reopen their business, mathematicians and statisticians here develop a model for the spread of infections within companies and the economic payoff of safety measures. Their findings are published today in *Frontiers in Applied Mathematics and Statistics*."

Source: [EurekAlert!](#) (11 August 2020)

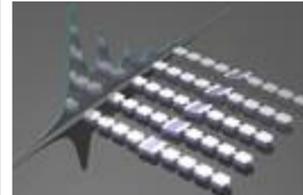
ONLINE LEARNING  
**The promise of using WhatsApp for low-tech distance learning**



"WhatsApp is one of the most widely-used communication apps in South Africa. Though it's often portrayed in the news as a way to spread disinformation, it shows surprising potential as a tool for online learning during the era of social distancing."

Source: [MIT News](#) (6 August 2020)

SOUND MEASUREMENT  
**Physicists count sound particles with quantum microphone**



"Physicists have developed a "quantum microphone" so sensitive it can measure individual particles of sound, called phonons."

Source: [Technology.org](#) (10 August 2020)

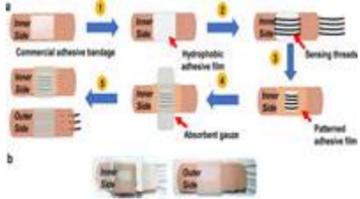
SUSTAINABILITY  
**Recycling Electronic Waste to Make Hybrid Materials**



"They suspected that after these substances were extracted from e-waste, they could get combined to create a durable new hybrid material potentially useful for protecting metal surfaces against corrosion and wear."

Source: [IEEE Spectrum](#) (6 August 2020)

SWEAT SCIENCE  
**Sweat science: Engineers detect health markers in thread-based, wearable sweat sensors**



"Real-time measurement of electrolytes and metabolites could be used to diagnose and monitor disease or track performance."

Source: [Science Daily](#) (28 July 2020)

TOP RESEARCHERS  
**THE ASIAN SCIENTIST 100**



The Asian Scientist 100 list celebrates the success of the region's best and brightest, highlighting their achievements across a range of scientific disciplines.

Source: [The Asian Scientist](#) (2020)

VR  
**MicroPort and Osso VR Partner on Hip and Knee Surgery Training**



"... a virtual reality (VR) surgical training and assessment platform, has prioritized expanding its curriculum across multiple resident specialties. This was to ensure ongoing education of medical students and residents despite the current lack of in-person training due to COVID-19."

Source: [Medgadget](#) (10 August 2020)

WEARABLES  
**Smartwatch Tracks Medication Levels to Personalize Treatments**



"Engineers at the UCLA Samueli School of Engineering and their colleagues at Stanford School of Medicine have demonstrated that drug levels inside the body can be tracked in real time using a custom smartwatch that analyzes the chemicals found in sweat. This wearable technology could be incorporated into a more personalized approach to medicine — where an ideal drug and dosages can be tailored to an individual."

Source: [Samueli School of Engineering](#) (6 August 2020)

