

# Weekly Discovery

We SHARE to inspire and ignite ideas!

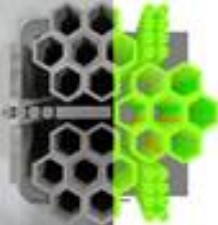
17 Aug – 21 Aug 2020

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Artificial Intelligence & Data Science	Aviation	Cities
HealthCare	Robotics & Automation	Design & Innovation
Cybersecurity	Digital Design & Fabrication	Advanced Manufacturing

**3D PRINTING**  
**AI software enables real-time 3D printing quality assessment**



"Oak Ridge National Laboratory researchers have developed artificial intelligence software for powder bed 3D printers that assesses the quality of parts in real time, without the need for expensive characterization equipment."

Source: [Oak Ridge National Laboratories](#) (13 August 2020)

**AI**  
**Machine learning reveals role of culture in shaping meanings of words**



"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: [Princeton University](#) (14 August 2020)

**BATTERIES**  
**This Cobalt-Free Battery Is Good for the Planet—and It Actually Works**



"Reducing the cobalt content in lithium-ion batteries is good for the environment, human rights, and maybe even the performance of the battery itself."

Source: [Wired](#) (17 August 2020)

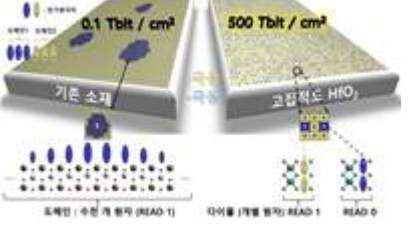
**BIOMEDICAL DEVICES**  
**Artificial Antibodies Bolster Hope for Inhaled Coronavirus Treatment**



"Could the next big coronavirus treatment breakthrough come in the form of an inhaler or a nasal spray instead of a shot or a pill?"

Source: [IEEE Spectrum](#) (17 August 2020)

**CHEMICAL ENGINEERING**  
**Breakthrough Research Could Increase Chip Storage Capacity Upto 1,000 Times**



"A research team, led by Professor Jun Hee Lee in the School of Energy and Chemical Engineering at UNIST has proposed a new physical phenomenon that promises enhanced storage capacity of a fingernail-sized memory chip by 1,000 times."

Source: [UNIST News](#) (18 August 2020)


**COVID-19**  
**COVID-19: Unprecedented Challenges and Chances**



"The Harvard Data Science Review will continue to publish special articles and perspectives on COVID-19 on a rolling basis, reflecting the most up-to-date developments."

Source: [MIT Review](#) (2020)

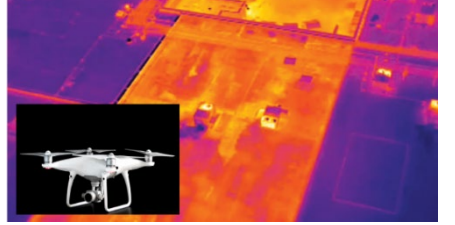
**DESIGN AWARD**  
**Naera Hotel Resort & Art Gallery**



This was achieved by using RGB white lights allowing the combination of both white and coloured light from the same fixtures. The inclusion of an integrated light show as part of the hotel lighting experience is considered a new and innovative approach as it involves the architectural configuration and design with lighting already in mind.

Source: [MUSE Design award](#) (2020)

**DRONES**  
**Drones And Roof Maintenance**



Hovering at 150 feet over the building, the drone can gather images and allow professionals to diagnose the status of the roof relatively quickly. These technological advances allow inspectors to gather a more comprehensive assessment compared to walking across the roof

Source: [Facility Executive](#) (17 August 2020)

**HEALTHCARE**  
**Smartphones May Help Detect Diabetes**



"Researchers at UC San Francisco have developed a "digital biomarker" that would use a smartphone's built-in camera to detect diabetes – one of the world's top causes of disease and death – potentially providing a low-cost, in-home alternative to blood draws and clinic-based screening tools."

Source: [UCSF](#) (17 August 2020)

**MACHINE LEARNING**  
**Applying machine learning to biomedical science**



"Latest techniques are bringing together two previously disparate approaches to machine learning: ensemble methods and deep learning."

Source: [EurekAlert!](#) (17 August 2020)

**MATERIALS**  
**Versatile New Material Family Could Build Realistic Prosthetics, Futuristic Army Platforms**



"Researchers have developed a new family of polymers that can self-heal, have shape memory and are recyclable".

Source: [EurekAlert!](#) (14 August 2020)

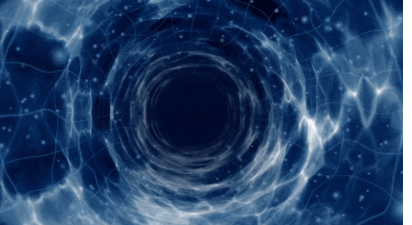
**MEDICAL DEVICES**  
**Canon Medical Unveils SOLTUS 500 Portable X-Ray**



"... has touch screens both at the main unit and at the collimator, making it easier and quicker to operate it around patients. Detectors are charged right on the device and stored within a special bin, plus special Canon technology allow the detectors operate at a long range when necessary."

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

**PHYSICS**  
**Scientists Discover Simple Innovation to Make Quantum States Last 10,000 Times Longer**



"A team of scientists at the University of Chicago's Pritzker School of Molecular Engineering announced the discovery of a simple modification that allows quantum systems to stay operational — or "coherent" — 10,000 times longer than before."

Source: [Science Daily](#) (17 August 2020)

**TECHNOLOGY**  
**'Tech for Good': Using technology to smooth disruption and improve well-being**



" Focusing on innovation, skills, and labor fluidity will be keys to good social outcomes of technology adoption."

[Download the full Discussion Paper](#)

Source: [McKinsey](#) (May 2020)


**UPSKILLING**  
**The most fundamental skill: Intentional learning and the career advantage**



" Learning itself is a skill. Unlocking the mindsets and skills to develop it can boost personal and professional lives and deliver a competitive edge."

Source: [McKinsey](#) (7 August 2020)

**WIND TURBINES**  
**Aussie "stethoscope for wind turbines" invention could save industry \$500m**



Using complex algorithms developed by Ping Services, the monitor is able to identify changes in the acoustic sounds created by the turbine's operation, which may indicate damage or other changes to the turbine's structures.

Source : [Renew Economy](#) (18 August 2020)