

# Weekly Discovery

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29 August – 2 September 2022

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

**3D PRINTING**  
**3D Printing of Starch for Personalised Medicine Development**



"For the purpose of personalised therapies, the UPV/EHU's 'Materials+Technologies' (GMT) Group has used 3D printing to develop tablets based on different types of starch, and has confirmed that drug release could be tailored by optimising the right starch type and tablet shape."

Source: [EHU](#) (08 August 2022)

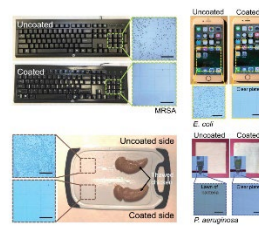
**ARCHITECTURE**  
**KPF And Heatherwick Studio Aim To "Redefine What a Terminal Can Be" With Singapore Airport Design**



"Heatherwick Studio and Kohn Pedersen Fox (KPF), which won the commission to extend the airport in 2018, are aiming to create a terminal in which people will want to spend time. "Our intention is to redefine what an airport terminal can be," said Heatherwick Studio founder Thomas Heatherwick."

Source: [DEZEEN](#) (26 August 2022)

**BIOTECHNOLOGY**  
**Durable Coating Kills COVID Virus, Other Germs in Minutes**



"There may soon be a new weapon in our centuries-old battle against germs: the first durable coating that can quickly kill bacteria and viruses and keep on killing them for months at a time."

Source: [University of Michigan](#) (26 August 2022)

**COMPUTER MODELING**  
**Helping Autonomous Vehicles Navigate Tricky Highway Merges**



"...researchers from North Carolina State University have developed a technique that allows autonomous vehicle software to make the relevant calculations more quickly – improving both traffic and safety in simulated autonomous vehicle systems"

Source: [North Carolina State University](#) (24 August 2022)

**EDUCATION**  
**Online Teaching Triggers a Different Response in The Body**



"Numerous studies have shown that people relate to online teaching in a different way than to in-person classes. Bochum-based researchers have explored whether the body also experiences a difference."

Source: [RUB](#) (17 August 2022)

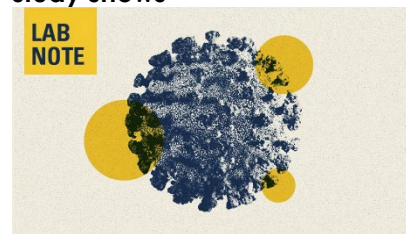
**ELECTRONICS**  
**Silicon Image Sensor That Computes**



"...have developed the first in-sensor processor that could be integrated into commercial silicon imaging sensor chips – known as complementary metal-oxide-semiconductor (CMOS) image sensors — that are used in nearly all commercial devices that need capture visual information, including smartphones."

Source: [Harvard](#) (25 August 2022)

**HEALTHCARE**  
**Simple rubber band fix improves surgical mask seal to N95 levels, study shows**



"...A recent study published in PLOS ONE demonstrates that a simple modification to a surgical mask using rubber bands can improve its protective seal against particle exposure to the level of an N95 respirator."

Source: [LAB Blog](#) (24 August 2022)

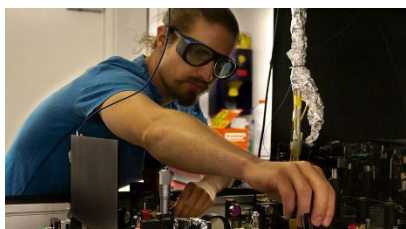
**MATERIALS**  
**Mimicking Termites to Generate New Materials**



"Inspired by the way termites build their nests, researchers at Caltech have developed a framework to design new materials that mimic the fundamental rules hidden in nature's growth patterns...to create materials designed with specific programmable properties."

Source: [CALTECH](#) (26 August 2022)

**OPTICS**  
**Bound by Light**



"A team of researchers at the University of Vienna, the Austrian Academy of Sciences and the University of Duisburg-Essen have found a new mechanism that fundamentally alters the interaction between optically levitated nanoparticles."

Source: [University of Vienna](#) (26 August 2022)

**PROSTHETICS**  
**Powering An 'Arm' With Air Could Be Mighty Handy**



"The prototype "arm" is a piece of fabric that hugs the body when not in use, but extends outward when activated and incorporates an elastomer lining on the surface to maintain its grip on slippery objects."

Source: [Rice University](#) (25 August 2022)

**TRANSPORTATION**  
**Making Bike-Sharing Work**



"Bike-sharing is a way for cities to cut their greenhouse gas emissions while limiting urban congestion. But bikes have to be available when and where people want them. A new approach can help by ensuring bikes are in the right place at the right time."

Source: [Norwegian University of Science and Technology](#) (26 August 2022)

**TRANSPORTATION**  
**U-M Analysis Challenges U.S. Postal Service Electric Vehicle Environmental Study**



"On the heels of the Aug. 16 bill-signing ceremony at the White House, a new University of Michigan study finds that making the switch to all-electric mail-delivery vehicles would lead to far greater reductions in greenhouse gas emissions than previously estimated by the USPS."

Source: [University of Michigan](#) (26 August 2022)

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