

Weekly Discovery

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24 - 28 May 2021

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

AI
Making AI algorithms show their work



"Artificial intelligence (AI) learning machines can be trained to solve problems and puzzles on their own instead of using rules that we made for them. But often, researchers do not know what rules the machines make for themselves."

Source: [Techonology.Org](#) (21 May 2021)

ARCHITECTURE
Bjarke Ingels Group and The Metals Company Design Next-Generation Robotic Mineral Collecting Facility



"The firm designed a circular zero-solid-waste metallurgical plant that includes manufacturing, processing, and storage facilities, along with offices, visitor centers, and innovation facilities."

Source: [Arch Daily](#) (20 May 2021)

ARCHITECTURE
Indecent Proposal: Architectural Tips for Making Proposals Decent



"In addition to the practical lessons for avoiding these pitfalls, the video also offers a character analysis that breaks down fundamental principles of Deconstructivist Architecture..."

Source: [archdaily](#) (22 May 2021)

COVID-19
Forget throat swabs: Dutch company claims its breathalyzer can help sniff out COVID-19



"Scientists at the Ural Federal University have created samples of clay bricks that are able to attenuate ionizing radiation as much as possible - to a level that is safe for the human body."

Source: [Sciencemag](#) (17 May 2021)

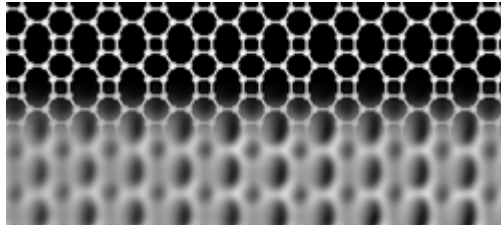
HEALTHTECH
Smart toilet may soon analyze stool for health problems



"An artificial intelligence tool under development at Duke University can be added to the standard toilet to help analyze patients' stool and give gastroenterologists the information they need to provide appropriate treatment"

Source: [Eurekalert!](#) (22 May 2021)

MATERIALS
A new form of carbon



"Researchers at the University of Marburg in Germany and Aalto University in Finland have now discovered a new carbon network, which is atomically thin like graphene, but is made up of squares, hexagons, and octagons forming an ordered lattice."

Source: [Aalto](#) (21 May 2021)

MATERIALS
Urfu Scientists Create New Construction Materials Protecting From Radiation



"Scientists at the Ural Federal University have created samples of clay bricks that are able to attenuate ionizing radiation as much as possible - to a level that is safe for the human body."

Source: [Urfu](#) (23 May 2021)

PHYSICS
Superfluidity seen in a 2D Fermi gas



"Physicists in Germany say they have found definitive evidence for the existence of superfluidity in an extremely cold 2D gas of fermions. Their experiment involved confining a few thousand lithium atoms inside a specially-designed trap, and they say that the finding could help shed light on the role of reduced dimensionality in high-temperature superconductors."

Source: [Physics World](#) (23 May 2021)

ROBOTICS
Robotic 'Third Thumb' use can alter brain representation of the hand



"Designer Dani Clode began developing the device, called the Third Thumb, as part of an award-winning graduate project at the Royal College of Art, seeking to reframe the way we view prosthetics, from replacing a lost function, to an extension of the human body."

Source: [University College London](#) (20 May 2021)

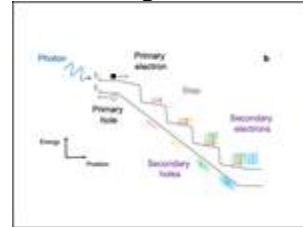
ROBOTICS
Sense of Touch Improves Control of Robotic Arm



"In a paper published today in Science, a team of bioengineers from the University of Pittsburgh Rehab Neural Engineering Labs describe how adding brain stimulation that evokes tactile sensations makes it easier for the operator to manipulate a brain-controlled robotic arm."

Source: [UPMC](#) (20 May 2021)

SENSORS
Ultra-sensitive Light Detector Gives Self-Driving Tech a Jolt



"The new device is more sensitive than other light detectors in that it also eliminates inconsistency, or noise, associated with the detection process. Such noise can cause systems to miss signals and put autonomous vehicle passengers at risk."

Source: [University of Texas](#) (20 May 2021)

VR
Virtual reality warps your sense of time



"I stopped playing the game, and I realized that I had no idea how much time had passed," he recalled. "I was supposed to be taking turns with other people, and I was worried that I had played for too long because I couldn't even guess if it had been 10 minutes or 40 minutes."

Source: [UCSC](#) (12 May 2021)

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