

Weekly Discovery

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2 AUGUST – 6 AUGUST 2021

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

ARTIFICIAL INTELLIGENCE

Fast, Efficient Neural Networks Copy Dragonfly Brains



"An insect-inspired AI could make missile-defense systems more nimble"

Source: [IEEE Spectrum](#) (30 July 2021)

ARCHITECTURE

Barcelona named UNESCO World Capital of Architecture for 2026

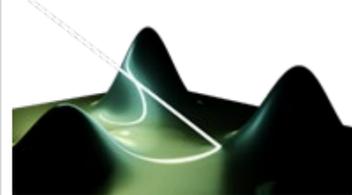


"Joining Copenhagen and Rio de Janeiro, Barcelona has been named as the UIA's 2026 World Capital of Architecture by UNESCO...Barcelona and Beijing were both contenders for the 2026 title, but the Catalan city took the lead with its winning bid titled "One today, one tomorrow", which explores the city's approach to sustainability and the future of the built environment."

Source: [Dezeen](#) (30 July 2021)

AUTONOMOUS DISCOVERY

Berkeley Lab's CAMERA Leads International Effort on Autonomous Scientific Discoveries



"Experimental facilities around the globe are facing a challenge: their instruments are becoming increasingly powerful...At the same time, these tools demand new, advanced algorithms to take advantage of these capabilities and enable ever-more intricate scientific questions to be asked — and answered."

Source: [EurekAlert!](#) (28 July 2021)

BOATS

Boats Should Be Sleek—But Only Up to a Point



"Boats Should Be Sleek—But Only Up to a Point. The length-to-beam ratio has risen over the centuries, but there are still practical limits."

Source: [IEEE Spectrum](#) (30 July 2021)

FOOD SUSTAINABILITY

Solar-Powered Microbes to Feed the World?



"An international research team led by a Göttingen University alumnus has now shown that using solar-panels to produce microbial protein – which is rich not just in proteins but also in other nutrients – is more sustainable, efficient and environmentally friendly than growing conventional crops."

Source: [Göttingen University](#) (30 July 2021)

INNOVATION

Vibrating Shoes Help Low-Vision People Navigate City Streets



"Honda has announced on its News Room website the establishment of a startup called Ashirase, Inc.— the first new business venture to originate from the company's IGNITION program. Ashirase will produce an in-shoe navigation system to help people with low vision navigate in public spaces."

Source: [Tech Xplore](#) (30 July 2021)

MACHINE LEARNING

A Blood Test for Your Body Clock? It's On The Horizon



"The answer, mounting research suggests, can influence everything from your predisposition to diabetes, heart disease and depression to the optimal time for you to take medication. But unlike routine blood tests for cholesterol and hormone levels, there's no easy way to precisely measure a person's individual circadian rhythm."

Source: [University of Colorado](#) (27 July 2021)

MACHINE LEARNING

Platform Teaches Nonexperts to Use Machine Learning



"New award-winning research from the Cornell Ann S. Bowers College of Computing and Information Science explores how to help nonexperts effectively, efficiently and ethically use machine-learning algorithms to better enable industries beyond the computing field to harness the power of AI."

Source: [Cornell University](#) (28 July 2021)

MATERIAL SCIENCE

Scientists Synthesize a Material Which Can Completely Replace Natural Gypsum in the Construction Industry

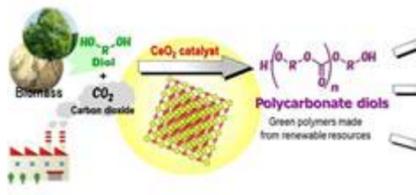


"An international team of scientists has proposed a method of production of high-quality gypsum binders based on synthetic calcium sulfate dihydrate produced from industrial waste. Tests of the obtained material have shown that it not only meets all the requirements for materials of this class, but also surpasses binders based on natural gypsum in several parameters."

Source: [MISIS](#) (30 July 2021)

MATERIAL SCIENCE

World's First "Green" Synthesis of Plastics From CO2



"By combining a CeO₂ catalyst with atmospheric carbon dioxide, researchers have developed an effective catalytic process for the direct synthesis of polycarbonate diols without using dehydrating agents."

Source: [EurekAlert!](#) (28 July 2021)

NANOMATERIAL

UCF Researchers Develop New Nanomaterial to Derive Clean Fuel from the Sea



"Researchers at the University of Central Florida have designed for the first time a nanoscale material that can efficiently split seawater into oxygen and a clean energy fuel — hydrogen. The process of splitting water into hydrogen and oxygen is known as electrolysis and effectively doing it has been a challenge until now."

Source: [University of Central Florida](#) (28 July 2021)

SYSTEMS INTELLIGENCE

Systems Intelligent Organisations Succeed – Regardless of Structures



"Aalto University researchers have created a new metric for a successful organisation capable of learning."

Source: [Aalto University](#) (27 July 2021)

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