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12 - 16 September 2022

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3D PRINTING

CityU Invents A Method To Convert 3D-Printed Polymer Into A 100-Times Stronger, Ductile Hybrid Carbon Microlattice Material

"The research team believes that this innovative approach can be used to create sophisticated 3D parts with tailored mechanical properties for a wide range of applications, including coronary stents and bio-implants."

Source: City University of Hong Kong (7 September 2022)

3D PRINTING

Despite Fears, 3D Printing Has Positive Effects on Global Trade

"Research from UC San Diego's School of Global Policy and Strategy finds the technology is a boon to trade, allowing participating countries to provide higher income and more opportunities to their people."

Source: UCSD (16 August 2022)

AI

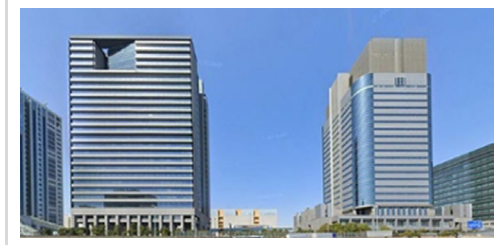
Artificial Intelligence Tool Could Reduce Common Drug Side Effects

"Artificial intelligence could help clinicians assess which patients are likely to encounter the harmful side effects of some commonly used antidepressants, antihistamines and bladder medicines."

Source: University of Exeter (7 September 2022)

ARCHITECTURE

City Digital Twins Help Train Deep Learning Models To Separate Building Facades

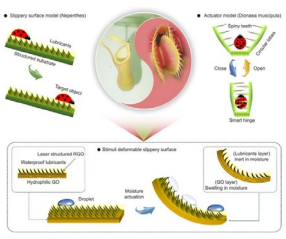


"Researchers from Osaka University find that images of city digital twins, created using 3D models and game engines, can be combined with images of the real city to easily create deep-learning model training data for most modern architecture."

Source: RESOU (6 September 2022)

BIOMIMICRY

Carnivorous Plants Inspire Smart Slippery Surfaces And Bionic Robots



"The research team developed a moisture-responsive shape-morphing slippery surface. They integrated a lubricant-infused slippery surface with an LRGO/GO bilayer actuator. The team prepared a series of proof-of-concept actuators, including a smart frog tongue and a smart flower, demonstrating active/passive trapping, droplet manipulation, and sensing."

Source: Eurekalert! (9 September 2022)

CARBON CAPTURE

A Breakthrough Discovery In Carbon Capture Conversion For Ethylene Production

"While researchers have been exploring the possibility of converting carbon dioxide to ethylene for more than a decade, the UIC team's approach is the first to achieve nearly 100% utilization of carbon dioxide to produce hydrocarbons. Their system uses electrolysis to transform captured carbon dioxide gas into high purity ethylene, with other carbon-based fuels and oxygen as byproducts."

Source: UIC (9 September 2022)

DIGITAL FABRICATION

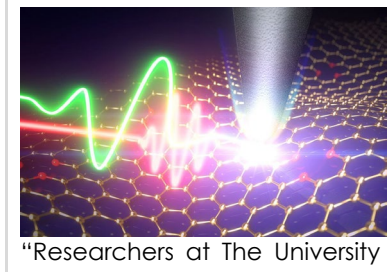
Clay Rotunda / Gramazio Kohler Research

"The Clay Rotunda is a free-standing earth-based cylindrical structure constituting the outer, soundproof shell of the SE MusicLab, a high-fidelity music auditorium built inside the newly refurbished Gurten Brewery in Bern. The cylindrical structure combines clay, a sustainable zero-waste building material, with computational design techniques. Featuring a diameter of almost 11 meters the structure reaches a height of 5 meters with just 15 cm of unreinforced clay. It was built in-situ by a mobile robotic system that aggregated over 30'000 soft clay bricks over a period of 50 days."

Source: ArchDaily (10 September 2022)

OPTICS

Just Wait a Femtosecond



"Researchers at The University of Tsukuba add pump-probe capability to a scanning tunneling microscopy system to allow time-resolved images to be captured as fast as 30 femtoseconds, which can accelerate material science research"

Source: TSUKUBA (6 September 2022)

PRODUCT DESIGN

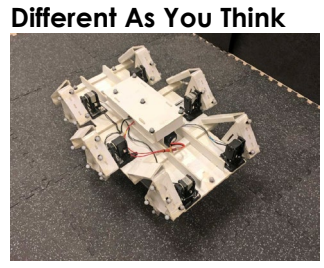
Unique Light-Sensing 3D-Printed Device Could Help People With Lupus

"A team of engineers and doctors at the University of Minnesota Twin Cities have designed a unique 3D-printed light-sensing medical device that is placed directly on the skin and gives real-time feedback to correlate light exposure with disease flare-ups. The device could help millions of people worldwide with lupus and other light-sensitive diseases by providing access to more personalized treatments and information to determine what causes their symptoms."

Source: UNIVERSITY OF MINNESOTA (8 September 2022)

ROBOTS

Walking And Slithering Aren't As Different As You Think



Abrahamic texts treat slithering as a special indignity visited on the wicked serpent, but evolution may draw a more continuous line through the motion of swimming microbes, wriggling worms, skittering spiders and walking horses."

Source: University of Michigan (6 September 2022)

SOCIAL MEDIA

Study Examines The Impact Of Fake Online Reviews On Sales

"Here's how it works: Sellers post in private online groups to promote their products. They then pay customers to purchase certain products and leave positive reviews. These social media groups exist for a number of online retailers."

Source: Informs (8 September 2022)

SUSTAINABILITY

A Nutrition Label for Earth

"Researchers estimate the environmental impacts of 57,000 common store-bought food products"

Source: University of California - Santa Barbara (6 September 2022)

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