

Weekly Discovery

We SHARE to inspire and ignite ideas!

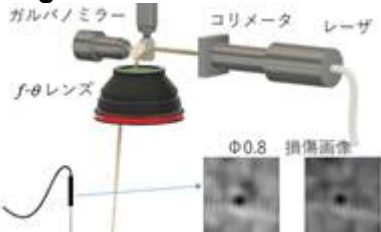
20 - 24 September 2021

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

3D PRINTING
Bringing Real-Time, Fine-Scale, Subsurface Quality Control To 3D Printing



"Researchers from Osaka University used laser ultrasonics to image ultrasmall internal defects in 3D-printed materials, thus introducing a means of non-contact quality control"

Source: [OSAKA UNIVERSITY](#) (16 September 2021)

3D PRINTING
Now We're Cooking with Lasers



"Imagine having your own digital personal chef; ready to cook up whatever you want; able to tailor the shape, texture, and flavor just for you; and it's all at the push of a button. Columbia engineers have been working on doing just that, using lasers for cooking and 3D printing technology for assembling foods."

Source: [Columbia University](#) (17 September 2021)

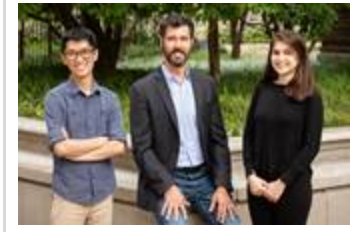
AVIATION
New Engine Design Could Muffle Roar Of Fighter Jets



"Aerospace engineers at the University of Cincinnati have come up with a new nozzle design for F-18 fighter planes to dampen the deafening roar of the engines without hindering performance."

Source: [UNIVERSITY OF CINCINNATI](#) (17 September 2021)

CHEMISTRY
Tiny Porous Crystals Change The Shape Of Water To Speed Up Chemical Reactions



"Chemical engineers at the University of Illinois Urbana-Champaign now understand how water molecules assemble and change shape in some settings, revealing a new strategy to speed up chemical reactions critical to industry and environmental sustainability. The new approach is poised to play a role in helping chemical manufacturers move away from harmful solvent catalysts in favor of water."
Source: [EurekaAlert](#) (20 September 2021)

DEEP LEARNING
Deep Learning Helps Predict New Drug Combinations To Fight COVID-19



"The existential threat of COVID-19 has highlighted an acute need to develop working therapeutics against emerging health threats. One of the luxuries deep learning has afforded us is the ability to modify the landscape as it unfolds -- so long as we can keep up with the viral threat, and access the right data."

Source: [MIT CSAIL](#) (16 September 2021)

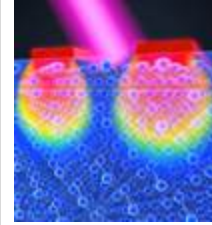
ENERGY
Gamechanger For Clean Hydrogen Production, Curtin Research Finds



"Curtin University research has identified a new, cheaper and more efficient electrocatalyst to make green hydrogen from water that could one day open new avenues for large-scale clean energy production."

Source: [Curtin University](#) (17 September 2021)

ELECTRONICS COOLING
Nano-scale Discovery Could Help To Cool Down Overheating In Electronics



"New research from the College of Engineering aims to ease the process of chemical recycling – an emerging industry that could turn waste products back into natural resources by physically breaking plastic down into the smaller molecules it was originally produced from."

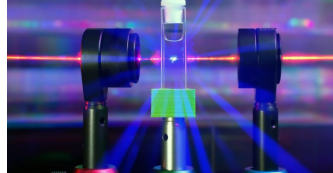
Source: [EurekaAlert](#) (20 September 2021)

NANO TECHNOLOGY
Ten Apartments With Adaptable And Reconfigurable Layouts



"For our latest lookbook, we've selected 10 adaptable flats from the Dezeen archive that can be reconfigured with moving walls or furniture...Adaptable apartments use sliding partitions and smart storage solutions to divide spaces, or incorporate reconfigurable rooms so that they can serve multiple purposes."
Source: [Dezeen](#) (20 September 2021)

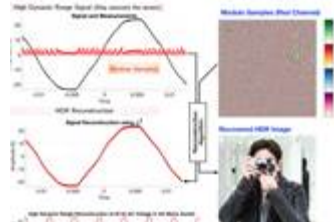
NANO TECHNOLOGY
The Nanophotonics Orchestra Presents: Twisting To The Light Of Nanoparticles



"Physics researchers at the University of Bath discover a new physical effect relating to the interactions between light and twisted materials – an effect that is likely to have implications for emerging new nanotechnologies in communications, nanorobotics and ultra-thin optical components."

Source: [University of Bath](#) (20 September 2021)

SENSORS
Unlimited Digital Sensing Unleashed For Imaging, Audio, And Driverless Cars



"A new technique could unleash the potential for digital sensors like cameras to sense all light intensities, and microphones to sense all audio ranges"

Source: [Imperial College London](#) (17 September 2021)

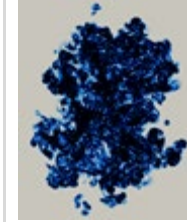
SUSTAINABILITY
Research Guides Future Of Plastic Waste Chemical Recycling



"New research from the College of Engineering aims to ease the process of chemical recycling – an emerging industry that could turn waste products back into natural resources by physically breaking plastic down into the smaller molecules it was originally produced from."

Source: [Cornell University](#) (20 September 2021)

TURBULENT FLOW
Fiber Tracking Method Delivers Important New Insights Into Turbulence



"...a new technique for measuring turbulent flows has been developed by an international collaboration of scientists from the Okinawa Institute of Science and Technology Graduate University (OIST) in Japan, along with the University of Genova, Italy, KTH Stockholm, Sweden and ETH Zurich, Switzerland. By using fibers rather than particles – the usual method of measurement – the researchers could get a more detailed picture of turbulent flows."
Source: [OIST](#) (17 September 2021)

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