AI
### AI Discovers New Nanostructures
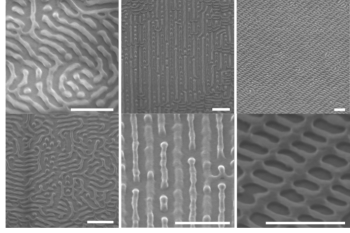
"Scientists at the U.S. Department of Energy's (DOE) Brookhaven National Laboratory have successfully demonstrated that autonomous methods can discover new materials. The artificial intelligence (AI)-driven technique led to the discovery of three new nanostructures, including a first-of-its-kind nanoscale "ladder." The research was published today in Science Advances."

Source: BNL (16 January 2023)

AI
AI Improves Detail, Estimate Of Urban Air Pollution
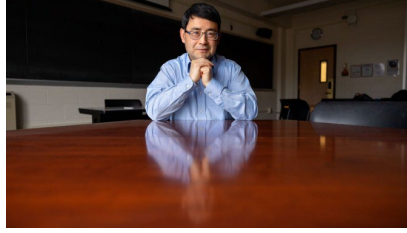
"In the first project phase, the research team constructed a container-sized test facility, which now went into operation. This first-phase installation removes two kilograms of CO2 from the ambient air in one day and turns it into 0.5 kilogram of solid carbon."

Source: Cornell) (12 January 2022)

AI
Using Machine Learning To Help Monitor Climate-Induced Hazards

"Combining satellite technology with machine learning may allow scientists to better track and prepare for climate-induced natural hazards, according to research presented last month at the annual meeting of the American Geophysical Union."

Source: OSU (12 January 2023)

AUTOMOTIVE
Hyundai Debuts Car That Can Drive Sideways

"Car manufacturer Hyundai has revealed an Ioniq 5 car with wheels that can rotate up to 90 degrees so that it can "crab" drive sideways at this year's Consumer Electronics Show.
Developed by Hyundai Motor Group's car parts producer arm Hyundai Mobis, the technology was showcased on a real vehicle for the first time on the electric Ioniq 5 car, which was on display at Consumer Electronics Show (CES) 2023."

Source: DEZEEN (17 January 2023)

CARBON
New Facility At KIT Produces Carbon Out Of Air

"In the first project phase, the research team constructed a container-sized test facility, which now went into operation. This first-phase installation removes two kilograms of CO2 from the ambient air in one day and turns it into 0.5 kilogram of solid carbon."

Source: KARLSRUHER INSTITUT FÜR TECHNOLOGIE (KIT) (12 January 2022)

DRONES
Feathered Robotic Wing Paves Way For Flapping Drones

"Birds fly more efficiently by folding their wings during the upstroke, according to a recent study led by Lund University in Sweden. The results could mean that wing-folding is the next step in increasing the propulsive and aerodynamic efficiency of flapping drones."

Source: Eurekalert! (13 January 2023)

MATERIALS
Optical Coating Approach Prevents Fogging And Unwanted Reflections
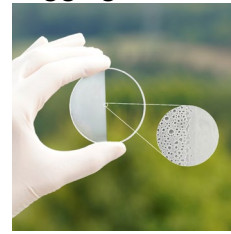
"Researchers have developed an optical coating system that combines antifogging and antireflective properties. The new technology could help boost the performance of lidar systems and cameras."

Source: OPTICA (12 January 2023)

ROBOTICS
A Precision Arm For Miniature Robots
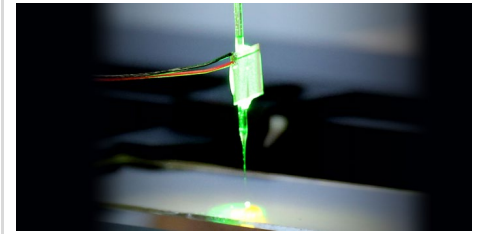
"Scientists led by ETH Professor Daniel Ahmed are now combining conventional robotics and microfluidics. They have developed a device that uses ultrasound and can be attached to a robotic arm. It is suitable for performing a wide range of tasks in microrobotic and microfluidic applications and can also be used to automate such applications. The scientists have reported on this development in Nature Communications."

Source: ETHZ (13 January 2023)

SENSOR
New Sensor Can Prevent Defects In Major Structures Reaching Costly And Dangerous Levels

"Researchers at Bournemouth University have developed and patented a new corrosion sensor that could improve safety and reliability of large structures such as bridges, aircraft, military vehicles and gas pipelines."

Source: BOURNEMOUTH UNIVERSITY (12 January 2023)

SUSTAINABILITY
Computers That Power Self-Driving Cars Could Be A Huge Driver Of Global Carbon Emissions

"Study shows that if autonomous vehicles are widely adopted, hardware efficiency will need to advance rapidly to keep computing-related emissions in check."

Source: MIT (13 January 2023)

VR
Does Throwing My Voice Make You Want To Shop Here?
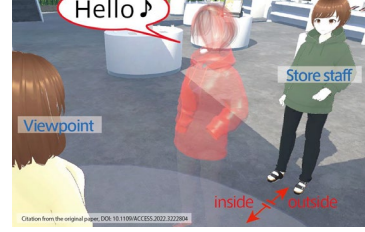
"By breaking the laws of physics in a virtual reality environment, researchers from the University of Tsukuba find that changing the location of a virtual assistant's voice in specific ways can be used as a tool to build rapport with customers."

Source:Tsukuba (09 January 2023)

WEARABLES
Screen-Printing Method Can Make Wearable Electronics Less Expensive

"The study, led by Washington State University researchers, demonstrates that electrodes can be made using just screen printing, creating a stretchable, durable circuit pattern that can be transferred to fabric and worn directly on human skin. Such wearable electronics can be used for health monitoring in hospitals or at home."

Source: WASHINGTON STATE UNIVERSITY (12 January 2022)