SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Weekly Discovery

We SHARE to inspire and ignite ideas!

3 – 7 October 2022

3D PRINTING

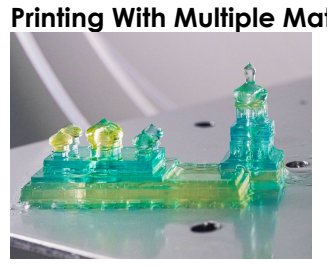
3D Printing Can Now Manufacture Customized Sensors For Robots, Pacemakers, And More

"A newly-developed 3D printing technique could be used to cost-effectively produce customized electronic "machines" the size of insects which enable advanced applications in robotics, medical devices and others."

Source: KTH, Royal Institute of Technology (28 September 2022)

3D PRINTING

New 3D Printing Method Designed By Stanford Engineers Promises Faster Printing With Multiple Materials



"Researchers at Stanford have developed a method of 3D printing that promises to create prints faster, using multiple types of resin in a single object."

Source: Stanford University (28 September 2022)

AI

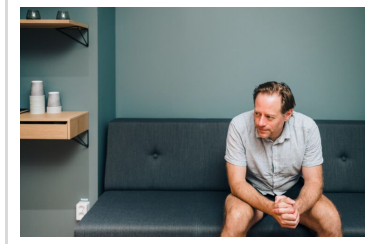
Laser Researchers Take Aim At Cockroaches

"Cockroaches are a creepy pest found all around the world and in the UK. They are famously resilient - for years people believed they could even survive a nuclear bomb. What they can't survive is the new laser and artificial intelligence system designed by a scientist at Heriot-Watt University in Edinburgh."

Source: Heriot-Watt University (29 September 2022)

AI

The Road To Future AI Is Paved With Trust



"The place of artificial intelligence, AI, in our everyday life is increasing and many researchers believe that what we have seen so far is only the beginning. However, AI must be trustworthy in all situations. Linköping University is coordinating TAILOR, a EU project that has drawn up a research-based roadmap intended to guide research funding bodies and decision-makers towards the trustworthy AI of the future."

Source: LIU (30 September 2022)

ARCHITECTURE

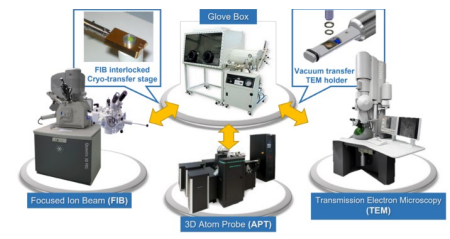
Foster + Partners Connects Pair Of Skyscrapers With 100-Meter-High Suspension Bridge

"British architecture studio Foster + Partners has completed two skyscrapers for drone manufacturer DJI in Shenzhen called DJI Sky City, which are connected by an open-air suspension bridge over 100 meters above the ground."

Source: Dezeen (29 September 2022)

BATTERY

Uncovering The Secrets Of Materials Degradation In Lithium-Ion Battery



"Using a self-designed battery analysis platform, The KIST research team directly observed the migration of lithium ions into the silicon–graphite composite anode during charging, and identified the practical role of the nanopores. It was found that lithium ions migrate sequentially into the carbon, nanopores, and silicon in the silicon–graphite composite."

Source: Eurekalert! (3 October 2022)

BIOTECHNOLOGY

Breaking Through The Mucus Barrier

"A capsule that tunnels through mucus in the GI tract could be used to orally administer large protein drugs such as insulin."

Source: MIT (28 September 2022)

LEARNING

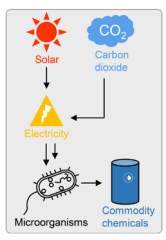
Correcting Peers Is Key In Small-Group Learning

"New research from the University of Georgia suggests that students who understand what they do and do not know, and who are willing to ask for clarification and correct misinformation in the group, are more successful in small-group problem-solving."

Source: UGA (27 September 2022)

MATERIALS

Texas A&M AgriLife Designs System To Create Bioplastics



"A team of Texas A&M AgriLife Research scientists has developed a system that uses carbon dioxide, CO2, to produce biodegradable plastics, or bioplastics, that could replace the nondegradable plastics used today. The research addresses two challenges: the accumulation of nondegradable plastics and the remediation of greenhouse gas emissions.."

Source: AGRILIFE (28 September 2022)

MATERIAL SCIENCE

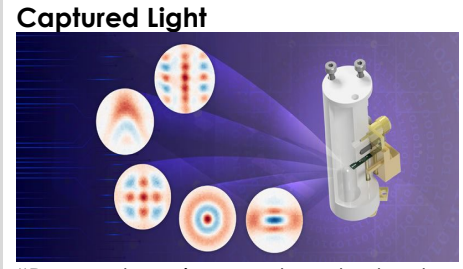
Engineers Discover Process For Synthetic Material Growth, Enabling Soft Robots To Grow Like Plants

"University of Minnesota Twin Cities researchers have developed a plant-inspired extrusion process that allows soft robots to build their own solid bodies from liquid to navigate hard-to-reach places and complicated terrain."

Source: University of Minnesota (28 September 2022)

QUANTUM TECH

Quantum Technology Reaches Unprecedented Control Over Captured Light

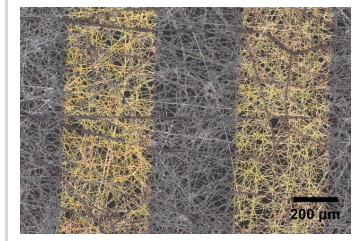


"Researchers in quantum technology at Chalmers University of Technology have succeeded in developing a technique to control quantum states of light in a three-dimensional cavity. In addition to creating previously known states, the researchers are the first ever to demonstrate the long-sought cubic phase state. The breakthrough is an important step towards efficient error correction in quantum computers."

Source: CHALMERS UNI (27 September 2022)

SENSORS

Improving Wearable Medical Sensors With Ultrathin Mesh



"researchers demonstrated how an important component of the sensors called a thermistor can be constructed using an ultrathin fiber-mesh. Thermistors are a type of resistor whose resistance significantly varies with temperature."

Source: Shinshu University (29 September 2022)