SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Weekly Discovery

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7 – 11 March 2022

The Library publishes 9 alerts focusing on Topics relevant to growth and research areas to SUTD.

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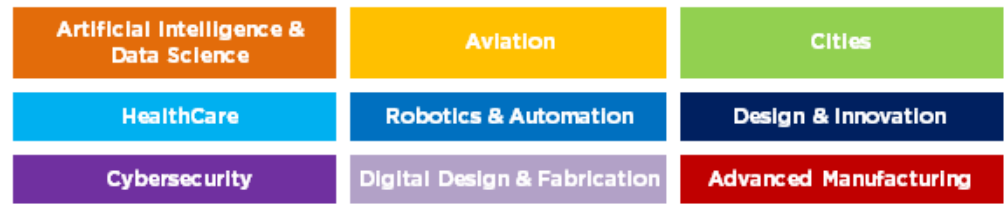


ARCHITECTURE

BIG Designs Virtual Office In The Metaverse For Vice Media Group

"Danish architecture studio BIG has designed its first building in the metaverse, a virtual office for employees at media company Vice Media Group called Viceverse.
The recently opened Viceverse office is located on the Decentraland platform, where it will serve as the agency's virtual innovation lab and allow employees to work in the metaverse on Non Fungible Tokens (NFTs) and other digital projects."

Source: Dezeen (2 March 2022)

AVIATION

For New Insights Into Aerodynamics, Scientists Turn To Paper Airplanes

"A series of experiments using paper airplanes reveals new aerodynamic effects, a team of scientists has discovered. Its findings enhance our understanding of flight stability and could inspire new types of flying robots and small drones."

Source: New York University (1 March 2022)

BIOENGINEERING

Controlling Cells With Sound: Scientists Pioneer Sonogenetics

"A US-based research team has developed a new "sonogenetic" technique to activate and control mammalian cells with sound – potentially paving the way for innovative non-invasive versions of deep brain stimulators, pacemakers and insulin pumps. So, what exactly is sonogenetics? What are its potential clinical advantages? And what are the next steps for the research team?."

Source: Physics World (4 March 2022)

CONSTRUCTION

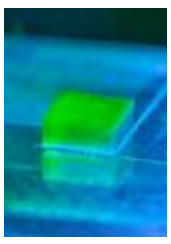
Old Wind-Turbine Blades Are Being Repurposed For Building Bridges

"Most wind blades are made of fiberglass, or carbon fiber-reinforced polyester bound with resin. This renders them lightweight and durable, but it also makes it difficult to separate the plastics from the glass fibers. Energy companies are now starting to address this challenge by redesigning blades so that they can be broken down into raw, recyclable materials—but that won't help with the millions of wind blades already in operation."

Source: FAST COMPANY (4 March 2022)

ENERGY

Tiny 'Skyscrapers' Help Bacteria Convert Sunlight Into Electricity

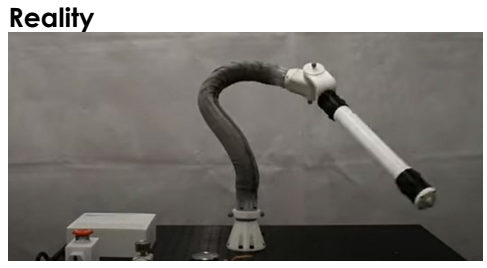


"The researchers, from the University of Cambridge, used 3D printing to create grids of high-rise 'nano-housing' where sun-loving bacteria can grow quickly. The researchers were then able to extract the bacteria's waste electrons, left over from photosynthesis, which could be used to power small electronics."

Source: Eurekalert(7 March 2022)

ROBOTICS

Bendy Robotic Arm Twisted Into Shape With Help Of Augmented Reality

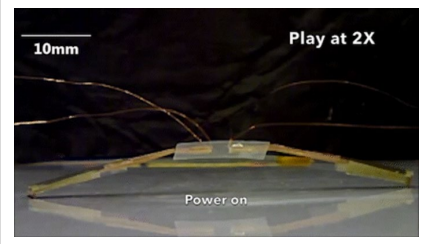


"Researchers have designed a malleable robotic arm that can be guided into shape by a person using augmented reality (AR) goggles."

Source: Imperial College London (3 March 2022)

ROBOTS

Robot "Bugs" That Can Go Just About Anywhere



"These ancient creatures can squeeze through the tiniest cracks, fit snugly into tight spaces and survive in harsh environments: There aren't many spaces that are off-limits to an insect. That's why researchers at the University of Pittsburgh have created tiny bug-inspired robots that can carry out tasks in hard-to-reach spaces and inhospitable environments."

Source: UNIVERSITY OF PITTSBURGH (3 March 2022)

ROBOTICS

The Physics Of Fire Ant Rafts Could Help Engineers Design Swarming Robots

"A new study by engineers at CU Boulder lays out the simple physics-based rules that govern how these ant rafts morph over time: shrinking, expanding or growing long protrusions like an elephant's trunk. The team's findings could one day help researchers design robots that work together in swarms or next-generation materials in which molecules migrate to fix damaged spots."

Source: University of Colorado Boulder (2 March 2022)

TECHNOLOGY

MagTrack Technology Opens Doors for Independent Operation of Smartphones, Computers, and Other Devices for Wheelchair Users

"MagTrack was created as a cutting-edge assistive technology that enables power wheelchair users to control their connected devices (e.g., smartphone, computer) and drive their power wheelchairs using an alternative, multimodal controller. In addition, the assistive device is designed to be wearable, wireless, and adaptable to the user's specific condition."

Source: GEORGIA INSTITUTE OF TECHNOLOGY (3 March 2022)

TECHNOLOGY

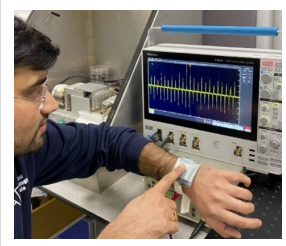
Temperature Variation Could Help New Touchscreen Technology Simulate Virtual Shapes

"High-fidelity touch has the potential to significantly expand the scope of what we expect from computing devices, making new remote sensory experiences possible. The research on these advancements could help touchscreens simulate virtual shapes."

Source: Texas A&M University(1 March 2022)

WEARABLE DEVICE

Surrey Unveils Energy-Harvesting Wearable Device Made From Recycled Waste

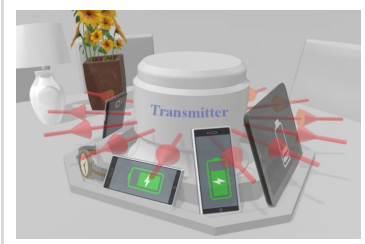


"Wearable devices could soon be entirely made of recycled waste materials – and powered by human movement, thanks to a new energy-harvesting device developed at the University of Surrey."

Source: University of Surrey (3 March 2022)

WIRELESS CHARING

Convenient Wireless Charging For Home Use



"A new wireless charging system can charge devices placed anywhere within a ring around it. Existing systems transfer power in a specific direction or to a specific position. By providing a donut-shaped charging field, the new system offers a more convenient and reliable design for consumer use."

Source: Eurekalert!(4 March 2022)