

Weekly Discovery

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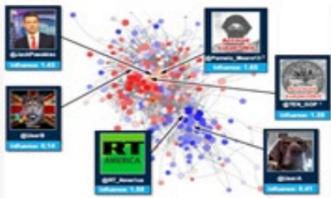
31 May – 4 June 2021

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Artificial Intelligence & Data Science	Aviation	Cities
HealthCare	Robotics & Automation	Design & Innovation
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ARTIFICIAL INTELLIGENCE
Artificial Intelligence System Could Help Counter The Spread Of Disinformation



"Disinformation campaigns are not new — think of wartime propaganda used to sway public opinion against an enemy. What is new, however, is the use of the internet and social media to spread these campaigns. The spread of disinformation via social media has the power to change elections, strengthen conspiracy theories, and sow discord."

Source: [MIT](#) (27 May 2021)

ARTIFICIAL INTELLIGENCE
Helping Doctors Manage COVID-19



"The promising results in this study show that artificial intelligence has a strong potential to be an effective tool for supporting frontline healthcare workers in their decisions and improving clinical efficiency, which is especially important given how much stress the ongoing pandemic has placed on healthcare systems around the world."

Source: [University of Waterloo](#) (26 May 2021)

ARCHITECTURE
Kettle Collective Plans To Build World's Second Tallest Tower In Russia



"Scottish architecture practice Kettle Collective has unveiled designs for a 703-metre-high supertall skyscraper in St Petersburg, Russia, which would be the second tallest building in the world."

Called Lakhta Centre II, the 150-storey building would also have the highest occupied floor in the world at 590 metres."

Source: [Dezeen](#) (26 May 2021)

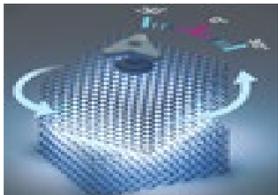
GEOENGINEERING4
Model Shows Solar Geoengineering May Be Surprisingly Effective In Alleviating Impacts Of Global Warming On Crops



"Solar geoengineering — putting aerosols into the atmosphere to reflect sunlight and reduce global warming — is not a fix-all for climate change but it could be one of several tools to manage climate risks. A growing body of research has explored the ability of solar geoengineering to reduce physical climate changes. But much less is known about how solar geoengineering could affect the ecosystem and, particularly, agriculture."

Source: [Harvard](#) (20 May 2021)

MATERIALS
Materials Breakthrough Enables Twistronics For Bulk Systems



"SMART researchers have found that phenomena related to the formation of moiré superlattices observed in two-dimensional systems can be translated to tune optical properties of three-dimensional, bulk-like hexagonal boron nitride, even at room temperature."

Source: [MIT](#) (24 May 2021)

MATERIALS
Ultra-Magnetostrictive Material Shows Promise For Beyond-Cmos Technologies



"The material's unusual ability to expand and contract in response to tiny pulses of electric current has attracted interest from the chip manufacturer Intel, which is investigating possible replacements for the CMOS (complementary metal-oxide-semiconductor) technology that has dominated the industry for decades."

Source: [Physics World](#) (31 May 2021)

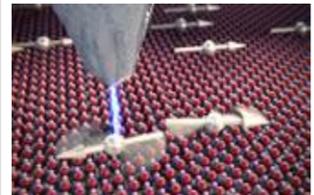
NANOTECH
How Nanotech Can Foil Counterfeiters



"Tiny mechanical resonators produced the same way microchips are made [bottom] can serve to authenticate various goods. Being less than 1 micrometer across and transparent, these tags are essentially invisible."

Source: [IEEE SPECTRUM](#) (28 May 2021)

QUANTUM MECHANICS8
Scientists Overhear Two Atoms Chatting



"How materials behave depends on the interactions between countless atoms. You could see this as a giant group chat in which atoms are continuously exchanging quantum information. Researchers from Delft University of Technology in collaboration with RWTH Aachen University and the Research Center Jülich have now been able to intercept a chat between two atoms."

Source: [EurekAlert!](#) (27 May 2021)

ROBOTICS
Exoskeleton-Assisted Walking May Improve Bowel Function In People With Spinal Cord Injury



"A team of researchers has shown that physical intervention plans that included exoskeleton-assisted walking helped people with spinal cord injury evacuate more efficiently and improved the consistency of their stool."

Source: [Kessler Foundation](#) (28 May 2021)

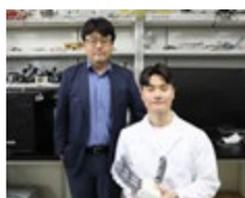
ROBOTICS
Robotic Exoskeleton Therapy Improves Mobility, Cognition, And Brain Connectivity In People With Ms



"A team of multiple sclerosis (MS) experts at Kessler Foundation led the first pilot randomized controlled trial of robotic-exoskeleton assisted exercise rehabilitation (REAER) effects on mobility, cognition, and brain connectivity in people with substantial MS-related disability. Their results showed that REAER is likely an effective intervention, and is a promising therapy for improving the lives of those with MS."

Source: [Kessler Foundation](#) (1 June 2021)

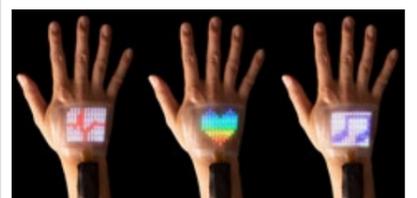
ROBOTS
A Helping Hand For Working Robots



"The DGIST research team investigated the idea that a partially-compliant robot hand, using a rigid link connected to a structure known as a Crossed Flexural Hinge (CFH), could increase the robot's lifting power while minimizing damage in the event of a collision."

Source: [Daegu Gyeongbuk Institute of Science and Technology](#) (27 May 2021)

TECHNOLOGY
Skin Displays Will Give Wearables Their Independence



"Stretchy, thin, bright, water-resistant displays that stick to skin without adhesives are going to start appearing in coming years. They'll be on the hands and arms of not just the elderly but also on those of athletes, travelers, hipsters, and early adopters."

Source: [IEEE SPECTRUM](#) (27 May 2021)

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