

Weekly Discovery

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25 - 29 Jan 2021

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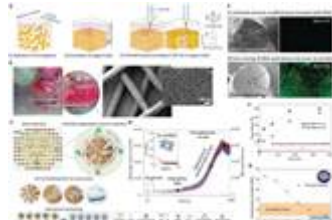
3D 3-D printed Biomesh Minimizes Hernia Repair Complications



"This concept of controlling inflammation through the physicochemical properties of the materials is new. The mesh was originally designed for mechanical strength. We asked ourselves, can we create a new kind of mesh by making use of the physical and chemical properties of materials?"

Source: [EurekAlert!](#) (25 January 2021)

3D PRINTING Scientists Use A Novel Ink To 3D Print 'Bone' With Living Cells



"Scientists from UNSW Sydney have developed a ceramic-based ink that may allow surgeons in the future to 3D-print bone parts complete with living cells that could be used to repair damaged bone tissue."

Source: [EurekAlert](#) (25 January 2021)

ARCHITECTURE The Architecture of Mass Vaccine Distribution



"Large Covid-19 vaccination programs are transforming football stadiums, parking lots and even art museums. But building the infrastructure of inoculation can get complicated."

Source: [Bloomberg CityLab](#) (22 January 2021)

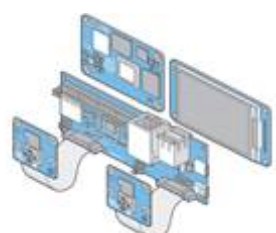
ARTIFICIAL INTELLIGENCE Robomorphic Computing: Designing Customized "Brains" for Robots



MIT researchers have developed an automated way to design customized hardware, or "brains," that speeds up a robot's operation.

Source: [Science Tech Daily](#) (24 January 2021)

COMPUTING Building a Stereoscopic Camera With the Raspberry Pi 4 Compute Module



"Access to prerelease Pi hardware was a boon, but not without pitfalls."

Source: [IEEE Spectrum](#) (22 January 2021)

COVID-19 Another Way to Protect against COVID beyond Masking and Social Distancing



Finally, the immune system's ability to respond to pathogens is suppressed in drier environments. Indeed, a study conducted in New South Wales, Australia, demonstrates an inverse relationship between relative humidity and transmission of SARS-CoV-2.

Source: [Scientific American](#) (19 January 2021)

DATA Edge Computing Is About To Solve The IoT's Biggest Problems



Low latency and decentralised servers will boost the power and spread of Internet of Things devices

Source: [Wired](#) (25 January 2021)

ENVIRONMENT Chirik Lab Discovers "Transformative" Route To Chemically Recyclable Plastics



"As the planet's burden of rubber and plastic rises unabated, scientists look to the promise of closed-loop recycling to reduce trash. Researchers in the Chirik Lab have discovered a potentially game-changing new molecule."

Source: [Princeton University](#) (25 January 2021)

FINTECH AFTAs 2020: All the Winners and Why They Won



"Here are the 32 category winners from this year's virtual American Financial Technology Awards."

Source: [Waters Technology](#) (26 January 2021)

MATERIALS Defects May Help Scientists Understand The Exotic Physics Of Topology



"Imperfections can add complications and even limit a material's usefulness...Now ... have turned this problem around and shown that for some materials defects could act as a probe for interesting physics, rather than a nuisance."

Source: [University of Illinois](#) (25 January 2021)

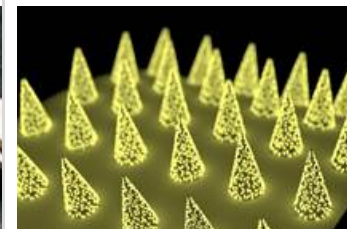
MATERIAL SCIENCE New Technique Builds Super-Hard Metals From Nanoparticles



Researchers have shown a way to make bulk metals by smashing tiny metal nanoparticles together, which allows for customized grain structures and improved mechanical and other properties. Read more [here](#).

Source: [Brown University](#) (22 January 2021)

MEDICAL DEVICES No More Needles For Diagnostic Tests?



"Engineers at the McKelvey School of Engineering at Washington University in St. Louis have developed a microneedle patch that can be applied to the skin, capture a biomarker of interest from interstitial fluid and, thanks to its unprecedented sensitivity, allow clinicians to detect its presence."

Source: [WASHINGTON UNIVERSITY IN ST. LOUIS](#) (15 January 2021)

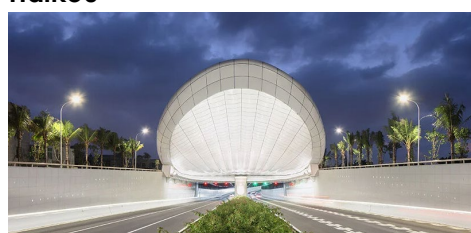
QUANTUM OPTICS Quantum Connection Is Made By Flying Drones



"A pair of airborne drones has been used to create a quantum communications channel between two ground stations 1 km apart. The system was developed by Hua-Ying Liu and colleagues at Nanjing University in China and with further improvements it could lead to flexible, highly configurable networks for quantum cryptography."

Source: [Physics World](#) (23 January 2021)

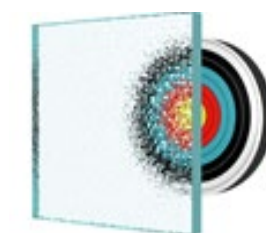
STRUCTURE DESIGN Penda China's Three Sculptural Tunnel Portals Add 'Tinge Of Surrealism' To Haikou



The canopies have been clad with glazed aluminum panels. meanwhile, black lines delineate the outer surfaces, contrasting the curving white panels. the underside of each canopy also incorporates the undulating texture, with the white material continued down the side walls to ensure a uniformity of luminance.

Source: [DesignBoom](#) (25 January 2021)

TECHNOLOGY Optimal Information About The Invisible



"How do you measure objects that you can't see under normal circumstances? Utrecht University and TU Wien (Vienna) open up new possibilities with special light waves."

Source: [TU WEIN](#) (25 January 2021)

TECHNOLOGY What Technology Changes Will 2021 Bring? Here's What Business Leaders Say



"A new World Economic Forum-Ipsos survey finds that most adults are uniquely optimistic about accessing technology, digital tools and training in the next 12 months. This is amid general pessimism about other aspects of life, such as health, employment and climate change."

Source: [World Economic Forum](#) (24 January 2020)