

Weekly Discovery

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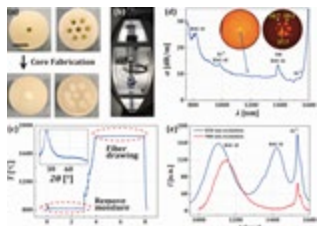
28 March – 1 April 2022

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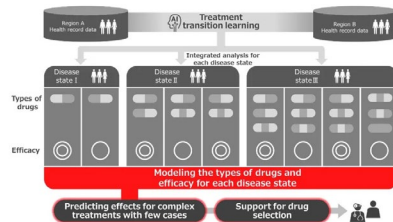
3D PRINTING 3D Printing Technology Could Change The Optical Fiber Industry



"3D printing of silica glasses and silica optical fiber preforms has recently been proved experimentally. One challenge of 3D printing silica optical fibers performance is how to extend the recent reports of small-scale glass "bulk or slice" printing from a few millimeters to centimeters."

Source: [EurekAlert!](#) (23 March 2022)

AI Innovative AI Technology Aids Personalized Care for Diabetes Patients Needing Complex Drug Treatment



"Hitachi, U of U Health, and Regenstrief researchers partnered to develop and test a new AI method that analyzed electronic health record data across Utah and Indiana and learned generalizable treatment patterns of type 2 diabetes patients with similar characteristics. Those patterns can now be used to help determine an optimal drug regimen for a specific patient.."

Source: [regenstrief](#) (25 March 2022)

ARCHITECTURE Cabin on the Border: What the Architects Learned from Living in a Tiny House



"Architects Sevince Bayrak and Oral Göktaş from SO? Architecture&Ideas were attracted to the idea of having the opportunity to escape the urban bustle of Istanbul into a natural setting, and in 2017, they designed and built the Cabin on the Border. Since its completion, the project has undergone several changes, and the dwelling experience prompted the architects to re-evaluate their initial ideas and assumptions and change how they see the tiny house typology. Five years after the project's design, the architects share what they've learned from living in a tiny house, providing valuable insight for the design of such projects."

Source: [Archdaily](#) (25 March 2022)

ARTIFICIAL INTELLIGENCE Artificial Intelligence To Bring Museum Specimens To The Masses



"A team from Cardiff University is using state-of-the-art techniques to automatically segment and capture information from museum specimens and perform important data quality improvement without the need of human input."

Source: [Cardiff University](#) (24 March 2022)

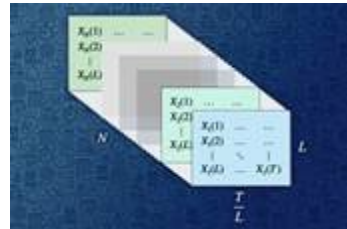
BATTERY Development Of Stretchable And Printable Free-Form Lithium-Ion Batteries



"A Korean research team has developed a soft, mechanically deformable, and stretchable lithium battery that can be used in the development of wearable devices, and examined the battery's feasibility by printing them on clothing surfaces."

Source: [Korea Institute of Science and Technology](#) (25 March 2022)

DEEP LEARNING A Tool For Predicting The Future



"Whether someone is trying to predict tomorrow's weather, forecast future stock prices, identify missed opportunities for sales in retail, or estimate a patient's risk of developing a disease, they will likely need to interpret time-series data, which are a collection of observations recorded over time."

Source: [MIT News](#) (28 March 2022)

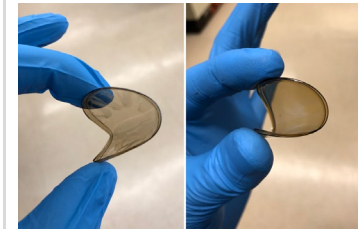
HEALTHCARE Speaking from the Heart: Could Your Voice Reveal Your Heart Health?



"Researchers found that people with a high voice biomarker score were 2.6 times more likely to suffer major problems associated with coronary artery disease (CAD), a buildup of plaque in the heart's arteries, and three times more likely to show evidence of plaque buildup in medical tests compared with those who had a low score. While the technology is not yet ready for use in the clinic, the demonstration suggests voice analysis could be a powerful screening tool in identifying patients who may benefit from closer monitoring for CAD-related events. Researchers said this approach could be particularly useful in remote health care delivery and telehealth. "

Source: [ACC](#) (23 March 2022)

MATERIAL A Better Way To Separate Gases



"A new membrane material could make purification of gases significantly more efficient, potentially helping to reduce carbon emissions."

Source: [MIT](#) (24 March 2022)

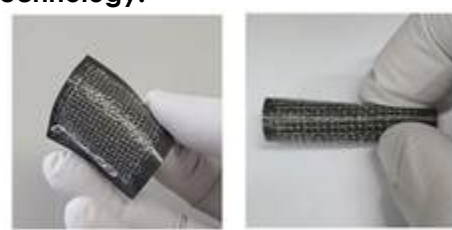
MATERIAL Acoustic Fiber Can Turn Fabrics Into Mics and Speakers



"Now scientists have developed an acoustic sensor consisting of a single fiber that can turn fabrics into microphones and speakers, for potential applications in two-way communications, detecting the directions of gunshots, and monitoring fetal heartbeats during pregnancy, a new study finds.."

Source: [IEEE Spectrum](#) (24 March 2022)

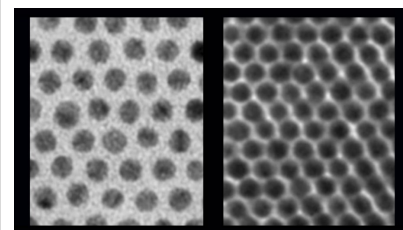
MATERIALS Improving Self-Driving Car Reliability With Electromagnetic Wave Absorption And Shielding Technology!



"A research succeeded in developing the world's first ultra-thin composite film. This film does not reflect electromagnetic waves for 5G communication but absorbs more than 90% of it. The technology can solve the secondary interference problem of electromagnetic waves for 5G communication frequency over 26 GHz. KIMS is a government-funded research institute under the Ministry of Science and ICT."

Source: [EurekAlert!](#) (25 March 2022)

NANOTECHNOLOGY Scientists Shave 'Hairs' Off Nanocrystals To Improve Their Electronic Properties



"A new study introduces a breakthrough in making nanocrystals function together electronically. Published March 24 in [Science](#), the research may open the doors to future devices with new abilities."

Source: [University of Chicago](#) (25 March 2022)

WEARABLE TECHNOLOGY Design Tweak Helps Prevent Malfunction in Yarns Designed to Store Energy



"The researchers reported in *npj Flexible Electronics* that they were able to prevent short-circuiting in yarns that act as supercapacitors -- which are electrical devices that store energy -- by wrapping the yarns with an insulating thread. "

Source: [North Carolina State University](#) (22 March 2022)

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