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3D PRINTING

Machine Learning Technology Radically Improves Accuracy of Additive Manufacturing

"A machine learning tool is being developed by Purdue University to increase the accuracy in additive manufacturing. The resulting research could increase precision and reduce testing time."

Source: Interesting Engineering (16 February 2019)

AGEING

New Drug Raises Hopes of Reversing Memory Loss in Old Age

"Tests in the lab showed that old animals had far better memory skills half an hour after receiving the drug. After two months on the treatment, brain cells which had shrunk in the animals had grown back, scientists found."

Source: The Guardian (14 February 2019)

ARTIFICIAL INTELLIGENCE

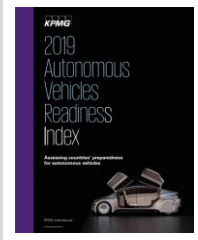
The Technology Behind OpenAI's Fiction-Writing, Fake-News-Spewing AI, Explained

"The nonprofit research firm OpenAI released a new language model capable of generating convincing passages of prose. So convincing, in fact, that the researchers have refrained from open-sourcing the code, in hopes of stalling its potential weaponization as a means of mass-producing fake news."

Source: MIT Technology Review (16 February 2019)

AUTONOMOUS VEHICLES

2019 Autonomous Vehicles Readiness Index



"Singapore, a powerhouse of technological innovation, ranked #2. With a leading university, it has created a test town for driverless vehicles complete with traffic lights, bus stops, skyscrapers and a rain machine that recreates its stormy tropical weather."

Source: KPMG (2019)

ELECTROMAGNETIC RADIATION

Grapes in a Microwave Generate a Fiery Plasma and Now We Know Why

"This find could have applications beyond grapes, such as in the design of an omnidirectional microwave antennae. Understanding how to focus the energy of the incoming waves could help detect weaker signals."

Source: New Scientist (18 February 2019)

GRAPHENE

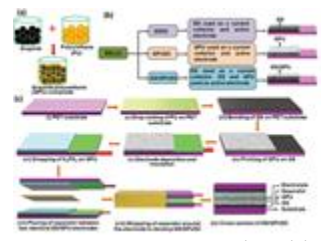
Mobile World Congress 2019

"The Graphene Pavilion (4th year) is curated by the Graphene Flagship Innovation Team, and supported by the European Commission and the GSMA, will arrive to Barcelona with more than 20 different graphene-based working prototypes and devices that will transform future telecommunications."

Source: Graphene Flagship (15 February 2019)

GRAPHENE SUPERCAPACITOR

Graphene-Graphite Polyurethane Composite Based High-Energy Density Flexible Supercapacitors

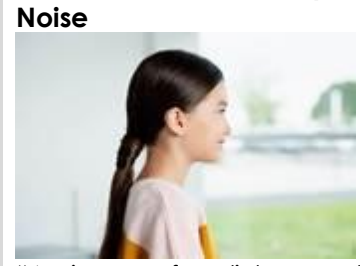


"Energy autonomy is critical for wearable and portable systems and to this end storage devices with high-energy density are needed. This work presents high-energy density flexible supercapacitors (SCs), showing three times the energy density than similar type of SCs reported in the literature."

Source: Advanced Science (13 February 2019)

HEARING AID

New Oticon Hearing Aid Is a "Breakthrough" in Paediatric Hearing Care by Helping Children to Differentiate Between Speech and Noise



"A pioneer of audiology and hearing aid technology, Oticon is aiming to redefine child-friendly hearing care with the launch of its new Oticon Opn Play hearing aid."

Source: AT Today (19 February 2019)

MATERIALS SCIENCE

Large-Scale Window Material Developed for PM2.5 Capture and Light Tuning

"A research team led by Prof. YU Shuhong from the University of Science and Technology of China (USTC) develops a simple solution based process to fabricate large-area Ag-nylon flexible transparent windows for high-efficiency PM2.5 capture."

Source: EurekAlert! (16 February 2019)

NEW MATERIAL

Ultra-Lightweight Ceramic Material Withstands Extreme Temperatures

"Researchers have created an extremely light, very durable ceramic aerogel. The material could be used for applications like insulating spacecraft because it can withstand the intense heat and severe temperature changes that space missions endure."

Source: Science Daily (14 February 2019)

RENEWABLE ENERGY

Lithium-Air Batteries Can Store Energy for Cars, Houses and Industry

"A sustainable way to store electrical energy. With advances, it can support numerous discharge/charge cycles. It has great potential for use in transportation, in light and heavy vehicles alike. It can also work in electric power distribution networks."

Source: Science Daily (15 February 2019)

ROBOTICS

Robot Melts Its Bones to Change How It Walks

"Roboticists at Colorado State University have developed a small walking robot that can melt and solidify its bones on the fly to optimize its legs for different motions."

Source: IEEE Spectrum (12 February 2019)

ROBOTICS

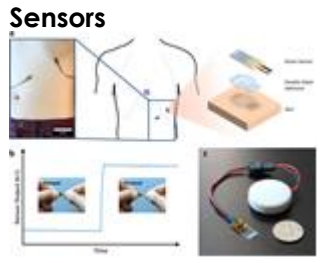
Robots Track Moving Objects with Unprecedented Precision

"A novel system developed at MIT uses RFID tags to help robots home in on moving objects with unprecedented speed and accuracy. The system could enable greater collaboration and precision by robots working on packaging and assembly, and by swarms of drones carrying out search-and-rescue missions."

Source: MIT News (18 February 2019)

SENSORS

Respiration Rate and Volume Measurements Using Wearable Strain Sensors



"Current methods for continuous respiration monitoring … are limited to clinical or research settings; most wearable systems reported only measures respiration rate. Here we introduce a wearable sensor capable of simultaneously measuring both respiration rate and volume with high fidelity."

Source: npj Digital Medicine (13 February 2019)

SMART HOMES

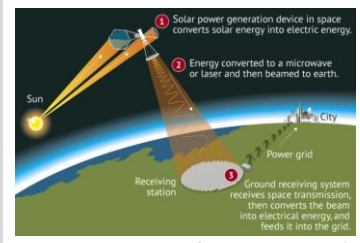
Making Smart Homes Less Expensive with New Technology

"Turning a conventional home into a 'smart home' can be become easier, and a less expensive, due to new technology developed by Canada's University of Waterloo. This is in the form of battery-free Wi-Fi sensors."

Source: Digital Journal (18 February 2019)

SOLAR ENERGY

Plans for First Chinese Solar Power Station in Space Revealed



"A researcher from the China Academy of Space Technology Corporation, Pang Zhihao, said a space solar power station held the promise of providing 'an inexhaustible source of clean energy for humans'."

Source: The Sydney Morning Herald (15 February 2019)

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