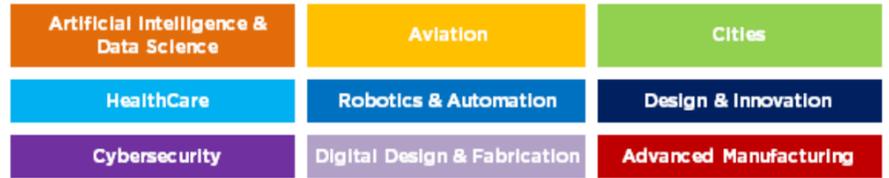# Weekly Discovery

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25 May 2020 – 29 MAY 2020

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3D PRINTING

New Army 3-D Printing Study Shows Promise For Predictive Maintenance

"A new study published recently in the International Journal of Advanced Manufacturing Technology showed that the Army could detect and monitor the wear and tear of 3-D printed maraging steel through sensor measurement."

Source: U.S. ARMY RESEARCH LABORATORY (21 May 2020)

ARCHITECTURE

Architect-Developed 3D Design Platform Set To Revolutionise Urban Planning

"Giraffe is a holistic platform that knits together the siloed and disconnected systems that have been the norm in architecture and urban planning for decades. By using an API solution, we're able to bring together an enormous amount of information and intelligence as well as enable collaboration in a way that hasn't been done before in this industry"

Source: Architecture and Design (22 May 2020)

ASSISTIVE TECHNOLOGY

Fireflies Helps Companies Get More Out of Meetings

"Startup makes meeting data searchable and shareable, and automates data entry into workplace apps."

Source: MIT News (21 May 2020)

BIOTECH

New Artificial Eye Mimics a Retina's Natural Curve

"Engineers have attempted to replicate this structure for about a decade. Now a new artificial eye successfully mimics the natural instrument's spherical shape. Researchers hope this achievement could lead to sharper robotic vision and prosthetic devices. Read more in Nature."

Source: Scientific American (20 May 2020)

CAR TECHNOLOGY

Virus-Proofing Could Become Popular Feature In Vehicles After Coronavirus

"COVID-19 will prompt more focus on air filtration and, perhaps, on more segregated climate zones in the cockpit, features there was already movement toward. But more extreme measures, like antibacterial touch surfaces, will be poorly rewarded in the long term if they mean less visually attractive or durable interiors,"

Source : The Seattle Times (24 May 2020)

COMMUNICATIONS

World's Fastest Internet Speed From A Single Optical Chip

"Researchers from Monash, Swinburne and RMIT universities have successfully tested and recorded Australia's fastest internet data speed, and that of the world, from a single optical chip -- capable of downloading 1000 high definition movies in a split second."

Source: Science Daily (22 May 2020)

DEVICES

Safe Distance Device To Help Return To Normal

"The Lopos SafeDistance is a wearable that can accurately measure how far away it is from other SafeDistance devices in the vicinity. If it gets too close to another SafeDistance device, as defined and set by the organization that issues the devices, it vibrates and emits a warning sound to get the two individuals to step apart."

Source: Medgadget (21 May 2020)

DIGITAL HEALTH

New Mobile Health Tool Measures Hemoglobin Without Drawing Blood

"The ability to perform one of the most common clinical lab tests without a blood draw could help reduce the need for in-person clinic visits, make it easier to monitor patients who are in critical condition, and improve care in low- and middle-income countries where access to testing laboratories is limited."

Source: Eurekalert! (21 May 2020)


MATERIALS

Turning Plastic Bottles Into Antibiotic Sponges

"The team, led by Professor Choi Jae-woo at KIST's Water Cycle Research Center, extracted high-purity organic ligands from waste PET bottles, using them to synthesize an adsorbent material that could remove antibiotics from water."

Source: Asian Scientist (19 May 2020)

MATERIAL SCIENCE

Graphene-Reinforced Carbon Fiber May Lead To Affordable, Stronger Car Materials
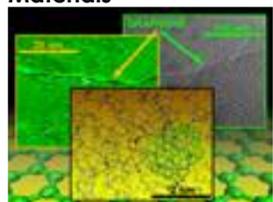
"Using a mix of computer simulations and laboratory experiments, the team found that adding small amounts of the 2D graphene to the production process both reduces the production cost and strengthens the fibers."

Source: Technology.Org (26 May 2020)

ROBOTICS

High-Speed Robot Arm Hands Off Package to Delivery Drone

"Why land a drone to pick up a package when it can snatch it from a robot arm without stopping?"

Source: IEEE Spectrum (21 May 2020)

SENSING DEVICE

Digital Device Serves Up A Taste Of Virtual Food

"Some day soon, if Homei Miyashita has his way, we may measure them by how delicious they are. The Meiji University researcher has developed a handheld "lickable screen" device that, when inserted into your mouth, can recreate all taste sensations associated with food. Read more on ACM Digital Library."

Source: TechXplore (25 May 2020)

SIGNALS

NIST Researchers Boost Microwave Signal Stability a Hundredfold
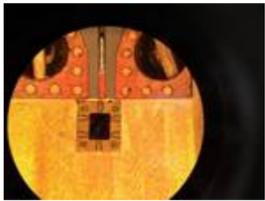
"Researchers at the National Institute of Standards and Technology (NIST) have used state-of-the-art atomic clocks, advanced light detectors, and a measurement tool called a frequency comb to boost the stability of microwave signals a hundredfold."

Source: NIST (21 May 2020)

SOFT ROBOTICS

Next Generation Of Soft Robots Inspired By A Children's Toy
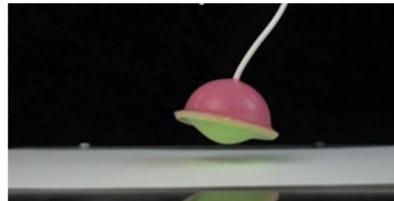
"In this work, we showed that we can harness elastic instabilities to overcome this restriction, enabling us to decouple the slow input from the output and make a fast-jumping fluidic soft actuator"

Source: Harvard University (20 May 2020)

TECHNOLOGIES

New Technology can Detect Anti-Virus Antibody in 20 Minutes
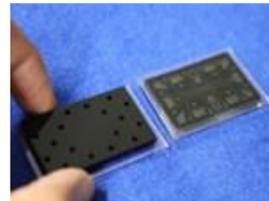
"Researchers have succeeded in detecting anti-avian influenza virus antibody in blood serum within 20 minutes, using a portable analyzer they have developed to conduct rapid on-site bio tests. If a suitable reagent is developed, this technology could be used to detect antibodies against SARS-CoV-2, the causative virus of COVID-19."

Source: EurekAlert! (21 May 2020)

WEARABLES

Brainwave-Reading Temporary Tattoos Could Take Wearable Tech To The Next Level

"There are multiple reasons why gathering brain data could be useful. One is for monitoring. The electrocardiogram (ECG) reader found in the Apple Watch has already compellingly demonstrated why wearables that constantly monitor our vital signs can be useful."

Source: Digital Trends (23 May 2020)