

Weekly Discovery

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19 AUGUST 2019 - 23 AUGUST 2019

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Artificial Intelligence & Data Science	Aviation	Cities
HealthCare	Robotics & Automation	Design & Innovation
Cybersecurity	Digital Design & Fabrication	Advanced Manufacturing

3D PRINTING
New 3-D Interconnection Technology for Future Wearable Bioelectronics



"IBS scientists developed stretchable metal composites and 3-D printed them on soft substrates at room temperature ... revolutionize the physical appearance of smart gadgets, in addition to reinforcing their technical functions."

Source: [Phys.org](#) (18 August 2019)

ROBOTICS
Alert Innovation Teams with Muratec to Expand Alphabet Technology



"The company's Alphabet robots can navigate three-dimensional structures, and can power retail applications ranging from store-level micro-fulfillment systems to massive e-commerce fulfillment centers, as well as applications in factory and hospital automation, the companies said."

Source: [Robotics Business Review](#) (19 August 2019)

ARCHITECTURE
Filtration Skyscrapers in the Oceans Could "Solve Environmental and Energy Problems" Around the World



"...Honglin Li has proposed deploying floating high-rise waste-to-energy plants fuelled by plastic waste to clean up the oceans while generating electricity. The sci-fi proposal, called Filtration Skyscraper, imagines placing unmanned towers on abandoned oil rigs in parts of the oceans where plastic waste accumulates. Sophisticated machinery in the conceptual towers would generate electricity and biofuels from plastic and other pollutants extracted from seawater."

Source: [Dezeen](#) (16 August 2019)

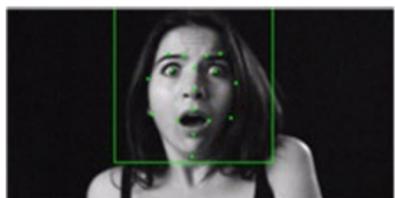
ARCHITECTURE
Top 20 A' Design Award Winners



"The A' Design Award is an international award whose aim is to provide designers, architects, and innovators from all architecture and design fields with a competitive platform to showcase their work and products to a global audience."

Source: [Arch Daily](#) (12 August 2019)

ARTIFICIAL INTELLIGENCE
Amazon Says It Can Detect Fear on Your Face. You Scared?



"Amazon announced a breakthrough from its AI experts Monday: Their algorithms can now read fear on your face, at a cost of \$0.001 per image—or less if you process more than 1 million images."

Source: [Wired](#) (18 August 2019)

ASSISTIVE TECHNOLOGY
Apple Devices and Wearable Tech Could Help Identify Mild Cognitive Impairment and Dementia



"The findings of the exploratory study suggest that wearable devices could enable solutions that may help identify when people are starting to experience cognitive decline."

Source: [AToday](#) (13 August 2019)

DIGITAL ECONOMY
Digitalisation in Asia: How One Region Is Shaping Worldwide Trends



"Asia Pacific accounts for over half of the global population and a third of consumer expenditure. As the global leader for digital commerce and internet users, Asia Pacific is influencing the trends for next-gen commerce. This whitepaper examines how the rise of mobile and connectivity among Asian consumers is transforming the region."

Source: [Euromonitor](#) (August 2019)

ENVIRONMENT
Artificial Snow Could Save World's Coasts



"An estimated 12,000 high-performance wind turbines could be used to generate the 145 GW of power needed to lift Antarctic ocean water to heights of, on average, 640 m, heat it, desalinate it and then spray it over 52,000 square kilometres of the West Antarctic ice sheet in the form of artificial snow."

Source: [Physics World](#) (16 August 2019)

HOUSING
IAAC Graduates Propose Parasitic Pods as Alternative to Cage Homes in Hong Kong



"The Institute for Advanced Architecture of Catalonia graduates designed the grid structure covered in moving single-occupancy pods to be a 'more dignified' alternative to cage homes – tiny dwellings enclosed by a gridded metal walls and large enough for only one bunk bed."

Source: [Dezeen](#) (19 August 2019)

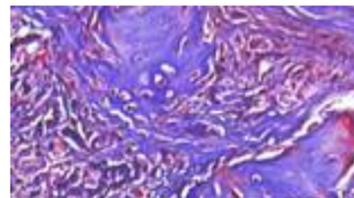
MATERIALS SCIENCE
Heat Shield Just 10 Atoms Thick to Protect Electronic Devices



"Excess heat given off by smartphones, laptops and other electronic devices can be annoying, but beyond that it contributes to malfunctions and, in extreme cases, can even cause lithium batteries to explode. Read more [here](#) to find out how to guard against such ills."

Source: [Science Daily](#) (19 August 2019)

MATERIALS SCIENCE
New Hydrogels Show Promise in Treating Bone Defects



"Bioengineers and dentists from the UCLA School of Dentistry have developed a new hydrogel that is more porous and effective in promoting tissue repair and regeneration compared to hydrogels that are currently available. Read more in the paper [here](#)."

Source: [Phys.org](#) (20 August 2019)

PRODUCT DESIGN
In Product Design, Imagining End User's Feelings Leads to More Original Outcomes



"Research co-written by a University of Illinois expert in new product development and marketing indicates that connecting with the end user's heart rather than their head can lead to more original and creative outcomes in product design."

Source: [University of Illinois at Urbana-Champaign](#) (15 August 2019)

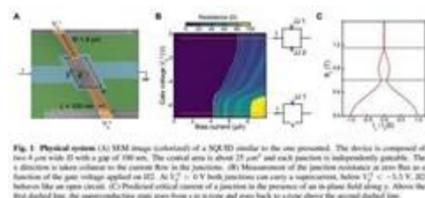
ROBOTICS
Soft Exosuit Makes Walking and Running Easier Than Ever



"Researchers at Harvard's Wyss Institute have been testing a flexible, lightweight exosuit that can improve your metabolic efficiency by four to 10 percent while walking and running." Read more at [Science](#).

Source: [IEEE Spectrum](#) (15 August 2019)

TECHNOLOGY
Physicists Find New State of Matter That Can Supercharge Technology



"Researchers find a new state of matter called 'topological superconductivity'. The state can lead to important advancements in quantum computing."

Source: [Big Think](#) (18 August 2019)

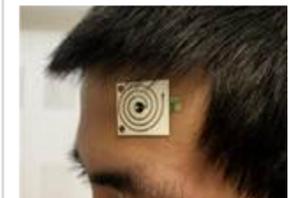
TURBINES
Silence May Be Golden for Urban Turbine: Yeloblade Is Developing Silent Wind Turbines That Can Be Installed on Any Roof



"The system uses a novel approach of manipulating air pressures to drive an internal turbine and generator. Although it is 1.6 metres tall, it can generate the same output as a 10-metre tall traditional wind turbine ... enough to charge 100 mobile phones every day for 365 days."

Source: [Irish Examiner](#) (18 August 2019)

WEARABLES
Wearable Sensors Detect What's in Your Sweat



"By tracking how fast the sweat moves through the microfluidic, the sensors can report how much a person is sweating, or their sweat rate. The tube is also fitted with chemical sensors that can detect concentrations of electrolytes such as potassium and sodium, and metabolites like glucose."

Source: [SciTechDaily](#) (18 August 2019)