

# Weekly Discovery

We SHARE to inspire and ignite ideas!

16 July 2018 - 20 July 2018

3D PRINTING

**Can We End Animal Testing?**



"We find out whether innovative techniques using stem cells, computing modelling and 3D-printing could reduce the number of animals used in medical research ... Animal testing is an important tool, but at the same it has often been misleading ... There are lots of things you can do on these chips that you can't do in animal testing."

Source: [BBC Earth](#) (July 2018)  
Available @ SUTD Library (Call Number Q1 BBC)

4D PRINTING

**The Wild Future of 4D Design**



"As Guberan also emphasizes, the inflatables suggest a new form of production in which the printed object isn't the definitive end product—but rather a marker within a lifespan of flexible use."

Source: [Fast Company](#) (13 July 2018)

ADDITIVE MANUFACTURING

**New Process Embeds Coded Data on 3D-Printed Parts**

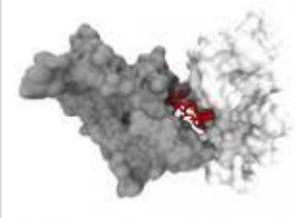


"Rize, a Boston, U.S.-based, next-generation additive manufacturing company, has developed a method that embeds identifying information on a product during the 3D-manufacturing process."

Source: [ASME](#) (13 July 2018)

AGEING

**12 Innovations That Could Make Reverse Aging a Reality**



"Growing old is just a natural part of life, and it can't be avoided. At least, that's what most of us have accepted when it comes to aging. But for decades, scientists have been working to unlock the key to keeping us young and healthy."

Source: [Interesting Engineering](#) (16 July 2018)

ARCHITECTURE AWARDS

**Winners of the Copper in Architecture Awards**

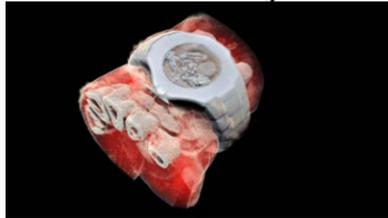


"The Copper Development Association (CDA) and the Canadian Copper and Brass Development Association (CCBDA) have announced the winners of the 2018 North American Copper in Architecture awards."

Source: [Architect](#) (10 July 2018)

BIOMIMICRY

**See Bones, Blood and Tissue in World's First 3D Colored X-Ray**



"MARS Bioimaging just developed the world's first 3D full-color X-ray ... The MARS system is a medical scanner using technology from [CERN](#), and it captures the human body in startling detail."

Source: [Popular Mechanics](#) (15 July 2018)

BIOMIMICRY

**Single-Celled Architects Inspire New Nanotechnology**



"The new research demonstrates that silica deposition can be effectively applied to synthetic, DNA-based architectures, improving their elasticity and durability. The work could have applications in new optical systems & medical applications."

Source: [Arizona State University](#) (16 July 2018)

CANCER DRUG DESIGN

**Solved Protein Puzzle Opens Door to New Design for Cancer Drugs**



Source: [Mayo Clinic](#)

"Researchers at Oregon State University have solved a longstanding puzzle concerning the design of molecular motors, paving the way toward new cancer therapies."

Source: [Oregon State University](#) (11 July 2018)

CLIMATE CHANGE

**Thawing Permafrost Microbiomes Fuel Climate Change**



"A University of Queensland-led international study could lead to more accurate predictions or the rate of global warming from greenhouse gas emissions produced by thawing permafrost in the next 100 years."

Source: [Phys.org](#) (16 July 2018)

DIABETES DIAGNOSIS

**Breakthrough Technology Offers Hope for Early Diagnosis of Type 1 Diabetes**



Source: [RMIT](#)

"Researchers are developing early detection technology for Type 1 diabetes that can accurately predict if a child is at risk of the chronic disease."

Source: [News-Medical.Net](#) (10 July 2018)

DRONES

**Forget Joysticks-Use Your Torso to Pilot Drones**



"Imagine piloting a drone using the movements of your torso only and leaving your head free to look around, much like a bird. EPFL research has just shown that using your torso to pilot flying machines is indeed more immersive than using the long-established joystick."

Source: [TechXplore](#) (16 July 2018)

INSIGHTS

**The Genius Behind Some of the World's Most Famous Buildings**

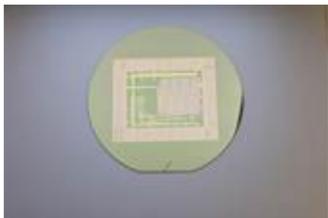


"Legendary architect Renzo Piano - the mind behind such indelible buildings as The Shard in London, the Centre Pompidou in Paris and the new Whitney Museum of Art in New York City - takes us on a stunning tour through his life's work."

Source: [TED](#) (13 July 2018)

INTERNET OF THINGS

**Electronic Stickers to Streamline Large-Scale 'Internet of Things'**



"Researchers at Purdue University and the University of Virginia have developed a new fabrication method that makes thin-film electronic circuits peelable from a surface. The technique eliminates several manufacturing steps and the associated costs."

Source: [Purdue University](#) (16 July 2018)

MEDICAL EDUCATION

**Training for Our Digital Future: A Human-Centered Design Approach to Graduate Medical Education for Aspiring Clinician-Innovators**

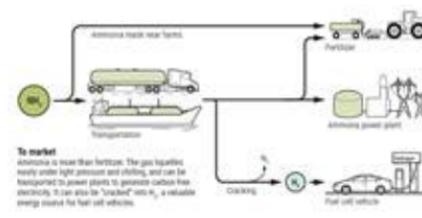


"Development of a practical and project-driven innovation training to reduce delays in adoption for digital health breakthroughs in medicine must emphasize experiential learning focused on implementation science."

Source: [Nature Digital Medicine](#) (16 July 2018)

RENEWABLE ENERGY

**Ammonia—A Renewable Fuel Made from Sun, Air, and Water—Could Power the Globe Without Carbon**



"MacFarlane...for the past 4 years, he has been working on a fuel cell that can convert renewable electricity into a carbon-free fuel: ammonia. Fuel cells typically use the energy stored in chemical bonds to make electricity."

Source: [ScienceMag](#) (12 July 2018)

SOLAR CELLS

**Scientists Use Silicon-Perovskite to Boost Solar-Cell Efficiency**



"The new type of tandem cell is highly efficient and directly compatible with monocrystalline silicon-based technologies, which benefit from long-standing industrial expertise and are already being produced profitably."

Source: [Power Electronics](#) (12 July 2018)