

# Weekly Discovery

We SHARE to inspire and ignite ideas!

3 October 2016 – 7 October 2016



Source: Britannica Images

## SPECIAL HIGHLIGHT

### Higher Education Technologies

Virtual Reality has already caught the eyes of higher education and some institutions have already started experimenting how teaching, learning and experiencing would be changed by it.

IoT (Internet of things) in higher education is not new. In this report, resources from different perspectives are provided, including general facts and statistics, professional opinions, teaching and learning experiences, potential issues etc.

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## ARCHITECTURE

### 2016 Aga Khan Award for Architecture Winners Announced



Presenting the top 6 projects that have been awarded the prestigious Aga Khan Award for Architecture. All projects are judged based on architectural design combined with how they can give an excellent standard of living to communities that are predominantly Muslim.

Source: [ArchDaily](#) (2 October 2016)

## AUGMENTED REALITY

### Limelight Projects Psychedelic Augmented Reality Lightshow onto the Romanian Parliament Building



104 video projectors were deployed on the facade of the Parliament building to create the installation. A photo gallery of the animation and the full video performance is provided. Also find out more on the Augmented Reality Industry in the report [Augmented Reality Market: IoT AR to Reach \\$7 Trillion by 2027](#)

Source: [ArchDaily](#) (3 October 2016)

## DATABASE TECHNOLOGY

### Democratic Databases: Science on GitHub



[Data and code sharing](#) is critical for Open Science as it provides for independent validation of a research outcome. Designed to be transparent and to facilitate open collaboration, GitHub allows researchers to disseminate, share, maintain, update and store scientific data sets and code at a faster and more flexible way.

Source: [Nature](#) (3 October 2016)

## DEEP LEARNING

### Google Translate Gets a Deep-Learning Upgrade

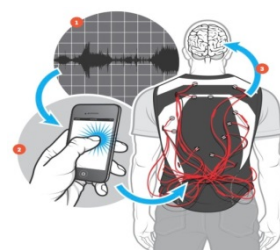


Google Translate, a notable computer assisted translation software has leveraged on [deep learning](#) (artificial intelligence technique) in its latest upgrade. By doing so, it is said to reduce as much as 60% of the translation errors.

Source: [IEEE Spectrum](#) (3 October 2016)

## DESIGN FOR DISABILITY

### A Device For The Deaf That Lets You "Listen" With Your Skin



A device worn on the body could potentially let [deaf people hear](#). It breaks down sound into a set of specific frequency band and this triggers one of the 32 tiny motors in the device to vibrate, translating sound waves into vibrations on your back. The brain then learns to interpret each vibration to a word.

Source: [Popular Science](#) (30 September 2016)

## ENERGY HARVESTING

### Researchers Take Cues From Popeye, Use Spinach Leaves To Produce Energy



Scientists developed a bio-photo-electro-chemical (BPEC) cell, derived from spinach, which can generate electric power. It is a precursor to new energy generating technologies. More details on this technology can be found at [Nature Communications](#).

Source: [Tech Times](#) (28 September 2016)

## MATERIALS

### Shape-Shifting Material Flowers Without a Trigger



Unlike current shape-memory materials, this one can [vary its shape](#) without the need for external forces to be applied to it. It can be set to go through variations of shapes and revert to its original structure. This unique hydrogel is believed to be useful for medical implants. Read more at [Nature Communications](#).

Source: [Chemistry World](#) (28 September 2016)

## SMART SENSORS

### Color-Changing Smart Material Sensor to Alert User To Get Out of Sun



Researchers have developed a colour changing wearable flexible patch that can notify the user on total UV exposure with the colour indicator. Allowing the user to gauge the amount sun exposure and thus able to reduce the harmful radiation by seeking shelter. More details at [ACS](#).

Source: [Phys.org](#) (3 October 2016)

## SOLAR ENERGY

### Advance in Low-Cost Clean Energy Generation



A [new alternative energy technology](#) uses solar energy and two different thermoelectric materials to boost electricity generation efficiency by 7.4%. This new technology is a low-cost way to power homes and small businesses. Also read [Solar PV Costs Continue to Fall in 2016](#).

Source: [Sciencedaily](#) (3 October 2016)

## VIRTUAL REALITY

### This Accessory Makes VR So Real a Surgeon Could Train with It

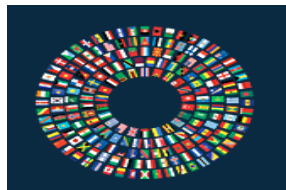


The exoskeleton glove enables its wearer to touch and feel virtual objects just like in the real world. The product is able to provide more realistic and precise sensations than the existing technology. Looking beyond gaming, it aims at potential industrial and engineering applications.

Source: [Technology Review](#) (30 September 2016)

## WORLD ECONOMY

### World Economic Outlook



[IMF's October 2016 update](#) provides an insight into understanding the various events and issues that are happening in the world that affect the global economy. Topics discussed include the slowdown in global growth and reasons behind shrinking trade activity.

Source: [International Monetary Fund](#) (2016)

## 3D PRINTING

### Bouncy Bone Can Be 3D-Printed to Become a Universal Repair Kit



A new kind of ink can be 3D-printed into flexible, robust, and hyper elastic bone implants. Inside the body these implants would eventually be replaced by real bone, offering an inexpensive alternative way of bone surgery. Learn more from [Science publication](#)

Source: [New Scientist](#) (28 September 2016)

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