

**BSE Associate Professor Awarded Global Innovation Award  
at the TechConnect World Conference and Expo 2017**

The Department of Building Services Engineering (BSE) of The Hong Kong Polytechnic University (PolyU) is proud to announce that Dr. Vivien LU's innovation *Multi-functional nano-coating for glass*<sup>1</sup> has been awarded the Global Innovation Award at the TechConnect World Conference and Expo 2017 (TechConnect World). PolyU is the first and only university awardee from Hong Kong.

TechConnect World is one of the largest multi-sector gathering of technology IP, technology ventures, industrial partners, and investors in the world. The purpose of TechConnect World is to bring together the world's top technology transfer offices, companies, and investment firms to locate the most promising technologies and early stage companies from across the globe.

The TechConnect Innovation Awards identify the top 15% of submitted technologies as ranked by the TechConnect Corporate & Investment Partner Committee. Innovation rankings are based on the potential positive impact the submitted technology will have on a specific industry sector. Innovations are submitted from global academic technology transfer offices, early-stage companies, small business innovative research awardees, and government and corporate research laboratories.



**Dr. Vivien LU and other awardees**



**Dr. Vivien LU**

Congratulations to Dr. LU and her team for this excellent achievement and hope Dr. LU keeps moving onwards and upwards.

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<sup>1</sup> See Annex for details.

## **Annex**

### **Multi-functional nano-coating for glass – Dr. Vivien LU**

With large amount of outdoor near-infrared light transmitting through windows, drawing indoor temperature rise, many buildings in Hong Kong suffer from high-cost air-conditioning. In recent years, there were also repeated fatal accidents arising from cleaning windows in high-rises. The novel multi-functional transparent nano-coating for glass developed by PolyU researchers can help address the two problems at the same time. The super-hydrophilic self-cleaning coating has thermal insulation and photocatalysis properties. Besides blocking over 90% of near-infrared light and 99% ultra-violet light, the coating can also break down organic pollutants.

The highly cost-efficient coating can be widely used in building glass curtains (including shopping malls, offices), smart homes, aircrafts, etc. It is developed mainly with nanoscale TiO<sub>2</sub> and Cesium Tungsten Bronze mixture particles. The two materials are synthesized respectively by low-cost hydrothermal method and high-temperature calcination technique.