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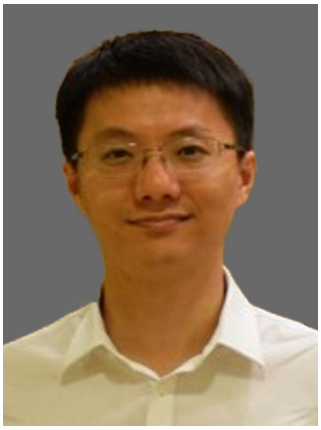

Topic of the Speech:
Porous Conductive Textiles for Wearable Electronics

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Professor Zijian Zheng is currently Full Professor at the Institute of Textile and Clothing (ITC) at The Hong Kong Polytechnic University. His research interests are surface and polymer science, nano-lithography, flexible and wearable materials and devices. He received his B. Eng. in Chemical Engineering at Tsinghua University in 2003, and PhD in Chemistry at University of Cambridge in 2007 (Supervisor: Prof. Wilhelm T. S. Huck). In 2008, he worked as postdoctoral researcher (Advisor: Prof. Chad A. Mirkin) at Northwestern University. He joined ITC as Assistant Professor in 2009, and was promoted to tenured Associate Professor in 2013 and Professor in 2017.

He has published about 120 papers in high-impact international scientific journals including Science, Nature Materials, Nature Communications, Advanced Materials, Journal of the America Chemical Society, Angewandte Chemie. He also files 20 patents and is recipient of more than 10 academic awards.

He is Editor-in-Chief of EcoMat, the Flagship open access journal in green energy and environment of Wiley, and Guest Editor of Advanced Materials and Small. He is elected as Founding Member of The Hong Kong Young Academy of Sciences and Chang Jiang Scholar of China.

ABSTRACT SUBMISSION
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Porous Conductive Textiles for Wearable Electronics

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ABSTRACT (NO MORE THAN 500 WORDS:)

Wearable electronics plays an important role in the realization of health monitoring and rehabilitation, Internet of Things (IoTs), and soft robotics. These wearable devices and systems should be highly flexible, stretchable and even washable. In addition, they should be comfortable to wear in a long term. This talk will discuss the recent development of conductive textile materials and their applications in wearable electronics. In particular, we will discuss 1) the development of highly conductive, flexible and washable conductive fibers, yarns and fabrics through polymer-assisted metal deposition (PAMD), that can be used for a wide range of wearable sensory and energy-storage uses; and 2) the development of highly permeable stretchable conductors, namely liquid metal fiber mat (LMFM), which enables long-term wearable and 3D monolithic stretchable electronics.

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