



**Wolfson Department of Chemical Engineering Seminar**

**Zoom seminar / Zoom Meeting <https://technion.zoom.us/j/96671579697>**

Meeting ID: 966 7157 9697

**Wednesday - January 20, 2021 at 13:30**

**“Green Nanomaterials for Epidermal Optoelectronics”**

**Dr. Yan Wang**

Postdoctoral researcher - Electrical and Electronic Engineering and Information Systems  
The University of Tokyo - Japan

Current wearable electronics are mainly based on rigid circuit board which do not have true 'wearability' on curvilinear human skin. Next-generation biomedical devices will need to be self-powered and conformable to human skin or other tissues. Such devices would enable the accurate and continuous, long-term monitoring of physiological signals without the necessity for an external power supply or bulky connecting wires. Using the principles of novel, advanced materials and structure engineering, my research has been focused on the green nanomaterials and mechanical design to develop wearable ultrathin on-skin optoelectronics. Skin-like devices, such as facial expression recognition sensors, sharpness-specific tactile sensors, and supercapacitors have been developed by unconventional standing gold nanowire arrays. Further, with the structure engineering on electrospun nanomesh, ultrathin strain/pressure sensors have been developed to monitor skin motions/human touch without minimum interference on human motions/sensations.