



**Aiping Yu**  
University of Waterloo,  
Waterloo, Canada

[aipingyu@uwaterloo.ca](mailto:aipingyu@uwaterloo.ca)

## Graphene development for supercapacitor

At Dr. Aiping Yu's Carbon Nanotechnology Laboratory, researchers have been put tremendous efforts on different graphene structure, morphology, and functionality development to render graphene with the theoretic values of surface area, mechanical and electronic properties, and desired surface wettability suitable for conventional supercapacitor and Li ion supercapacitor. The graphene has been designed to film, sponge, and fiber shapes as well as doped with Nitrogen, Sulfur, and

Boron or coupled with conducting polymers and metal oxide, which show dramatically improved electrochemical performances in these kinds of supercapacitors devices, including flexible devices. The presentation will demonstrate the recent novel graphene and its derivatives work towards supercapacitor applications at Dr. Yu's lab at University of Waterloo of Canada.