

My research interests principally focus on synthesizing and developing electro-catalysts, sensitizers, and redox mediators for electrochemical devices, including dye-sensitized solar cells as well as energy conversion & storage materials/systems with particular attention to electrochemical analytical techniques.

### Techniques used in study

- Design and synthesis of functional nanomaterials, catalysts, metal-complex redox shuttles, and metal-free organic dyes
- X-ray diffraction pattern, X-ray photoelectron spectroscopy, Field-emission scanning electron microscope, Transmission electron microscope, Electrochemical, Impedance, and Interfacial charge transfer analyses
- Dye-sensitized solar cell fabrication and optimization

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### Background:

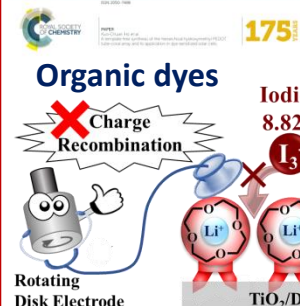
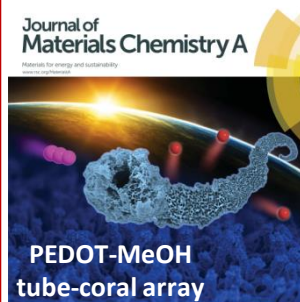
PhD in Chemical Engineering, National Taiwan University, Taipei, Taiwan

### Funding:

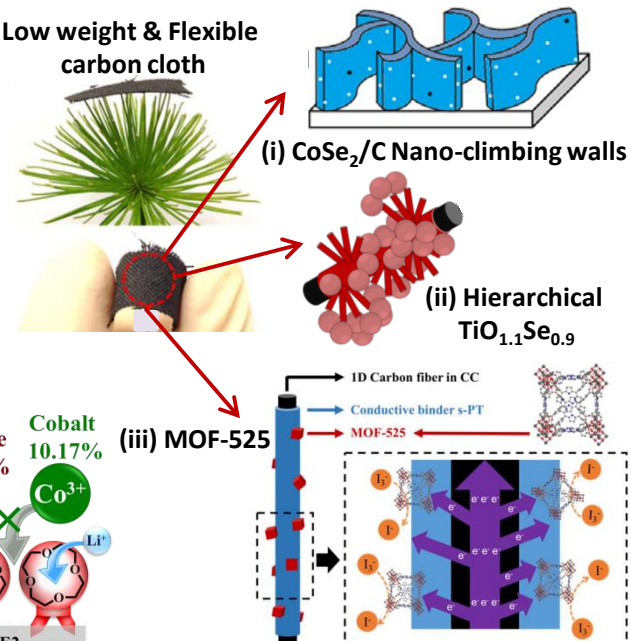
Ministry of Science and Technology  
National Taiwan Normal University



### Electro-catalysts



Low weight & Flexible carbon cloth



### Publications

- **Chun-Ting Li** et al., "Tetraphenylethylene tethered phenothiazine-based double-anchored sensitizers for high performance dye-sensitized solar cells," *J. Mater. Chem. A*, 7 (2019) 23225-23233.
- **Chun - Ting Li** et al., "Effective suppression of interfacial charge recombination by a 12-crown-4 substituent on a double-anchored organic sensitizer and rotating disk electrochemical evidence," *J. Mater. Chem. A*, 5 (2017) 7586-7594.
- Chuan-Pei Lee\*, **Chun-Ting Li**\*, Kuo-Chuan Ho\*, "Use of organic materials in dye-sensitized solar cells," *Mater. Today*, 20 (2017) 267-283.
- **Chun-Ting Li** et al., "Hierarchical  $\text{TiO}_{1.1}\text{Se}_{0.9}$ -wrapped carbon cloth as the TCO-free and Pt-free counter electrode for iodide-based and cobalt-based dye-sensitized solar cells," *J. Mater. Chem. A*, 5 (2017) 14079-14091.

