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教 授，清華特聘講座教授
教育部終身榮譽國家講座

SHOW-AN CHEN, PROFESSOR
Tsing Hua Distinguished Chair Professor
Lifetime-Honored National Chair Professor

- 國立成功大學　學士，民國五十一年
- 美國羅徹斯特大學　碩士，民國五十六年
- 美國華盛頓大學　博士，民國五十八年

- B.S. National Cheng Kung University, ROC, 1962
- M.S. University of Rochester, USA, 1967
- Ph.D. Washington University, USA, 1969

主要研究領域

共軛導電高分子及量子點（奈米粒子）之分子設計/合成及其相關元件之製作。

正在進行的題目有：

- 電致發光高分子之研究及其在發光顯示器及照明面板之應用。
- 量子點/高分子混成發光二極體之研究
- 高分子太陽能電池之研究。
- 高分子/量子點混成太陽能電池之研究。

Main Research Interests

Design/synthesis of conjugated conductive polymers and quantum dots (nano-particles) as well as their related devices

On-going research topics are:

- Molecular design, synthesis, and emission mechanism of electroluminescent polymers and their applications in light emitting display and lighting panel.
- Quantum dot/polymer hybrid light emitting diode
- Polymer solar cell.
- Polymer/quantum dot hybrid solar cell.

代表作 (Selected Publications)

- S.-H. Liao, H.-J. Jhuo, Y.-S. Cheng, V. Gupta, and **Show-An Chen,***, "High Performance Inverted Organic Solar Cell with Low Band Gap Small Molecule (p-DTS (FBTTh2)2) Using Fullerene Derivatives-Doped Zinc Oxide Nano-Film Modified with Fullerene-based Self-Assembled Monolayer as Cathode", *J. Mater. Chem.-A*, 3, 22599-22604, 2015.
- Y.-L. Li, Y.-S. Cheng, P.-N. Yeh, S.-H. Liao, and **Show-An Chen***, "Structure tuning on crown ether grafted conjugated polymers as electron transport layer of bulk-heterojunction polymer solar cells for high performance", *Advanced Functional Materials*, 24, 6811-6817, 2014.
- S.-H. Liao, H.-J. Jhuo, Y.-S. Cheng, and **Show-An Chen***, "Fullerene Derivatives-Doped Zinc Oxide Nano-Film as Cathode of Inverted Polymer Solar Cells with Low Band Gap Polymer (PTB7-Th) for High performance", *Advanced Materials, 25*, 4766-4771, 2013.
- S.-H. Liao, Y.-L. Li, T.-H. Jen, Y.-S. Cheng, and **Show-An Chen***, "Multiple Functionalities of Polyfluorene Grafted with Metal Ion-Intercalated Crown Ether as an Electron Transport Layer for Bulk-Heterojunction Polymer Solar Cells: Optical Interference, Hole Blocking, Interfacial Dipole, and Electron Conduction", *Journal of the American Chemical Society*, 134, 14271-14274, 2012.
- H.-H. Lu, Y.-S. Ma, N.-J. Yang, G.-H. Lin, and **Show-An Chen***, "Creating a Pseudo-Metallic State of Potassium Ion by Intercalating it into 18-Crown-6 Grafted on Polyfluorene as Electron Injection Layer for High Performance of Polymer Light Emitting Diode with Oxygen- and Moisture-Stable Aluminum as Cathode", *Journal of the American Chemical Society*, 133, 9634-9637 , 2011.