

Cheng-An J. Lin

E-mail: chengan_lin@cycu.edu.tw

Ph.D., Chung Yuan Christian University

Assistant professor, Department of Biomedical Engineering

Nanomedicine; Nanomaterials; Nanophotonics; Nanobiomechanics



◆ Research Interests

- ◆ Our lab develops new methodology-based nanotechnology for solving medical and biological issues, including cancer, atherosclerosis, apoptosis, and single cell biomechanics. Firstly, we routinely synthesize variety of nanomaterials, such as semiconductor quantum dots, iron oxide nanoparticles, gold and silver nanoparticles. Recently, we have developed a general route for synthesize fluorescent gold nanoclusters via ionic etching techniques (ACS Nano). Gold nanoclusters with near-infrared fluorescence become a promising nanomaterials for in vivo imaging. Secondly, the surface chemistry of nanoparticles is the core technology for nanoprobe design. We have focus on develop discrete functionalities on the nanoparticles. All-in-one polymer-coating techniques have been published in SMALL (cover page). We are going to develop versatile nanoprobe for studying biomedicine issues by using the Fluorescent resonance energy transfer (FRET), Bioluminescence resonance energy transfer (BRET), Chemiluminescence resonance energy transfer (CRET), Plasmonic resonance energy transfer (PRET). We welcome the students from different disciplinary to join our group.

◆ Selected Publications

- ◆ **C. A. J. Lin**, T. Y. Yang, C. H. Lee, S. H. Huang, R. A. Sperling, M. Zanella, J. K. Li, H. H. Wang, H. I. Yeh, W. J. Parak, and W. H. Chang, “Synthesis, Characterization, and Bioconjugation of Fluorescent Gold Nanoclusters toward Biological Labeling Applications,” ACS Nano, Vol. 3, No. 2, pp. 395-401, 2009.
- ◆ H.H Wang; **C. A. J. Lin**; C.H Lee; Y.C Lin; Y.M Tseng; C.L Hsieh; C.H Chen; C.H Tsai; C.T Hsieh; J.L Shen; W.H Chan; W.H Chang; H.I Yeh, “Fluorescent Gold Nanoclusters as a Biocompatible Marker for In Vitro and In Vivo Tracking of Endothelial Cells”, ACS NANO, Vol.5, No.6 p.4337-4344, 2011.

◆ Recent Research Projects

- ◆ “Synthesis and Design of Gold Fluorescent Proteins for Probing Cancer Cells” and sponsored by National Science Council (2010/10/01 ~ 2012/07/31)
- ◆ “Development of fabricating the microsphere embedded with nanoparticles by microfluidic techniques” and sponsored by Ministry of Education. (2011/01/01 ~ 2011/12/31)