

Kuan-Cheng Chiu

E-mail: kcchiu@cycu.edu.tw

Ph.D., University of Utah, Salt Lake City

Professor, Department of Physics

Crystal Growth, Semiconductor Physics, Physics of Organic Semiconductors, Electrical Characterization



◆ Research Interests

- ◆ Kuan-Cheng Chiu is a professor in the semiconductors area of the Physics Department. Courses taught include Introduction to Semiconductor Physics, Introduction to Physics of Semiconductor Devices, Special Topics on Physics of Organic Semiconductors, and General Physics. His recent research topics include (1) the fundamental physics of organic semiconductor materials and devices, (2) the fabrication and characterization of C_{60} , CuPc, Alq3, and NPB amorphous or polycrystalline films from physical vapor deposition, (3) the electrical characterization of polyaniline, and (4) the fabrication and characterization of organic light-emitting diodes and organic photovoltaic cells.

◆ Selected Publications

- ◆ D.-J. Jan, S.-S. Wang, S.-J. Tang, K.-Y. Lin, J.-J. Yang, J.-L. Shen, and **K.-C. Chiu***, *Growth and characterization of tris(8-hydroxyquinoline)-aluminum molecular films*, Thin Solid Films **520** (2011) 1005.
- ◆ S. J. Tang, A. T. Wang, S. Y. Lin, K. Y. Huang, C. C. Yang, J. M. Yeh and **K. C. Chiu***, *Polymerization of aniline under various concentrations of APS and HCl*, Polym. J. **43** (2011) 667.
- ◆ Y. C. Chiu, B. H. Chen, D. J. Jan, S. J. Tang and **K. C. Chiu***, *Growth behavior of CuPc films by physical vapor deposition*, Cryst. Res. Technol. **46** (2011) 295.
- ◆ S.-Z. Wei, C.-C. Chang, R.-H. Lin, K.-Y. Lin, M.-N. Jong, L.-T. Juey, **K.-C. Chiu***, *Modeling of the J-V characteristics for ITO/CuPc/C₆₀/Al hetero-structure solar cells*, J. Chin. Chem. Soc. **57** (2010) 1185.
- ◆ C. F. Su, S. S. Wang, S. J. Tang, J. S. Wang, and **K. C. Chiu***, *Temperature dependence of optical bandgap in C₆₀ polycrystalline films*, Physica B **405** (2010) 3761.
- ◆ C. F. Su, S. S. Wang, S. J. Tang, and **K. C. Chiu***, *Energy terms diagram for solid C₆₀ fullerite deduced from transmission spectra*, Chin. J. Phys. **48** (2010) 117.
- ◆ S. J. Tang, S. M. Lin, **K. C. Chiu***, Y. Y. Wu, and J. M. Yeh, *Effects of dynamic vacuum-pumping and temperature dependence of dark*

electrical conductivity in polyaniline films made by various pressing pressures, J. Phys. D: Appl. Phys. **41** (2008) 125401.

- ◆ **K. C. Chiu***, L. T. Juey, C. F. Su, S. J. Tang, M. N. Jong, S. S. Wang, J. S. Wang, C. S. Yang, W. C. Chou, *Effects of source and substrate temperatures on the properties of ITO/CuPc/C₆₀ heterostructure prepared by physical vapor deposition*, J. Crystal Growth **310** (2008) 1734.
- ◆ Z. A. Jian, Y. Z. Luo, J. M. Chung, S. J. Tang, M. C. Kuo, J. L. Shen, **K. C. Chiu***, C. S. Yang, W. C. Chou, C. F. Dai, and J. M. Yeh , *Effects of isomeric transformation on characteristics of Alq₃ amorphous layers prepared by vacuum deposition at various substrate temperatures*, J. Appl. Phys. **101** (2007) 123708.
- ◆ Y. T. Shiu, T. J. Huang, C. T. Shih, C. F. Su, S. M. Lan and **K. C. Chiu***, *Thermally stimulated currents in α -HgI₂ polycrystalline films*, J. Phys. D: Appl. Phys. **40** (2007) 2170.

◆ **Recent Research Projects**

- ◆ Fabrication and Characterization of Organic Semiconducting Films by Small Molecules and/or Polymers, with Applications in Optoelectronic Devices, sponsored by National Science Council (August 2011 ~ July 2012).
- ◆ Fabrication and characterization of organic semiconducting-films and optoelectronic-devices, sponsored by National Science Council (August 2008 ~ July 2011).