

Guokui Liu

Argonne National Laboratory
Chemical Sciences and Engineering Division
9700 South Cass Avenue, Building 200
Argonne, IL 60439-4837
phone: 630/252-4630
e-mail: gkliu@anl.gov

Professional Experience

- **1996-Present.** Physicist, Argonne National Laboratory
- **1991-1996.** Assistant Physicist, Argonne National Laboratory
- **1988-1991.** Postdoctoral Associate, Argonne National Laboratory

Expertise

Laser-spectroscopic experimental studies and theoretical modeling of electronic properties and excited-state dynamics of lanthanides and actinides in condensed phases:

- Development of crystal-field theory for modeling f-element energy level structures and electronic transitions
- Predictive understanding of electronic interactions of f-element ions in solids and their influence on materials properties
- Experimental measurements and theoretical analysis of ion-lattice interaction, phonon relaxation and energy transfer – mechanisms that determine luminescence efficiency
- Understanding vibronic interaction and ion-ligand charge transfer – correlation between structural and electronic properties

Education

- PhD, Physics, Montana State University, 1988
- MS, Physics, Montana State University, 1985
- BS, Physics Wuhan University, 1977

Career Activities & Highlights

- Conference Organizer and Chairman of Organizing Committee, 17th International Conference on Dynamical Process in Excited States of Solids (2010)
- Co-Organizer, ACS Symposium on f-element Spectroscopy and Coordination Chemistry (2004)
- Co-Organizer, Beijing International Conference on Nanoscience and Nanotechnology (2001)
- Guest Editor: Springer-TUP Science Book Series (2003-2009); J. Solid State Chemistry (2005, v178)
- Adjunct Professor: Institute of Physics, Wuhan University (2003-2006)
- Member: Optical Society of America (OSA); American Physical Society (APS)
- President, Society of Chinese American Professors and Scientists (2006-2008)

- Vice President, Association of Chinese Scientists and Engineers-USA (2004-2005)

Publications & Patents

- 110 papers in peer reviewed journals and 5 book chapters in physics, chemistry and materials sciences
- Editor: *Spectroscopic Properties of Rare Earths in Optical Materials*, Springer Series in Materials Science – 83, ed. G. K. Liu, and B. Jacquier, (Springer, 2005).
Nanoscience and Nanotechnology in Perspective, ed. G. K. Liu and Z. L. Wang, (Tsinghua University Press, 2002).