

Liu, Ru-Shi



Professor

Inorganic Chemistry and Materials Chemistry

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Lab website

Research Interests

- Applied to the light-emitting diode light fluorescent material transfer
- Applied to the light switch to electric energy of lithium ion secondary batteries, fuel cells and water splitting materials
- Used in the light of biochemical medicine nanomaterials heat transfer

Honors and Awards

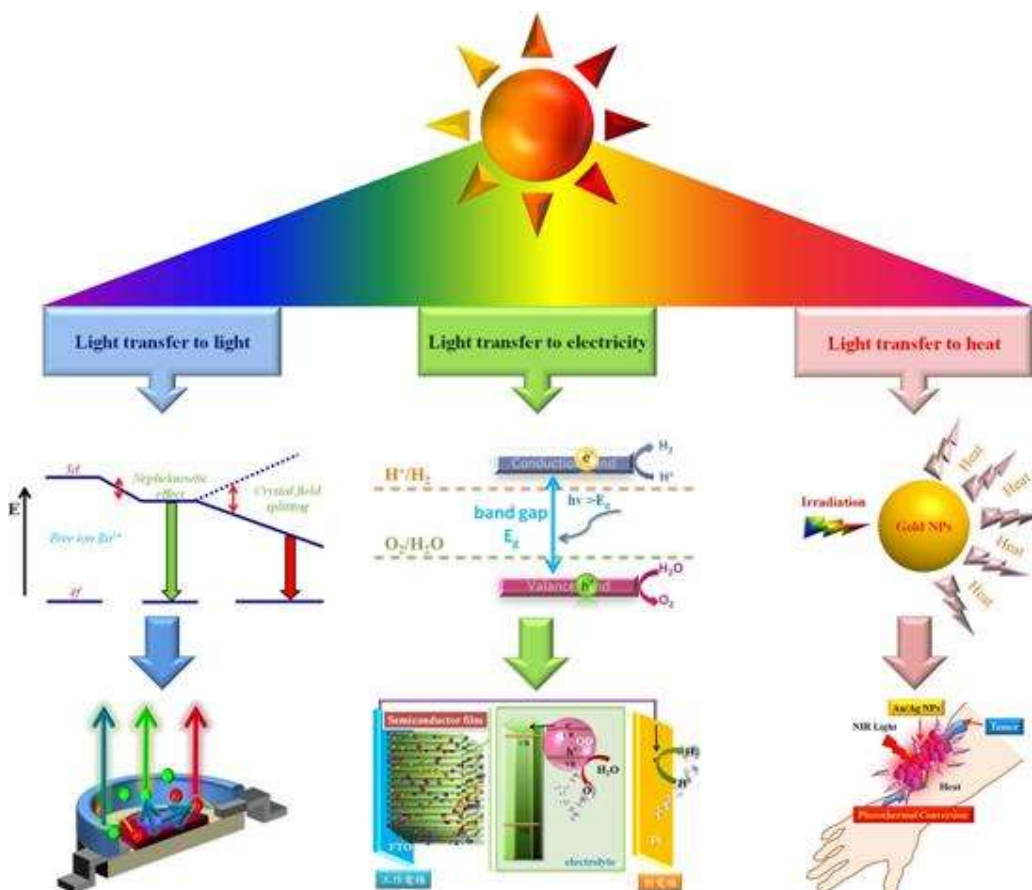
- Excellent Young Person Prize, 1989.
- National Invention Award, Silver Medal, Intellectual Property Office, 1995.
- Young Chemists Award, The Chinese Chemical Society, 1998.
- Y. Z. Hsu Scientific Paper Award, Far Eastern Y. Z. Hsu Science and Technology Memorial Foundation, 2011.
- Outstanding Research Award, National Science Council, 2012.

Career

- B.S., 1981, Department of Chemistry, Soochow University.
- M.S., 1983, Department of Nuclear Science.
- Ph.D., 1990, Department of Chemistry, National Tsing-Hua University.
- Ph.D., 1992, Department of Chemistry and Interdisciplinary Research Centre in Superconductivity, University of Cambridge.
- Associate Researcher / Research Scientist / Senior Research Scientist / Research Manager, 1983-1995, Materials Research Laboratories, Industrial Technology Research Institute.

- Associate Professor, 1995-1999; Professor, 1999-present, Department of Chemistry, National Taiwan University.

Research Pictures



Selected Publication

1. Wang, S.-S.; Chen, W.-T.; Li, Y.; Wang, J.; Sheu, H.-S.; Liu, R.-S.* "Neighboring-Cation Substitution Tuning of Photoluminescence by Remote-Controlled Activator in Phosphor Lattice" *J. Am. Chem. Soc.* 2013, 135, 12504–12507.
2. Huang, W.-Y.; Yoshimura, F.; Ueda, K.; Shimomura, Y.; Sheu, H.-S.; Chan, T.-S.; Greer, H. F.; Zhou, W.; Hu, S.-F.; Liu, R.-S.*; Attfield, J. P.* "Nanosegregation and Neighbor-Cation Control of Photoluminescence in Carbidonitridosilicate Phosphors" *Angew. Chem. Int. Ed.* 2013, 52, 8012–8016.

- 3.Chen, H. M.; Chen, C. K.; Liu, R.-S.*; Zhang, L.; Zhang, Z.*; Wilkinson, D. “Nano-architecture and Material Designs for Water Splitting Photoelectrodes” *Chem. Soc. Rev.* **2012**, *41*, 5654–5671.
- 4.Yeh, C.-W.; Chen, W.-T.; Liu, R.-S.*; Hu, S.-F.; Sheu, H.-S.; Chen, J.-M.; Hintzen, H. T. “Origin of Thermal Degradation of $\text{Sr}_{2-x}\text{Si}_5\text{N}_8\text{:Eux}$ Phosphors in Air for Light-emitting Diodes”, *J. Am. Chem. Soc.* **2012**, *134*, 14108–14117.
- 5.Chen, W.-T.; Sheu H.-S.; Liu, R.-S.*; Attfield, J. P.* “Cation-size-mismatch Tuning of Photoluminescence in Oxynitride Phosphors” *J. Am. Chem. Soc.* **2012**, *134*, 8022–8025.
- 6.Chen, H. M.; Liu, R.-S.* “Architecture of Metallic Nanostructures: Synthesis Strategy and Specific Applications” *J. Phys. Chem. C* **2011**, *115*, 3513–3527. (**Feature Article**)
- 7.Lin, C. C.; Liu, R.-S.* “Advances in Phosphors for Light-emitting Diodes” *J. Phys. Chem. Lett.* (**Perspective article**) **2011**, *11*, 1268–1277. (**Perspective Article**)
- 8.Chen, H. M.; Chen, C. K.; Chang, Y.-C.; Tsai, C.-W.; Liu, R.-S.*; Hu, S.-F.; Chang, W.-S.; Chen, K.-H. “Monolayer-Quantum Dots Sensitized ZnO Nanowires-array Photoelectrodes: True Efficiency for Water Splitting” *Angew. Chem. Int. Ed.* **2010**, *49*, 5966–5969.
- 9.Lin, C. C.; Xiao, Z. R.; Guo, G.-Y.; Chan, T. S.; Liu, R.-S.* “Versatile Phosphate Phosphors ABPO_4 in White Light-Emitting Diodes: Collocated Characteristic Analysis and Theoretical Calculations” *J. Am. Chem. Soc.* **2010**, *132*, 3020–3028.
- 10.Chen, H. M.; Hsin, C. F.; Chen, P. Y.; Liu, R.-S.*; Hu, S.-F.; Huang, C.-Y.; Lee, J.-F.; Jang, L.-Y. “Ferromagnetic CoPt_3 Nanowires : Structural Evolution from fcc to Ordered L_{12} ” *J. Am. Chem. Soc.* **2009**, *131*, 15794–15801.

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