

**Education**

|                 |                                                                   |                  |
|-----------------|-------------------------------------------------------------------|------------------|
| Ph.D. candidate | Materials Engineering, <b>Purdue University</b>                   | expected in 2011 |
| M.S.            | Chemical & Materials Engineering, <b>University of Cincinnati</b> | May 2007         |
| B.A.            | Materials Science & Engineering, <b>Tongji University, China</b>  | July 2001        |

**Work Experience**

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|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------|
| R&D Engineer                                                                                             | <b>Qisheng Biomaterials Institute, Shanghai, China</b> | 2001-2004 |
| Developed medical chitosan-based hydrogel and chitosan scaffolds for tissue engineering                  |                                                        |           |
| Studied degradation of chitosan in sterilization process and result is utilized in industrial production |                                                        |           |

**Publications/Presentations****JOURNAL PUBLICATIONS (since 2006):**

W. Wang, G.K. Liu, H.S. Cho, **Y. Guo**, D. Shi, J. Lian, R.C. Ewing, Surface Charge Induced Stark Effect on Luminescence of Quantum dots Conjugated on Functionalized Carbon Nanotubes, **Chemical Physics Letters** 469,149, 2009

**Y. Guo**, D. Shi, H. Cho, Z. Y. Dong, A. Kulkarni, G. M. Pauletti, W. Wang, J. Lian, W. Liu, L. Ren, Q. Zhang, G. K. Liu, C. Huth, L. Wang and R. Ewing, In vivo Imaging and Drug Storage by Quantum-Dot-Conjugated Carbon Nanotubes, **Advanced Functional Materials**, 18, 1, 2008

**Y. Guo**, D. Shi, J. Lian, H. Cho, L. Wang, and R. Ewing, Quantum Dots Conjugated Hydroxylapatite Nanoparticles for in vivo Imaging, **Nanotechnology**, 19, 175102, 2008

H. Cho, D. Shi, **Y. Guo**, J Lian, Z. Ren, B. Poudel, Y Song, J. L. Abot, D. Singh, J. Routbort, L. Wang and R. C. Ewing, Enhanced Thermal Stability of Carbon Nanotubes by Plasma Surface Modification in Al<sub>2</sub>O<sub>3</sub> Composites, **Journal of Applied Physics**, 104, 074302, 2008

D. Shi, **Y. Guo**, Z. Y. Dong, J. Lian, W. Wang, G. K. Liu, L. Wang and R. Ewing, Quantum-dot-activated Luminescent Carbon Nanotubes via a Nano Scale Surface Functionalization for in vivo Imaging, **Advanced Materials**, 19, 22, 4033, 2007

**Y. Guo**, D. Shi, J. Lian, H. Cho, Y. Song, J. Abot, B. Poudel, Z. Ren, L. Wang, and R. Ewing, Effects of Plasma Nanoparticle Surface Modification on Interfacial Behaviors and Mechanical Properties in Carbon nanotubes-Al<sub>2</sub>O<sub>3</sub> Composites, **Applied Physics Letter**, 91, 261903, 2007

W. Wang, D. Shi, J. Lian, **Y. Guo**, L. Wang, and R. Ewing, Luminescent Hydroxylapatite Nanoparticles by Surface Functionalization, **Applied Physics Letters**, 89, 1, 2006

**CONFERENCE PRESENTATIONS/PROCEEDINGS (since 2008):**

Y. Guo, S. J. Kim, E. B. Slamovich, E. A. Stach, C. A. Handwerker, P. Brazis, D. A. Gamota, Hydrothermal Growth and Electrical Mobility of Oriented ZnO Thin Films on Glass Substrates, **2008 MRS Fall Meeting**, Boston, MA, 2008

Y. Guo, S. J. Kim, E. B. Slamovich, E. A. Stach, C. A. Handwerker, P. Brazis, D. A. Gamota, Synthesis of ZnO Thin Film at Low Temperature and Microstructure Study for Printed Electronics, **MS&T 09**, Pittsburgh, PA, 2009

C. A. Handwerker, D. A. Gamota, E. A. Stach, E. B. Slamovich, S. J. Kim Y. Guo, GOALI: Nanoparticle-Enabled Printing of Large-Area Electronic Hierarchical Systems, **NSF CMMI Research and Innovation Conference 2009**, Honolulu, HI, 2009

## Research Experience

Graduate Research Assistant, **Purdue University** 2007-present

- Developing hydrothermal growth of ZnO thin films for printing of large-area electronics
- Studying microstructures and electrical properties of printed ZnO thin films

Graduate Research Assistant, **University of Cincinnati** 2004-2007

- Developed quantum dots (CdSe/ZnS, InGaP/ZnS and CdSeTe/ZnS)-coupled CNTs and hydroxylapatite nanoparticles as fluorescent biosensors and drug carriers
- Developed *in situ* CVD growth of CNT on  $Al_{2-x}Fe_xO_3$  substrate to reinforce nanocomposite
- Studied plasma surface modification using ultra-thin polymer coating on nanoparticles
- Investigated luminescence of rare-earth doped phosphor (Eu-doped  $Y_2O_3$  and  $Er_2O_3$ ) coating

## Teaching Experience

Teaching Assistant, **Purdue University** 2007-present

- Structure and Properties of Materials

Teaching Assistant, **University of Cincinnati** 2004-2005

- Nature and Properties of Materials
- Physical Properties of Solids

## Technical Skill

- **Materials processing:** Hydrothermal processing, Spin coating, Sol-Gel processing, CVD, Sputtering, Plasma thin film deposition, Surface chemical modification, Composite processing
- **Characterization:** SEM, FIB, TEM, FTIR, ToF-SIMS, NMR, XRD, TGA, DSC, Luminescence Spectrometer