Department of Chemistry and Biochemistry

College of Arts and Science

Suying Wei, Assistant Professor
September 2009-

Ph.D. Louisiana State University
M.Sc. Beijing Univ. of Chem. Tech.
B.ChE. Shandong Univ. of Sci. and Tech.

Analytical Chemistry and Advanced Materials

Research Interests

The Wei group is an analytical chemistry group. Prospective students should expect to be trained towards an analytical chemist career (NOT a chemical analyst). First of all, what is analytical chemistry? Simply put, “analytical chemistry is what analytical chemists do” which is attributed to Professor C.N. Reilley who won 1965 Fisher Award in Analytical Chemistry. In details, analytical chemistry is not to perform a routine analysis on a routine sample which is the job of a chemical analyst, but rather to improve the established methods, extend existing methods to new chemical species and chemical systems, and to develop new methods for existing or new chemical systems. Dr. wei has gathered extensive experience in various analytical techniques during her academic training thanks to the interdisciplinary features of the projects she was involved. Her Ph.D. thesis project was about Fabrication and Application of Hybrid Microarrays on Polymer-based Microanalytical Devices for Early Detection of Breast Cancer that spanned chemistry, molecular biology, Chemical, and mechanical engineering. Her postdoctoral training from both Chemistry & Biochemistry Department and Mechanical & Aerospace Engineering Department further broadened the research expertise. As a result, Dr. wei’s research group will involve preparing unique structured and multifunctional materials, investigating the fundamental physicochemical properties, and developing new methods to characterize them, applying them in biology, energy, environmental, and bio/electronic devices.

Selected Publications

J. Zhu, S. Wei, * S. B. Rapole, Q. Wang, Z. Luo, N. Haldolaarachchige, D. P. Young and Z. Guo, One-pot Synthesis of Magnetic Graphene Nanocomposites Decorated with Core@Double-Shell Nanoparticles for Fast Chromium Removal, Environ. Sci. Technol, 46(2), 977-985 (2012)

S. Wei,* J. Sampathi, Z. Guo, N. Anumandla, D. Rutman, A. Kucknoor, L. James and A. Wang, Nanoporous PMMA-Qdots Nanocomposite Fibers towards Biomedical Applications, Polymer, 52, 5817-5829 (2011)

Y. Li, R. Patil, S. Wei* and Z. Guo*, Electron Transfer and Trapping in Natural p-n Bipolar Polymer-Based Bilayer Films, J. Phys. Chem. C, 115 (46), 22863–22869 (2011)

S. Wei, R. Patil, L. Sun, N. Haldolaarachige, X. Chen, D. P. Young, Z. Guo, Ex-Situ Solvent-Assisted Prepared Magnetic Polypropylene Nanocomposites Filled with Fe@FeO Nanoparticles, Macromol. Mater. Eng., 296(9), 850-857 (2011)

S. Wei,* P. Mavinakuli, Q. Wang, D. Chen, R. Asapu, Y. Mao, N. Haldolaarachchige, D. P.Young and Z. Guo, Polypyrrole-Titania Nanocomposites Derived from Different Oxidants, J. Electrochem.Soc., 158(11), K205-K212 (2011)

J. Zhu, S. Wei, Y. Li, L. Sun, N. Haldolaarachige, D. P. Young, C. Southworth, A. Khasanov, Z. Luo, and Z. Guo, Surfactant-free Synthesized Magnetic Polypropylene Nanocomposites: Rheological, Electrical, Magnetic and Thermal Properties, Macromolecules, 44(11), 4382-4391 (2011)

D. Zhang, S. Wei,* C. Kaila, X. Su, J. Wu, A. B. Karki, D. P. Young, and Z. Guo*, “Carbon Stabilized Iron Nanoparticles for Environmental Remediation”, Nanoscale, 2, 917 - 919 (2010)

Recent Thesis Topics

Narendhar Anumandla (2011) "Tacticity effect studies of PMMA and PMMA-QD composites"

Sravan Kovvuru (2011) "Synthesis and characterization of polyaniline and UV absorber composites"

Chandana Kaila (2010) “Removal of hexavalent chromuim by iron nanoparticles via colorimetric method from model wastewater”

Jayanthi Sampathi (2010) “Fabrication and property analysis of electrospun PMMA/quantum dots nanocomposite fibers”