

## UALR Department of Chemistry – Faculty

### Publications and Presentations – January 1, 2006 – December 31-2006

#### Journal Articles

**Belford, R.E.**, Killingsworth, C., “Hyper glossary Generating Program with Wiki Content and Modifiable JavaScript Automated Search Functionality”, Fall 2006 Newsletter of ACS DivCHED CCCE, Nov. 16-19, 2006.

[http://www.ualr.edu/rebelford/ccce/belford\\_cccenl.htm](http://www.ualr.edu/rebelford/ccce/belford_cccenl.htm)

**Belford, R.E.** & Hanson, R.M. (2006), "Web-Based Applications for Chemical Education: Spring 2006 CONFICHEM Conference", *J. Chem. Ed.*, Vol. 83, No. 6, 843.

Chohan, Z. H., **A. U. Shaikh** and M. M. Naseer; “Metal-based isatin-bearing sulfonamides: Their synthesis, characterization and biological properties,” *J. Appl. Organometallic Chem.*(2006),20, 729-739.

**Darsey, J.A.**, Neil C. Mitchell, and Dan A. Buzatu, “Artificial Intelligence modeling of materials’ bulk chemical and physical properties.”, NASA Scientific and Technical Aerospace Reports, 44, Issue 7, April 7, 2006, 7 p.

Marr, L. C., K. Dzepina, J. L. Jimenez, F. Riesen, H. L. Bethel, J. Arey, **J. S. Gaffney**, N. A. Marley, L. T. Molina, M. J. Molina, "Sources and transformations of particle-bound polycyclic aromatic hydrocarbons in Mexico City." *Atmos. Chem. Phys.* 6, 1733-1745 (2006).

Salcedo, D., T. B. Onasch, K. Dzepina, M. R. Canagaratna, Q. Zhang, J. A. Huffman, P. F. DeCarlo, J. T. Jayne, P. Mortimer, D. R. Worsnop, C. E. Kolb, K. S. Johnson, B. Zuberi, L. C. Marr, R. Volkamer, L. T. Molina, M. J. Molina, B. Cardenas, R. M. Bernabé, C. Márquez, **J.S. Gaffney**, N. A. Marley, A. Laskin, V. Shutthanandan, Y. Xie, W. Brune, R. Leshner, T. Shirley, and J. L. Jimenez. "Characterization of ambient aerosols in Mexico City during the MCMA-2003 campaign with Aerosol Mass Spectrometry: results from the CENICA Supersite." *Atmospheric Chemistry and Physics* 6, 925-946 (2006).

Chockalingam K, **Luba J**, Nick HS, Silverman DN, Zhao H.: “Engineering and characterization of human manganese superoxide dismutase mutants with high activity and low product inhibition.” *FEBS J.* 273: 4853-4861 (2006).

Chohan, Z. H., **A. U. Shaikh**, A. Rauf and C. T. Supuran; “Antibacterial, Antifungal and Cytotoxic Properties of novel N-Substituted Sulfonamides from 4-Hydroxycoumarins”; *J. of Enzyme Inhibition and Medicinal Chemistry*; 21(6), 741-748 (2006).

Chohan, Z. H., **A. U. Shaikh**, M. M. Naseer and C. T. Supuran; “In-vitro Antibacterial,

Antifungal and Cytotoxic Properties of Metal-Based Furanyl derived Sulfonamides”; *J. of Enzyme Inhibition and Medicinal Chemistry*; 21(6), 771-781 (2006).

Chohan, Z. H., **A. U. Shaikh** and C. T. Supuran; “In-vitro antibacterial, antifungal and cytotoxic activity of cobalt(II), copper(II), nickel(II) and zinc(II) complexes with furanylmethyl- and thienymethyl-dithialones: [1,3- dithiole-2-one and 1,3-dithiol-2-thione]”; *J. of Enzyme Inhibition and Medicinal Chemistry*; 21(6), 733-740 (2006).

C. Song, P. E. Pehrsson, and **W. Zhao**, “Optical enzymatic detection of glucose based on hydrogen peroxide-sensitive HiPco carbon nanotubes.” *J. Materials Research* 21, 2817-2823 (November Focus Issue) (2006).

**W. Zhao**, "Doubly Vibrationally Enhanced Four Wave Mixing Spectroscopy in An Acetonitrile-Magnesium Perchlorate Mixture." *J. Molecular Structure* 799, 168-172 (2006).

### **Book Chapters**

**Darsey, J.A.** and D.A. Buzatu, “Computational Design and Analysis of Nanosize Electronic Components and Circuits” in Handbook of Theoretical and Computational Nanotechnology, (2006).

**Gaffney, J. S.** and N. A. Marley, "Radionuclides - Sources". Chapter 2. in Radionuclide Concentrations in Food and the Environment edited by L. Nollet and M. Poschl., Taylor and Francis, pp. 23-36 (2006).

### **Patent Applications**

**J.A. Darsey**, “New type of Insulated Housing Container”, filed USPTO, October, 2006.

**W. Zhao** and C. Song, “Surface-Modified Single-Walled Carbon Nanotubes and MethodS of Detecting A Chemical Compound Using Same.” Revised on Nov. 17, 2006.

### **Papers presented at National and International Meetings (Abstracts)**

Toreki, R., **Belford, R.E.** “Improving Safety Comprehension Through Hypertext: MSDS HyperGlossary”, ACS Spring 2006 CONFICHEM Conference (May & June, 2006)  
<http://www.ched-ccce.org/confchem/2006/b/index.html>

**Douglas M.S.** and J.R. Fulmer, “UALR Program Assessment-Nuts and Bolts of a Working College-Wide Committee.” Oral presentation at the 2006 IUPUI Assessment Institute, October 29-31, 2007, Indianapolis, IN.

**Gaffney, J. S.** and N. A. Marley, "A Brief History of Aerosol Carbon Analytical Methods." Oral presentation at the Eighth Conference on Atmospheric Chemistry, 29 January–2 February 2006, Atlanta, Georgia, at the 86th National Meeting of the American Meteorological Society.

**Gaffney, J.S.** "Reconfigured Atmospheric Science Program and 2006 Mexico City Campaign." Invited Science Talk Highlight, Department of Energy Biological and Environmental Research Advisory Committee (BERAC) meeting, July 10, 2006, Washington, D.C.

**Gaffney, J.S.** "T-0 Supersite Overview." First MILAGRO Science Team Meeting. October 23-25, 2006, Boulder, CO.

**Gaffney, J.S.** N.A. Marley, N.C. Sturchio, and N. Martinez, "Natural Radioactivity Measurements in Fine Aerosols." Poster presented at the First MILAGRO Science Team Meeting, October 23-25, 2006, Boulder, CO.

**Gaffney, J.S.** "Brief Overview of MAX-Mex." Oral Presentation, Chaired Session on MAX-Mex at the DOE Atmospheric Science Program (ASP) Meeting, October 25-27, 2006, Boulder, CO.

**Gaffney, J.S.** and N.A. Marley, "Natural Radioactivity Measurements in Fine Aerosols." Poster, ASP Meeting, October 25-27, 2006, Boulder, CO.

Haefele, A. and **W. Zhao**, "Reactivity of glucose oxidase encased water-soluble carbon nanotubes prepared by two different methods." 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.

Marley, N. A. and **J. S. Gaffney**, "Evidence for Carbonaceous Aerosol Absorption Change in Mexico City 2003." Oral presentation at the Eighth Conference on Atmospheric Chemistry, 29 January–2 February 2006, Atlanta, Georgia, at the 86th National Meeting of the American Meteorological Society.

Marley, N. A. and **J.S. Gaffney**, "Aerosol Optical Properties in Mexico City in 2003 and 2006." Poster, ASP Meeting, October 25-27, 2006, Boulder, CO.

Marley, N.A. and **J.S. Gaffney**, "Aerosol Optical Properties." Poster presented at the First MILAGRO Science Team Meeting, October 23-25, 2006, Boulder, CO.

Tu, X. and **W. Zhao**, "Buffer effects on the sensitivity of hydrogen peroxide-reacting HiPco carbon nanotubes encased with single-stranded DNA." 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.

Tucker, C., W. Hall, Q. He, **W. Zhao**, "Toxicity of DNA-encased carbon nanotubes in cells." Selected for Sci-Mix, presented at 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.

Xu, Y., X. Tu, and **W. Zhao**, "Single Stranded DNA-Wrapped HiPco Carbon Nanotubes for Optical Glucose Sensing." 232nd ACS National Meeting, San Francisco, CA September 10-14, 2006.

Xu, Y. and **W. Zhao**, "Hydrogen peroxide reaction with chromatographically enriched DNA-HiPco nanotubes." 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.

**Zhao, W.** "Factors influencing the redox chemistry of water-soluble HiPco carbon nanotubes with hydrogen peroxide." invited paper, presented at May 7-12, 2006 in Denver at the 209th meeting of the Electrochemical Society.

**Zhao, W.** "DNA-Single Walled Carbon Nanotube Hybrids for Optical Biosensors." invited paper presented at Sino-US Symposium on Nanoscale Science and Nanotechnology, Shanghai, China, July 7-9, 2006.

#### **Presentations and Invited Lectures**

**Gaffney, J.S.** "Ozone, PAN, and Aerosols in Megacities: A MILAGRO in Mexico." Invited lecture, Arkansas Tech University, September 15, 2006, Russellville, AR.

**Gaffney, J.S.** "Ozone, PAN, and Aerosols in Megacities: Mexico City MILAGRO." Invited lecture, University of Central Arkansas, November 30, 2006, Conway, AR.

Haefele, A. and **W. Zhao**, "Reactivity of glucose oxidase encased water-soluble carbon nanotubes prepared by two different methods." presented at Nanoscience Workshop, May 1-2, 2006, Little Rock, AR.

Tu, X. and **W. Zhao**, "Buffer effects on the sensitivity of hydrogen peroxide-reacting HiPco carbon nanotubes encased with single-stranded DNA." presented at Nanoscience Workshop, May 1-2, 2006, Little Rock, AR.

Tucker, C. W. Hall, Q. He, **W. Zhao**, "Toxicity of DNA-encased carbon nanotubes in cells." presented at Nanoscience Workshop, May 1-2, 2006, Little Rock, AR.

Xu, Y. and **W. Zhao**, "Hydrogen peroxide reaction with chromatographically enriched DNA-HiPco nanotubes." presented at Nanoscience Workshop, May 1-2, 2006, Little Rock, AR.

**Zhao, W.** "Novel Optical Properties of Surface-Functionalized Single-Walled Carbon Nanotubes for Applications." Invited lecture, Research Institute of Industrial Catalysis, East China University of Science and Technology, Shanghai, June 28-July 6, 2006.

**Zhao, W.** and Y. Xu, “Near Infrared Four Wave Mixing Spectroscopy for DNA-Encased Water-Soluble Carbon Nanotubes.” presented at Nanoscience Workshop, May 1-2, 2006, Little Rock, AR.

**Other Publications**

**Zhao, W.**, Web publications <http://nanoweb.ualr.edu> and <http://www.ualr.edu/wxzhao/NanoWeb.htm>. Website Designing and programming for Nanoscience Workshop, May 1-2, 2006, Little Rock, Arkansas.

**Zhao, W.**, Editor of the Abstract Book of Nanoscience Workshop, May 1-2, 2006, Little Rock, Arkansas. [http://www.ualr.edu/wxzhao/PROGRAM\\_NANO.pdf](http://www.ualr.edu/wxzhao/PROGRAM_NANO.pdf).