

EDUCATION:

Ph.D. - Analytical/Environmental Chemistry, University of Missouri-Columbia, 1991

Dissertation Title: The ChemChar Process for Hazardous Waste Treatment

Advisor: Professor Stanley E. Manahan

M.S. - Analytical Chemistry, University of Missouri-Columbia, 1989

Thesis Title: An Assessment of Surface Enhanced Raman Spectroscopy on Colloidal Silver as an Analytical Tool in the Detection of Nonvolatile N-Nitrosamines and Other Organic Molecules

Advisor: Professor Roy Koirtyohann

B.S. - Chemistry, Emporia State University, Emporia, Kansas, 1985

WORK EXPERIENCE:

September 2001 - present, Associate Professor, Department of Chemistry, Wright State University, Dayton, OH. Research areas: PAHs in soil, sewage sludge and compost, organic reactions in supercritical carbon dioxide, subcritical water as a solvent.

August 1994 - August 2001, Assistant Professor, Department of Chemistry, Wright State University, Dayton, OH. Research areas: supercritical fluid extraction of xenobiotics and their degradates, fate of pesticides in soil and compost, organic reactions in supercritical carbon dioxide

October 1993 - May 1994, Chemist III and Study Director, ABC Laboratories, Inc., Environmental Fate and Assessment Division, Columbia, Missouri. Conducted microbial biodegradation studies in the laboratory under TSCA, FDA, and OECD regulations. Charter member of ABC Laboratories Quality Council.

October 1992 - October 1993, Scientific Reviewer, ABC Laboratories, Inc., Environmental Fate and Assessment Division, Columbia, Missouri. Reviewed all reports and protocols produced by the division with regard to scientific validity, adherence to environmental testing guidelines (FIFRA, TSCA, FDA, OECD), data interpretation, and presentation. Coordinated with study directors, quality assurance, word processing, and the technical editor. Developed a new divisional reporting format. Developed a peer review process within each study team. Gave training seminars in peer review. Authored protocols and Standard Operating Procedures. Initiated and maintained a library of standard methods for analysis in the division. ABC Laboratories Employee Training Committee, planned activities for continuing education of associates. Conducted seminar for Leadership Team in Quality Management. Conducted seminars in Quality Improvement in my division.

November 1991 - September 1992, Chemist III, ABC Laboratories, Inc., Environmental Fate and Assessment Division, Columbia, Missouri. Conducted soil mobility studies with radiolabeled test chemicals on various soil types in the laboratory.

1990 - 1991, Principal Investigator, ChemChar Research, Inc., Columbia, Missouri. EPA-SBIR Spent Activated Carbon Regeneration Project (\$50,000). Studied reverse-burn gasification as a method for regenerating spent activated carbons used in hazardous waste treatment. Supervised a new graduate student who served as a research assistant.

1989 - 1990, Research Assistant, ChemChar Research, Inc., Columbia, Missouri. Developed reverse-burn gasification, in a DOE funded (\$50,000) project, as a means of treating spent radioactive ion-exchange resins such as those used in nuclear reactor cooling systems.

THESIS SUPERVISED AT WRIGHT STATE UNIVERSITY:

"Supercritical Fluid Extraction of Chlorpyrifos and Trichloro-2-Pyridinol from Yard Waste Compost," Stephen Bakwanamoh Bakiamoh, 1996. Stephen is now finishing his Ph.D. at Michigan State University

"Sorption and Desorption Kinetic Modeling of Anthracene using Paraffin as a Soil Organic Matter Surrogate," Daniel Joseph Mika, 1997, co-directed with USAF Major Edward Heyse, Ph.D., P.E., Assistant Professor, Engineering and Environmental Management, Air Force Institute of Technology. Dan is working at Hazelton Laboratories in Research Triangle Park, North Carolina.

"In-Situ Derivatization And Supercritical Fluid Extraction Of Trichloro-2-Pyridinol From Yard Waste Compost," Rexiat Maimait, 1997. Rex is now at the University of Florida pursuing a Ph.D. in chemistry.

"A Composting Respirometer For Evaluation Of The Fate Of Chlorpyrifos In Yard Waste Compost," Michelle Ringer, 1997. Michelle is working with computers in Las Vegas.

"Describing Sorption Mass Transfer by Diffusion Into a Composite Particle," David B. Shepherd, 1998, co-directed with USAF Major Edward Heyse, Ph.D., P.E., Assistant Professor, Engineering and Environmental Management, Air Force Institute of Technology. David is employed by Eurand in Vandalia, OH.

"Effects of Matrix Modification by Salt Addition on Supercritical Fluid Extraction and In Situ Derivatization and Supercritical Fluid Extraction of Phenol from Yard Waste Compost," John M. C. Danku, 1998. John is now at the University of Massachusetts-Amherst pursuing a Ph.D. in chemistry.

"Reaction of 3-Phenylsydnone with Methyl Propiolate in Supercritical Carbon Dioxide," Harriet Totoe, 1999. Harriet is now at the University of Massachusetts-Amherst pursuing a Ph.D. in chemistry.

Screening Method for Analyzing Polycyclic Aromatic Hydrocarbons in Compost, Kafui Kwami Adom, 2000. Kafui is pursuing a Ph.D. in Food Science at Cornell University.

Subcritical Water Extraction and Analysis of Pesticides in Compost, Anne Kabukwor Obubuafo, 2000. Anne is pursuing a Ph.D. in Food Science at Louisiana State University.

Reactions of 3-Phenylsydnone with Diethyl Acetylene Dicarboxylate and with Acetic Anhydride in Supercritical Carbon Dioxide, Laurene Jackson, 2000. Laurene is employed by Prospect Associates in Silver Spring, MD.

An Accelerated Weathering Study of a Polyurethane Coating and Surface Chemistry Examination, Belinda A. McKinney, 2003. Belinda is employed at Wright Patterson Air Force Base as a contractor.

Solid Phase Microextraction Method Development for Chlorinated Volatile Organic Compounds in a Constructed Wetland, Yumi Kamomae, 2003.

Determination of the Concentrations of Polycyclic Aromatic Hydrocarbons (PAHs) in Contaminated Sediments by the Solid Phase Microextraction (SPME) Technique, Francisca Masawi, 2003. Francisca is currently employed as a chemist at Belmont Labs.

The Electrochemical Behavior of Aviation Fuels in Ionic Liquids, Christopher D. Klingshirm, 2003. Christopher is currently employed at Wright Patterson Air Force Base as a scientist.

INDEPENDENT STUDIES SUPERVISED:

Undergraduate researchers supervised: Bill Aukerman, L. Wayne Marshall, Gail Dean, and Adam Williams. Wayne is employed by Proctor & Gamble in Cincinnati, OH. Gail Dean is presently pursuing her M.S. degree at Wright State University in Chemistry.

INVITED TALKS:

Adventures with Green Solvents, presented at the special symposium in honor of Stanley E. Manahan, October 7, 2003, Midwest Regional ACS meeting.

Predicting the Fate of Chemicals in the Environment: Before the Effects, presented to the Department of Biological Sciences, Wright State University, February 28, 2001.

MTBE in the Environment, presented to the Ohio Environmental Health Association Southwest District Fall Conference, October 4, 2000.

Green Chemistry in Supercritical Carbon Dioxide, presented to the Department of Chemistry at Muskingum College, March 27, 2000.

Green Chemistry in Supercritical Carbon Dioxide, presented to the Department of Chemistry at Capital University, March 13, 2000.

Green Chemistry in Supercritical Carbon Dioxide, presented to the Department of Chemistry at Ohio Northern University, December 9, 1999.

Assessing the Fate of Chemicals in the Environment, presented to the Ohio Environmental Health Association Southwest District Fall Conference, October 6, 1999.

Assessing the Fate of Chemicals in the Environment, presented to the American Chemical Society-Dayton Section local meeting March 11, 1997.

Assessing the Fate of Chemicals in the Environment, presented to the Advanced Engineering group of Delphi Chassis Systems Division of General Motors, January 26, 1996.

Professional Service:

WSU-AAUP Chapter Secretary, 2003 - present

Wright State University Faculty Senate, 2001-3, Executive Committee

WSU-AAUP Nominating Committee Member 2002 - 2003

WSU-AAUP Bargaining Council, 2001-02

President, Tri-State Supercritical Fluid Users Group, 1997-1998, planning board 1996-present

Treasurer, Dayton Section of the American Chemical Society, 1997.

Member, American Chemical Society, Analytical and Environmental Divisions

Reviewer for NSF's Instrumentation and Laboratory Improvement Program for FY 1998.

Reviewer for Journal of Chemical Education, Ecotoxicology and Environmental Restoration, Chemosphere, and Journal of Biomechanical Engineering

Eisenhower Grant Review Panelist for the Missouri Coordinating Board for Higher Education, 1993, 1994, and 1995.