

Curriculum vita: Miriam C. Foshay

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Education

Ph.D., Department of Chemistry and Biochemistry, Northern Illinois University, DeKalb, IL, 2002

Dissertation

A Study of Structure/Function Relationships in CcP: Base Catalysis and Hydrogen-Bonding in the Formation of Compound I

Advisor

Dr. James E. Erman

M.S., Chemistry, Indiana University, Bloomington, Indiana, August 1977

Thesis

Comparison of affinities of a1 and a3 anti-p-azobenzene arsonate antibodies produced by rabbits from a colony of preferential responders

Advisor

Dr. Felix Haurowitz

M.A., Columbia University Teachers College, New York, NY, May 1971

Specialty: Secondary Science Education, with certification for high school teaching

B.A., Oberlin College, Oberlin, OH, May 1970

Liberal arts program with major in chemistry

Dean's List, 1967

Professional experience

Post-doctoral fellow, Department of Biochemistry and Molecular Genetics, University of Illinois at Chicago, 2001-2005

- Conducted research on serpin structure and function in the laboratory of Prof. Peter G.W. Gettins, with focus on structural biology
- Graduate student and teaching assistant, January 1996 to 2002
- Member, Biochemistry Seminar Committee, Center for Biochemical and Biophysical Studies, Spring 1998 to present

- Prepared lectures, exams, and prepared and supervised labs for CHEM 471, Biochemistry Lab Techniques; taught CHEM 110 and CHEM 211
- Conducted research in the laboratory of Prof. James Erman, with focus on enzyme kinetics.

Project manager, TRC Environmental Corporation, Downers Grove, IL, 1991-1995

- Managed \$100-500,000 consulting projects for Fortune 500 companies and as a subcontractor to U.S. EPA.
- President, Recycling Management, Inc., Naperville, IL, 1989 to 1991
- Operated consulting firm for recycling projects
- Frequent contributor to the journal Resource Recycling; frequent speaker at state recycling conventions
- Organized and led recycling workshops for county and municipal recycling coordinators throughout Illinois.
- Partner with Waste Management in successful bid to manage county recycling facility (which was never built)
- Business manager, Naperville Area Recycling Center, Naperville, IL, 1984 to 1989
- Helped to build community recycling program from \$25,000 gross annual revenues to a budget in excess of \$1,000,000
- Organized volunteers, developed grassroots neighborhood recycling program, helped design and contract for major equipment, negotiated loans and contracts in the \$15K-1M range, managed payroll for a staff of 30, kept financial records according to standard accounting practices.

Community organizer and volunteer, 1978-1996

- Girl Scout leader, day camp unit leader, classroom aide, nursery school treasurer and fund-raising chair. Organized fund-raising events for several organizations, including AAUW, League of Women Voters, and Hobson Cooperative Nursery School. League treasurer for four years. As treasurer for Co-op Nursery School in Champaign, IL, managed payroll for a staff of four (two years).

Research assistant, Indiana University, Bloomington, IN, 1974-1977

- Conducted research in immunochemistry under the direction of Dr. Felix Haurowitz.

Research assistant, Schwarz/Mann (division of Becton-Dickinson), Orangeburg, NY, 1973-1974

- Worked on the development of an immunoassay to detect tetrahydrocannabinol residues in body fluids.

Science teacher, Valhalla Junior-Senior High School, Valhalla, NY, 1971-1972

Professional affiliations and certifications

- American Chemical Society, member since 1997.
- American Academy for the Advancement of Science, member since 1996
- Certified Hazardous Materials Manager (CHMM), 1994-1996

Relevant publications and presentations

- MC Foshay, JE Erman, LB Vitello, The role of tryptophan in the distal pocket of cytochrome *c peroxidase* (*in preparation*)
- MC Foshay, LB Vitello, JE Erman, pH Dependence of heme iron coordination, hydrogen peroxide reactivity, and cyanide binding in cytochrome *c peroxidase* (H52K) (2004). *Biochemistry* 43(17), 5065-72.
- JD Satterlee, MI Savenkova, M Foshay, JE Erman, Temperature, pH, and solvent isotope dependent properties of the active sites of resting state and cyanide-ligated recombinant cytochrome *c peroxidase* (H52L) (2003). *Biochemistry* 42(36), 10772-82.
- A Bidwai, M Witt, M Foshay, LB Vitello, JD Satterlee, JE Erman, Cyanide binding to cytochrome *c peroxidase* (H52L) (2003). *Biochemistry* 42(36), 10764-71.
- AH Palamakumbura, MC Foshay, LB Vitello, JE Erman (1999). Oxidation of Cytochrome *c peroxidase* to Compound I by peroxyacids: Evidence for rate-limiting diffusion through the protein matrix. *Biochemistry* 38, 15647-15652.
- •MC Foshay, SE Zimmerman, LK Spencer, F Haurowitz, KL Knight (1976). Preferential expression of anti-azobenzene-arsenate antibodies of heterozygous a1a3 rabbits in the a1 allotype. *J Immunology*, 116 (4), 1010-1015.
- “Elucidating the catalytic mechanism of cytochrome *c peroxidase*,” 33rd Great Lakes Regional Meeting, American Chemical Society, North Dakota State University, Fargo, ND, June 2000. (Oral presentation)
- “Oxidation of cytochrome *c peroxidase* by peracetic acid,” XVII Midwest Enzyme Chemistry Conference, Loyola University, Chicago, IL, October 1997. (Poster presentation)
- “Effect of His-52 on the formation of cytochrome *c peroxidase* Compound I,” 31st Great Lakes Regional Meeting, American Chemical Society, University of Wisconsin, Milwaukee, WI, June 1998. (Poster presentation)

Key words: Protein NMR, differential scanning calorimetry (DSC), fluorimetry, circular dichroism (CD) spectroscopy, enzyme kinetics, serpin, peroxidase, molecular biology.