

Amber M. Hupp

Department of Chemistry, College of the Holy Cross
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EDUCATION

- Ph.D. in Chemistry (Analytical)** May 2009
Michigan State University, East Lansing, Michigan
Dissertation: Thermodynamic and Kinetic Characterization of Hybrid Stationary Phases
Advisor: Victoria L. McGuffin
- B.A. in Chemistry** June 2003
Kalamazoo College, Kalamazoo, Michigan
Study Abroad (1 Quarter), University of Bonn, Bonn, Germany Spring 2001

HONORS AND AWARDS

- James Flack Norris/Theodore Williams Summer Research Scholarship 2010
with Holy Cross undergraduate student Brian Blum
- Excellence in Teaching Citation, College of Natural Science, Michigan State University 2008
- Outstanding Graduate Student Woman, FPWA, Michigan State University 2008
- Educational Merit Fellowship, Chemistry Department, Michigan State University 2005 – 2008
- Recruitment Fellowship, Chemistry Department, Michigan State University 2003
- Girl Scout Gold Award 1999

TEACHING EXPERIENCE

- Assistant Professor** 2010 – present
Department of Chemistry, College of the Holy Cross, Worcester, MA
- Instrumental Chemistry and Analytical Methods (lecture and laboratory)
 - Introduction to Equilibrium and Reactivity (lecture and laboratory)
- Visiting Assistant Professor** 2009 – 2010
Department of Chemistry, College of the Holy Cross, Worcester, MA
- Instrumental Chemistry and Analytical Methods (lecture and laboratory)
 - Introduction to Equilibrium and Reactivity (lecture and laboratory)
 - Chemistry in Society for non-science majors (lecture)
- Graduate Teaching Assistant** 2003 – 2009
Department of Chemistry, Michigan State University, East Lansing, MI
- General Chemistry I (recitation, 1 semester)
 - General Chemistry II (recitation, 2 semesters)
 - Quantitative Analysis (recitation and laboratory, 4 semesters)
 - Instrumental Methods (recitation and laboratory, 4 and 3 semesters)
 - Advanced Analytical Chemistry (recitation, 1 semester)
 - Introductory Physical Chemistry I (recitation, 2 semesters)

Guest Lecturer

Department of Chemistry, Michigan State University, East Lansing, MI

- Introductory Physical Chemistry I (1 class)
- Instrumental Methods (2 classes)
- Advanced Analytical Chemistry (1 class)

Undergraduate Teaching Assistant

2001 – 2003

Department of Chemistry, Kalamazoo College, Kalamazoo, MI

- General Chemistry I (laboratory, 1 semester)
- Organic Chemistry I & II (laboratory, 1 semester each)

RESEARCH EXPERIENCE

Independent Researcher

2010 – present

Department of Chemistry, College of the Holy Cross, Worcester, MA

- Determination of retention mechanism of unique reversed phase liquid chromatographic stationary phases
- Chemical fingerprinting of biodiesel fuels
- Chemometric analysis of biodiesel fuels

Graduate Research Assistant

2003 – 2009

Department of Chemistry, Michigan State University, East Lansing, MI

- Characterization of Hybrid Stationary Phases in Liquid Chromatography
Advisor: Victoria L. McGuffin
- Chemometric Analysis of Diesel Fuel
Advisors: Victoria L. McGuffin, Ruth Waddell Smith

Undergraduate Research Assistant

Summer 2002, 2003

Bridge Organics Co., Vicksburg, MI

- Deuteration of Androstenedione by use of Keto-Enol Tautomerization, a Senior Individualized Project (Thesis)
Advisor: Edward J. Hessler

PEER-REVIEWED SCIENTIFIC PUBLICATIONS

Michigan State University

4. Amber M. Hupp, Victoria L. McGuffin, "Thermodynamic and Kinetic Characterization of Bridged-Ethylene Hybrid Stationary Phase" (**Accepted 2010**).
3. Amber M. Hupp, Victoria L. McGuffin, "Experimental Evaluation of Several Methods for Extracting Retention Factor and Rate Constants in Liquid Chromatography" *Journal of Liquid Chromatography and Related Technologies*. xx (**In Press 2010**) xx-xx.
2. Amber M. Hupp, Lucas J. Marshall, Dahlia I. Campbell, Ruth Waddell Smith, Victoria L. McGuffin, "Chemometric Analysis of Diesel Fuel for Forensic and Environmental Applications" *Analytica Chimica Acta*. 606 (**2008**) 159-171.
1. Xiaoping Li, Amber M. Hupp, Victoria L. McGuffin. "The Thermodynamic and Kinetic Basis of Liquid Chromatography", *Advances in Chromatography*. Vol. 45 (**2006**) p. 1-88.

SELECTED SCIENTIFIC PRESENTATIONS

- Amber M. Hupp, Victoria L. McGuffin, "Effect of Mobile Phase Additives on Peak Shape Using Bridged-Ethylene Hybrid Stationary Phases" Poster presentation, HPLC Conference, Boston, MA, June 2010.
- Stephanie A. Brouet, Amber M. Hupp, "Creative Learning Activities for a 'Chemistry in Context' course for Non-Science Majors" Oral presentation, American Chemical Society Conference, San Francisco, CA, March 2010.
- Amber M. Hupp, Victoria L. McGuffin, "Thermodynamic and Kinetic Characterization of Bridged-Ethylene Hybrid C18 Stationary Phase" Oral presentation, The Pittsburgh Conference, Chicago, IL, March 2009.
- Amber M. Hupp, Victoria L. McGuffin, "Effect of Mobile Phase Additives on Peak Shape Using Bridged-Ethylene Hybrid Stationary Phases" Poster presentation, The Pittsburgh Conference, Chicago, IL, March 2009.
- Amber M. Hupp, Lucas J. Marshall, Dahlia I. Campbell, Ruth J. H. Waddell, and Victoria L. McGuffin, "Chemometric Analysis of Diesel Fuel for Arson Investigations" Invited oral presentation, National Institute of Standards and Technology, Gaithersburg, MD, June 2008.
- Amber M. Hupp, Lucas J. Marshall, Dahlia I. Campbell, Ruth J. H. Waddell, and Victoria L. McGuffin, "Chemical Fingerprinting of Diesel Fuels Using GC-MS and Chemometric Methods for Forensic Analysis" Oral presentation, The Pittsburgh Conference, Chicago, IL, February 2007.
- Amber M. Terry, Victoria L. McGuffin, "Experimental Evaluation of Several Methods for Extracting Thermodynamic and Kinetic Information in Liquid Chromatography" Poster presentation, The Pittsburgh Conference, Orlando, FL, March 2005.

ACADEMIC AND PROFESSIONAL SERVICE

College of the Holy Cross

- Seminar Committee, Chemistry 2010 – 2011
- Analytical/Biochemistry Search Committee, Chemistry Fall 2010

Michigan State University

- Graduate Student Representative, Undergraduate Chemistry and Lab Committee 2006 – 2007
- Graduate Student Representative, Chemistry Colloquium Committee 2006 – 2007
- Delegate, ACS Women's Chemist Committee, ACS Local Section Board 2005 – 2007
- Co-author and Presenter, Chemistry Policies and Procedures on Teaching 2004, 2006 – 2008
- Member, Chemistry Orientation Committee 2004, 2005
- Member, ACS Women in Chemistry Steering Committee, MSU Local ACS Section 2004 – 2009
 - Proposed and coordinated a one day event entitled "Professional Development Workshop for Women in the Sciences". Invited and coordinated 8 outside speakers, wrote and received an Innovative Project Grant from the ACS and co-sponsored with the MSU Graduate School to support the workshop (2008)
 - Proposed and coordinated a Women in Chemistry Luncheon with speaker Dr. Patricia Moore (Dow Corning) at the ACS Central Regional Meeting in Frankenmuth, MI (2006)
 - Served as co-chair for Steering committee. Scheduled and oversaw bi-annual meetings, planned and coordinated activities and events, recruited members
 - Coordinated and performed Scout Chemistry Merit Badge Day, wrote and administered a laboratory practical and coordinated volunteers for the Michigan Science Olympiad Chemistry Lab State Event, developed and performed demonstrations and hands-on

experiments for elementary school children at ACS National Chemistry Day, Science Fun Day, and Girls Math/Science Conference

- Member, Student Affiliates Kalamazoo Chapter ACS 2002 – 2003
 - Coordinated a one day event entitled “Using Forensic Science to Solve a Murder”, in which middle school children used chemical tests to solve a murder mystery
 - Served as student affiliates treasurer, balanced and reported budget
 - Performed demonstrations and hands-on activities for elementary school children at ACS National Chemistry Day and Scout Chemistry Merit Badge Day

PROFESSIONAL MEMBERSHIPS

- MASSEP – A Separation Science Discussion Group 2010 – present
- Council On Undergraduate Research 2008 – present
- American Chemical Society 2002 – present

PROFESSIONAL DEVELOPMENT

- Effective Test Making Workshop, MSU Teaching Assistant Program 2008
- Professional Development Workshop for Women in the Sciences, MSU 2008
- Teaching with Technology Workshop, MSU Teaching Assistant Program 2007
- Making Classroom Lectures Interactive and Effective: Engaging Students in Course Content through Interactive Lecturing, Lilly Seminar Series 2006
- Using Demonstrations to Promote Conceptual Understanding in Chemistry, Lilly Seminar Series 2006
- Things Every Scientist Should Know – Outside the Laboratory, ACS Women in Chemistry Seminar Series 2005

UNDERGRADUATE STUDENT RESEARCHERS

College of the Holy Cross

- Sarah J. Boehm Summer 2010, Academic Year 2010/2011
- Brian Blum Summer 2010, Academic Year 2010/2011

Michigan State University

- Dahlia Campbell (McNair/SROP student from St. Edwards University) 2006