

Curriculum Vitae

Andrea M. Geyer, PhD

Education

09/2004 to 12/2008

University of Michigan (Ann Arbor, MI)

Ph. D. in Inorganic Chemistry- May 2009

GPA: 7.53/8.00

Masters in Inorganic Chemistry- May 2006

Advisor: Dr. Marc J. A. Johnson

09/2000 to 05/2004

DePauw University (Greencastle, IN)

B. A. Degree in Chemistry- May 2004

Magna Cum Laude

Advisor: Prof. Hilary Eppley

Honors: Inaugural Awesome Dawson Award (Established in my honor)

Dow Chemical Scholar

Professional Affiliations

- American Chemical Society: Member of Local, National, Inorganic, and Chemical Education Divisions. 2003-present
- Indiana Campus Compact Member: USF Indiana Campus Compact Representative. 2011-2013
- Indiana Academy of Sciences: Member. 2012-2013
- National Academic Advising Association: Member. 2012-2013

Scholarship of Teaching

Teaching Positions

08/2010 to present Assistant Professor for Chemistry at University of Saint Francis

Teaching Fellowships

08/2009-12/2009 Post Doctoral Teaching Fellow at University of Michigan (Ann Arbor) Teaching Mentor: Prof. Mark Banaszak Holl Course: Intermediate Inorganic Chemistry

2005 GAANN Fellowship for Teaching Project Development

Teaching Assistantships

09/2004 to 12/2008

General Chemistry Laboratory and Lecture

Intermediate Inorganic Chemistry

Advanced Inorganic Chemistry

Organic Chemistry Laboratory and Lecture

Education Workshops

- Geyer, A; Haagen, J.; Camara, E. "An Introduction to e-Portfolios for Promotion and Tenure" University of Saint Francis Faculty Development Day. Workshop leader – Oct 2013.
- Frecker, T.; Swygart, S.; Geyer, A.; "Overview of Lead-Based Paint Service Learning Project" at Deepening Franciscan Identity: Teaching Care for Creation conference at the University of Saint Francis. Presentation. Jan 2013.
- Elick, J.; Schmidt, P.; Lord, P; Meyers, C.; Geyer, A. "Vernier Probeware-Hands-On Science" Best Practices Showcase at the University of Saint Francis. Presentation. March 2012.
- Project Based Learning Training – USF Regional Talent Initiative. July 2011.
- Vernier Workshop on Implementing Vernier Technology in the Laboratory at the Central Regional Meeting of the American Chemical Society. June 2011.
- How to Implement SOTL in the Classroom. Scholarship of Teaching and Learning Academy at Eastern Michigan University. May 2011.

Presentations and Publications

- "Social Networking as a Platform for Role-Playing Scientific Case Studies." Geyer, A. M. Submitted to *J. Chem Ed.* Nov 2013.
- "Conducting Appraisal Case Studies in General Chemistry through Social Media." Geyer, A. M. Central Regional Meeting of the American Chemical Society. Presentation. May 2013.
- "Making Progress: Moving from Theoretical Training to Practical – One Institutions' Implementation of Title III Grant." Coak, S; Reesman, M; Maurizi, P; Klopfer, M; Geyer, A; Wade, C; Bodwell, W; Carrigan, A. National Academy Advising Association Regional Conference. Presentation- April 2013
- "Why Fight Facebook? Embracing Social Media to Facilitate Case Studies In Science." Fort Wayne Teaching Conference. Presentation- Feb 2013.
- "The First Time Service Learning Experience: Building, Maintaining, and Expanding Community Partnerships." Indiana Campus Compact (ICC) North Regional Networking Council Meeting. Presentation. Oct 2012.

Implementation of New Teaching Methodology

- Lead Paint Testing. Service learning component to Chem 343: Environmental Chemistry. 2012-2013.
- Introduced social media into Chem 142: Principles of Chemistry II. Developed a Facebook study to emphasize the utility of a basic working understanding of chemistry in today's society. 2010-2013
- New Course Development. Chem 131: Chemical Calculations. Implemented aspects of Just-In-Time teaching pedagogy. 2011.
- Online Course Redesign. Chem 121. 2010
- Graduate Student Project: Recitation redesign and implementation for general chemistry lecture. 2008
- Graduate Student Project: Designed, developed, and implemented module using Spartan software to introduce students to and explore the isolobal analogy through inquiry-based learning. 2005-2007.
- Graduate Student Project: Implemented pilot run of a modified model of the general chemistry laboratory discussion section. 2004.

Grants

- Indiana Campus Compact Grant for lead-based paint studies of houses in Ft. Wayne. 2012.

Service to the University

Presentations & Exhibitions

- Organized the 2nd Annual USF Poster Exhibition for student and faculty research. Jan 2012
- "Catalysis: It's Not Easy Being Green" University of Saint Francis. Achatz Poster Session. Plenary Speaker. Feb 2011
- "Graduate School and Beyond" Chem 480 Speaker. University of Saint Francis. Sept 2010

Committees

- Retention Committee: SOAS Representative. 2012-2013
- Faculty Issues Committee: Secretary for both years. 2011-2013
- Center for Service Engagement Committee: SOAS Representative. 2011-2012
- EPA Compliance Sub-Committee: Faculty Representative. 2010-2011
- P&T Committee: Alternate Non-Tenured Member. 2010-2011

Other Commitments

- Faculty Adviser Liaison for SOAS. 2012-2013
- Development and Alignment of Use Cases with Business Outcomes and Drivers for Blackboard Collaborate for the University of Saint Francis. Faculty Representative. Aug 2011

Service to the Community

- Interview by WANE-TV 15: A Chemist's Response to "Ethanol era comes at a dirty cost" article. November 2013
- Evaluator for student presentations on "What Scientist's Quote should Survive a Science Apocalypse and Why" at Eagle Tech High School. Nov 2013
- Discussion panel on "Science, College, and Beyond" with the 5th graders at Washington Center Elementary. May 2013
- Dry-ice ice cream with Queen of Angels Preschool. April 2013
- Mentor for Homestead High School Student. Summer 2012
- Recycling Day with USF, Ivy Tech, IPFW, and Indiana Wesleyan University. March 2012
- Regional Science Fair Judge at Trine University. 2011-2012
- Organized a high school home school workshop in conjunction with Honors student Lauren Mey. 2011-12
- Three Rivers Science Symposium Director for Chemistry. Oct 2011
- Capstone Seminar Subject for DePauw University Science Research Fellow. Dec 2010

Scholarship of Discovery

Research Experience

University of Saint Francis Fort Wayne, IN

08/2010-present

- Principal investigator for the synthesis of alkynes via triple-bond metathesis in ionic liquids.

01/2011-present

- Principal investigator for Influencing Student Perspective of Chemistry via Social Network-Based Case Studies. Received IRB approval in 2012 to conduct study on Facebook case study. Collected data on student perspective in Spring 2012. Data is currently being processed.

06/2012- present

- Analysis of the energy content of crooked lake. Used bomb calorimetry and ash free dry weight to begin to assess the energy available to mussels in Crooked Lake. This work is done in collaboration with Mr. Warren Pryor.

University of Michigan Ann Arbor, MI

01/2009 – 05/2010 *Advisor: Asst. Prof. Bart M. Bartlett*

- Post Doctoral Fellow. Focus in inorganic coordination chemistry. Synthesized and analyzed electrochemical properties of metal complexes with tetrathiafulvalene ligands towards the development of molecular conductors.

09/2004 to 12/2008 *Advisor: Dr. Marc J. A. Johnson*

- Doctoral Studies. Focus in inorganic-organometallic chemistry. Designed, developed, and analyzed group six metal alkylidyne, nitride, and $M_2(OR)_6$ species in the metathesis of carbon-carbon triple bonds.

Argonne National Laboratory Argonne, IL

05/2003 to 08/2003 *Advisor: John Vaughey*

- Focus in solid state chemistry. Synthesized and evaluated layered oxide anodes and cathodes for lithium ion batteries.

05/2001 to 12/2003 *Advisor: Associate Professor Hilary Eppley*

- Focus in coordination chemistry. Investigated ionic liquids as a medium for the synthesis of mixed-metal multinuclear coordination complexes.

2002 *Advisor: Professor James Mills*

- Focus in metal ion analysis of water. Collected and analyzed groundwater samples.

Research Fellowships/Awards

- 2007 University of Michigan Robert W. Parry Fellowship
- 2001 DePauw Faculty Development Committee Grant for Research

Publications:

- "Catalytic Alkyne Metathesis and Stoichiometric Metal-Alkylidyne Formation from $N\equiv Mo(OR)_3$ Complexes Promoted by Lewis Acids." Geyer, A. M.; Holland, M. J.; Gdula, R. L.; Goodman, J. E.; Johnson, M. J. A.; Kampf, J. W. *J. Organomet. Chem.* **2012**, 708-709, 1-9. DOI: <http://dx.doi.org/10.1016/j.jorganchem.2011.08.001>
- "Synthetic, Mechanistic, and Computational Investigations of Nitrile-Alkyne Cross-Metathesis" Geyer, A. M.; Wiedner, E. S.; Gary, J. B.; Gdula, R. L.; Kuhlmann, N. C.; Johnson, M. J. A.; Dunietz, B. D.; Kampf, J. W. *J. Am. Chem. Soc.* **2008**, 130, 8984-8999.
- "Catalytic Nitrile-Alkyne Cross-Metathesis." Geyer, A. M.; Gdula, R. L.; Wiedner, E. S.; Johnson, M. J. A. *J. Am. Chem. Soc.* **2007**, 129, 3800-3801. DOI: [10.1021/ja0693439](http://dx.doi.org/10.1021/ja0693439).
- "Studies of Layered Lithium Metal Oxide Anodes in Lithium Cells." Vaughey, J. T.; Geyer, A. M.; Fackler, N.; Johnson, C. S.; Edstrom, K.; Bryngelsson, H.; Benedek, R.; Thackeray, M. M. *J. Power Sources.* **2007**, 174, 1052-1056.

Publication Features:

- Editor's Choice: "Chemistry: Rearranging Nitriles." *Science Magazine*, **2007 Mar 30**, Issue 315, 1768.
- Latest News: "Nitrile Alkyne Cross Metathesis: Process for converting nitriles into alkynes expands the utility of metathesis reactions." *Chemical & Engineering News*. **2007 Mar 26**, Issue 85, 10.

Posters and Presentations:

- "Resuming the Puzzle: Developing a Technique to Estimate the Energy Available to *Lampsilis siloquoidea* at Crooked Lake, Whitley County, IN." Meyer, A; Pryor, W.; Geyer, A.' **Oct 2013**. Ohio Valley Unified Malacologists Regional Meeting. Presentation
- "Investigating Food Energy Availability to *Lampsilis siliquoidia*: Combustion Analysis of Plankton in Crooked Lake, Indiana." **Oct 2012**. Taylor, A; Pryor, W; Geyer, A. Midland Local American Chemical Society Meeting. Poster
- "Living our Mission through Chemistry: Lead Paint Survey of a Fort Wayne Neighborhood." Baumgartner, CeCelia; Bessesen, Matthew; Frecker, Talitha; Gregory, Nathan; Heim, Jordan; Heitz, Sharon; Marion, Teresa; Strable, Jessica; Swygart, Shane; Geyer, Andrea. **Oct 2012**. Midland Local American Chemical Society Meeting. Poster
- "Metathesis of *Internal Alkynes* with $\text{Mo}_2(\text{OR})_6$ Complexes: A Method for Accessing Alkylidyne Complexes" **Geyer, A. M.**; Gdula, R. L.; Johnson, M. J. A.; Kampf, J. W. **June 2011**. Central Regional Meeting of the ACS Presentation
- "Development and Investigation of $\text{N}\equiv\text{W}(\text{OR})_3$, $\text{N}\equiv\text{Mo}(\text{OR})_3$, and $\text{Mo}_2(\text{OR})_6$ Complexes for Triple-Bond Metathesis" **Geyer, A. M.**; Johnson, M. J. A. **Dec 2008**. Ann Arbor, MI. Doctoral Defense
- "Lewis Acid Assisted Alkyne Metathesis with Mo-based Catalysts." **Geyer, A. M.**; Johnson, M. J. A. **Oct 2008**. Philadelphia, PA. ACS National Meeting Presentation
- "Synthetic, Mechanistic, and Theoretical Investigations of Nitrile-Alkyne Cross-Methathesis." **Geyer, A. M.**; Wiedner, E. S.; Gary, J. B.; Gdula, R. L.; Kuhlmann, N. C.; Johnson, M. J. A.; Dunietz, B. D.; Kampf, J. W. **Oct 2008**. Philadelphia, PA. ACS National Meeting Poster
- "NACM: Reversible Formation of Alkynes from Nitriles." **Geyer, A. M.**; Wiedner, E. S.; Johnson, M. J. A. **Oct 2007**. Pasadena, CA. Presentation (selected talk) – International Symposium on Olefin Metathesis
- "Synthetic, Mechanistic, and Kinetic Investigations of Nitrile-Alkyne Cross-Metathesis." **Geyer, A. M.**; Kuhlmann, K.; Johnson, M. J. A.; Kampf, J. W. **Mar 2007**. Chicago, IL. ACS National Meeting Presentation
- "Exploring the Reactivity of Tungsten Nitride Complexes: Alkyne-Nitrile Cross Metathesis." **Geyer, A. M.**; Wiedner, E. S.; Gdula, R. L.; Johnson, M. J. A. **Sept 2006**. San Francisco, CA. ACS National Meeting Presentation
- "Synthesis of Mixed-Multinuclear Metal Complexes in Ionic Liquids." **Geyer, A. M.**; Eppley, H. **Mar 2003**. New Orleans, LA. ACS National Meeting Poster

Scholarship of Integration

- Organized and hosted the Ohio Valley Unified Malacologists Meeting. Fall 2012.