Sarah J. Schmidtke Sobeck

Address
College of Wooster
Department of Chemistry
943 College Mall
Wooster, OH 44691

Contact Information
Phone: (330)263-2359
Fax: (330)263-2386

E-mail: ssobeck@wooster.edu

Education

University of Minnesota, Department of Chemistry **2000 – 2005**
Minneapolis, Minnesota
Ph.D., Physical Chemistry

Dissertation Title: Physical Properties and Dynamics of Hydrogen Bonding and Proton Transfer Compounds
Research Advisor: Dr. David Blank

Preparing Future Faculty Certificate (December 2004)

Marquette University **1996 – 2000**
Milwaukee, Wisconsin
B.S. Chemistry and Mathematics, magna cum laude

Professional Experience

Associate Professor **2012– Present**
Assistant Professor **2006 – 2012**
Department of Chemistry, The College of Wooster, Wooster, OH
Classes Taught: Physical Chemistry I & II (lecture and lab), Introductory Chemistry (lecture and lab), Introduction to Independent Study, Biophysical Chemistry, non-majors courses, First Year Seminar.
Research Interests: photochemistry, spectroscopy, computational chemistry, kinetics.

Visiting Associate Professor **Summer-Fall 2014**
Institute for the Preservation of Cultural Heritage, Yale University, New Haven, CT
Dr. Paul Whitmore (host)
Project: One year research leave. Research focus on the fundamental chemistry of the photo-induced degradation of cochineal, a red dye extracted from South American scale insects and used as an artist colorant, and the impact of different paint media upon its stability.

Visiting Assistant Professor **Fall 2009**
Department of Chemistry, University of Alberta, Edmonton, Canada
Dr. Glen Loppnow (host)
Project: One semester research leave. Project focus on the solvent-dependent properties of a series of oxybenzone derivatives. Experimental and computational resonance Raman measurements were carried out on the systems in protic and aprotic solvents.

Research Experience

Graduate Fellow **2000 – 2005**

Department of Chemistry, University of Minnesota, Minneapolis, MN
Dr. David Blank (advisor)
Research: Ultrafast nonlinear spectroscopy, computational modeling

NSF REU Program Participant **1999**
Department of Chemistry, the Pennsylvania State University, State College, PA
Dr. Karl Mueller (advisor)
Research: Solid-state NMR spectroscopy

NSF REU Program Participant **1998**
Department of Chemistry, Louisiana State University, Baton Rouge, LA
Dr. Paul Russo (advisor)
Research: Polymer, physical chemistry

Quality Control Specialist, Dean Food & Specialty Products **1997**
Green Bay, WI
Food chemistry, analytical methods

Teaching Experience

Visiting Assistant Professor, Trinity University, San Antonio, TX **2005–2006**
Courses: Physical Chemistry I & II, Physical Chemistry Laboratory, Senior Integrated Laboratory, Introduction to Analytical Methods Laboratory, Lab Methods in Organic Chemistry

Undergraduate Mentoring, University of Minnesota, Minneapolis, MN **2005**
Duties: instruction and direction of undergraduate research student with Dr. David Blank, co-advise and direct research project, train student in research methods.

Preparing Future Faculty, University of Minnesota, Minneapolis, MN **2004**
Courses taken: Teaching in Higher Education and Practicum for Future Faculty

Graduate Teaching Assistant, University of Minnesota, Minneapolis, MN
Course: Physical Chemistry II, Honors General Chemistry, Instrumental Analysis **2000–2**

Undergraduate Teaching Assistant, Marquette University, Milwaukee, WI
Course: General Chemistry Laboratory **1999-2000**

Publications

1. Leah M. Rader Bowers*, **Sarah J. Schmidtke Sobeck** "Impact of medium and ambient environment on the photodegradation of carmine in solution and paints." *Dyes and Pigments*, **2016**, 127, 18-24.
2. Jacob A. Boroff*, Zachery D. Matesich*, Daniela Canache Stuetzer*, **Sarah J. Schmidtke Sobeck** "Solvent impact on the photophysical properties and escited state behavior of *p*-aminobenzoic acids." *Journal of Photochemistry and Photobiology A: Chemistry*, **2015**, 305, 60-66.
3. Elisa Leyva, **Sarah J. Schmidtke Sobeck**, Silvia E. Loredo-Carrillo, Diego A. Magaldi-Lara "Spectral and structural characterization of 2-(fluorophenylamino)- and 2-(nitrophenylamino)-1,4-naphthoquinone derivatives." *Journal of Molecular Structure*, **2014**, 1068, 1-7.
4. **Sarah J. Schmidtke Sobeck** "Solvent Effects on Electronic Absorption: Positive and Negative Solvatochromism." *Chemical Educator*, **2013**, 18, 099-103.
5. Mitchell P. Thayer*, Colin McGuire*, Elana M.S. Stennett*, Mary Kate Lockhart*, Daniela Canache*, Marnie Novak*, and **Sarah J. Schmidtke** "pH-Dependent Spectral Properties of *para*-Aminobenzoic Acid and its Derivatives." *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*, **2011**, 84, 227-232.
6. Brandi M. Baughman*, Elana Stennett*, Rachel E. Lipner*, Andrew C. Rudawsky*, and **Sarah J. Schmidtke** "Structural and Spectroscopic Studies of the Photophysical Properties of Benzophenone Derivatives." *Journal of Physical Chemistry A*, **2009**, 113, 8011-8019.

7. **Sarah J. Schmidtke**, Ph.D. Dissertation, "Physical Properties and Dynamics of Hydrogen Bonding and Proton Transfer Compounds." University of Minnesota, **2005**.

8. **Sarah J. Schmidtke**, David F. Underwood, and David A. Blank. "Probing excited-state dynamics and intramolecular proton transfer in 1-acylamino-anthraquinones via the intermolecular solvent response." *Journal of Physical Chemistry A*, **2005**, 109(32), 7033-7045.

9. **Sarah J. Schmidtke**, David F. Underwood, and David A. Blank. "Following the solvent directly during ultrafast excited state proton transfer." *Journal of the American Chemical Society*, **2004**, 126(28), 8620-8621.

10. **Sarah J. Schmidtke**, Laura A. MacManus-Spencer, Jamie J. Klappa, T. A. Mobley, Kristopher McNeill, and David A. Blank. "2-(2′-Pyridyl)pyrroles: Part I. Structure and energetics of Pyridylpyrroles, their Dimers, Complexes and Excited States." *Physical Chemistry Chemical Physics*, **2004**, 6(15), 3938-3947.

11. Laura A. MacManus-Spencer, **Sarah J. Schmidtke**, David A. Blank, and Kristopher McNeill. "2-(2′-Pyridyl)pyrroles: Part II. Spectroscopic Investigations of Pyridylpyrrole Alcohol Complexes." *Physical Chemistry Chemical Physics*, **2004**, 6(15), 3948-3957.

12. Jamie J. Klappa, Sarah Geers, **Sarah J. Schmidtke**, Laura A. MacManus-Spencer, and Kristopher McNeill. "Pyridylpyrrolides as alternatives to cyclometalated phenylpyridine ligands: Synthesis and characterization of luminescent zinc and boron pyridylpyrrolide complexes." *Dalton*, **2004**, 6, 883-891.

13. **Sarah Schmidtke**, Paul S. Russo, Javier Nakamatsu, Ebru Buyuktanie, Blige Turfan, Elana Temyanko, and Ioan Negulescu. "Thermoreversible Gelation of Isotropic and Liquid Crystalline Solution of a "Sticky" Rodlike Polymer." *Macromolecules*, **2000**, 33(12), 4427-4432.

14. **Sarah Schmidtke**, Paul Russo, Javier Nakamatsu, Ioan Negulescu. "Gelation of a "sticky" rodlike polymer." *Polymeric Materials Science and Engineering*, **2000**, 82, 326-327.

* indicates undergraduate student researcher

Published Abstracts

1. **Sarah J. Sobeck**, Haley Rossiter* "Structure and photophysical property relationships of aminobenzoic acids." *Abstracts of Papers*, 253^{rd} ACS National Meeting, San Francisco, CA, April 2-6, 2017.

2. Gabriela F. Jocas* **Sarah J. Sobeck** "Tracking ultraviolet degradation of p-aminobenzoic acid and two derivatives." *Abstracts of Papers*, 253^{rd} ACS National Meeting, San Francisco, CA, April 2-6, 2017.

3. Maddie Thomas* **Sarah J. Sobeck** "Analysis of the quantum yield and photodegradation of anthraquinone-based dyes." *Abstracts of Papers*, 253^{rd} ACS National Meeting, San Francisco, CA, April 2-6, 2017.

4. Catherine Boyles* **Sarah J. Sobeck** "Effects of metal salts and anoxia on the photodegradation of red food dyes in solution." *Abstracts of Papers*, 253^{rd} ACS National Meeting, San Francisco, CA, April 2-6, 2017.

5. Amanda Carmichael* **Sarah J. Sobeck** "Analysis of the impact of pH upon solution phase degradation of carminic acid." *Abstracts of Papers*, 251^{st} ACS National Meeting, San Diego, CA, March 13-17, 2016.

6. Briana Marlatt* **Sarah J. Sobeck** "Photodegradation of p-aminobenzoic acid in different ambient and pH environments, and impact of antioxidants on stability." *Abstracts of Papers*, 251^{st} ACS National Meeting, San Diego, CA, March 13-17, 2016.

7. Haley Rossiter* **Sarah J. Sobeck** "Synthesis and phtoochemistry of dimethylaminobenzoic acid derivatives." *Abstracts of Papers*, 251^{st} ACS National Meeting, San Diego, CA, March 13-17, 2016.

8. Preetom Borah* **Sarah J. Sobeck** "Solvent effects on the quantum efficiencies and UV-induced photodegradation of PABA and padimate-O." *Abstracts of Papers*, 251^{st} ACS National Meeting, San Diego, CA, March 13-17, 2016.

9. Norman Chamusah* **Sarah J. Schmidtke Sobeck** "User-friendly Ising model simulator ." *Abstracts of Papers*, 247^{th} ACS National Meeting, Dallas, TX, March 16-20, 2014.

10. Rachelle P. Herrin* **Sarah J. Schmidtke Sobeck** "Effect of solvent on 1-dichloroacetylaminoanthraquinone photochemistry." *Abstracts of Papers*, 247^{th} ACS National Meeting, Dallas, TX, March 16-20, 2014.

11. Leah M. Rader Bowers* **Sarah J. Schmidtke Sobeck** "Photo-degradation of Cochineal dye in oil-, alcohol-, and aqueous media ." *Abstracts of Papers*, 247^{th} ACS National Meeting, Dallas, TX, March 16-20, 2014.

12. Andrew D. Young* **Sarah J. Sobeck** "Impact of solvent upon the photo-induced chemistry of 1-acylaminoanthraquinones ." *Abstracts of Papers*, 245^{th} ACS National Meeting, New Orleans, LA, April 7-11, 2013.

13. **Sarah J. Schmidtke** "Solvent and Substituent Effocts on the Photochemistry of 1-Acylaminoanthraquinones ." *Abstracts of Papers*, 243^{th} ACS National Meeting, San Diego, CA, March 25-29, 2012.

14. **Sarah J. Schmidtke** "pH-Dependent Spectral Properties of para-Aminobenzoic Acid and its Derivatives." *Abstracts of Papers*, 239^{th} ACS National Meeting, San Francisco, CA, March 21-25, 2010.

15. Mitchell Thayer*, **Sarah J. Schmidtke**. "Environmental and Structural Effects on Intramolecular Charge Transfer Exhibited by 4-Aminobenzoic Acid and its Derivatives." *Abstracts of Papers*, 239^{th} ACS National Meeting, San Francisco, CA, March 21-25, 2010.

16. Zachery Matesich*, **Sarah J. Schmidtke**. "Thermodynamic Analysis of the Intramolecular Charge Transfer in Butyl (4-Dimethylamino)benzoate and Butyl 4-Aminobenzoate." *Abstracts of Papers*, 239^{th} ACS National Meeting, San Francisco, CA, March 21-25, 2010.

17. Elana Stennett*, Karl J. Feierabend, **Sarah J. Schmidtke**. "Elucidating the pKa of Three Sunscreen Molecules through Computational and Experimental Methods." *Abstracts of Papers*, 239^{th} ACS National Meeting, San Francisco, CA, March 21-25, 2010.

18. **Sarah J. Schmidtke**, Daniela Canache*, Elana Stennett*, Marnie Novak*, Mary Kate Lockhart*. "Solvent and Structural Effects On Charge Transfer in Para-Aminobenzoic Acid Derivatives." *Abstracts of Papers*, Central Region American Chemical Society Meeting, Cleveland, OH, May 20-23, 2009.

19. **Sarah J. Schmidtke**. "Impact of Solvent-Solute Interactions upon the Photophysical Properties of Sunscreen Active Ingredients." *Abstracts of Papers*, Central Region American Chemical Society Meeting, Columbus, OH, June 10-14, 2008.

20. Brandi Baughman*, Rachel Lipner*, Andrew Rudawsky*, Elana Stennett*, **Sarah J. Schmidtke**. "Experimental and theoretical evaluation of the photophysical properties of benzophenone derivatives." *Abstracts of Papers*, 235^{rd} ACS National Meeting, New Orleans, LA, April 6-10, 2008.

21. Rachel Lipner*, **Sarah J. Schmidtke**. "Investigations of the photophysical properties of sunscreen active ingredients." *Abstracts of Papers*, 235^{rd} ACS National Meeting, New Orleans, LA, April 6-10, 2008.

22. Andrew Rudawsky*, **Sarah J. Schmidtke**. "Investigating the photophysical properties of sunscreen active ingredients." *Abstracts of Papers*, 235^{rd} ACS National Meeting, New Orleans, LA, April 6-10, 2008.

23. Brandi Baughman*, Elana Stennett*, **Sarah J. Schmidtke**. "Experimental and computational investigations of the photophysical properties of UV-absorbers in sunscreens." *Abstracts of Papers*, 233^{rd} ACS National Meeting, Chicago, IL, March 24-29, 2007.

24. Brandi Baughman*, **Sarah J. Schmidtke**. "The photophysical behavior of sunscreen active ingredients: A combined computational and spectroscopic study." *Abstracts of Papers*, 233^{rd} ACS National Meeting, Chicago, IL, March 24-29, 2007.

25. David F. Underwood, **Sarah J. Schmidtke**, David A. Blank. "Direct observation of the ultrafast solvent response in condensed phase chemical dynamics." *Abstracts of Papers*, 227^{th} American Chemical Society National Meeting, Anaheim, CA. March 28-April 1, 2004.

26. **Sarah J. Schmidtke**, David F. Underwood, David A. Blank. "Dynamics of ultrafast proton transfer in 1-acylaminoanthraquinones." *Abstracts of Papers*, 225^{th} ACS National Meeting, New Orleans, LA, March 23-27, 2003.

27. **Sarah Schmidtke**, Paul S. Russo, Javier Nakamatsu, Ioan I. Negulescu. "Gelation of a "sticky" rodlike polymer." *Book of Abstracts*, 219^{th} ACS National Meeting, San Francisco, CA, March 26-30, 2000.

* indicates undergraduate student researcher

Presentations

1. American Chemical Society National Meeting **April 6, 2017**
   Structure and photophysical property relationships of aminobenzoic acids, oral presentation.

2. Inter-American Photochemistry Society Winter Conference **Jan. 2-5 2017**
   Impact of Substituent Positioning on the Photochemistry of Aminobenzoic Acids, poster.

3. Gordon Research Conference on Cultural Heritage **July 31-Aug. 5, 2016**
   Impact of Ambient Environment and Medium on the Photodegradtion of Cochineal, poster.

4. IUPAC 2015, Busan, South Korea. **Aug. 11, 2015**
   Environmental Impact on the Photodegradation of Cochineal, poster presentation.

5. IUPAC 2015, Busan, South Korea. **Aug. 10, 2015**
   Solvent-dependence of the Photochemistry of para-Aminobenzoic Acids, poster presentation.

6. Inter-American Photochemistry Society Winter Conference **Jan. 1-4, 2015**
   Photodegradation of Cochineal in Solution and Paints, poster.

7. Inter-American Photochemistry Society Winter Conference **Jan. 2-5, 2014**
   Comparative Photochemistry of PABA and DABA, poster.

8. Allegheny College, Department of Chemistry **Sept. 5, 2013**
   Beyond Sunscreen: Explorations of the Photochemistry of PABA Derivatives, invited seminar.

9. IUPAC 2013, Istanbul, Turkey. **Aug. 13, 2013**
   Photochemistry of 1-Acylaminoanthraquinones, oral presentation.

10. IUPAC 2013, Istanbul, Turkey. **Aug. 13, 2013**
    Impact of Esterification and Thionation on the Photochemistry of Para-Aminobenzoic Acid, oral presentation.

11. Gordon Research Conference on Photochemistry **July 14-19, 2013**
    Photochemistry of para-Aminobenzoic Acid Derivatives, poster.

12. Inter-American Photochemistry Society Winter Conference **Jan. 2-5, 2013**
    Photochemistry of para-Aminobenzoic Acid Derivatives as a Function of Electron-Accepting Moiety and Solvent Environment, poster.

13. IUPAC Symposium on Photochemistry, Coimbra, Portugal. **July 15-20, 2012**
    Impact of the Electron Acceptor Moiety on the Photochemistry of para-Aminobenzoic acid Derivatives, poster.

14. American Chemical Society National Meeting **March 27, 2012**
    Solvent and Substituent Effects on the Photochemistry of 1-Acylaminoanthraquinones, oral presentation.

15. Gordon Research Conference on Photochemistry **July 10-15, 2011**
    Solvent and Substituent Effects on the Photochemistry of 1-Acylaminoanthraquinones, poster.

16. Denison University, Department of Chemistry **March 3, 2011**
    pH-Dependent Photochemistry of para-Aminobenzoic Acid Derivatives, invited seminar.

17. Wright State University, Department of Chemistry **April 16, 2010**
    pH- and Solvent Dependent Spectral Properties of para-Aminobenzoic Acids, invited seminar.

18. Science Round Table College of Wooster **March 26, 2010**
    Sweating the Small Things: UV-Absorber Photochemistry.

19. American Chemical Society National Meeting **March 21, 2010**
    pH- and Solvent Dependent Spectral Properties of para-Aminobenzoic Acids, oral presentation.

20. Inter-American Photochemistry Society Winter Conference **Jan. 4, 2010**
    Environmental Impact on the Spectral Properties of para-Aminobenzoic Derivatives, invited oral presentation.

21. Gordon Research Conference on Photochemistry **July 5-10, 2009**
    Solvent and Structural Effects on Charge Transfer in para-Aminobenzoic Acid Derivatives, poster.

22. Central Regional American Chemical Society Meeting **May 21, 2009**
    Solvent and Structural Effects on Charge Transfer in Para-Aminobenzoic Acid Derivatives, oral presentation.

23. University of South Carolina, Department of Chemistry **March 16, 2009**
    Solvent and Structural Effects on Charge Transfer in para-Aminobenzoic Acid Derivatives, invited seminar.

24. John Carroll University, Department of Chemistry **March 11, 2009**
Impact of Solvent-Solute Interactions upon the Photophysical Properties of Sunscreen Active Ingredients, invited seminar.

25. The Ohio State University, Department of Chemistry **March 9, 2009**
Solvent and Structural Effects on Charge Transfer in para-Aminobenzoic Acid Derivatives, invited seminar.

26. Inter-American Photochemistry Society Winter Conference **Jan. 2-5, 2009**
Impact of Solvent on Charge Transfer in para-Aminobenzoic Acid Derivatives, poster.

27. Case Western Reserve University, Department of Chemistry **Oct. 30, 2008**
Impact of Solvent-Solute Interactions upon the Photophysical Properties of Sunscreen Active Ingredients, invited seminar.

28. Central Regional American Chemical Society Meeting **June 11, 2008**
Impact of Solvent-Solute Interactions upon the Photophysical Properties of Sunscreen Active Ingredients, invited oral presentation.

29. American Chemical Society National Meeting **April 6, 2008**
Experimental and theoretical evaluation of the photophysical properties of benzophenone derivatives, oral presentation.

30. University of Akron, Department of Chemistry **February 20, 2008**
Solvent impact on the photophysical properties of benzophenone derivatives, invited seminar.

31. Marquette University, Department of Chemistry **Feb. 1, 2008**
Solvent impact on the photophysical properties of benzophenone derivatives, invited seminar.

32. Inter-American Photochemistry Society Winter Conference **Jan. 3-6, 2008**
Solvent impact on the photophysical properties of benzophenone derivatives, poster.

33. Science Round Table College of Wooster **Sept. 28, 2007**
Sunscreen: It's all about chemistry.

34. Kimberly Clark Corportation, Neenah, WI. **Aug. 10, 2007**
Solvent impact on the photophysical properties of benzophenone derivatives, invited seminar.

35. Gordon Research Conference on Photochemistry **July 8-13, 2007**
Spectral and structural properties of a class of UV-absorbers, poster.

36. Physics Department College of Wooster **June 8, 2007**
Lasers and RaPTORS and protons! OH, MY!!!!!.

37. American Chemical Society National Meeting **March 24-29, 2007**
Experimental and computational investigations of the photophysical properties of UV-absorbers in sunscreens, poster.

38. The College of Wooster **Sept. 26, 2006**
Chemistry in a crowd: Spectroscopic and theoretical investigations of condensed phase systems, departmental seminar.

39. St. Cloud State Department of Chemistry **Oct. 18, 2004**
Solvent dynamics accompanying ultrafast proton transfer in 1-acylaminoanthraquinones, departmental seminar.

40. International Conference on Coherent Multidimensional Vibrational Spectroscopy. **Aug.15-17, 2004**
Probing the solvent dynamics during ultrafast ultrafast excited state proton transfer in 1-acylaminoanthraquinones, poster.

41. American Chemical Society National Meeting **March 28-April 1, 2004**
Direct observation of the ultrafast solvent response in condensed phase chemical dynamics, poster.

42. American Chemical Society National Meeting **March 23-27, 2003**
Dynamics of ultrafast proton transfer in 1-acylaminoanthraquinones, poster.

43. Waldo Semon Poster Session / Symposium, University of Akron **Fall 1999**
Gelation of a "sticky" rodlike polymer, poster.

Awards and Honors

- NSF-MRI Grant, Co-PI (Award 1626088) MRI: Acquisition of an NMR Spectrometer to Sustain Excellence in Undergraduate Research **2016–2019**
- American Chemical Society Petroleum Research Fund (ACS PRF) Undergraduate Research Grant (ACS PRF 53159-UR4) **2013–2016**
- IUPAC Young Observer 2015 **2015**
- Mexican Council of Research and Technology Graduate Student International Travel Support, Co-Sponsor **2011**
- NSF-CRIF Grant (Co-PI): U of MN CyberMULE (Award 1048560) **2010**
- Gordon Research Conference Travel Grant **2007**
- National Science Foundation Graduate Research Fellow **2002 – 2005**
- American Chemical Society National Meeting Physical Chemistry Student Poster Award **2003**
- American Chemical Society Women Chemists Committee Travel Award **2003**

Professional Membership and Service

- American Chemical Society (ACS). **1998 – Present**
- Wooster Local Section of the ACS Secretary. **2007–2013**
- Wooster Local Section of the ACS Chair. **2014–Present**
- Inter-American Photochemical Society (I-APS) **2008–Present**
- American Chemical Society National Meeting Session Presider for Organic Photochemistry. **Spring 2010, 2011**
- Gordon Research Conference on Photochemistry Discussion Leader **2009, 2013**
- Central Region American Chemical Society Meeting (CERMACS) Co-chair Physical Chemistry Sessions. **May 2009**
- Expanding Your Horizons workshop presenter for adolescent girls promoting science & math careers (annually April) **2008–Present**
- B-WISER (Buckeye Women in Science, Engineering, and Research Institute) workshop presenter for adolescent girls' science camp (annually July) **2007–Present**
- Wayne County LEPC (Local Emergency Planning Committee) member **2015–Present**

Institutional Involvement

College of Wooster **2006 – Present**

Departmental Duties: Admissions Liaison, Assessment Coordinator, Senior IS Seminar Coordinator, Curriculum development.

Institutional Committees: Copeland Fund (2007-8), Faculty Scholarship (2007-8), Graduate Fellowships (2007-14), Science Round Table Coordinator (Fall 2007), State Science Day coordinator (Spring 2008-13), Fall Forum (2008-9), LIRTC (2008-9), Galpin Prize (2010), Committee on Committees (2010-12, chair 2011-12), Goldwater Scholarship Faculty Representative (2010-14), Financial Advisory Committee (2012-14), Teaching Staff and Tenure Committee (2015–present), GLAA Alliance Liaison (2015–present).

Undergraduate Senior Theses Advised

Elizabeth Backman **2016–2017**
"Improving p-XRF Capabilities for in situ Geochemical Analysis of Intrusive Magma Bodies and Shale."

Catherine Boyles **2016–2017**
"Effect of Metal Salts and Anoxia on the Photodegradation of Red Food Dyes."

Haley Rossiter **2016–2017**
"Investigating the Impact of Substituent Positioning on the Photochemistry of meta and ortho Aminbenzoic Acid Derivatives."

Madeline Thomas **2016–2017**
"Differentiation of Anthraquinone-based Dyes and Pigments using Fluorescence."

Preetom Borah **2015–2016**
'Solvent Effects on the Quantum Efficiencies and UV-induced Photodegradation of PABA and Padimate-O'"

Amanda Carmichael **2015–2016**
'Cochineal: Connecting Chemistry and Religious Studies through the World of Art."

Erin Drake **2015–2016**
"Impact of medium, ambient environment, and surface on the UV-induced degration of Carmine lake."

Briana Marlatt **2015–2016**
"Photodegradation of p-aminobenzoic acid in different ambient and pH environments and stabilization by antioxidants."

Jacob Boroff **2013–2014**
"An In-Depth Analysis of the Photophysical Properties of para-Aminobenzoic Acid and 4-Dimethylaminobenzoic Acid."

Leah Radar Bowers **2013–2014**
"Photochemical Degradation of the Carmine Dye Molecule in Artistic Media."

Norman Chamusah **2013–2014**
"Two and Three Dimensional Ising Model Based Graphical User-Interface Simulator."

Lauren Fleming **2013–2014**
"The Fate of the Formic Acid Radical: A Kinetic Investigation of the Reaction between Oxalic Acid and the Hydroxyl Radical."

Da-Sol Kuen **2013–2014**
"Microfluidic Fluorescence Detection of the Intracellular Lead Uptake Properties of Caulobacter crescentus."

Evan Robinson **2012–2013**
"A Spectroscopic Study of Excited State Intramolecular Charge Transfer of Newly Synthesized Ethy 4-(Dimethylamino)benzoate Derivatives."

Andrew Young **2012–2013**
"Impact of Solvent upon the Photo-Induced Chemistry of 1-Acylaminoanthraquinones."

Miles Batson **2011–2012**
"Effects of Solvent Environments on the Thermodynamics and Kinetics of Excited-state Intramolecular Proton Transfer Within 1-Acylaminoanthraquinone Derivatives."

S. Sarah Beth Loder **2011–2012**
"Experimentally and Computationally Determinng the Theoretical Aqeoues pKa of Three UV-Absorbing Benzophenone Derivatives."
Kaitlynn Wilson **2011–2012**
"A Spectroscopic Study of Excited State Intramolecular Charge Transfer of Various Ethyl 4-(Dimethylamino)benzoate Derivatives."
Ryan Burzese **2010–2011**
"Comparitive Analysis of the Binding of 2-Aminobenzophenone to p38 MAP kinase Amino Acid Residues."
S. Andrew Ford **2010–2011**
"Excited State Intramolecular Proton Transfer Thermodynamics of 1-Acylaminoanthraquinones and their Solvent and Substituent Dependencies."
Zachery Matesich **2010–2011**
"Thermodynamic and Infrared Spectroscopic Study of the Excited Intramolecular Charge Transfer of 4-Aminobenzoic Acid and 4-Dimethylaminobenzoic Acid."
Elana Stennett **2009–2010**
"Elucidating the pKa of Three Hydroxybenzophenone Derivative Sunscreen Molecules through Computational and Experimental Methods."
Jessi Baughman **2008–2009**
"Hydrogen Bonding Complexes of Cytosine and Uracil:A Spectroscopic Investigation."
Daniela Canache **2008–2009**
"Thermodynamic Study of the Intramolecular Charge Transfer of p-Aminobenzoic Acid Derivatives."
Rachel Lipner **2008–2009**
"Investigation of Dioxybenzone-Alcohol Complexes through Spectral Deconvolution and an Analysis of Symmetric Groups and Character Tables."
Neal Kline **2007–2008**
"A photophysical and photodegradation study of sunscreen active ingredients: A combined computational and spectroscopic study."
Marnie Novak **2007–2008**
"The photophysical properties of PABA derivatives: A spectroscopic and computational analysis."
Brandi Baughman **2006–2007**
"The photophysical behavior of sunscreen active ingredients: A combined computational and spectroscopic study."
Lindsey Easthon **2006–2007**
"Hydrogen bonding of cytosine and uracil: A combined computational and spectroscopic study."
Daniel Shai (coadvised) **2006–2007**
"Monte carlo studies of the globally-coupled Ising model."

Undergraduate Researchers Advised	**Gabriela Jocas (COW 2019)**	**Summer 2016–present**
	Madeline Thomas (COW 2017)	**Summer 2016**
	Preetom Borah (COW 2016)	**Summer 2015**
	Erin Drake (COW 2016)	**Summer 2015**
	Haley Rossiter (COW 2017)	**Summer 2015**
	Rachelle Herrin (COW 2015)	**Summer 2013–2014**
	Evan Hagedorn (COW 2015)	**Summer 2013**
	Derrick Marshall (COW 2015)	**Summer 2013**
	Abigail Daniel (COW 2015)	**Fall 2012-2013**
	Joseph David (COW 2015)	**Fall 2012**
	Norman Chamusah (COW 2014)	**Summer 2011**
	Alexandra Kuzmishin (COW 2013)	**Summer 2011**
	Adam Trontz (COW 2012)	**Summer 2011**
	Andrew Young (COW 2013)	**Summer 2011**
	Sarah Laper (COW 2014)	**Spring 2010 – 2012**
	Sarah Blosser (COW 2013)	**Spring 2010 – 2012**
	Zachery Matesich (COW 2011)	**Summer 2009 – 2011**
	Christine Kasprisin (COW 2014)	**Summer 2010**
	Matthew Naticchia (COW 2014)	**Summer 2010**
	Colin McGuire (High Point 2012)	**Summer 2010**
	Melissa Venecek (COW 2012)	**Summer 2010 – Fall 2010**
	Pamela Wales (COW 2011)	**Summer 2010**
	Paige Piper (COW 2013)	**Spring 2010**
	Ryan Burzese (COW 2011)	**Summers 2009, 2010**
	Mitchell Thayer (Ohio Northern 2012)	**Summer 2009**
	Mary Kate Lockhart (COW 2011)	**2008 – 2009**
	Rachel Lipner (COW 2009)	**Summer 2007**
	Andrew Rudawsky (COW 2009)	**Summer 2007**
	Jeremiah Zblewski (UW-Stevens Point 2007)	**Summer 2007**
	Elana Stennett (COW 2010)	**Spring 2007 – 2010**
Graduate Researcher Advised	**Silvia Elena Loredo Carrillo**	**Summer 2011**
	visiting graduate student from the Universidad Autonoma de San Luis Potosi, Mexico	