

## AMANDA M. NIENOW

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Gustavus Adolphus College  
Department of Chemistry  
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### EDUCATION

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- 2001-2005    **Ph.D., Chemistry**, *University of Minnesota, Minneapolis, MN*  
Chemistry Major and Nanoparticle Science and Engineering Minor  
Advisors: Drs. Jeffrey T. Roberts and Michael R. Zachariah  
Thesis Title: “*Surface Reactions of Size-Selected Nanoparticles*”
- 1997-2001    **Bachelor of Arts, Chemistry**, *Saint Mary’s University, Winona, MN*  
Advisor: Dr. Roger W. Kugel  
Thesis Title: “*Systematic Test of the Full Multiple Spawning (FMS) Method for Photochemical Dynamics and Comparison to Trajectory Surface Hopping and Converged Quantum Mechanics*”

### EXPERIENCE

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- 2013-Present    **Associate Professor of Chemistry**, *Gustavus Adolphus College, St. Peter, MN*
- 2007-2013    **Assistant Professor of Chemistry**, *Gustavus Adolphus College, St. Peter, MN*
- 2006    **Postdoctoral Fellow**, *Purdue University, West Lafayette, IN*  
Advisors: Drs. Chad Jafvert and Inez Hua (Civil and Environmental Engineering)  
Project Title: “*Photocatalytic Decomposition of Organic Pollutants*”
- 2004-2005    **Chemistry Teaching Intern**, *University of Minnesota, Minneapolis, MN*
- Fall 2004    **RSEC Fellow (Visiting Professor)**, *Viterbo University, La Crosse, WI*
- 2004    **“Practicum for Future Faculty”**, *Preparing Future Faculty Program, University of Minnesota and Macalester College*
- 2001    **Summer Research Assistant**, *University of Minnesota*  
Advisor: Dr. Kenneth Leopold  
Project Title: “*Gas-phase reactions of partially bonded system (NH<sub>3</sub>-SO<sub>3</sub>···H<sub>2</sub>O) with microwave spectroscopy*”
- 2000    **LANDO/REU Summer Research Assistant**, *University of Minnesota*  
Advisor: Dr. Donald G. Truhlar  
Project Title: “*Photochemical potential energy surfaces using computer simulations*”

## **GRANTS, funded/pending**

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- 2013 Université Blaise Pascal Chercheur invite (Visiting Researcher) Grant, €3500 (~\$4500)
- 2013 National Science Foundation Catalyzing New International Collaborations Supplement for RUI: Systematic Analysis of the Photodegradation of Pesticides on Heterogeneous Surfaces: The Photolysis of Imidazolinone Herbicides on Two Midwest Crops, \$13,500; pending
- 2012 National Science Foundation RUI: Systematic Analysis of the Photodegradation of Pesticides on Heterogeneous Surfaces: The Photolysis of Imidazolinone Herbicides on Two Midwest Crops, \$139,500
- 2012 Kranz Endowment Fund, Gustavus Adolphus College, \$4000
- 2012 Howard Hughes Medical Institute Undergraduate Student Research Award, \$4000
- 2012 Sigma Xi Undergraduate Research Grant (awarded to Megan Crow '14; faculty advisor, Amanda Nienow), \$337
- 2011 Howard Hughes Medical Institute Undergraduate Student Research Award, \$4000
- 2011 Presidential Faculty-Student Collaboration Grant (with Maja Johnson '13), \$8400
- 2011 Sigma Xi Undergraduate Research Grant (awarded to Derrick Berndt '11; faculty advisor, Amanda Nienow), \$500
- 2009 Undergraduate Research Grant, Minnesota River Board (awarded to Andrew Corbett '10 and faculty advisor, Amanda Nienow), \$500
- 2009 Research, Scholarship, and Creativity Grant, Gustavus Adolphus College, \$2200
- 2009 Howard Hughes Medical Institute Undergraduate Student Research Award, \$4000
- 2008 Dr. Thomas Gover Research in Chemistry Endowment Fund, Gustavus Adolphus College, \$4000
- 2007 Undergraduate Summer Research Program (Merck/AAAS), \$60,000 + \$27,423 match (PIs: Brenda Kelly and Brandy Russell, co-PIs: Scott Bur, Joel Carlin, Jeffrey Dahlseid, Eric Elias, John Lammert, Amanda Nienow, Brian O'Brien)
- 2007 Sigma Xi Undergraduate Research Grants (awarded to Emily Pelton '08 and Mallory Richards '09; faculty advisor, Amanda Nienow), \$500 each
- 2007 Research Site for Educators in Chemistry (RSEC) Grant, \$19,272

## **AWARDS and FELLOWSHIPS**

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- 2011 American Chemical Society Committee on Education Student Chapter Award, Honorable Mention (A Nienow as advisor)
- 2011 Sigma Xi Chapter of Excellence Award (A Nienow as Chapter President)
- 2005-2006 Dissertation Fellowship, *University of Minnesota*  
\* Award granted to top seventy-five 5<sup>th</sup> year graduate students at University of Minnesota
- 2004 Beaker and Bunsen Award, *University of Minnesota Chemistry Dept.*  
\* Travel Grant awarded to top three presentations at the annual 3<sup>rd</sup> Year Chemistry Graduate Student Symposium
- 2002-2004 NSF Integrative Graduate Education and Research Traineeship (IGERT)
- 2001 National Science Foundation Graduate Fellowship: Honorable Mention
- 2001 Kolthoff Fellowship, *University of Minnesota*
- 2001 American Chemical Society Outstanding Senior Award (Winona section)

## **GUSTAVUS SERVICE WORK**

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### **College-wide**

Curriculum Committee	Spring 2013
Academic Operations Committee	Fall 2011-Spring 2013
Undergraduate Research Working Group	Fall 2010-Spring 2011
Sigma Xi Chapter President	Fall 2010-Spring 2013
Gustie Greeter Faculty Advisor	Fall 2009, 2013
Director of Campus Safety Search Committee Member	Spring 2009
Midnight Express Volunteer	December 2008
Faculty Development Committee	Fall 2008-Spring 2009
Pre-Chemical Engineering Advisor	Fall 2008-Present
Reading in Common Committee	Fall 2008
Summer Freshman Registration	June 2008, 2011, 2012, 2013
Admission Events	Spring 2008-Present
Nobel 2009 Committee Member and Speaker Host	Spring 2008-Fall 2009
Associate Dean of Students Search Committee Member	Spring 2008
Faculty Committee on Student Life	Fall 2007-Spring 2010

### **Division/Department**

Chemistry Club Co-Faculty Advisor	Fall 2009-Present
Chemistry Department Retreat Co-coordinator	July 2009
Chemistry Seminar Coordinator	Fall 2008-Spring 2009
Chemistry Department Library Liaison	Fall 2007-Spring 2009
Faculty search committees	Fall 2007-Present

## **PROFESSIONAL/COMMUNITY SERVICE WORK**

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NSF Grant Reviewer (CHE - ECS)	March 2013
American Chemical Society Student Chapter Report Reviewer	June 2012, 2013
NSF Grant Reviewer (CHE - MACROMOLEC/SUPRAMOLEC/NANO, RUI)	April 2011
Chemistry in the Library, St. Peter Public Library	Oct 2009, 2010, 2011
NSF Grant Reviewer (CCLI Type I)	July 2009
Water Resources Center (St. Paul, MN) Grant Reviewer	Dec 2008
Panel on Hiring at PUIs at Midwestern Association of Chemistry Teachers in Liberal Arts Colleges (MACTLAC) Annual Meeting	Oct 2007
Exploring Careers in Engineering and Physical Sciences Panel, U of MN	June 2007

## **PROFESSIONAL MEMBERSHIPS**

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American Chemical Society, American Chemical Society Environmental Division, Society of Physics Students / Sigma Pi Sigma, Sigma Xi

## **PUBLICATIONS** (<sup>+</sup>undergraduate researcher)

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1. Espy, R.<sup>+</sup>, Pelton, E.<sup>+</sup>, Opseth, A.<sup>+</sup>, Kasprisin, J.<sup>+</sup>, Nienow, A. M., "Photodegradation of the Herbicide Imazethapyr in Aqueous Solution: Effects of Wavelength, pH, and Natural Organic Matter (NOM) and Analysis of Photoproducts." *J. Agri. Food Chem.* 2011, *59(13)*, 7277-7285.
2. Nienow, A.M., Hua, I. Poyer, I.C., Jafvert, C.T., "Hydrolysis and Hydrogen Peroxide-Assisted UV Photodegradation of 3-chloro-1,2-propanediol." *Chemosphere.* 2009, *75(8)*, 1015-1020.
3. Nienow, A.M., Hua, I. Poyer, I.C., Bezares-Cruz, J.C., Jafvert, C.T., "Multifactor Statistical Analysis of the H<sub>2</sub>O<sub>2</sub>-Enhanced Photodegradation of Nicotine and Phosphamidon." *Ind. Eng. Chem. Res.* 2009, *48(8)*, 3955-3963.
4. Nienow, A.M., Bezares-Cruz, J.C., Poyer, I.C., Hua, I., Jafvert, C.T., "Hydrogen Peroxide-Assisted UV Photodegradation of Lindane." *Chemosphere.* 2008, *72(11)*, 1700-1705.
5. Nienow, A.M., Roberts, J.T., "Chemical Vapor Deposition of Zirconium Oxide on Aerosolized Silicon Nanoparticles." *Chem. Mater.* 2006, *18(23)*, 5571-5577.
6. Liao, Y-C., Nienow, A.M., Roberts, J.T. "Surface Chemistry of Aerosolized Nanoparticles: Thermal Oxidation of Silicon." *J. Phys. Chem. B.* 2006, *110(12)*, 6190-6197.
7. Nienow, A. M., Roberts, J. T. "Heterogeneous Chemistry of Carbon Aerosols". *Ann. Rev. Physical Chem.* 2006, *57*, 105-128.

8. Nienow, A.M., Roberts, J.T., Tanke, R. "Forming Multi-Campus Partnerships." A Conference On Integrating Research into Undergraduate Education: The Value Added. Washington, D.C. November 18-19, 2004. (Conference Proceedings)
9. Nienow, A.M., Roberts, J.T., Zachariah, M.R. "Surface Chemistry of Nanometer-Sized Aerosol Particles; Reactions of Molecular Oxygen with 30 nm Soot Particles as a Function of Oxygen Partial Pressure." *J. Phys. Chem. B.* 2005, *109*(12), 5561-5568.
10. Hunt, S.W., Brauer, C.S., Craddock, M.B., Higgins, K.J., Nienow, A.M., Leopold, K.R. "Microwave Observation of  $\text{H}_3\text{N-SO}_3\cdots\text{H}_2\text{O}$  Using a Concentric, Dual-Injection Nozzle Source." *Chem. Phys.* 2004, *305*(1-3), 155-164.
11. Hack, M.D., Wensmann, A.M., Truhlar, D.G., Ben-Nun, M., Martinez, T.J. "Comparison of full Multiple Spawning, trajectory surface hopping, and converged quantum mechanics for electronically nonadiabatic dynamics." *J. Chem. Phys.* 2001, *115*(3), 1172-1186.

#### **INVITED SEMINARS** (+undergraduate researcher)

1. Nienow, A.M., Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Richards, M.,<sup>+</sup> Staker, A.,<sup>+</sup> Wakefield, T.<sup>+</sup> "Abiotic Degradation of Emerging Agrochemicals." University of Minnesota-Duluth, Oct 17, 2008.
2. Nienow, A.M., Pelton, E.,<sup>+</sup> Richards, M.<sup>+</sup> "Abiotic Degradation of Emerging Agrochemicals: A Case Study of Nicosulfuron and Flumetsulam." University of Iowa, Oct 22, 2007.

#### **PRESENTATIONS/POSTERS** (+undergraduate researcher)

1. Nienow, A.M., Crow, M.,<sup>+</sup> Johnson, M.,<sup>+</sup> "Photodegradation of the herbicide Imazethapyr on soybean and corn wax." 244<sup>th</sup> American Chemical Society National Meeting, Philadelphia, PA. (Poster presented on both August 20 and 21<sup>st</sup>, 2012.)
2. Nienow, A.M., "What happens to pesticides sprayed on crops?", Faculty Shop Talk, Gustavus Adolphus College, St. Peter, MN. March 5, 2010 (Oral Presentation)
3. Nienow, A.M., Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Staker, A.,<sup>+</sup> "Byproducts and kinetics of imazethapyr hydrolysis and photolysis." 237<sup>th</sup> American Chemical Society National Meeting, Salt Lake City, UT. (Poster presented on both March 23 and 24<sup>th</sup>, 2009.)
4. Nienow, A.M., Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Richards, M.,<sup>+</sup> Staker, A.<sup>+</sup> "Photolytic Degradation Pathways of Emerging Agrochemicals." 236<sup>th</sup> American Chemical Society National Meeting, Philadelphia, PA. August 20, 2008. (Oral Presentation)
5. Nienow, A.M., Poyer, I.C., Bezares-Cruz, J. C., Hua, I., Jafvert, C.T., "Photocatalytic Degradation of Lindane in Potable Water Systems." 232<sup>nd</sup> American Chemical Society National Meeting, San Francisco, CA. September 13, 2006. (Poster Presentation)

6. Nienow, A.M., Liao, Y.-C., Roberts, J.T. "Surface Reactions of Silicon Nanoparticles." 230<sup>th</sup> American Chemical Society National Meeting, Washington, DC. August 31, 2005. (Oral Presentation)
7. Nienow, A. M., Liao, Y-C, Gresback, R.,<sup>+</sup> Roberts J.T., "Oxidation of Silicon Nanoparticles." High Temperature Plasma Laboratory Meeting, University of Minnesota. February 18, 2005. (Oral Presentation)
8. Nienow, A.M., Parham, G.,<sup>+</sup> Backstrand, K.M., Roberts, J.T. "Research Site for Educators in Chemistry (RSEC): A Relationship Between the University of Minnesota and Viterbo University." Midwestern Association of Chemistry Teachers in Liberal Arts Colleges Annual Meeting, Dubuque, IA. October, 2004. (Poster Presentation)
9. Nienow, A.M., Roberts, J.T., Ajo, H. "Oxidation of Size-Selected Soot Nanoparticles." 228<sup>th</sup> American Chemical Society National Meeting, Philadelphia, PA. August 24, 2004. (Oral Presentation)
10. Nienow, A.M., Roberts, J.T, Zachariah, M.R. "Oxidation of Size-Selected Soot Nanoparticles." 7<sup>th</sup> International Conference on Nanostructured Materials, Wiesbaden, Germany. June 21, 2004. (Poster Presentation)
11. Nienow, A.M., Roberts, J.T., Zachariah, M.R. "Oxidation Kinetics of Size-Selected Soot Nanoparticles." SFB-IGERT Workshop, Duisburg, Germany. June 25-26, 2004. (Poster Presentation)
12. Nienow, A.M., Roberts, J. T., Zachariah, M. R., "Oxidation Kinetics of Size-Selected Soot Nanoparticles." American Association of Aerosol Research National Meeting, Anaheim, CA. October, 2003. (Poster Presentation)

**RESEARCH STUDENT PRESENTATIONS/POSTERS (<sup>+</sup>undergraduate researcher)**

1. Nienow, A.M., Crow, M.,<sup>+</sup> Johnson, M.,<sup>+</sup> "Photodegradation of the herbicide Imazethapyr on soybean and corn wax." 244<sup>th</sup> American Chemical Society National Meeting, Philadelphia, PA. (Poster presented on both August 20 and 21<sup>st</sup>, 2012.)
2. Crow, M.,<sup>+</sup> Johnson, M.,<sup>+</sup> Nienow, A. "Photodegradation of the Herbicide Imazethypr on Corn and Soybean Wax", Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN, May 4, 2012. (Poster Presentation)
3. Johnson, M.,<sup>+</sup> Crow, M.,<sup>+</sup> Nienow, A. "Abiotic Degradation of Imazamethabenz-methyl", Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN, May 4, 2012. (Oral Presentation)
4. Crow, M.,<sup>+</sup> Nienow, A. "HPLC Method Development and Verification for the Analysis of Imazamethabenz-methyl", Sigma Xi Symposium, Gustavus Adolphus College, St. Peter, MN. May 4, 2012. (Poster Presentation)

5. Crow, M.<sup>+</sup>, Johnson, M.<sup>+</sup>, Nienow, A. “Photodegradation of the Herbicide Imazethypr on Corn and Soybean Wax”, 2011 Chemistry Homecoming Symposium, Oct 1, 2011. (Poster presentation)
6. Johnson, M.<sup>+</sup>, Crow, M.<sup>+</sup>, Nienow, A. “Abiotic Degradation of Imazamethabenz-methyl”, 2011 Chemistry Homecoming Symposium, Oct 1, 2011. (Poster presentation)
7. Crow, M.<sup>+</sup>, Johnson, M.<sup>+</sup>, Nienow, A. “Photodegradation of the Herbicide Imazethypr on Corn and Soybean Wax”, 2011 Undergraduate Research Symposia in the Physical Sciences, Mathematics, and Computer Science, Midstates Consortium for Math and Sciences, U of Chicago, Nov 4-5, 2011. (Poster Presentation)
8. Johnson, M.<sup>+</sup>, Crow, M.<sup>+</sup>, Nienow, A. “Abiotic Degradation of Imazamethabenz-methyl”, 2011 Undergraduate Research Symposia in the Physical Sciences, Mathematics, and Computer Science, Midstates Consortium for Math and Sciences, U of Chicago, Nov 4-5, 2011. (Poster Presentation)
9. Berndt, D.<sup>+</sup>, Nienow, A. “Photolysis of Nicosulfuron and Flumetsulam”, Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN. May 6, 2011. (Poster Presentation)
10. Opseth, A.<sup>+</sup>, Espy, R.<sup>+</sup>, Nienow, A. “Photochemical Degradation Products of Imazethapyr in Natural Waterways”, Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN. April 30, 2010. (Poster Presentation)
11. Bonnerup, S.<sup>+</sup>, Olson, M.<sup>+</sup>, Nienow, A. “Photolysis of Imazethypr on the Cuticle Wax of Corn (*Hyb jubilee*) and Soybeans (*Soya hispida*)”. 2009 Undergraduate Research Symposia in the Physical Sciences, Mathematics, and Computer Science, Midstates Consortium for Math and Sciences, U of Chicago, Nov 6-8, 2009. (Poster Presentation)
12. Bonnerup, S.<sup>+</sup>, Olson, M.<sup>+</sup>, Nienow, A. “Photolysis of Imazethypr on the Cuticle Wax of Corn (*Hyb jubilee*) and Soybeans (*Soya hispida*)”. Gustavus Adolphus College Fall Research Symposium, St. Peter, MN. September 11, 2009. (Oral Presentation)
13. Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Nienow, A. “Byproducts and kinetics of imazethapyr hydrolysis and photolysis.” Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN. May 1, 2009. (Poster Presentation)
14. Kesty, K.,<sup>+</sup> Carlin, J., Elias, E., Nienow, A. “Ecotoxicology of dimethenamid and chlorpyrifos”. Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN. May 1, 2009. (Poster Presentation)
15. Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Nienow, A.M., “Byproducts and kinetics of imazethapyr hydrolysis and photolysis.” Sigma Xi Symposium, Gustavus Adolphus College, St. Peter, MN. May 1, 2009. (Poster Presentation)

16. Nienow, A.M., Espy, R.,<sup>+</sup> Pelton, E.,<sup>+</sup> Staker, A.,<sup>+</sup> “Byproducts and kinetics of imazethapyr hydrolysis and photolysis.” 237<sup>th</sup> American Chemical Society National Meeting, Salt Lake City, UT. (Poster presented on both March 23 and 24<sup>th</sup>, 2009.)
17. Espy, R.,<sup>+</sup> Nienow, A.: “Photolytic and Hydrolytic Degradation of Imazethapyr.” 2008 Undergraduate Research Symposia in the Physical Sciences, Mathematics, and Computer Science, Midstates Consortium for Math and Sciences, University of Washington in St. Louis, Oct 31-Nov 2, 2008, (Poster Presentation)
18. Kesty, K,<sup>+</sup> Nienow, A, Carlin, J, and Elias, E.. “Aquatic Ecotoxicology of Photolysed Pesticide Residues.” 2008 Summer Research Fall Symposium, Gustavus Adolphus College, Saint Peter, MN. Sept 2008. (Oral Presentation)
19. Espy, R.,<sup>+</sup> Nienow, A.M. “Photolytic and Hydrolytic Degradation of Imazethapyr.” MRSEC-SURE/YCC Summer Research Poster Session, Minneapolis, MN. August 7, 2008. (Poster Presentation)
20. Richards, M.,<sup>+</sup> Pelton, E.,<sup>+</sup> Nienow, A.M. “Photolytic Degradation Pathways of Flumetsulam, Nicosulfuron, and Imazethapyr.” Celebration of Creative Inquiry, Gustavus Adolphus College, St. Peter, MN. May 2, 2008. (Poster Presentation)
21. Richards, M.,<sup>+</sup> Nienow, A.M., “Photolysis of Sulfonyl Group Herbicides: Nicosulfuron and Flumetsulam.” Sigma Xi Symposium, Gustavus Adolphus College, St. Peter, MN. May 2, 2008. (Oral Presentation)
22. Pelton, E.,<sup>+</sup> Nienow, A.M., “Direct and Indirect Photochemical Degradation Pathways of Imazethapyr.” Sigma Xi Symposium, Gustavus Adolphus College, St. Peter, MN. May 2, 2008. (Oral Presentation)
23. Richards, M.,<sup>+</sup> Pelton, E.,<sup>+</sup> Nienow, A.M. “Photolytic Degradation Pathways of Flumetsulam, Nicosulfuron, and Imazethapyr.” 235<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA. April 9, 2008. (Poster Presentation)
24. Richards, M.,<sup>+</sup> Nienow, A.M. “Photolysis of Sulfonyl Group Herbicides: Nicosulfuron and Flumetsulam.” MRSEC-SURE/YCC Summer Research Poster Session, Minneapolis, MN. August 9, 2007. (Poster Presentation)



**STUDENT RESEARCH COLLABORATORS at GUSTAVUS ADOLPHUS COLLEGE**

Alexa Peterson ('16)	su2013
Amy Christiansen ('15)	su2013
Riley Lass ('14)	su2012
Megan Crow ('14)	su2011, s2012, su2012
Maja Johnson ('13), Postbaccalaureate Researcher, Mayo Clinic	f2010, su2011, j2012
Spencer Bonnerup ('12), Medical Scribe, Owatonna (MN) Hospital	su2009
Jonathan Kasprisin ('12), US Army Officer	s2009, j2011
Derrick Berndt ('11), Nursing Assistant, Regions Hospital	f2009, s/f2010, j/s2011
Kendra Kesty ('11), Medical Student, Wake Forest University	su2008
Jonna Berry ('10), Ph.D. Student, University of Iowa	j2009
Anna Bauer ('10), M.S. Education/U of MN, High School Teacher	s2010
Matthew Chroust ('10), Dental Student, University of California	s2007, f2007
Drew Corbett ('10), Ph.D. Student, University of Minnesota	f2009, s2010
Alison Dittmer ('10), Medical Student, University of Minnesota	su2009
Annie Opseth ('10), Ph.D. Student, University of South Carolina	su2009, f2009, s2010
Ryan Espy ('09), Ph.D. Student, Purdue University	su2008, f2008, s2009
Megan Olson ('09), Dental Student, Creighton University	s2009
Mallory Richards ('09), M.S. U of MN; Instructor, St. Paul Academy	s2007, su2007, f2008
Amanda Staker ('09) Ph.D. Student, University of Kansas	f2007,s2008, f2008, j/s2009
Tyler Wakefield ('09), Syngenta, Omaha, NE	f2008, j2009, s2009
Emily Pelton ('08), Ph.D. Student, University of Minnesota	j2008, s2008

**COURSES TAUGHT at GUSTAVUS ADOLPHUS COLLEGE**

CHE 125 Science and Public Policy	Jan 2012, 2013
CHE 344 Special Topics: Computational Chemistry	Spring 2010
CHE 139 Chemistry and Crime	Jan 2010
CHE 107 Principles of Chemistry Lab	Fall 2010
CHE 107 Principles of Chemistry	Fall 2009, 2010
CHE 102 Chemistry in Context (with lab)	Spring 2009, 2010, 2011
CHE 399 Chemistry Seminar	Fall 2008, Spring 2009
CHE 141 Organic Chemistry I Lab	Spring 2007- 2012
CHE 371 Thermodynamics and Kinetics Lab	Fall 2007, 2008, 2009, 2011, 2012
CHE 371 Thermodynamics and Kinetics	Fall 2007, 2008, 2011, 2012
CHE 371 Quantum Mechanics and Dynamics (with lab)	Spring 2007, 2008, 2013
CHE 102 Chemistry in Context Lab	Spring 2007, 2008