

AMANDA M. NIENOW
Curriculum Vita

Gustavus Adolphus College
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EDUCATION

- 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

- 2007-Present **Assistant Professor of Chemistry**, *Gustavus Adolphus College, St. Peter, MN*
- 2006 **Postdoctoral Fellow**, *Purdue University, West Lafayette, IN*
Civil and Environmental Engineering
Advisors: Drs. Chad Jafvert and Inez Hua
Project Title: “*Photocatalytic Decomposition of Organic Pollutants*”
- 2001-2005 **Graduate Assistant**, *University of Minnesota, Minneapolis, MN*
Advisors: Drs. Jeffrey T. Roberts and Michael R. Zachariah
- 2004-2005 **Teaching Intern**, *University of Minnesota, Minneapolis, MN*
Physical/General Chemistry
- Fall 2004 **RSEC Fellow (Visiting Professor)**, *Viterbo University, La Crosse, WI*
General Chemistry for the Health Sciences
- 2004 **“Practicum for Future Faculty”**, *Preparing Future Faculty Program, University of Minnesota, Minneapolis and Macalester College, St. Paul, MN*
- Engaged in a mentored teaching opportunity [in Physical Chemistry II at Macalester College] involving three teaching sessions, preparation of a computational chemistry lab, and analysis of faculty roles
- 2002-2003 **Supervised undergraduates in summer research projects**
- *Pretreatment of Soot Nanoparticles: Will the rearrangement of primary particles affect the oxidation kinetics?*
- *A Systematic Transmission Electron Microscope Study of Soot Nanoparticles*

- 2001-2002 **Laboratory Teaching Assistant**, *University of Minnesota, Minneapolis, MN*
General Chemistry
- 2001 **Research Assistant**, *University of Minnesota, Minneapolis, MN*
Advisor: Dr. Kenneth Leopold
Project Title: “*Gas-phase reactions of partially bonded system*
($NH_3-SO_3 \cdots H_2O$) *with microwave spectroscopy*”
- 2000 **LANDO Research Assistant**, *University of Minnesota, Minneapolis, MN*
Advisor: Dr. Donald G. Truhlar
Project Title: “*Photochemical potential energy surfaces using*
computer simulations”

AWARDS, FELLOWSHIPS, and GRANTS

- 2007 Research Site for Educators in Chemistry (RSEC) Grant: \$19,272
* Awarded through the University of Minnesota and the National Science Foundation
- 2007 Gustavus Adolphus College Research Funds (Start-Up): \$35,000
- 2005-2006 Dissertation Fellowship, *University of Minnesota*
* Award granted to top seventy-five 5th 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 3rd Year Chemistry
Graduate Student Symposium
- 2002-2004 NSF Integrative Graduate Education and Research Traineeship (IGERT)
- 2002 Robert L. Ferm Memorial Outstanding TA Award, Honorable Mention
- 2001 National Science Foundation Graduate Fellowship: Honorable Mention
- 2001 Kolthoff Fellowship, *University of Minnesota*
- 2001 American Chemical Society Outstanding Senior Award (Winona section)

PROFESSIONAL MEMBERSHIPS

American Chemical Society, Society of Physics Students / Sigma Epsilon Sigma, American Association for Aerosol Research, Council for Undergraduate Research

PUBLICATIONS

1. Nienow, A.M., Bezares-Cruz, J.C., Poyer, I.C., Hua, I., Jafvert, C.T., “ H_2O_2 Enhanced Photodegradation of Lindane.” To be submitted to *Environ. Sci. Technol.*
2. Nienow, A.M., Roberts, J.T., “Chemical Vapor Deposition of Zirconium Oxide on Aerosolized Silicon Nanoparticles.” *Chem. Mater.* 2006, 18(23), 5571-5577.

3. 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.
4. Nienow, A. M., Roberts, J. T. "Heterogeneous Chemistry of Carbon Aerosols". *Ann. Rev. Physical Chem.* 2006, *57*, 105-128.
5. 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.
6. 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.
7. 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.
8. 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.

PRESENTATIONS/POSTERS

1. Nienow, A.M., Poyer, I.C., Bezares-Cruz, J. C., Hua, I., Jafvert, C.T., "Photocatalytic Degradation of Lindane in Potable Water Systems." American Chemical Society National Meeting, San Francisco, CA. September 13, 2006.
2. Nienow, A.M., Liao, Y.-C., Roberts, J.T. "Surface Reactions of Silicon Nanoparticles." American Chemical Society National Meeting, Washington, DC. August 31, 2005.
3. Nienow, A. M., Liao, Y-C, Gresback, R., Roberts J.T., "Oxidation of Silicon Nanoparticles." High Temperature Plasma Laboratory Meeting, University of Minnesota. February 18, 2005.
4. Nienow, A.M., Parham, G., 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.
5. Nienow, A.M., Roberts, J.T., Ajo, H. "Oxidation of Size-Selected Soot Nanoparticles." American Chemical Society National Meeting, Philadelphia, PA. August 24, 2004.
6. Nienow, A.M., Roberts, J.T, Zachariah, M.R. "Oxidation of Size-Selected Soot Nanoparticles." 7th International Conference on Nanostructured Materials, Wiesbaden, Germany. June 21, 2004.

7. 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.
8. 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.