

Cyndee L. Gruden, PhD, PE

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PROFESSIONAL EXPERIENCE

2016 Associate Chair, Department of Civil and Environmental Engineering, University of Toledo
2009 - Present Associate Professor, Department of Civil Engineering, University of Toledo
2011 - Present Honors Director, Department of Civil Engineering, University of Toledo
2012 - Present Advisor to seniors, Department of Civil Engineering, University of Toledo
2010 - 2012 Undergraduate Director, Department of Civil Engineering, University of Toledo
2003 - 2009 Assistant Professor, Department of Civil Engineering, University of Toledo
2001 - 2003 Postdoctoral Fellow, Environmental Water Resources Engineering, University of Michigan
2000 Adjunct Professor, Environmental Science and Engineering, Colorado School of Mines

HONORS AND AWARDS

2016 Edith Rathbun Outreach and Engagement Award
2014 - 2015 University of Toledo Outstanding Teacher Award
March 2015 Provost's Shining Star Award – Research
2013 University of Toledo College of Engineering Outstanding Teacher Award
2011 Service Award for the Association of Environmental Engineering and Science Professors
2006 - 2007 University of Toledo Honors Professor of the Year Award

EDUCATION

Postdoc: Environmental Water Resources Eng., University of Michigan (2001-2003)
PhD: Civil Engineering, Univ. of Colorado (2000)
MS: Civil Engineering, Univ. of New Hampshire (1993)
BS: Civil Engineering, Univ. of New Hampshire (1991)

REGISTRATION

Licensed Professional Engineer, State of New Hampshire #9516. August 1997

PROFESSIONAL DEVELOPMENT

NSF IDEAL Change Leader: Selected to serve as change leader for UT College of Engineering in 2010 – 2011 as participants in the three-year \$1 million grant acquired by Case Western Reserve University from NSF to disseminate the successful academic leadership development methods at leading universities in the northern Ohio region (BGSU, Cleveland State, Akron, Kent State, and UT). Attended monthly leadership development workshops throughout the academic year. Collaborated with UT faculty and administration to implement mentoring program for women in science.

NSF FORWARD TO PROFESSOR: This program funded by NSF ADVANCE entitled “Focused on Reaching Women for Academics, Research and Development in Science, Engineering and Mathematics” was a joint program of the George Washington and Gallaudet Universities funded by NSF ADVANCE leadership award. This two-½ day workshop will focus on skills, strategies and "insider information" necessary to obtain a tenure-track position, to succeed in one and advance to other positions of leadership. Collaborated with UT faculty to organize and host a 1-½ day workshop for Women of color in STEM at the University of Toledo in 2012.

Completed the Culture Building Institute's Diversity Certificate at UT in 2013 sponsored by the Office of Equity, Diversity & Community Engagement in collaboration with the Office of Quality and Continuous Learning the Culture Building Institute Diversity Certificate to provide further education about the topic of diversity and engages the campus community in dialogue and discussion addressing relevant issues.

REFEREED JOURNAL PUBLICATIONS (24 published, 1 in press, 2 in preparation)

1. Ertezai, B., T. Dietrich, and C. Gruden. July 2016. "Integrating Real-time Data in SWMM Models to Enable LID Performance Prediction." *Journal of Water Management Modeling*. **In Preparation**.
2. Devkota, J.P., A. Dietrich*, R. Yarlagadda*, C. Gruden, S. J. Burian, D. S. Apul. July 2016. "Environmental Impacts from Implementing Rainwater Harvesting System at a Suburban Neighborhood." *Journal of Industrial Ecology*. **In Preparation**.
3. Dietrich, T., Yarlagadda, R., and C. Gruden. July 2016. "Performance-Based Stormwater Retrofit Site Selection in Lucas County, OH," *Environmental Progress and Sustainable Energy*. **In Press**. DOI: 10.1002/ep.
4. Kerkez, B., Gruden, C., Lewis, M., Montestruque, L., Quigley, M., Wong, B., Bedig, A., Kertesz, R., Cadwalader, A., Poresky, A. May 2016. "Smarter Stormwater Systems" *Environmental Science and Technology*. DOI: 10.1021/acs.est.5b05870.
5. Asapu, S., S. Pant, P. Majidi, C.L. Gruden, and I.C. Escobar. 2015. "Study of Copper-Charged Membranes for Control of Biofouling due to Bacteria and Algae Organic Matter." *Journal of Water Reuse and Desalination*. 5(4): 516-527.
6. Xu, D., C. Gruden, and Y. Seo. 2015. "Characterization and Evaluation of Phosphate Microsensors to Monitor Internal Phosphorus Loading in Lake Erie Sediments." *Journal of Environmental Management*. 160:193-200.
7. Asapu S., S. Pant, C.L. Gruden, and I.C. Escobar. 2014. "An Investigation of Low Biofouling Copper-Charged Membranes for Desalination." *Desalination*. 338: 17–25.
8. A. Motlagh Mohaghegh, S. Pant, and C.L. Gruden. 2013. "The impact of cell metabolic activity on biofilm formation and flux decline during cross-flow filtration of ultrafiltration membranes." *Desalination*. 315: 85-90.
9. Zheng, X., V.R. Sendamangalam, C.L. Gruden, and Y. Seo. 2012. "Multiple Roles of Extracellular Polymeric Substances on Resistance of Biofilm and Detached Clusters" *Environmental Science and Technology*. 46 (24): 13212–13219.
10. Zaky, A., I. Escobar, and C. Gruden. 2012. "Application of Atomic Force Microscopy for Characterizing Membrane Biofouling in the Micrometer and Nanometer Scales" *Environmental Progress and Sustainability*. doi: 10.1002/ep.11637.
11. Zaky, A., I. Escobar, A. Mohaghegh Motlagh, and C. Gruden. 2012. "Determining the influence of active cells and conditioning layer on early stage biofilm formation using cellulose acetate ultrafiltration membranes." *Desalination*. 286: 296-303.

12. Guang, C., C. Gorey, A. Zaky, I. Escobar, and C. Gruden. 2011. "Thermally responsive membrane-based microbiological sensing component for early detection of membrane biofouling." *Desalination*. 270: 116–123.
13. Mileyeva-Biebesheimer, O., A. Zaky, and C. Gruden. 2010. "Assessing the Impact of Titanium Dioxide and Zinc Oxide Nanoparticles on Bacteria Using a Fluorescent-Based Cell Membrane Integrity Assay." *Environmental Engineering Science*. 27(4): 329-335.
14. Wang, Hui, J. Chaffin, T. Bridgeman, and C. Gruden. 2009. "Detection and Quantification of *Microcystis* Spp. And Microcystin-LR in Western Lake Erie during the Summer of 2007." *Water Science and Technology*. 60(7): 1837-1846
15. Gorey C., I. Escobar, C. Gruden, and C. Guang. 2009. "Development of Smart Membrane with Microbial Monitoring Capabilities." *Desalination*. 248: 99-105.
16. Wang, Q., I. Kassem, V. Sigler, and C. Gruden. 2009. "The Short Term Effect of Capping on the Microbial Communities in Contaminated Sediments." *Water Environment Research*. 8(41): 441-449.
17. Gorey, C., I. Escobar, C. Gruden, M. Coleman, O. Mileyeva-Biebesheimer. 2008. "Development of Smart Membrane Filters for Microbial Sensing" *Separation Science & Technology*. 43: 4056-4074.
18. Foley, M., V. Sigler, and C. Gruden. 2008. "A Multiphasic Characterization of the Impact of Acetochlor on Freshwater Bacteria Communities" *ISME Journal*. 2(1):56-66.
19. Kheireddine, E.-B., C. Gruden, X. Huang. 2007. "Magnetic Glyco-nanoparticles: a Unique Tool for Rapid Pathogen Detection, De-contamination and Strain Identification." *Journal of American Chemical Society*. 129(44): 13392-13393.
20. Gruden, C.L., McCulloch, R., Towey, T., Wolfe, J., and Adriaens, P. 2007. "Hydrogen-based Activity Enhancement in Sediment Cultures and Intact Sediments." *Environmental Engineering and Science*. 24(5): 696-706.
21. Chang, S.C., Anderson, T., Bahrman, S., Gruden, C.L., Khijniak, A.I., and Adriaens, P. 2005. "Comparing Recovering Efficiency of Immunomagnetic Separation and Centrifugation of Mycobacteria in Metalworking Fluids." *Journal of Industrial Microbiology and Biotechnology*. 32: 629-638.
22. Chang, S.C., Rihana, A., Bahrman, S., Gruden, C.L., Khijniak, A.I., Skerlos, S.J., and Adriaens, P. 2004. "Flow Cytometric Detection and Quantification of Mycobacteria in Metalworking Fluids." *International Biodeterioration and Biodegradation*. 54: 105-112.
23. Gruden, C.L., Khijniak, A., Skerlos, S., and Adriaens, P. 2004. "Micro-Flow Cytometry for Environmental and Industrial Applications: Integrating Distributed Microbial Sensing in Sustainable Systems Engineering." *FEMS Microbiology Ecology*. 49(1): 37-49.
24. Gruden, C.L., Khijniak, A., and Adriaens, P. 2003. "Activity Assessment of Microorganisms Eluted from Sediment Using CTC (5-cyano-2,3-ditolyl tetrazolium chloride): A Quantitative Comparison of Flow Cytometry to Epifluorescent Microscopy" *Journal of Microbiological Methods*. 55 (3): 865-874.

25. Gruden, C.L., Fevig, S., Abu-Dalo, M., and Hernandez, M. 2003. "CTC (5-cyano-2,3-ditoly tetrazolium chloride) reduction in a mesophilic anaerobic digester: measuring redox behavior, differentiating abiotic reduction, and comparing FISH response as an activity indicator" *Journal of Microbiological Methods*. 52(1): 59-68.
26. Gruden, C.L. and Hernandez, M. 2002. "Anaerobic Digestion of Aircraft Deicing Fluid Wastes: Interactions and Toxicity of Corrosion Inhibitors and Surfactants" *Water Environment Research*. 74(2): 149-158.
27. Gruden, C.L., Dow, S.M., and Hernandez, M. 2001. "Fate and Toxic Effects of Corrosion Inhibitors in Anaerobic Environments" *Water Environment Research*. 73(1): 72-79.

BOOK CHAPTERS (5 Total)

Stepien, C.A., F. Calzonetti, J.M. Bossenbroek, K.P. Czajkowski, T.L. Bollin, and C.L. Gruden. **In Press**. "Enhancing Environmental Sustainability Through A University Field Station" In Sustainability Practices and Education on University Campuses and Beyond, Bentham Science Publishers.

Berhan, L., A. Bryant-Friedrich, N. Collins, I. Escobar, C. Gilbert, and C. Gruden. 2015. "When and Where I Enter...." In FORWARD to Professorship in STEM: Inclusive Faculty Development Strategies That Work, Elsevier Science Publishing, Co.

Zaky, A., I. Escobar, and C. Gruden. 2011. "Studying the effect of feed water characteristics on the hydrophobicity of cellulose acetate ultrafiltration membranes and its correlation to membrane morphology: A chemical force microscopy approach." In Modern Applications in Membrane Science and Technology (Hauserman, Ed.), ACS Publications.

Gruden, C.L., Fu, Q.S., Barkovskii, A.L., Albrecht, I.D., Lynam, M.M., and Adriaens, P. 2003. "Dechlorination of Sediment Dioxins: Catalysts, Mechanisms, and Implications for Remedial Strategies and Dioxin Cycling" In Dehalogenation: Microbial Processes and Environmental Applications (Hagblom and Bossert, Eds.), Kluwer Academic Press, pp. 347-372.

Adriaens, P., Gruden, C.L., and McCormick, M.L. 2003. "Biogeochemistry of Halogenated Hydrocarbons" In Treatise on Geochemistry, Vol 9: Environmental Geochemistry (B. Sherwood Lollar, Ed.) Elsevier Ltd., New York, NY.

INVITED PRESENTATIONS (11 total)

1. Gruden, C., Dietrich, A., Yarlagadda, R., Rousseau, K., Empey, M., and Greene, M. November 2015. "Green infrastructure modeling based on local land use and design practices toward the development of a community-based, cohesive strategy for stormwater reduction" Water Management Association of Ohio (WMAO), November 17, Columbus, OH.
2. Escobar, I., and C. Gruden. October 2015. "The Toledo Water Crisis of 2014". Engineers without Borders Regional Conference, University of Toledo, October 24, Toledo, OH.
3. Gruden, C., K. Gerwin, T. Dietrich, and A. Penmetcha. June 2015. "SWIF Project Data Collection and Performance Monitoring" UM Water Center Annual Meeting. July 21, Ann Arbor, MI.

4. Gruden, C., K. Gerwin, T. Dietrich, and A. Penmetcha. June 2014. "Performance Monitoring of GLRI SWIF Projects in Lucas County, OH" UM Water Center Annual Meeting. June 24-25, Ann Arbor, MI.
5. Escobar I.C., C. Gruden, and M. Coleman. 2007. "Development of Bacterial-Sensing Ultrafiltration Membranes with Improved Permeability, Selectivity and Fouling Control," 2007 Joint Egypt-United States Workshop on Innovative Treatment Technologies for Water, May 22-26, Cairo, Egypt.
6. Escobar I.C., C. Gruden, and M. Coleman. 2007. "Membrane Surface Modifications for Increasing Mass Transfer and Fouling Resistance," 2007 Engineering Conferences International (ECI), Tomar, Portugal, February 11-16, 2007.
7. Gruden, C.L., I. C. Escobar, M. Coleman, C. Gorey, and O. Mileyeva-Biebesheimer. May 2007. "Polymer Brush Based Bacterial Sensors for Improved Membrane Performance." 39th Central Regional Meeting of ACS, May 21-23, 2007, Covington, KY.
8. Gruden, C. March 2007. "Contaminated Freshwater Sediments: Considering In Situ Alternatives." Monthly Public Lecture Series. Lake Erie Center, Oregon, OH.
9. Gruden, C.L., Mileyeva-Biebesheimer, O., Meade, J. and Bonner, J. May 2006. "Design Criteria for In-Situ Detection of Microorganisms using Flow Cytometry in Coastal Margins". 49th Annual IAGLR Conference on Great Lakes Research, May 22-26, 2006, Windsor, ONT.
10. Mileyeva-Biebesheimer, O., Wang, Q., and Gruden, C. March 2006. "Accelerating Natural Recovery of PCB Contaminated Freshwater Sediments" 16th Annual Association for Environmental Health and Sciences Meeting and West Coast Conference on Soils, Sediments, and Water, San Diego, CA.
11. Gruden, C.L., Khijniak, A., and Adriaens, P. October 2002. "Microbial Characterization of Contaminated Sediments Using Dual Stain Flow Cytometry" 19th Annual International Conference on Soils, Sediments, and Water, University of Massachusetts, Amherst, MA.

CONTRIBUTED PRESENTATIONS (49 total)

1. Bahaya, B., Al-Quraishi, M., Rousseau, K. and Gruden, C. September 2016. "Role of Urban Runoff in Harmful Algal Bloom Formation in the Western Lake Erie Basin." Ohio Section American Water Works Association Conference 2016, September 14th, Cincinnati, OH.
2. Bahaya, B., Al-Quraishi, M., Rousseau, K. and Gruden, C. February 2017. "Effects of land use, topography, soil texture and imperviousness on sediment and nutrient loadings in the Western Lake Erie Basin." Borchardt Conference, February 21-22. University of Michigan, Ann Arbor, MI.
3. Gruden, C., A. Dietrich, and R. Yarlagadda. May 2016. "Prioritization of Residential Demolition Sites for Decentralized Stormwater Management." 2016 Ohio Stormwater Association Conference, May 5-6, Sharonville, OH.
4. Kerkez, B., C. Gruden, M. Lewis, and B. Wong. May 2016. "Predictive control of distributed stormwater assets." 2016 Annual ASCE EWRI Congress, May 22-26, West Palm Beach, FL.
5. Gruden, C., A. Dietrich, A. Penmetcha, and L. May 2016. "Tree Filter Performance Assessment through Real-time Monitoring and Modeling." 2016 Annual ASCE EWRI Congress, May 22-26, West Palm Beach, FL.

6. Gruden, C., Dietrich, A., Yarlagadda, R., Rousseau, K., Empey, M., and Greene, M. June 2015. "Green infrastructure design and modeling based on local land use practices toward the development of a community-based, cohesive strategy for stormwater reduction in Toledo, OH." 2015 Association for Environmental Engineering and Science Professors Education and Research Conference, Yale University, New Haven, CT.
7. Dietrich, T. and C. L. Gruden. May 2015. "Quantifying the Benefits of Green Stormwater Infrastructure using PCSWMM." ASCE EWRI: World Environmental and Water Resources Congress, Austin, TX.
8. Dietrich, A. and C. L. Gruden. May 2015. "Performance evaluation of green stormwater infrastructure using monitoring and modeling." 2015 Ohio Stormwater Association Conference, Sandusky, OH.
9. Gruden, C., A. Dietrich, R. Yarlagadda, K. Rousseau, M. Empey, and M. Greene. May 2015. "Green Stormwater Infrastructure Planning for Lucas County, OH." 2015 Ohio Stormwater Association Conference, Sandusky, OH.
10. Asapu S., S. Pant, C.L. Gruden, and I.C. Escobar. November 2013. "Copper-Charged Anti-Microbial Membranes for Biofouling Control." 2013 AIChE Annual Meeting, San Francisco, CA.
11. Schaeffer, A. and C. Gruden. November 2013. "To Tenure and Beyond: Building and Intentional Academic Career" ACE Women's Network-Ohio Conference Wright State University, Dayton, Ohio November 1, 2013.
12. Gruden, C.L. and C. Wancata. May 2013. "Cost and Environmental Benefit Analysis of Potential BMPs at UT," 2013 Ohio Stormwater Association Conference, Cincinnati, OH May 9-10, 2013.
13. Asapu S., C.L. Gruden and I.C. Escobar. November 2012. "Novel Copper-Charged Anti-Microbial Reverse Osmosis Membranes," 2012 AIChE Annual Meeting, Pittsburgh, PA, October 28-November 2, 2012.
14. Pant, S., C. Messner, and C. Gruden. July 2011. "Comparative Study of Active Capping Materials for Sequestering Sediment Contaminants" 2011 AEESP Education & Research Conference, University of South Florida, Tampa, FL.
15. Mohahegh Motlagh, S.A., A. Zaky, and C. Gruden. July 2011. "Multi-Scale Biofilm Characterization to Comprehend Early Stage Membrane Biofouling" 2011 AEESP Education & Research Conference, University of South Florida, Tampa, FL.
16. Mohahegh Motlagh, S.A. and c. Gruden. February 2011. "Kinetic assessment of ultrafiltration membrane biofouling metabolic activity" The 22nd Triennial Symposium on Advancements in Water & Wastewater, Ann Arbor, MI.
17. Messner, C. and Gruden, C. February 2011. "Investigating the performance of active materials amended to clay minerals for sequestering sediment contaminants" Battelle International Sediments Conference, New Orleans, LA.
18. Zaky, A., Gorey, C., Escobar, I. and Gruden, C. August 2010. "Quantitative Emerging Materials Characterization Techniques to Anticipate Membrane Biofouling" American Chemical Society, Fall 2010 National Meeting & Exposition, Boston, MA.

19. Gruden, C. and Wang, Q. August 2010. "The Impact of Sediment Depth on Biogas Production in Capped Contaminated Freshwater Sediments" 2010 National Environmental Monitoring Conference, Washington, DC.
20. Zaky, A., Gorey, C., Escobar, I. and Gruden, C. July 2010. "Investigate biofilm characterization techniques to study the effect of membrane surface properties on biofouling of cellulose acetate membranes", North American Membrane Society, Annual Meeting, Washington, DC.
21. Lange, E., Wambo, K., and Gruden, C. April 2010 "Investigation of *Microcystis* Cell Density and Phosphorus in Benthic Sediments and their Effect on Cyanobacterial Blooms on Western Lake Erie in the Summer of 2009" Ohio Academy of Science Symposium: Water Quality of Ohio's Lakes: Inland and Erie, Ohio Northern University, Ada, OH.
22. Gruden, C., Zaky, A., and Mileyeva-Biebesheimer, O. September 2009 "Impact of Metal Oxide Nanoparticles on Cell Viability" 1st Annual Conference on Environmental Implications of Nanotechnology (CEIN), Washington, DC.
23. Gruden, C. and Mileyeva-Biebesheimer, O. March 2009 "Microbiological fate of nanoparticles commonly found in personal care products" ACS National Meeting, Salt Lake City, UT.
24. Barabas, N., Redder, T., Depinto, J., Wolfe, J., Adriaens, P., Wright, S., and Gruden, C. February 2009 "Gas Ebullition In Sediments – Mechanisms, Impacts and Representation in Models" Battelle 5th International Conference on Remediation of Sediments, Jacksonville, FL.
25. Zaky, A., Gorey, C., Escobar, I., and Gruden, C. November 2008 "Biosensors Incorporated into a Fouling Resistant Ultrafiltration Membrane for Water Treatment" AIChE Annual Meeting, Philadelphia PA.
26. Zaky, A., Cai, G., Gorey, C., Escobar, I., and Gruden, C. September 2008 "Optimization of membrane based nanostructured sensors for the detection of pathogens in water" Ohio Section American Water Works Association
27. Gruden, C., Cai, G., Gorey, C., and Escobar, I. April 2008 "Nanostructured Smart Membranes for Microbial Sensing" ACS National Meeting, April 6-10, New Orleans, LA.
28. Wang, H. and Gruden, C. April 2008 "Detection and Quantification of *Microcystis* in Lake Erie" Ohio Academy of Science Annual Meeting, Toledo, OH.
29. Gruden, C., Escobar, I., Coleman, M., Mileyeva-Biebesheimer, O., and Gorey, C. August 2007 "Development of Fouling Resistant Water Treatment Membranes with Microbial Sensing Capabilities." ACS Annual Meeting, August 20-23, Boston, MA.
30. Gruden, C., Escobar, I., Coleman, M., Mileyeva-Biebesheimer, O., and Gorey, C. July 2007. "Development of Bacterial-Sensing Ultrafiltration Membranes with Improved Fouling Control." AEESP Conference, July 29 - Aug 1, Blacksburg, VA.
31. Wang, Q., Kassem, I., Sigler, V., and Gruden, C.L. May 2007. "The Effect of Capping on the Ebullition Potential and Microbial Ecology of Contaminated Surface Sediments" 107th General Meeting of ASM, May 21-25, 2007, Toronto, ON.

32. Gruden, C.G., Apul, D., and Diaz, M. June 2006. "Teaching concepts on softening: Observations from active versus passive instruction in an undergraduate and a graduate level course" 113th Annual American Society for Engineering Education Conference & Exposition, June 18-21, Chicago, Illinois.
33. Wang, Q., Kassem, I., Sigler, V., and Gruden, C.L. May 2006 "The Effect of Different Capping Regimes on Microbial Communities in Contaminated Sediments" 106th General Meeting of the American Society for Microbiology, Orlando, FL.
34. Foley, M.E., Gruden, C., and Sigler, W.V. May 2006 "Toxicity of Acetochlor to Aquatic Bacteria and its Degradation in Stream Water" 49th Annual IAGLR Conference on Great Lakes Research, May 22-26, 2006, Windsor, ONT.
35. Harvey, R.O., Kinner, N.E., Gruden, C.L., Aiken, G.R., Metge, D.W. and Barber, L.B. October 2005. "Scaling Up Subsurface Bacterial Transport from the Column to the Field Scale: Importance of Ecosystem-Level Effects" Annual Meeting of Geological Society of America, Salt Lake City, UT.
36. Mileyeva-Bebiesheimer, O., Wang, Q, Spongberg, A., and Gruden, C. June 2005. "Accelerating Degradation of PCBs in Freshwater Sediments" 8th Annual Battelle International On-Site and In Situ Bioremediation Conference, Baltimore, MD
37. Adriaens, P., Li, M.Y., Gruden, C., and Wolfe, J. January 2005. "Scaling of Microbial Competence for Sediment Remediation" Battelle International Contaminated Sediments Conference, New Orleans, LA.
38. Adriaens, P., Jones, K., Green, N., Khijniak, A. and Gruden, C. September 2004. "Impact of dechlorination processes on the sediment-water exchange of PCDD/F in Passaic River cores." DIOXIN 2004: 24th International Symposium on Halogenated Environmental Organic Pollutants and POPs. Berlin, Germany.
39. Adriaens, P., Li, M.Y., Gruden, C.L., Wolfe, J., and Towey, T. October 2004. "Scaling of Sediment Bioremediation Efficacy Assessment Using Microbial Sensing and Geostatistical Analysis" Fourth SETAC World Congress and 25th Annual Meeting in North America at the Oregon Convention Center in Portland, OR.
40. Gruden, C., R. McCulloch, T. Towey, J. Wolfe, and P. Adriaens. August 2004. "Dual Stain Flow Cytometry and T-RFLP Analysis of Hydrogen-Enhanced Dechlorination Activity in Sediments", International Symposium for Microbial Ecology (ISME), Cancun, Mexico.
41. Adriaens, P., Towey, T., Gruden, C., Khijniak, A. and Gruntzig, A. June 2004. "Hydrogen-based bioremediation of contaminated sediments: Bench-scale efficacy assessment through microbial sensing", International Symposium for Environmental Biotechnology (ISEB), Chicago, IL.
42. Adriaens, P., Barabas, N., Gruden, C., Saito, H., Skerlos, S., and Davis, J. August 2003. "Technology Transfer and Uncertainty Management for Remediation of Complex Environmental Systems. Frontiers in Assessment Methods for the Environment (FAME), University of Minnesota, Minneapolis, MN.
43. Adriaens, P., Chang, S-C, Khijniak, A., Gruden, C., and Skerlos, S.J. August 2003. "Micro-Flow Cytometry Application for Microbial Assessment in Complex Matrices" Frontiers in Assessment Methods for the Environment (FAME), University of Minnesota, Minneapolis, MN.

44. Gruden, C.L., Chang, S.C. Rihana-Abdallah, A., Khijniak, A., Skerlos, S., Adriaens, P. June 2002. “Rapid Microbial Sensing for Environmental Health Applications using Flow Cytometry” NIH: BECON 2002 Symposium, Sensors for Biological Research and Medicine, Bethesda, MD.
45. Gruden, C.L., Khijniak, A., and Adriaens, P. May 2002. “Hydrogen Addition to Optimize Microbial Activity in Sediments Contaminated with Chlorinated Aromatic Compounds” Battelle: Third International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, CA.
46. Gruden, C.L., Khijniak, A., and Adriaens, P. November 2001. “Hydrogen-enhanced Dechlorination in Contaminated Coastal Sediments” SETAC 2001, Baltimore, MD.
47. Gruden, C.L. and Hernandez, M.T. October 2001. “Anaerobic Digestion of Aircraft Deicing Fluid Wastes: Interactions and Toxicity of Corrosion Inhibitors and Surfactants” WEFTEC 2001, Atlanta, GA.
48. Gruden, C.L., Albrecht, I.D. and Adriaens, P. October 2001. “Hydrogen-enhanced Dechlorination in Contaminated Coastal Sediments” Battelle Sediments Conference, Venice, Italy.
49. Gruden, C.L., Dow, S.M. and Hernandez, M.T. November 1999. “Fate and Toxicity of Corrosion Inhibitors through Anaerobic Digestion” SETAC 1999, Philadelphia, PA.

SPONSORED RESEARCH (34 total grants; \$5M in externally funded research)

1. USEPA: Urban Waters “Urban Greening for Stormwater Management at Low Income multi-Family Housing Sites in Toledo, OH” 08/16 – 08/17; \$59,988 external (PI: C. Gruden). Current.
2. NSF: OISE – 1559394 “Collaborative Research: IRES: Life Cycle Management and Ecosystem Services Applied to Urban Agriculture” 08/16 – 07/19; \$179,651 external (PI: D. Apul: Co-PI: C. Gruden). Current.
3. Ohio Sea Grant “Determining the role of urban runoff in harmful algal bloom formation in the western Lake Erie basin” 02/16 – 01/18; \$59,573 external (PI: C. Gruden; Co-PI: K. Rousseau of American Rivers). Current.
4. Great Lakes Protection Fund “An Intelligent Cyberinfrastructure for the Decentralized Sensing, Modeling and Control of Urban Stormwater” 09/14 – 08/17; \$800,000 Total (\$122,000 UT Portion external) (PI: B Kerkez, U Mich.; Co-I: C. Gruden U Toledo; M Lewis Michigan Aerospace; M Quigley Geosyntec-OptiRTC, M Ries, S Brown, and B Liner Water Environment Federation; C Fleetham, Project Innovations, R Czachorski and T Van Pelt, H2O Metrics). Current.
5. NOAA Coastal Storms “Green Stormwater Infrastructure Planning in Lucas County, Ohio” 06/14-05/15; \$60,000 external (PI; C Gruden, Co-I: K Rousseau American Rivers and M Greene Lucas County Sustainability Commission).
6. Ohio EPA “UT Tree Filter Bioretention Demonstration” 08/13 – 12/31/14; \$50,000 external (PI: Gruden).

7. University of Michigan Water Center – Graham Sustainability Institute “Performance Data Collection for GLRI SWIF Project Assessment in Lucas County, Ohio” 07/13 – 12/31/14; \$50,000 external (PI: Gruden, Co-I: Kari Gerwin from TMACOG).
8. Ohio EPA “UT Passive Stormwater Treatment Demonstration” 01/13 – 12/14; \$35,992 external (PI: Gruden).
9. Ohio Lake Erie Commission – LEPF “Green Storm Water Infrastructure” 10/12 – 11/13; \$15,000 external (PI: Gruden).
10. US Bureau of Reclamation “Studies on presence, influence and control of biofilms on desalination membranes” 10/11 – 11/13; \$115,419 external (PI: Escobar; Co-I: Gruden).
11. Ohio Sea Grant “Investigating the performance of active materials amended to clay minerals for sequestering sediment contaminants” 01/11 – 6/11; \$9,900 external (PI: Gruden).
12. Ohio Water Development Authority “State-of-the-art membrane characterization toward biofouling control and improved membrane performance” 03/09-02/10; \$27,191 external (PI: Gruden; Co-PI: Escobar).
13. UT Research Office: Phase 0 SBIR "Development of a novel multi-functional synthetic aggregate material for the remediation and restoration of contaminated sediments." 07/10-06/11 (PI: C. Gruden; Collaborator: John Hull).
14. Ohio DOT “Ice Prevention or Removal on the Veteran's Glass City Skyway Cables” 03/10 – 01/11; \$89,804 external (PI: Douglas Nims; Co-PIs: Cyndee Gruden, Konstanty Masiulaniec, Richard Martinko, Tom Stuart).
15. Ohio Lake Erie Commission –LEPF “Sediment contribution to Lake Erie algal bloom” 6/09 – 7/10; \$15,000 external (PI: Cyndee Gruden).
16. NSF - CBET "The role of extracellular polymeric substances of biofilm on pathogen disinfection in water distribution systems" 09/09 - 09/12; \$255,438 (PI: Seo; Co-PI: Gruden).
17. EPA - Great Lake's National Program Office "Lake Erie Algal Source Tracking (LEAST)" 08/09-08/11; \$101,304 external (PI: Bridgeman; Co-PIs: Conroy, Winston, Kane, Mayer, Gruden, Kramer).
18. NSF - CBET “SGER: Nanoparticles in Personal Care Products and their Impact on Digester Energy Production” 08/15/08 – 01/31/10; \$34,962 (PI: Cyndee Gruden).
19. NSF - BIO “GK-12 Graduate Teaching Fellows in High School STEM Education: An Environmental Science Learning Community at the Land-Lake Ecosystem Interface” 06/08 – 05/13; \$2,400,000 (PI: Carol Stepien; Co-PIs: Tom Bridgeman, Timothy Fisher, Cyndee Gruden, Daryl Moorhead).
20. US Department of Defense (DARPA). “Novel Sensors for Chemical- and Bio-Defense”; 12/06/06-08/11/08; \$970,000 (PI: Jon Kirchoff; Co-PIs: Cyndee Gruden, Xuefei Huang, Ahalapitiya Jayatissa, Sanjay Khare, Rosa Lukaszew, L.M.V. Tillekeratne).
21. NSF – DBI (Division of Biological Infrastructure). “Planning Proposal for the Lake Erie Center” 10/01/06-09/30/08; \$34,888 (PI: Carol Stepien; Co-PIs: Kevin Egan, Christine Mayer, Cyndee Gruden, Kevin Czajkowski).

22. SERDP – Strategic Environmental Research and Development Program: “Integrating Uncertainty Analysis in the Risk Characterization of In-Place Remedial Strategies for Contaminated Sediments” to the University of Michigan; 05/01/04-09/15/08; (U-T subcontract \$156,965 from sponsor); (PI: Peter Adriaens; Co-PIs: Steven Wright; John Wolfe, Joseph DePinto, Gregory Peterson, Noemi Barabas, Cyndee Gruden).
23. UT: Program for Academic Excellence (PAE): “Integrating Environmental and Public Health of Urban Ecosystems” \$15,000 (PI: Daryl Moorhead; Co-PIs: Carol Stepien, Jiquan Chen, Alison Sponberg, Peter Lindquist, Kevin Czajkowski, Benjamin Pryor, Charles Blatz, Kenneth Kilbert, Ashok Kumar, Cyndee Gruden, Defne Apul, Sheryl Milz, Brian Fink, and Farhang Akbar).
24. NSF-SGER “Development of Bacterial-Sensing Ultrafiltration Membranes with Improved Permeability, Selectivity and Fouling Control”; 05/01/06-04/30/08; Total, (\$45,000 from sponsor) (PI: Isabel Escobar; Co-PIs: Cyndee L. Gruden, Maria R. Coleman).
25. NSF-MRI: Instrument Development: “Development of an In-situ Flow Cytometer for Enhanced Aquatic Particle Discrimination” to Texas A&M University – Corpus Christi; 08/01/04-07/31/08 (granted 2 year extension); \$222,000 Total (U-T subcontract \$30,618 from sponsor); (PI: Jim Bonner; Co-PIs: Kimberly Callicott, Cyndee Gruden, Cheryl Page, Christian Sieracki).
26. USGS – State Water Resources Research Institute Program FY2004: "Development of a Novel Hydrogel-Based Sensor for the Detection of Biological Contaminants"; 03/01/06-05/31/07; Total \$63,741 (\$20,000 from sponsor) (PI: Cyndee L. Gruden).
27. Ohio Board of Regents – Improving Teacher Quality Program “Teachers Applying Math and Science via Distance Learning, TAMS-DL” 1/20/06-5/31/07; \$122,373 (PI: Mark Pickett; Co-PIs: Isabel Escobar, Cyndee Gruden, and Helen Cooks).
28. Ohio Board of Regents – “Aptamer-Based Biosensors for Contaminated Sediment Characterization” 05/06-08/06 \$3,941 Total; (PI: Cyndee Gruden).
29. University of Toledo Office of Research: Interdisciplinary Research Initiation Award. Team building and training of a nationally-competitive research group at University of Toledo to participate in the NSF-National Ecological Observatory Network (NEON). 7/01/05-6/31/06; \$30,000 (PIs: Hans Gottgens, Jiquan Chen, Carol Stepien, Daryl Moorehead, Christine Mayer, Scott Heckathorn, Kevin Czajkowski, Steven Gordon, En-Bing Lin, Thomas Bridgeman, Jonathan Frantz, Donald Reiber, Daolon Zheng, Andrew Heydinger, Don-Shik Kim, Cyndee Gruden).
30. Ohio Board of Regents – Improving Teacher Quality “DLMAST, Distance Learning Applications for Teachers of Math and Science”; 1/28/04-5/31/05; \$245,544 (Total \$139,086 from sponsor) (PI: Mark Pickett; Co-PIs: Isabel Escobar, Cyndee Gruden, Helen Cooks).
31. Ohio Board of Regents – Improving Teacher Quality Program “Math and Science Activities for Teachers via Distance Learning, MSAT-DL” 1/28/05-5/31/06; \$144,063 (PI: Mark Pickett; Co-PIs: Isabel Escobar, Cyndee Gruden, and Helen Cooks).
32. University of Toledo Office of Research: Summer Research Award and Fellowship Program “Biosensors for Contaminated Sediment Characterization” 3/11/05-12/31/05; \$9,900 (PI: Cyndee L. Gruden).

33. USGS – State Water Resources Research Institute Program FY2004: “Rapid Characterization of PCB Contaminated Sediments toward Effective Enhanced Remediation”; 03/01/04–03/31/05; \$86,655 Total (\$25,000 from sponsor) (PI: Cyndee L. Gruden).
34. NOAA-Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET): “Technology Development for Contaminated Coastal and Estuarine Environments: Hydrogen-Enhanced Remediation of Capped and Natural Sediments”; 9/1/01–8/31/03; \$200,030; (PI: Peter Adriaens; Co-PI: Cyndee Gruden).

STUDENT MENTORING (primary advisor)

Doctoral Students (6 total)

Bernard Bahaya, PhD Engineering, expected 2018.
 Muthana Al-Quirishi, PhD Engineering, expected 2018.
 Santosh Pant, PhD Engineering, incomplete.
 Olya Mileyeva-Biebesheimer, PhD Engineering, 2011.
 Amr Zaky, PhD Engineering, 2011
 Qi Wang, PhD Engineering, 2007.

Master’s Students (23 total)

Sheveta Sharma, MS Civil Engineering, (Aug 2005)
 Olya Mileyeva-Biebesheimer, MS Civil Engineering, (Dec 2005)
 Meghan Foley, MS Civil Engineering, (May 2006)
 Venkata Atkuri, MS Chemical and Environmental Engineering, (Aug 2006)
 Chris Windnagle, MS Civil Engineering, (May 2008)
 Cai Guang, MS Civil Engineering, (Aug 2008)
 Hui Wang, MS Civil Engineering, (Aug 2008)
 Katie Puffenberger, MS Civil Engineering (Aug 2010)
 Erik Lange, MS Civil Engineering (Aug 2010)
 Clint Messner, MS Civil Engineering (May 2011)
 Amir Mohahegh, MS Civil Engineering (Aug 2011)
 Adam Szabo, MS Civil Engineering (Aug 2012)
 Gregory Denman, MS Civil Engineering (Dec 2012)
 Christopher Wancata, MS Civil Engineering (Dec 2012)
 Peyman Majidi, MS Civil Engineering (Aug 2014)
 Ravali Siddam, MS Civil Engineering (Dec 2014)
 Anthony Dietrich, MS Civil Engineering (Aug 2015)
 Aishwarya Penmetcha, MS Civil Engineering (Dec 2015)
 Bahareh Ertezai, MS Civil Engineering (exp Aug 2017)
 Milan KC, MS Civil Engineering (exp Dec 2017)
 Theodore Bennett, MS Civil Engineering (exp Dec 2018)
 Adam Haunhorst, MS Civil Engineering (exp May 2018)
 Brooke Mason, MS Civil Engineering (exp Aug 2018)

Undergraduate Student Researchers (26 total)

Meghan Foley, UG Researcher, Fall 2003 and Spring 2004
 Tiffany Ashenfelter, UG Researcher, Spring 2004
 Clifford Hanserd, UG Researcher, Summer 2004
 Jeremy Meade, UG Researcher, Fall 2005
 Nick Baer, UG Researcher, Spring 2006
 Peter Murphy, UG Researcher, Spring 2006

Christina Corrigan, Honors Thesis Advisor, Spring 2007
 Todd Green, Independent Study on Water Softening, Spring 2007
 Natalie Bailey, UG Researcher, Spring 2007
 Lucas DeGarmo, Honors Thesis Advisor, Fall 2007
 Evan DiSanto, Honors Thesis Advisor, Spring 2008
 Adam Szabo, Independent Study on Rain Gardens, Spring 2008
 Michael McNeill, NSF REU Student, Summer 2009
 Yu Yang, Co-op Project, Summer 2010
 Joshua Lau, Co-op Project, Spring 2011
 Markus Beck, UG Researcher, Summer 2013
 Egor Antipov, Independent Study, Fall 2014
 Zac Kerin, Independent Study, Fall 2014
 India Harris, NSF REU Student, Summer 2015
 Lisa Ponce, NSF REU Student, Summer 2015
 Nicholas Roof, Independent Study, Fall 2016
 Tyler Watts, Independent Study, Summer 2015
 TJ Schauer, Co-op Project, Spring 2016
 Cordaro Murry, NSF REU Student, Summer 2016
 Veronica Joseph, UG Researcher, Spring 2017
 Kelley Davis, NSF REU Student, Spring and Summer 2017

TEACHING

Courses Taught at University of Toledo that included Faculty Course Evaluations

Semester	Course Number	Course Title	Enrollment	Question 11 ^(a)	Question 17 ^(b)
Fall 2003	CIVE 3610	Environmental Engineering I	31	1.33	1.5
Fall 2004	CIVE 3610	Water Supply and Treatment (formerly Env. Eng. I)	26	1.30	1.20
Fall 2004	CIVE 4/6/8900	Advanced Biological Processes	16	1.0	1.0
Spring 2005	CIVE 3630	Wastewater Engineering (formerly Env. Eng. II)	25	1.28	1.52
Summer 2005	CIVE 3630	Environmental Engineering II	12	1.25	1.25
Fall 2005	CIVE 3610	Water Supply and Treatment	30	1.25	1.16
Spring 2006	CIVE 3630	Wastewater Engineering	40	1.38	1.45
Fall 2006	CIVE 6/8900	Environmental Research Methods	10	1.0	1.5
Fall 2006	CIVE 3610	Water Supply and Treatment	37	1.0	1.33
Spring 2007	CIVE 3630	Wastewater Engineering	27	1.41	1.50
Summer 2007	CIVE 1170	Fluid Mechanics (co-taught with Defne Apul)	8	1.38	1.63

Fall 2007	CIVE 3610	Water Supply and Treatment	39	1.03	1.07
Spring 2008	CIVE 4750	Senior Design	17	1.0	1.0
Spring 2008	CIVE 6/8900	Environmental Research Methods	6	1.25	1.25
Fall 2008	CIVE 3610	Water Supply and Treatment	31	1.18	1.35
Fall 2008	CIVE 4750	Senior Design	17	1.25	1.19
Spring 2009	CIVE 5930	Advanced Biological Processes	9	1.0	1.0
Fall 2009	CIVE 3630	Wastewater Engineering	11	1.2	1.3
Spring 2010	CIVE 6/8900	Advanced Biological Processes	7	1.0	1.0
Spring 2010	CIVE 3630	Wastewater Engineering	42	1.22	1.46
Fall 2010	CIVE 3630	Wastewater Engineering	15	1.47	2.0
Spring 2011	CIVE 3630	Wastewater Engineering	45	1.11	1.25
Spring 2011	CIVE 2000	Professional Development	52	1.26	1.45
Fall 2011	CIVE 3630	Wastewater Engineering	12	1.44	1.67
Fall 2011	CIVE 4750	Senior Design	37	1.17	1.21
Spring 2012	CIVE 3630	Wastewater Engineering	36	1.16	1.35
Spring 2012	CIVE 2000	Professional Development	53	1.09	1.24
Fall 2012	CIVE 3630	Wastewater Engineering	23	1.1	1.25
Fall 2012	CIVE 4750	Senior Design	35	1.11	1.25
Spring 2013	CIVE 3630	Wastewater Engineering	28	1.08	1.16
Spring 2013	CIVE 1000	Professional Development	63	1.03	1.10
Summer 2013	CIVE 1150	Statics	56		
Fall 2013	CIVE 3630	Wastewater Engineering	19	1.16	1.32
Fall 2013	CIVE 4750	Senior Design	38	1.11	1.19

Spring 2014	CIVE 1150	Statics	124	1.18	1.43
Spring 2014	CIVE 3630	Wastewater Engineering	22	1.29	1.43
Fall 2014	CIVE 3630	Wastewater Engineering	39	1.09	1.3
Fall 2014	CIVE 4750	Senior Design	21	1.11	1.22
Fall 2015	CIVE 3630	Wastewater Engineering	28	1.0	1.16
Fall 2015	CIVE 4750	Senior Design	36	1.16	1.22
Spring 2016	CIVE 3630	Wastewater Engineering	26	1.08	1.13
Spring 2016	CIVE 1150	Statics	136	1.29	1.42

Note: ^(a)For overall quality, he/she is an effective teacher(scale of 1 to 5)

^(b)Overall quality of this course was excellent (scale of 1 to 5)

NA – not available yet

PROFESSIONAL SERVICE (Highlights of Service Activities)

University

- o University of Toledo Faculty Senate, 2015-2018.
- o Chair of the Faculty Affairs Committee, 2015-2017.
- o Member of Faculty Search Committee, Physics and Astronomy, Spring 2017.
- o Member of Staff Search Committee, Office of Diversity and Inclusion, Fall 2016.
- o Member of UT's LGBT Advisory Board, since 2011.
- o University Committee on Sabbaticals, 2016-2018.
- o Member of Networking Subcommittee for Office of Collaborative Research, 2007-2009.
- o Member of Faculty Search Committee, Environmental Sciences, Fall 2004, Fall 2005.
- o Member of Scientific Advisory Board, Lake Erie Center, University of Toledo, since Fall 2004.
- o Center for Urban Ecology, University of Toledo, 2003-4

College of Engineering

- o Dean's Search Committee, College of Engineering, Spring 2017.
- o Executive Committee, College of Engineering, 2016-2018.
- o ENCAP Member, College of Engineering, 2010 – 2016, ENCAP Chair 2015-2016.
- o Member of Outreach and Diversity Committee, College of Engineering, since 2009.
- o Member of Sustainability Faculty Search Committee, College of Engineering, Spring 2007, Spring 2008.
- o Member of Materials Faculty Search Committee, College of Engineering, Summer 2005, Fall 2005, Spring 2006, Summer 2006.

Department of Civil Engineering

- o Associate Chair, Department of Civil Engineering, since May 2016.
- o Honors Advisor, Department of Civil Engineering, since 2011.

- o Coordinated PhD Qualifying Exams, Department of Civil Engineering, Spring 2007, Fall 2009, Spring 2016.
- o Co-Chair of Academic Adviser Search Committee, Civil Engineering Department, Summer 2012.
- o Undergraduate Program Director, Civil Engineering Department, 2010-2012.
- o Chair of Faculty Search Committee (Geotech), Civil Engineering Department, 2010-2011.
- o Interim Graduate Program Co-Director, Civil Engineering Department, Spring 2010.
- o DPC Member, Department of Civil Engineering, 2009-2010.
- o Member Faculty Search Committee (Enviro), Department of Civil Engineering, Spring 2004.
- o Member of Undergraduate Research Committee, Department of Civil Engineering, 2004-5.
- o Member of Retention Committee, Department of Civil Engineering, since Fall 2003.

Educational Outreach and Community Service

- o Invited to be a member of TMACOG's **Watershed Committee** since 2015.
- o Member of **Storm Water Action Group** (SWAG) since September 2012. Attends monthly meetings at TMACOG to advance storm water best management practices in Northwest Ohio.
- o I presented a demonstration and information about Civil Engineering approximately 100 potential students and their families at **Summer Career Fridays** in July 2005, July 2008, and July 2011.
- o Delivered several water treatment demonstrations for approximately 200 Girl Scouts during **Engineers Week** as part of the Girl Scout Overnight in the College of Engineering in February 2007.
- o Participated in WGTE's multimedia program, **Engineer Your Career**, targeting 6th – 10th grade students in developing an overall understanding of the benefits and requirements of a career in Engineering. Spring 2007.
- o Participated in the 2007 Summer Institute for **GEAR UP/PREP-TECH** Program in June to July 2007. Responsibilities: (i) developed activities for approximately 20 Middle School students from the Greater Toledo Area; (ii) led the students through the activities over a one week period (2 hours/day).
- o Delivered a public lecture entitled "Is Lake Erie Safe to Drink?" as part of the 2007-2008 **Saturday Morning Science** Series coordinated by the University of Toledo's Department of Chemistry and attended by approximately 35 people.
- o Presented a public lecture at the 20th Annual **Student Watershed Watch** Summit held November 2009 in the College of Engineering at the University of Toledo.
- o Participated in the **Latino Youth Summit** Elementary program at the University of Toledo in July 2010 and June 2013. Prepared inquiry-based science activities for students.
- o Judged the **Science Fair at Ottawa Hills High School** in Spring 2009, 2010, and 2011.
- o Participated in **Toledo EXCEL** in June 2010, 2012, 2015, and 2016. Prepared and instructed activities focused on water quality and stormwater collection and treatment for 3 classes of 20 high school students each.
- o Prepared and instructed one session (3 hours) of CI5950:997, **Workshop in Curriculum and Instruction: Using Engineering Activities to Teach Math and Science III** in Fall Semesters of 2004, 2005, and 2006.
- o I organized and facilitated the **Stranahan Arboretum Summer Camp** (12 middle school students) visit to engineering during July 2004.

Service to the Profession

- o SWE, UT Faculty Adviser, 2015 to current.
- o AEESP, Membership Committee, July 2005-07, 2011-15.
- o AEESP, Membership Committee Chair, 2007-2011.

- o Coordinator for Graduate Engineering and Physics Section of Sigma Xi Research Symposium at the University of Toledo, Spring 2005.
- o IAGLR 2009, Conference Planning Committee.
- o Ohio Academy of Science 2008, Conference Planning Committee.
- o Sigma Xi, U-T Chapter Secretary, 2005-2006
- o Sigma Xi, U-T Chapter President-Elect, 2006-2007
- o Sigma Xi, U-T Chapter President, 2007-2008, 2008-2009
- o Sigma Xi, U-T Chapter Past President, Secretary, 2009-2010
- o WEF, Ohio WEA Young Member's Regional Leader, Spring 2004-06

Technical Reviewer

Manuscripts for *Environmental Science and Technology* (2003 - present)

Manuscripts for *Environmental Engineering and Science* (2006 - present)

Manuscript for *Stormwater for the Built Environment* (2015)

Manuscript for *Water Environment Research* (2008 - present)

Manuscript for *Desalination* (2010 - 2014)

Watershed Plan for Maumee River AOC as requested by members of Maumee RAP (Fall 2005).

Review Panel for National Oceanic Atmospheric Association (NOAA). Office of Human Health Initiatives. June 28-30, 2005 in Washington, DC.

Review Panel for EPA SBIR. Sept 17-19, 2006 in Silver Spring, MD.

Review Panel for NSF CBET. Feb 6-7, 2008 in Arlington , VA.

Professional Society Membership

Association of Environmental Engineering and Science Professors

American Society of Civil Engineers

Society for Women Engineers

Chi Epsilon

Water Environment Federation

American Women in Science

American Chemical Society