

CHRISTOPHER MARTINEAU MILLER

EDUCATION

Ph.D. in Civil and Environmental Engineering, The University of Iowa, 1995
M.S. in Civil and Environmental Engineering, The University of Iowa, 1992
B.S. in Civil and Environmental Engineering, The University of Iowa, 1990

PROFESSIONAL REGISTRATION AND CERTIFICATION

Professional Engineer (License 62882) – Ohio
Quality Matters – APPQMR (Applying the Quality Matters Rubric)

EXPERIENCE

Associate Professor
Assistant Professor

August 2001 to Present
August 1995 to August 2001

construction/environmental management assistance. Previous Army Reserve duty included bridge, building, and road construction projects in Indiana, Michigan, Minnesota, Honduras, Guatemala, and Panama.

HONORS AND AWARDS

Patents

1. Sasowsky, I. D., C. M. Miller, and A. M. Foos (2006). "Method for removing metals from aqueous solutions using mixed lithic materials." U.S. Patent No. 6,984,328.
2. Miller, C. M. (2004). "Catalytic fixed bed reactor systems for the destruction of contaminants in water by hydrogen peroxide and ozone." U.S. Patent No. 6,767,472. 27.
3. C. M. Miller and R. L. Valentine (1998). "Catalytic fixed bed reactor systems for the destruction of contaminants in water by hydrogen peroxide." U.S. Patent No. 5,817,240.

Book Chapters, Conference Proceedings, and Technical Reports

1. Miller, C. M., Custer, P., Kennedy, M., and Donnelly, S. (2015). "Evaluation of the Viking-Cives Tow Plow for Winter Maintenance," No. FHWA/OH-2015/7.
2. Miller, C. M., Schneider, IV., William, H., Kennedy, M. J., and Sullivan, S. (2014). "Snow Removal Wastewater Disposal Alternatives," No. FHWA/OH-2013/16.
3. Holik, W., W. Schneider IV, C. Miller, "Winter Maintenance Asset Allocation Based on GIS Snowplow Route Optimization Model." Presented at the 93rd Transportation Research Board of the National Academies, Washington, D.C., January 2014
4. Monty, C. N., Rodriguez, A., Miller, C. M., Schneider, W., and W. Holik. (2014). "Evaluation of the Effectiveness of Salt Neutralizers for Washing Snow and Ice Equipment," No. FHWA/OH-2013/18.
5. Schneider, William, H., Miller, C. M., Holik, W., and Crow, M. (2014). "Evaluation of the Viking-Cives Tow Plow and Sullllt (nd)-5h d Ice

- report INEEL/EXT-02-00233 prepared for the U.S. Department of Energy under DOE Idaho Operations Office contract DE-ACO7-99ID13727.
17. C. M. Miller and K. C. Bower (2001). "Advanced Chemical Oxidation: Fenton's Reagent Degradation of Organic Compounds," AEESP Environmental Engineering Processes Lab Manual.
 18. K. Bower, S. E. Duirk, and C. M. Miller (2000). "Chapter 14. Development of an Enhanced Ozone-Hydrogen Peroxide Advanced Oxidation Process," Emerging Technologies in Hazardous Waste Management 8, Kluwer Academic/Plenum Publishers, pp. 167-176.
 19. S. E. Duirk, W. Butala, and C. M. Miller (2000). "Chapter 17. Encapsulation of Nitrate Salts Using Vinylmethylpolysiloxane," Emerging Technologies in Hazardous Waste Management 8, Kluwer Academic/Plenum Publishers, pp. 199-206
 20. K. Bower, S. E. Duirk, and C. M. Miller (2000). "Development of an Enhanced Ozone-Hydrogen Peroxide Advanced Oxidation Process," Emerging Technologies in Hazardous Waste Management Symposium, Boston, August 23-27, 1998, pp. 167-176.
 21. G. G. Loomis, C. M. Miller, J. A. Giansiracusa, R. Kimmel, and S. V. Prewett (2000). "Silicone-Polymer Encapsulation of High-Level Calcine Waste for Transportation or Disposal," Idaho National Engineering and Environmental Laboratory report INEEL/EXT-99-01163 prepared for the U.S. Department of Energy under DOE Idaho Operations Office contract DE-ACO7-99ID13727.
 22. G. G. Loomis, C. M. Miller, and R. Kimmel (2000). "Silicone-Polymer Encapsulation of High-Level Calcine Waste for Transportation or Disposal" Proceedings of Waste Management '00 Conference, Tucson, Arizona.
 23. G. G. Loomis, C. M. Miller, and S. W. Prewett (1999). "Mixed Waste Salt Encapsulation Using Polysiloxane" Proceedings of Waste Management '99 Conference, Tucson, Arizona.
 24. G. G. Loomis, C. M. Miller, and S. W. Prewett (1999). "Mixed Waste Salt Encapsulation Using Polysiloxane" Proceedings of Waste Management '98 Conference, Tucson, Arizona.
 25. G. G. Loomis, S. Prewett, and C. M. Miller (1999). "Stabilize High Salt Content Waste Using Polysiloxane Stabilization," Innovative Technology Summary Report (DOE/EM-0474) demonstrated at the Idaho National Engineering and Environmental Laboratory (Idaho Falls, Idaho) and prepared for the U.S. Department of Energy under DOE Idaho Operations Office contract DE-ACO7-94ID13223.
 26. G. G. Loomis and C. M. Miller (1998). "Polysiloxane Encapsulation of the Low-Level Fraction of Calcined Mixed Waste at INETC," Idaho National Engineering and

5. "Monitoring Treated Water Fluorescence Metrics to Model Distribution System Water Quality," American Water Works Association Annual Conference and Exposition (ACE¹⁷), Philadelphia, Pennsylvania, June 11-14, 2017.
6. "Data Analytics and Water Treatment Process Optimization", Akron Global Water Alliance in Akron, OH, May 31-June 1, 2017.
7. "Data Analytics and Water Treatment Process Optimization," 55th Annual Water Workshop for OTCO, Columbus, OH, March 7-8, 2017.
8. "Exceptional Drinking Water for Everyone, Everywhere," Inclusive Innovation 4 Many @ The Bottom of the Pyramid Symposium, Akron, OH, November 30, 2016.
9. PAX seminar in Akron, 2016.
10. PAX seminar in Pittsburgh, 2016
11. "Small System Water Training: Achieving Compliance with the SDWA," AWWA Workshop, Columbus, OH, August 11, 2015.
12. "Managing Multiple Water Quality Challenges and Objectives Using Conventional Water Treatment Processes," Workshop for Solano Irrigation District, CA, June 7, 2015.
13. "Water Treatment Tools To Aid Process Optimization During an Algal Bloom," Workshop for Drinking Water Treatment Challenges Associated with Cyanobacteria In Clear Lake, CA, June 18, 2015.
14. "Full-Scale Water Treatment Process Operations Evaluation for Harmful Algal Bloom Management," US Algal Toxin Conference 2015 and the Akron Global Water Alliance, Akron, OH, April 29-30, 2015.
15. "Evaluation of Box Culvert Maintenance Methods," ODOT-FHWA Final Project Presentation, Columbus, OH, January 27, 2015.
16. "Bridging the Gap from Water Plant Data Collection and Data Analytics to Operational Decision Support for Harmful Algal Blooms," Ohio WEA-AWWA Technical Conference and Expo, Columbus, OH, August 28, 2014.
17. "Wash Water Quality Characterization from Transportation Maintenance Facilities in Ohio During Winter Operations," Ohio WEA-AWWA Technical Conference and Expo, Columbus, OH, August 28, 2014.
18. "Water Plant Fluorescence Data Analytics for Coagulation Operational Decision Support," American Chemical Society

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25. "Procedures for Waste Management from Street Sweeping and Stormwater Systems," Ohio Transportation Engineering Conference, Columbus, Ohio, October 22, 2013.
26. "Akron Distribution Water Quality Monitoring," American Water Works Association Northeast District Meeting Ohio Section, Akron, Ohio, October 17, 2013.
27. "Comprehensive Full Scale Coagulation Assessment Using Fluorescence Spectroscopy and Parallel Factor Analysis," American Water Works Association Water Quality Technology Conference and Exposition (WQTC), Toronto, Ontario, Canada, November 4-8, 2012.
28. "Monitoring and Modifying Water Treatment Plant Operations to Manage Disinfection Byproduct Formation in the Distribution System", American Water Works Association Annual Conference and Exposition (ACE¹²), Dallas, Texas, June 10-14, 2012.
29. "Distribution System Flushing Practice Assessment Utilizing Real Time Trihalomethane (THM) and Chlorine Residual Measurements", American Water Works Association Water Quality Technology Conference and Exposition (WQTC), Phoenix, Arizona, November 13-17, 2011.
30. "Use of IDSE and Chlorine Monitoring Data to Predict Chlorine Decay and Trihalomethane Formation", American Water Works Association Annual Conference and Exposition (ACE¹¹), Washington, D.C., June 12-16, 2011.
31. "Fluorescence Spectroscopy as a Tool for the Characterization of Natural Organic Matter and the Control and Optimization of Drinking Water Treatment Processes", American Institute of Chemical Engineers (AIChE), Annual Meeting, Minneapolis, Minnesota, October 16-21, 2011.
32. "New Methods for Source Water Management and Treatment Process Monitoring", Northeast Ohio District American Water Works Association, Canton, Ohio, August 26, 2010.
33. "Source Water Management and Treatment Process Monitoring", Northwest Ohio District American Water Works Association, Norwalk, Ohio, April 22, 2010.
34. "Integrated Watershed Management of Drinking Water Sources"

42. "Catalytic Ozonation of 2,4-Dinitrotoluene in the Presence of Sand Supported Transition Metal Oxides," Oral presentation at University of Alabama-Birmingham Civil and Engineering Seminar, Birmingham, Alabama, April, 2000.
43. "Catalytic Ozonation of 2,4-Dinitrotoluene in the Presence of Sand Supported Transition Metal Oxides," Oral presentation a

21. "Drinking Water Issues as a Context for Problem-Based Science Instruction," Ohio Board of Regents Improving Teacher Quality (ITQ) State Grants Program, January 2010, \$88,863.
22. "Drinking Water Issues as a Context for Problem-Based Science Instruction," Ohio Board of Regents Improving Teacher Quality (ITQ) State Grants Program, February 2009, \$121,280.
23. "Field Study for Norwalk Distribution System Model Validation and Initial Distribution System Evaluation," City of Norwalk, Ohio, August 2006, \$24,500.
24. "Barberton Coagulation and Disinfection Byproduct Reduction Assessment," City of Barberton, Ohio, May 2005, \$22,910.
25. "Development of Chlorine Decay Model and Deposit Inhibitor Study for the City of Barberton," City of Barberton, Ohio, July 2002, \$20,780.
26. "The Role of Chemical Interferences in Grouting of Contaminated Soils," Orbit Technologies Inc. as a sub-grant from The Department of Energy (Contract #DE-ACO7-94ID13223), July 2000, \$106,655.
27. "Silicone Foam Encapsulation of Calcined Waste," Orbit Technologies Inc. as a sub-grant from The Department of Energy (Contract #DE-ACO7-94ID13223), June 1999, \$36,755.
28. "Development of Quality Model for Canton Water Distribution System," City of Canton Water Department, November 1997, \$122,000.
29. "Use of Ceramic Silicone Foam (CSF) to Stabilize Nitrate Salt Wastes," Orbit Technologies Inc. as a sub-grant from The Department of Energy (Contract #DE-ACO7-94ID13223), May 1997, \$34,000.
30. OBR/Research Challenge Matching Grant to DOE Award R4238, July 2000, \$20,000.
31. "Post-Doctoral Position for the Microscale Physiochemical Engineering Center," The University of Akron, College of Engineering, December 1999, \$64,000.

FUNDED RESEARCH - OTHER (<\$15K)

1. Corrosion Academy, University of Akron, 2014.
2. "Newton Falls Drinking Water Treatment Process Optimization and Disinfection By-Product Compliance Assistance," City of Newton Falls, Ohio, ApTw 1.33 0 Td7PP (y1 (s)1322)Tj(.Tj

34. "Hydrogen Peroxide Reactivity and Degradation Capacity In The Presence of Subsurface

- *Ohio AWWA/WEF Student Activities Committee Member* – Committee responsible for student organizations and activities at Ohio Universities involving American Water Works and Water Environment Foundation sponsorship (1998-2000).
- *Paper Reviewer* – Reviewer for the following Journals: Water Research, Environmental Science and Technology, Environmental Engineering Science, and others.
- *Book Reviewer* – Reviewer for Oxford Press (multiple reviews) and Prentice-Hall (now Pearson).

UNIVERSITY SERVICE

ABET (Engineering Accreditation) Coordinator	2006-2018
Civil Engineering	2006-2011
College of Engineering (Lead for All Programs)	2011-2015, 2017-2018
Undergraduate Committee, Department of Civil Engineering	1995-Present
Chair	2007-2011
Honor's College Advisor, Department of Civil Engineering	2009-2011
Faculty Senate, University of Akron	2010-2012
Radiation Safety Committee, University of Akron	2007-Present
Chair	2008-Present
Zip to Engineering	2013-2017
Civil Engineering Department - Statics course lead	2013-2017
College of Engineering (Lead for All Programs)	2015-2017
Higher Learning Commission	2013-2016
University Assessment Committee	2017-2018
Graduate Committee, Department of Civil Engineering	1997-1999, 2000-2006
Library Committee, College of Engineering	1995-1997
Hearing Board Pool, College of Engineering	2001-2010
Dean Search Committee, College of Engineering	2017
Biomimicry Research and Innovation Center, UA	2017-Present
Principal Investigator	2017-Present

- *Engineers Without Borders (EWB) Faculty Advisor 2009 to 2011* – Student chapter organized to promote engineering projects that benefit and support basic human needs such as clean water and power.
- *ASCE Student Chapter Co-Advisor 1999-2000, Faculty Advisor 2001 to 2013* – Student chapter organized to promote the Civil Engineering profession, host student regional competitions, and coordinate meetings with the local parent chapter. The chapter won the Ridgeway Award in 2013 for the best student chapter in the United States.
- *ASCE Graduate Student Chapter Faculty Advisor 2006 to 2010* – Student chapter organized to promote the Civil Engineering profession, host student regional competitions, and coordinate meetings with the local parent chapter.
- *Sigma Xi Scientific National Research Society, University of Akron Chapter Vice-Chair Fall 2000 to 2002* – Scientific research society dedicated to quality research endeavors.
- *Microscale Physiochemical Engineering Center (MPEC) Director Fall 1998 to Fall 2001* – Research center organized to perform collaborative research and enhance technology transfer between industry and the University. Activities also include offering continuing education courses (starting in Spring 2000) and hosting technical meetings.
- *Microscale Physiochemical Engineering Center (MPEC) Director Fall 2005 to Fall 2007* – Research center organized to perform collaborative research and enhance technology

transfer between industry and the University. Activities also include offering continuing education courses.