

Arianne A. Bazilio, Ph.D.

Environmental Science Program and Department of Chemistry, Trinity College
300 Summit Street, Hartford, CT 06106

Email: arianne.bazilio@trincoll.edu

Work: (860) 297-5242

EDUCATION

- Ph.D. (2017) Environmental Engineering, University of Massachusetts-Amherst,
Conferred February 2018
Dissertation: *The Role of Manganese Oxide in the Formation of
Disinfection Byproducts in Drinking Water Treatment*
Advisor: John E. Tobiason
- M.S. (2013) Environmental Engineering, University of Massachusetts-Amherst,
Amherst, MA
- B.S. (2009) Chemical and Biological Engineering, minor in Mathematics
New York University, Tandon School of Engineering
Formerly Polytechnic University, Brooklyn, NY

PROFESSIONAL POSITIONS

- 2018 – Present Assistant Professor, Environmental Science Program and Department of
Chemistry, Trinity College, Hartford, CT
- 2017 – 2018 Postdoctoral Fellow, Department of Civil and Environmental Engineering,
University of Texas at San Antonio, San Antonio, TX
- 2016 – 2017 Visiting Instructor, Department of Chemistry, Bates College, Lewiston, ME
- 2015 – 2015 Instructor, College of Engineering, University of Massachusetts-Amherst,
Amherst, MA
- 2010 – 2016 Graduate Research Assistant, Department of Civil and Environmental
Engineering, University of Massachusetts-Amherst, Amherst, MA
- 2009 – 2010 Environmental Engineering Intern, Research & Regulatory Planning Section,
Bureau of Wastewater Treatment, New York City Department of
Environmental Protection, Corona, NY
- 2005 – 2008 Teaching Assistant, General Engineering, New York University, Brooklyn,
NY

FELLOWSHIPS, HONORS AND AWARDS

- 2015 New England Water Works Association Joseph A. Murphy Scholarship
2014 American Association of University Women International Fellowship
2012 Bernard B. Berger Award for Academic Excellence and Commitment to Research in Environmental Engineering, University of Massachusetts Amherst
2010 Perrell Fellowship, Environmental and Water Resources Engineering, University of Massachusetts Amherst
2006 Dr. Joseph Jacobs Scholarship, NYU Tandon School of Engineering

PUBLICATIONS AND PRESENTATIONS

Scientific Peer Reviewed Publications

Bazilio, A. A., Nguyễn, C., Mai, X., Larsen, Y., & Tobiason, J. E. (2022). Influence of manganese oxide-coated granular media on disinfection byproduct formation. *AWWA Water Science*, e1282. <https://doi.org/10.1002/aws2.1282>

Bazilio, A. A., Kovarik, M. L., & Morrison, J. F. (2022). New Software Application and Case Study That Simplify Teaching Complex Chemical Solubility and Equilibria. *Journal of Chemical Education*, 99(2), 526–530. <https://doi.org/10.1021/acs.jchemed.1c00887>

Shahrokh Hamedani, A.; Bazilio, A.; Soleimanifar, H.; Shipley, H.; Giacomoni, M. Improving the Treatment Performance of Low Impact Development Practices—Comparison of Sand and Bioretention Soil Mixtures Using Column Experiments. *Water* **2021**, 13, 1210. <https://doi.org/10.3390/w13091210>

Balati, A.; Bazilio, A.; Shahriar, A.; Nash, K.; Shipley, H. J. Simultaneous formation of ultra-thin MoSe₂ nanosheets, Inorganic Fullerene-Like MoSe₂ and MoO₃ quantum dots using fast and ecofriendly Pulsed Laser Ablation in Liquid followed by microwave treatment. *Materials Science in Semiconductor Processing* **2019**, 99, 68-77. <https://doi.org/10.1016/j.mssp.2019.04.017>

Bazilio, A.A.; Kamniski, G.S.; Larsen, Y.; Mai, X.; Tobiason, J.E. Implementation of a Second-Stage Contactor for Manganese Removal. *Journal American Water Works Association* **2016**, 108, E606-E614. <https://doi.org/10.5942/jawwa.2016.108.0184>

Tobiason, J.E.; Bazilio, A.; Goodwill, J.; Mai, X.; Nguyen, C. Manganese Removal from Drinking Water Sources. *Current Pollution Reports* **2016**, 2,168-177. <https://doi.org/10.1007/s40726-016-0036-2>

Other Peer Reviewed Publications

Bazilio, A.; Ryan, A.; Welborn, J. Science Café: An Affordable, Easy- to- Implement Model that Introduces Young Girls to STEM Related Topics, Careers and Role Models. *Science Scope* **2016**, 40, 14-17.

Reports

Reckhow, D.A., Park, C., Wu, C., Bazilio, A, Yu, Y, Srinivasan, V, Mitch, W, Skadsen, J, 2016. Fate of Non-Regulated Disinfection By-Products in Distribution Systems, Report #4242, Water Research Foundation, Denver CO.

Conference Oral Presentations (presenter name underlined)

Bazilio, A., Killian, C., Modica, A., Fortin, D., Curtis, C., Ewing, H., “Phosphorus and metal cycling in a lake water supply”, Sustainable Water & Sediment Management: Symposium in Honor of Danny Reible, American Chemical Society 264th National Meeting, Chicago, IL, August 21-15, 2022.

Bazilio, A., Nguyen, C., Mai, X., Tobiason, J.E, “Role of Manganese Oxide in the Formation of Disinfection Byproducts in Drinking Water Treatment”, AWWA Connecticut Section 6th Annual Water Quality & Treatment Symposium, Norwich, CT, November 29, 2018

Bazilio, A., Mai, X., Nguyen, C., Tobiason, J.E, “Impact of Manganese Oxide-coated Granular Filter Media on Disinfection Byproduct Formation”, American Chemical Society 256th National Meeting, Boston, MA, August 19-23, 2018

Balati, A., Bazilio, A., Nash, K., Shipley, H.J, “Yolk–Shell Nanoarchitecture of Rutile–expanded core and its Heterojunction with Black TiO₂ Using One-step, Fast and Ecofriendly PLAL Synthesis,” American Chemical Society 256th National Meeting, Boston, MA, August 19-23, 2018

Bazilio, A., Tobiason, J.E, Mai, X., “Manganese Removal and Disinfection Byproduct Formation: The Full and Bench Scale”, AWWA Annual Conference, Chicago, IL, June 19 - 22, 2016

Bazilio, A., Tobiason, J.E, “Manganese Removal and Disinfection Byproduct Formation”, American Chemical Society 250th National Meeting, Boston, MA, August 16-20, 2015

Tobiason, J.E., Kamniski, G., Bazilio, A. and Goodwill, J., “High-Rate Post Filter Contactors for Mn Removal: From Research to Full-Scale”, New England Water Works Association 133rd Annual Conference, Rockport, ME, September 21-24, 2014

Yu, Y., Reckhow, D.A., Bazilio, A., “The Fate of Haloacetamides in Drinking Waters”, AWWA Annual Conference, Boston, MA, June 2014

Tobiason, J.E., Kamniski, G., Bazilio, A. and Goodwill, J., “Evaluation of First-Year Performance of Full-Scale Second-Stage Contactors for Manganese Removal from Groundwater”, AWWA Annual Conference, Boston, MA, June 2014

Bazilio, A., Park, C., Reckhow, D.A., “Biodegradation of Disinfection Byproducts in Drinking Water Distribution Systems,” AWWA Annual Conference, Denver, CO, June 2013

Presentations – Invited

Bazilio, A., “Chemical and Physical Processes in Drinking Water: Source and Treatment Quality Implications”, Bates Chemistry and Biochemistry Department Seminar, October 8th 2021.

Bazilio, A., “Manganese Oxide and Disinfection Byproduct Formation in Drinking Water Treatment”, US Coast Guard Academy Science Lecture Series, September, 2019.

Bazilio, A., “Disinfection Byproduct Formation in the Presence of Manganese Dioxide”, Wesleyan Mathematics & Science Scholars Winter Mini-Bridge Keynote, January, 2019.

Bazilio, A., Dillingham, M.J, Ewing, H., “Relationship between Phosphorus and Metals in Lake Auburn”, oral presentation, ACS Award for Research at an Undergraduate Institution: Symposium in honor of Maria Hepel, American Chemical Society 253rd National Meeting, San Francisco, California, April 2-6, 2017.

Bazilio, A., “Manganese Oxide as a Catalyst in Drinking Water Treatment”, Cornell University, Environmental Processes seminar series, November, 2015.

Bazilio, A., “Drinking Water Treatment”, AAUW Storrs-Willimantic CT Branch Meeting, 1st April, 2014.

COURSES

Trinity College, Hartford, CT

Environmental Science Program

Introduction to Environmental Science – ENVS 149

Environmental Chemistry Lecture & Lab – ENVS 230

Methods in Environmental Science Lecture & Lab – ENVS 375

Research (Laboratory) – ENVS 425

Department of Chemistry

Introductory Chemistry I – CHEM 111

Introductory Chemistry II – CHEM 112

Environmental Chemistry – CHEM 230

Research (Laboratory) – CHEM 425

Bates College, Lewiston, ME

Department of Chemistry

Atomic and Molecular Structure (lecture and lab) - CHEM 107A (Fall 2016)

Analytical Spectroscopy and Electrochemistry - CHEM 223 (Fall 2016)

Separation Science (lecture and lab) - CHEM 212 (Winter 2017)

Advanced Chemical Measurement Laboratory (lecture and lab) - CHEM s37 (Short Term 2017)

Phosphorus in Lake Auburn (independent study) - CHEM s50-A Short Term 2017)

University of Massachusetts Amherst, Amherst, MA

Department of Civil and Environmental Engineering

Water Chemistry - CEE 680; Guest Lecturer (Instructor: David A. Reckhow, Spring 2016)

Physical and Chemical Treatment Processes - CEE 672; Teaching Assistant (Instructor: John Tobiason; Spring 2014, 2015, 2016)

College of Engineering

Freshman Seminar - ENGIN 191; Instructor (Fall 2015)

New York University, Tandon School of Engineering, Brooklyn NY

General Engineering

Introduction to Engineering & Design - EG 1003; Teaching Assistant (Fall 2005 to Fall 2008).

UNDERGRADUATE RESEARCH MENTEES

- Andres Rodriguez '24 – B.S. Hispanic Studies & Neuroscience, Trinity College
- Caroline Killian '23 – B.S. Environmental Science, Trinity College
- Maja Peszko '23 – B.S. Economics & Chemistry, Trinity College
- Dennis St. Jean '23 – B.S. Environmental Science, Trinity College
- Sophia Georgiou '22 – B.S. Chemistry, Trinity College
- Amanda Modica '22 – B.S. Environmental Science & Chemistry, Trinity College
- Lauren Lee '21 – B.S. Environmental Science, Trinity College
- Blen Mengesha '21 – B.S. Environmental Science, Trinity College
- George Kapanadze '20 – B.S. Environmental Science, Trinity College
- Isabelle Wallace '20 – B.S. Environmental Science, Trinity College

SERVICE ACTIVITIES

- Elected Member, Academic Affairs Committee 2019 - 2021
- Board Member, Trinity Institute for Interdisciplinary Studies (TIIS) 2019 – 2021
- Social media curator, Chemistry Department 2018 - Present

PROFESSIONAL SOCIETY MEMBERSHIP

- American Chemical Society (ACS)
- Association of Environmental Engineering and Science Professors (AEESP)
- American Water Works Association (AWWA)

OUTREACH ACTIVITIES

- Organizer and Volunteer for a Water Treatment Demonstration for an All-Female STEM Group from Palacios Texas UTSA Visit (2018)
- Graduate Women in STEM Outreach Co-chair, University of Massachusetts (2014-2016)
- Organizer and Volunteer for Sound Bites (STEM) Café with Amherst Regional Middle school (2014- 2016)
- Organizer for Science Talks with Four Rivers Charter School of Greenfield MA (2015, 2016)

- Volunteer for UMass Women in Engineering and Computer Career Day for High School Girls (2015)
- Organizer and Volunteer for Workshops with Girls Inc. of Holyoke Eureka! students (2014 – 2015)
- Organizer and Volunteer for DNA extraction workshop with students from Springfield Urban League (2014)