MICHAEL DODD
Curriculum Vitæ

University of Washington
Department of Civil and Environmental Engineering
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EDUCATIONAL HISTORY

Swiss Federal Institute of Technology-Zurich (ETH-Zurich); Zurich, Switzerland
Ph.D., Environmental Sciences, 2008
Dissertation: "Characterization of Ozone-Based Oxidative Treatment as a Means of Eliminating the Target-Specific Biological Activities of Municipal Wastewater-Borne Antibacterial Compounds"

Georgia Institute of Technology; Atlanta, GA
M.S., Environmental Engineering, 2003
Thesis: "Chemical Oxidation of Aquatic Antibiotic Microcontaminants by Free and Combined Chlorine"

Georgia Institute of Technology; Atlanta, GA
B.S., Civil Engineering, 2001

EMPLOYMENT HISTORY

University of Washington, Department of Civil and Environmental Engineering
Seattle, WA (USA)
Assistant Professor (9/09 – present)

University of Washington, Department of Environmental and Occupational Health Sciences
Seattle, WA (USA)
Adjunct Assistant Professor (12/12 – present)

Yale University, Environmental Engineering Program
New Haven, CT (USA)
Postdoctoral Research Fellow (10/08 – 9/09)

Swiss Federal Institute of Aquatic Science and Technology (Eawag), Department of Water Resources and Drinking Water
Duebendorf, Switzerland
Graduate Research Assistant (9/03 – 9/08)

Georgia Institute of Technology, School of Civil and Environmental Engineering
Atlanta, GA (USA)
Graduate Research Assistant (8/01 – 5/03)

AWARDS AND HONORS

- Outstanding Reviewer Award; 2013; *Journal of Environmental Engineering*, American Society of Civil Engineers
- Advisor to recipient of 2013 MWH/AEESP Master's Thesis Award (1st Place) – MS graduate Jenna Forsyth
- NSF CAREER Award (2012-2017); Awarded 2012; US NSF
- Outstanding Teacher Award; 2012; University of Washington Department of Civil and Environmental Engineering
- ETH Medal; 2010; Swiss Federal Institute of Technology-Zurich (ETH-Zurich) (awarded to the top 8% of PhD dissertations completed at ETH-Zurich each year)
- Young Scientist Award; 2009; German Chemical Society, Division for Environmental Chemistry and Ecotoxicology
- CH2M Hill/AEESP Outstanding Doctoral Dissertation Award; 2009; Association of Environmental Engineering and Science Professors
- Gaylord Donnelley Environmental Postdoctoral Fellowship (2008-2009); Awarded 2008; Yale Institute for Biospheric Studies
- Excellence in Review Award; 2006; *Environmental Science & Technology*, American Chemical Society
- Outstanding M.S. Thesis; 2003; School of Civil and Environmental Engineering, Georgia Institute of Technology
- Graduate Research Fellowship (2003-2006); Awarded 2002; US NSF
- Science to Achieve Results (STAR) Fellowship (2001-2003); Awarded 2001; US EPA
- Georgia Tech Institute Fellowship (2001-2003); Awarded 2001; Georgia Tech Foundation, Inc.

PUBLICATIONS

Refereed journal publications (citations indexed by Google Scholar as of 1/13/15 provided in bold parentheses; total citations = 906; average citations per paper = 60; h-Index = 11)

1. Zhou, P.; Di Giovanni, G.D.; Meschke, J.S.; Dodd, M.C. Enhanced inactivation of *Cryptosporidium parvum* oocysts during solar photolysis of free available chlorine. *Environmental Science and Technology Letters* 2014, *1(11)*, 453–458.
2. Karlesa, A.; De Vera, G.A.D.; Dodd, M.C.; Park, J.; Espino, M.P.B.; and Lee, Y. Ferrate(VI) oxidation of β-lactam antibiotics: reaction kinetics, antibacterial activity changes, and transformation products. *Environmental Science and Technology* 2014, *48(17)*, 10380–10389.
3. Méndez-Díaz J.D.; Shimabuku, K.K.; Ma, J.; Enumah, Z.O.; Pignatello, J.J.; Mitch, W.A.; Dodd, M.C. Sunlight-driven photochemical halogenation of dissolved organic matter in seawater: A natural abiotic source of organobromine and organoiodine. *Environmental Science and Technology* 2014, *48(13)*, 7418-7427.
4. Forsyth, J.E.; Zhou, P.; Mao, N.Q.; Asato, S.; Meschke, J.S.; Dodd, M.C. Enhanced inactivation of *Bacillus subtilis* spores during solar photolysis of free available chlorine. *Environmental Science and Technology* 2013, *47(22)*, 12976-12984. **(1)**
5. Dodd, M.C. Potential impacts of disinfection processes on elimination and deactivation of antibiotic resistance genes during water and wastewater treatment. *Journal of Environmental Monitoring* (Invited Paper: Emerging Investigators Special Issue) 2012, 14(7), 1754-1771. **(27)**

6. Dodd, M. C.; Rentsch, D.; Singer, H. P.; Kohler, H.-P. E.; von Gunten, U. Transformation of β-lactam antibacterial agents during aqueous ozonation: Reaction pathways and quantitative bioassay-directed characterization of biologically-active oxidation products. *Environmental Science and Technology* 2010, 44(15), 5940-5948. **(36)**
7. Paul, T.; Dodd, M. C.; Strathmann, T. J. Photolytic and photocatalytic decomposition of aqueous ciprofloxacin: Transformation products and residual antibacterial activity. *Water Research* 2010, 44(10), 3121-3132. **(80)**
8. Dodd, M. C.; Kohler, H.-P. E.; von Gunten, U. Oxidation of antibacterial compounds by ozone and hydroxyl radical: Elimination of biological activity during aqueous ozonation processes. *Environmental Science and Technology* 2009, 43(7), 2498–2504. **(103)**
9. Dodd, M. C.; Zuleeg, S.; von Gunten, U.; Pronk, W. Ozonation of source-separated urine for resource recovery and waste minimization: Process modeling, reaction chemistry, and operational considerations. *Environmental Science and Technology* 2008, 42(24), 9329-9337. **(21)**
10. Suarez, S.; Dodd, M. C.; Omil, F.; von Gunten, U. Kinetics of triclosan oxidation by aqueous ozone and consequent loss of antibacterial activity: relevance to municipal wastewater ozonation. *Water Research* 2007, 41(12), 2481-2490. **(75)**
11. Dodd, M. C.; Huang, C.-H. Aqueous chlorination of the antibacterial agent trimethoprim: Reaction kinetics and pathways. *Water Research* 2007, 41(3), 647-655. **(65)**
12. Dodd, M. C., Vu, N. D.; Ammann, A.; Le, V. C.; Kiessner, R.; Berg, M.; Pham, H. V.; Cao, T. H.; von Gunten, U. Kinetics and mechanistic aspects of As(III) oxidation by aqueous chlorine, chloramines, and ozone. *Environmental Science and Technology* 2006, 40(10), 3285-3292. **(62)**
13. Dodd, M. C.; Buffle, M.-O.; von Gunten, U. Oxidation of antibacterial molecules by aqueous ozone: Moiety-specific reaction kinetics and application to ozone-based wastewater treatment. *Environmental Science and Technology* 2006, 40(6), 1969-1977. **(183)**
14. Dodd, M. C.; Shah, A. D.; von Gunten, U.; Huang, C.-H. Interactions of fluoroquinolone antibacterial agents with aqueous chlorine: Reaction kinetics, mechanisms, and transformation pathways. *Environmental Science and Technology* 2005, 39(18), 7065-7076. **(103)**
15. Dodd, M. C.; Huang, C.-H. Transformation of the antibacterial agent sulfamethoxazole in reactions with chlorine: Kinetics, mechanisms, and pathways. *Environmental Science and Technology* 2004, 38(21), 5607-5615. **(150)**

Conference proceedings and other non-journal articles

1. Forsyth, J.E.; Mao, N.Q.; Meschke, J.S.; Dodd, M.C. "Photochemical activation of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms", Water Environment Federation Disinfection and Public Health Conference, Indianapolis, IN. February 24-26, 2013
2. Zhou, P.; Li, S.; Dodd, M.C. "Oxidation and disinfection processes as barriers to the dissemination of bacterial antibiotic resistance genes via water and wastewater", Water Environment Federation Disinfection and Public Health Conference, Indianapolis, IN. February 24-26, 2013
3. Dodd, M. C.; Kohler, H.-P. E.; Rentsch, D.; von Gunten, U. "Wastewater ozonation as a barrier to conveyance of chemical determinants of antibacterial resistance through municipal water (re)use cycles", 5th International Water Association (IWA) Leading-Edge Conference on Water and Wastewater Technologies, Zurich, Switzerland. June 1-4, 2008
4. Paul, T.; Dodd, M. C.; von Gunten, U.; Strathmann, T.J. "Residual antibacterial activity of photolytically and photocatalytically-treated aqueous solutions of the antibacterial agent ciprofloxacin", extended abstracts of the 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008
5. Suarez, S.; Dodd, M. C.; Omil, F.; Lema, J. M. "Kinetics of fluoxetine and triclosan oxidation during municipal wastewater ozonation", proceedings of the 6th European Congress of Chemical Engineering, Copenhagen, Denmark. September 16-21, 2007

6. Dodd, M. C.; Kohler, H.-P. E.; von Gunten, U. "Oxidation of antibacterial and biocidal compounds by ozone and hydroxyl radicals: Elimination of biological activity during aqueous ozonation processes", extended abstracts of MICROPOL & ECOHAZARD 2007 - the 5th IWA Specialised Conference on Assessment and Control of Micropollutants / Hazardous Substances in Water, Frankfurt am Main, Germany. June 17-20, 2007
7. Dodd, M. C.; Suarez, S.; Kohler, H.-P. E.; von Gunten, U. "Moiety-specific oxidation reactions and consequent changes in biochemical activities of antibacterial compounds during aqueous ozonation processes", extended abstracts of the 233rd American Chemical Society (ACS) National Meeting, Chicago, IL. March 25-29, 2007
8. Dodd, M. C.; Vu, N. D.; Le, V. C.; Berg, M.; von Gunten, U. "As(III) oxidation by chlorine and ozone: Using kinetics measurements to model reactions during treatment of natural waters", proceedings of the American Water Works Association (AWWA) Water Quality Technology Conference, Denver, CO. November 5-9, 2006
9. Dodd, M. C.; von Gunten, U. "Selective oxidation of antibacterial molecules during ozonation of municipal wastewater", extended abstracts of the International Ozone Association (IOA) 17th World Ozone Congress, Strasbourg, France. August 22-25, 2005
10. Dodd, M. C.; von Gunten, U. "Oxidation of key functional groups in prominent clinical antibacterial agents: Potential for elimination of antibacterial activity via treatment with ozone", extended abstracts of the 228th American Chemical Society (ACS) National Meeting, Philadelphia, PA. August 23-27, 2004.
11. Dodd, M. C.; Huang, C.-H. "Chemical oxidation of aquatic antibiotic microcontaminants by free and combined chlorine", proceedings of the American Water Works Association (AWWA) Water Quality Technology Conference, Philadelphia, PA. November 2-5, 2003.

Book chapters

Huang, C.-H.; Dodd, M. C.; Shah, A. D. "Reactions of Antibacterial Agents with Aqueous Chlorine under Relevant Water Treatment Conditions", In: *Fate of Pharmaceuticals in the Environment and Water Treatment Systems*, D. Aga, Ed.; CRC Press, Taylor & Francis Books, 2007.

OTHER SCHOLARLY ACTIVITY

Invited lectures and seminars

1. Department of Civil, Environmental, and Geo- Engineering, University of Minnesota, *Degradation and Deactivation of Bacterial Antibiotic Resistance Genes during Water and Healthcare Disinfection Processes*, November 14, 2014
2. 12th Annual United Nations University and Gwangju Institute of Science and Technology Joint Programme Symposium, Da Nang, Vietnam, *Disinfection Processes as Barriers to the Dissemination of Bacterial Antibiotic Resistance Genes in Environmental Systems*, October 28, 2014
3. International Symposium on Chemicals of Emerging Concern at the 97th Canadian Chemistry Conference and Exposition, Vancouver, British Columbia, *Disinfection processes as barriers to the dissemination of bacterial antibiotic resistance in environmental systems*, June 5, 2014
4. Department of Civil, Environmental, and Architectural Engineering, University of Colorado – Boulder, *Looking at water chlorination in a new light: Photochemical activation of free chlorine for enhanced disinfection of chlorine-resistant microorganisms*, October 25, 2013
5. Natural Science Seminar Series, College of Science and Engineering, Seattle University, *Looking at water chlorination in a new light: Photochemical activation of free chlorine for enhanced disinfection of chlorine-resistant microorganisms*, October 11, 2013

6. ReNUWIt Sunlight Symposium, Stanford University, *Sunlight-driven photolysis of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms*, April 2, 2013
7. Department of Civil and Environmental Engineering, University of Michigan, *Disinfection Processes as Barriers to the Dissemination of Bacterial Antibiotic Resistance via Water and Wastewater*, March 13, 2013
8. Department of Environmental Sciences and Engineering, University of North Caroline – Chapel Hill, *Sunlight driven photolysis of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms*, January 29, 2013
9. Department of Civil and Environmental Engineering, Duke University, *Oxidation and disinfection processes as barriers to the dissemination of antibiotic resistance via water and wastewater*, January 28, 2013
10. Department of Civil and Environmental Engineering, Georgia Institute of Technology, *Oxidation and disinfection processes as barriers to the development and dissemination of antibiotic resistance via water and wastewater*, October 29, 2012
11. Department of Civil and Environmental Engineering, Temple University, *Oxidation/disinfection processes as barriers to the development and dissemination of antibiotic resistance via water and wastewater*, August 22, 2012
12. Department of Civil and Environmental Engineering, Virginia Polytechnic Institute and State University, *Oxidation/disinfection processes as barriers to the development and dissemination of antibiotic resistance via water and wastewater*, August 15, 2012
13. Puget Sound Institute, University of Washington – Tacoma, *Quantifying abiotic organohalogen formation in seawater during exposure to solar radiation*. November 28. 2011
14. Division of Environmental and Biomolecular Systems, Oregon Health and Science University, *Oxidation and disinfection processes as barriers to the development and dissemination of antibiotic resistance in water and wastewater*. November 4, 2011.
15. Department of Civil and Environmental Engineering, University of Illinois at Urbana-Champaign. *Halide activation by natural chemical processes: Water treatment applications and potential implications for marine geochemistry.* April 8, 2011.
16. University of Trier, Trier, Germany. *Characterization of ozone-based oxidative treatment as a means of eliminating the target-specific biological activities of municipal wastewater-borne antibacterial compounds*, German Chemical Society, Division of Environmental Chemistry and Ecotoxicology, Annual Meeting. September 23, 2009
17. Department of Civil Engineering, University of Minnesota, Minneapolis, MN. *Attenuating the micropollutant-derived ecotoxicological burden of municipal wastewaters via conventional and advanced oxidation processes: Implications for the role of oxidative wastewater treatment in sustainable regional water (re)use*, July 31, 2009
18. Yale Institute for Biospheric Studies, Yale University, New Haven, CT. *Photochemical generation of reactive halogen species under UVA Light and their interactions with dissolved organic matter in saline waters*, April 22, 2009
19. Environmental Engineering Program, Yale University, New Haven, CT. *Ozonation of source-separated urine for resource recovery and waste minimization: Process modeling, reaction chemistry, and operational considerations*, March 24, 2009
20. Department of Civil and Environmental Engineering, University of Washington. *Attenuating the micropollutant-derived ecotoxicological burden of municipal wastewaters via conventional and advanced oxidation processes: Implications for the role of oxidative wastewater treatment in sustainable regional water (re)use*, April 14, 2008
21. RWTH Aachen University, Aachen, Germany. *Application of ozone for micropollutant oxidation during municipal wastewater treatment: An overview of reaction chemistry, process fundamentals, and practical results*, November 28, 2007

22. School of Architecture, Civil, and Environmental Engineering, École Polytechnique Fédérale de Lausanne. *Mechanistic and toxicological aspects of antibacterial agent transformation during chlorination and ozonation processes: Implications for the design and optimization of oxidative wastewater treatment applications*, July 6, 2007
23. Division of Environmental Science and Engineering, National University of Singapore. *Mechanistic and toxicological aspects of antibacterial agent transformation during chlorination and ozonation processes: Implications for the design and optimization of oxidative wastewater treatment applications*, June 25, 2007
24. Department of Energy, Environmental, and Chemical Engineering, Washington University in St. Louis. *Transformation of wastewater-borne antibacterial agents during chlorination and ozonation processes: Kinetics, reaction pathways, and toxicological consequences of structural modifications*, April 3, 2007
25. Department of Geography and Environmental Engineering, Johns Hopkins University. *Transformation of wastewater-borne antibacterial agents during chlorination and ozonation processes: Kinetics, reaction pathways, and toxicological consequences of structural modifications*, March 27, 2007
26. Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder. *Transformation of wastewater-borne antibacterial agents during chlorination and ozonation processes: Kinetics, reaction pathways, and toxicological consequences of structural modifications*, March 5, 2007
27. Department of Civil and Environmental Engineering, University of Massachusetts Amherst. *Transformation of wastewater-borne antibacterial agents during chlorination and ozonation processes: Kinetics, reaction pathways, and toxicological consequences of structural modifications*, February 23, 2007.

Oral presentations given at conferences (presenter in bold)

1. Méndez-Díaz J.D.; Shimabuku, K.K.; Ma, J.; Enumah, Z.O.; Pignatello, J.J.; Mitch, W.A.; **Dodd, M.C.** "Sunlight-driven photochemical bromination and iodination of dissolved organic matter in seawater", 248th American Chemical Society National Meeting, San Francisco, CA. August 10-14, 2014
2. Zhou, P.; Forsyth, J.E.; Meschke, J.S.; **Dodd, M.C.** "Looking at water chlorination in a new light: Contributions of ozone and hydroxyl radical to inactivation of chlorine-resistant microorganisms during solar photolysis of free chlorine", 248th American Chemical Society National Meeting, San Francisco, CA. August 10-14, 2014
3. **Shimabuku, K.K.**; Zhou, P.; Dodd, M.C. "Deactivation of antibiotic resistance genes with ozone and hydrogen peroxide", Water and Environment Students Talks (WEST), University of British Columbia, Vancouver, BC June 8–10, 2014
4. **Zhou, P.**; Meschke, J.S.; Dodd, M.C. "Sunlight-driven photolysis of chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microbial pathogens", Water and Environment Students Talks (WEST), University of British Columbia, Vancouver, BC June 8–10, 2014
5. **Dodd, M.C.**; Zhou, P.; Shimabuku, K.K. "Disinfection processes as barriers to the dissemination of bacterial antibiotic resistance genes via water and wastewater", International Symposium on Chemicals of Emerging Concern at the 97th Canadian Chemistry Conference and Exposition, Vancouver, British Columbia. June 5, 2014
6. Perry, S.A.L.; **Speth, T.F.**; Adams, J.Q.; Dodd, M.C. "EPA's Drinking Water Treatability Database: A Tool for All Drinking Water Professionals", American Water Works Association (AWWA) Water Quality Technology Conference, Long Beach, CA. November 3-7, 2013
7. **Zhou, P.**; Li, S.; Dodd, M.C. "Disinfection processes as barriers to the dissemination of bacterial antibiotic resistance genes via water and wastewater. 2013 AEESP 50th Anniversary Conference", Colorado School of Mines, Golden, CO. July 14-16, 2013

8. **Zhou, P.**; Li, S.; Dodd, M.C. "Disinfection processes as barriers to the dissemination of bacterial antibiotic resistance genes via water and wastewater", Micropol & Ecohazard 2013, Zurich, Switzerland. June 16-20, 2013
9. **Zhou, P.**; Li, S.; Dodd, M.C. "Characterization of bacterial antibiotic resistance gene deactivation during disinfection processes", ReNUWIt Sunlight Symposium, Stanford University; Stanford, CA. April 2, 2013
10. Forsyth, J.E.; Mao, N.Q.; Meschke, J.S.; **Dodd, M.C.** "Photochemical activation of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms", Water Environment Federation Disinfection and Public Health Conference, Indianapolis, IN. February 24-26, 2013
11. **Zhou, P.**; Li, S.; Dodd, M.C. "Disinfection processes as barriers to the dissemination of bacterial antibiotic resistance genes via water and wastewater", Water Environment Federation Disinfection and Public Health Conference, Indianapolis, IN. February 24-26, 2013
12. Forsyth, J.E.; Mao, N.Q.; Meschke, J.S.; **Dodd, M.C.** "Photochemical activation of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms", 244th American Chemical Society National Meeting, Philadelphia, PA. August 19-23, 2012
13. **Zhou, P.**; Li, S.; Dodd, M.C. "Comparison of common water disinfectants in their ability to deactivate bacterial antibiotic resistant genes", 244th American Chemical Society National Meeting, Philadelphia, PA. August 19-23, 2012
14. Forsyth, J.E.; Mao, N.Q.; Meschke, J.S.; **Dodd, M.C.** "Photochemical activation of free chlorine to reactive oxygen species for enhanced inactivation of chlorine-resistant microorganisms", International Ultraviolet Association Conference MOVING FORWARD: Sustainable UV Solutions to Meet Evolving Regulatory Challenges Washington, D.C.; Tuesday, August 12-14, 2012
15. **Dodd, M.C.**; Fagnant, C.S. "Optimization of solar free chlorine production for decentralized, energy-efficient disinfection of compromised drinking water resources", 242nd American Chemical Society (ACS) National Meeting, Denver, CO. August 28-September 1, 2011
16. **Dodd, M.C.**; Zhou, P.; Rossier, C., Gough, H.L., Davidson, S.K. "Kinetics and mechanisms of bacterial DNA deactivation by common drinking water and wastewater disinfectants", 242nd American Chemical Society (ACS) National Meeting, Denver, CO. August 28-September 1, 2011
17. **Dodd, M.C.**; Méndez-Díaz J.D., J. Enumah, Z.O.; Pignatello, J.J.; Mitch, W.A. "Quantifying abiotic bromination of natural organic matter in seawater during exposure to solar radiation and ambient ozone", Fourth IWA Specialty Conference on Natural Organic Matter, Costa Mesa, CA, July 27-29, 2011
18. **Dodd, M. C.**; Zuleeg, S.; Pronk, W. von Gunten, U. "Ozonation of source-separated urine for resource recovery and waste minimization: Process modeling, reaction chemistry, and operational considerations.", Association of Environmental Engineering and Science Professors (AEESP) 2009 Conference, University of Iowa, Iowa City, IA. July 27, 2009
19. **Dodd, M. C.**; Kohler, H.-P. E.; Rentsch, D.; von Gunten, U. "Wastewater ozonation as a barrier to conveyance of chemical determinants of antibacterial resistance through municipal water (re)use cycles", 5th International Water Association (IWA) Leading-Edge Conference on Water and Wastewater Technologies, Zurich, Switzerland. June 1-4, 2008
20. **Paul, T.**; Dodd, M. C.; von Gunten, U.; Strathmann, T.J. "Residual antibacterial activity of photolytically and photocatalytically-treated aqueous solutions of the antibacterial agent ciprofloxacin", extended abstracts of the 235th American Chemical Society National Meeting, New Orleans, LA, April 6-10, 2008
21. **Suarez, S.**; Dodd, M. C.; Omil, F.; Lema, J. M. "Kinetics of fluoxetine and triclosan oxidation during municipal wastewater ozonation", proceedings of the 6th European Congress of Chemical Engineering, Copenhagen, Denmark. September 16-21, 2007
22. **Dodd, M. C.**; Kohler, H.-P. E.; von Gunten, U. "Oxidation of antibacterial and biocidal compounds by ozone and hydroxyl radicals: Elimination of biological activity during aqueous ozonation processes", extended abstracts of MICROPOL & ECOHAZARD 2007 - the 5th IWA Specialised

Conference on Assessment and Control of Micropollutants / Hazardous Substances in Water, Frankfurt am Main, Germany. June 17-20, 2007

23. **Dodd, M. C.**; Suarez, S.; Kohler, H.-P. E.; von Gunten, U. "Moiety-specific oxidation reactions and consequent changes in biochemical activities of antibacterial compounds during aqueous ozonation processes", extended abstracts of the 233rd American Chemical Society (ACS) National Meeting, Chicago, IL. March 25-29, 2007
24. **Dodd, M. C.**; Vu, N. D.; Le, V. C.; Berg, M.; von Gunten, U. "As(III) oxidation by chlorine and ozone: Using kinetics measurements to model reactions during treatment of natural waters", proceedings of the American Water Works Association (AWWA) Water Quality Technology Conference, Denver, CO. November 5-9, 2006
25. **Dodd, M. C.**; von Gunten, U. "Selective oxidation of antibacterial molecules during ozonation of municipal wastewater", extended abstracts of the International Ozone Association (IOA) 17th World Ozone Congress, Strasbourg, France. August 22-25, 2005
26. **Dodd, M. C.**; von Gunten, U. "Oxidation of key functional groups in prominent clinical antibacterial agents: Potential for elimination of antibacterial activity via treatment with ozone", extended abstracts of the 228th American Chemical Society (ACS) National Meeting, Philadelphia, PA. August 23-27, 2004.
27. **Dodd, M. C.**; Huang, C.-H. "Chemical oxidation of aquatic antibiotic microcontaminants by free and combined chlorine", proceedings of the American Water Works Association (AWWA) Water Quality Technology Conference, Philadelphia, PA. November 2-5, 2003.

Poster presentations given at conferences (presenter in bold)

1. Shimabuku, K.K.; **Zhou, P.**; Dodd, M.C. "Deactivation of antibiotic resistance genes with ozone and hydrogen peroxide", 248th American Chemical Society National Meeting, San Francisco, CA. August 10-14, 2014
2. **Wagner, P.**; Zhou, P.; Dodd, M.C. "Inactivation of chlorine-resistant microorganisms by solar photolysis of free chlorine and observation of consequent damage by scanning electron microscopy", 2014 UW Summer STEM Research Poster Session, University of Washington, Seattle, WA, August 20, 2014.
3. Méndez-Díaz J.D.; Shimabuku, K.K.; Ma, J.; Enumah, Z.O.; Pignatello, J.J.; Mitch, W.A.; **Dodd, M.C.** "Sunlight-driven photochemical halogenation of dissolved organic matter in seawater: A natural abiotic source of organobromine and organoiodine", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH. June 22-27, 2014
4. Zhou, P.; Meschke, J.S.; **Dodd, M.C.** "Looking at water chlorination in a new light: Contributions of ozone and hydroxyl radical to inactivation of chlorine-resistant microorganisms during solar photolysis of free chlorine", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH. June 22-27, 2014
5. **Sullivan, M.**; Dodd, M.; Kirk, H.; Iverson, H. "Water, water everywhere, but not a drop to drink: Guided-inquiry activities for environmental science", Process Oriented Guided Inquiry Learning (POGIL) National Meeting, St. Louis, MO, May 31–June 3, 2014
6. **Bell, M.**; Zhou, P.; Beck, N.K.; Meschke, J.S.; Dodd, M.C. "Influences of multivalent cations and natural organic matter on inactivation of *B. Subtilis* spores by free chlorine", 2013 UW Summer STEM Research Poster Session, University of Washington, Seattle, WA, August 21, 2013.
7. **Asato, S.S.**; Zhou, P.; Dodd, M.C. "Quantification of ozone formation during sunlight-driven photolysis of aqueous chlorine", 2013 Undergraduate Research Symposium, University of Washington, Seattle, WA, May 17, 2013.
8. Forsyth, J.E.; Mao, N.Q.; Meschke, J.S.; **Dodd, M.C.** "Enhanced inactivation of chlorine-resistant microorganisms by in situ photolysis of free chlorine", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH, June 24-29, 2012

9. Zhou, P.; Li, S.; **Dodd, M.C.** "Chemical modification and deactivation of extra- and intracellular antibiotic resistance genes by common drinking water and wastewater disinfectants", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH, June 24-29, 2012
10. **Zhou, P.**; Li, S.; Dodd, M.C. "Chemical modification and deactivation of bacterial DNA during treatment with common drinking water and wastewater disinfectants", 112th General Meeting of the American Society of Microbiology, San Francisco, CA, June 16-19, 2012.
11. **Forsyth, J.E.**; Mao, N.Q.; Meschke, J.S.; Dodd, M.C. "Activation of free chlorine to hydroxyl radical by simulated sunlight for enhanced inactivation of *B. subtilis* spores", 112th General Meeting of the American Society of Microbiology, San Francisco, CA, June 16-19, 2012.
12. **Zhou, P.**; Li, S.; Dodd, M.C. "Chemical modification and deactivation of bacterial DNA during treatment with common drinking water and wastewater disinfectants", AWWA Annual Conference and Exposition, Dallas, TX, June 10-14, 2012.
13. **Ma, J.**; Méndez-Díaz J.D.; Dodd, M.C. "Halogen redox chemistry at the air-sea interface", 2012 Undergraduate Research Symposium, University of Washington, Seattle, WA, May 18, 2012.
14. **Mao, N.Q.**; Forsyth, J.E.; Meschke, J.S.; Dodd, M.C. "Photolysis rate of chlorine under sunlight in photochemically-enhanced disinfection", 2012 Undergraduate Research Symposium, University of Washington, Seattle, WA, May 18, 2012.
15. **Snow, H.**; Dodd, M.C. "Tidal transport of PCBs in the Duwamish River", 2012 Undergraduate Research Symposium, University of Washington, Seattle, WA, May 18, 2012.
16. **Li, S.**; Zhou, P.; Dodd, M.C. "Deactivation and degradation of antibiotic resistance genes in wastewater disinfection Processes", 2012 Undergraduate Research Symposium, University of Washington, Seattle, WA, May 18, 2012.
17. **Zhou, P.**; Li, S.; Dodd, M.C. "Chemical modification and deactivation of bacterial DNA during treatment with common drinking water and wastewater disinfectants", Pacific Northwest Section of AWWA Annual Conference, Yakima, WA, May 2-4, 2012. ***1st Place Winner in Student Poster Competition**
18. **Forsyth, J.E.**; Mao, N.Q.; Meschke, J.S.; Dodd, M.C. "Activation of free chlorine to hydroxyl radical by simulated sunlight for enhanced inactivation of *B. subtilis* spores", Pacific Northwest Section of AWWA Annual Conference, Yakima, WA, May 2-4, 2012. ***2nd Place Winner in Student Poster Competition**
19. **Smoll, K.**; Méndez-Díaz, J.; Dodd, M.C.; Simpson, C.; Onstad, G., "Method development of headspace solid-phase microextraction for the analysis of volatile organohalogen compounds in artificial seawater", University of Washington Summer Undergraduate Research Poster Session, Seattle, WA, August 17, 2011.
20. **Fagnant, C.S.**; Mao, N.Q., Dodd, M.C. "Optimization of solar production of free chlorine for decentralized, energy-efficient disinfection of compromised drinking water sources", AWWA Annual Conference and Exposition, Washington, D.C., June 12-16, 2011.
21. **Fagnant, C.S.**; Dodd, M.C. "Optimization of solar production of free chlorine for decentralized, energy-efficient disinfection of compromised drinking water sources", Pacific Northwest Section of AWWA Annual Conference, Boise, ID, May 4-6, 2011. ***1st Place Winner in Student Poster Competition**
22. **Dodd, M. C.**; Rentsch, D.; Singer, H. P.; Kohler, H.-P. E.; von Gunten, U. "Transformation of β-lactam antibacterial agents during aqueous ozonation: Reaction pathways and quantitative bioassay-directed characterization of biologically-active oxidation products", Association of Environmental Engineering and Science Professors (AEESP) 2009 Conference, University of Iowa, Iowa City, IA. July 27, 2009.
23. **Paul, T.**; Miller, P. L.; Dodd, M. C.; von Gunten, U.; Machesky, M.; Strathmann, T. J. "Visible light-initiated photocatalytic transformation of fluoroquinolone antibacterial agents,", Summit of the National Academy of Engineering Grand Challenges, Durham, NC, March 2-3, 2009.

24. **Dodd, M. C.**; Zuleeg, S.; Pronk, W. von Gunten, U. "Pre-treatment of source-separated urine by ozonation: feasibility and quantitative modeling of mass-transfer limited micropollutant depletion by O_3 and $^{\bullet}OH$ on the basis of fundamental bimolecular reaction kinetics", MICROPOL & ECOHAZARD 2007 - the 5th IWA Specialised Conference on Assessment and Control of Micropollutants / Hazardous Substances in Water, Frankfurt am Main, Germany. June 17-20, 2007.
25. **Huang, C.-H.**; Dodd, M. C.; Shah, A. D.; von Gunten, U.; Kim, J.-H. "Reactions of antibacterial agents with aqueous chlorine under water treatment conditions", Gordon Research Conference on Drinking Water Disinfection By-Products, Mount Holyoke College, South Hadley, MA. August 13-18, 2006.
26. **Dodd, M. C.**; Vu, N. D.; Ammann, A.; Le, V. C.; Kissner, R.; Berg, M.; von Gunten, U. "Kinetics and mechanistic aspects of As(III) oxidation by aqueous chlorine, chloramines, and ozone: Relevance to drinking water treatment", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH. June 25-30, 2006.
27. **Dodd, M. C.**; Kohler, H.-P. E.; von Gunten, U. "Moiety-specific oxidation of antibacterial molecules by aqueous ozone: Reaction kinetics, elimination of biochemical activity, and implications for municipal wastewater ozonation", Gordon Research Conference on Environmental Sciences: Water, Holderness School, Plymouth, NH. June 25-30, 2006.

Professional society memberships

American Chemical Society (ACS) – Division of Environmental Chemistry (2003-present)
American Water Works Association (AWWA) (2001-present)
Association of Environmental Engineering and Science Professors (AEESP) (2006-present)
Water Environment Federation (WEF) (2009-present)

Reviewer for Journals (~10-15 reviews per year)

Chemical Engineering Journal
Chemosphere
Critical Reviews in Environmental Science and Technology
Environmental Health Perspectives
Environmental Microbiology and Environmental Microbiology Reports
Environmental Science and Pollution Research
Environmental Science and Technology
Environmental Science and Technology Letters
Environmental Toxicology and Chemistry
Journal of the American Water Works Association
Journal of Environmental Engineering – ASCE
Marine Chemistry
Ozone Science and Engineering
Science of the Total Environment
Water Research
Waste Management