

CURRICULUM VITAE

Personal

Howard Weinberg, Professor
University of North Carolina
Department of Environmental Sciences
& Engineering
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Education

D.Sc. Environmental Science: Technion - Israel Institute of Technology,
Haifa, Israel, 1989
Subject of research: Interaction of chlorine
dioxide with organic components of effluents.

B.Sc. Applied Science: Brighton Polytechnic, Sussex, U.K., 1977

Professional Experience

Since 2017 University of North Carolina, Department of
Environmental Sciences & Engineering:
Professor

2011 - present University of Queensland, Brisbane,
Australia, Advanced Water Management
Centre: Honorary Associate Professor

2008 - 2017 University of North Carolina, Department of
Environmental Sciences & Engineering:
Associate Professor

2007 - 2012 Duke University, Pratt School of
Civil Engineering: Adjunct Professor

2002 – 2008 University of North Carolina,
Department of Environmental Sciences
& Engineering: Assistant Professor

1997 - 2002 University of North Carolina,
Department of Environmental Sciences
& Engineering: Research Assistant
Professor

Professional Experience (continued)

1993 (April - November)	Ecole Polytechnique, Environmental Sciences Montreal, Canada: Visiting Research Specialist
1992 - 1997	University of North Carolina, Department of Environmental Sciences & Engineering: Research Associate
1989 - 1992	University of North Carolina: Project Manager and Postdoctoral Research Fellow

Awards

2018: *University of North Carolina, Department of Environmental Sciences and Engineering*,
Recipient of Newton Underwood Award

2017: *Delta Omega*, Elected to Theta Chapter

2016: *University of North Carolina, Gillings School of Global Public Health*, Teaching
Innovation Award

2012: *University of North Carolina*, Kenan Sabbatical Leave for the Fall Semester

2008: *American Water Works Association, Water Science and Research Division*, 1st Place
Poster Award, Atlanta, GA

2006: *Water Environment Federation, Harrison Prescott Eddy Medal*, in recognition of research
published in a water environment research periodical that makes a vital contribution to the existing
knowledge of the fundamental principles or processes of water treatment

2005: *American Water Works Association, Water Quality and Technology Division*, Best
Paper Award for AWWA Journal in 2005

2003: *American Water Works Association, Water Quality Technology Conference, Philadelphia,*
PA, November 2-5, 1st Place Award in competition for best research poster

2001: *Water Quality Technology Conference, Nashville, TN, November 11-15*, 2nd Place
Award in competition for best research poster

Professional Memberships

American Chemical Society
American Water Works Association

Bibliography

Books and Chapters in Books (* indicates student advisee)

1. **H.S. Weinberg**, R.C.W. Fry. 2018. Screening Endocrine Activity of DBPs. Water Research Foundation, Denver, CO.
2. M.J. Farré, G.A.D. De Vera*, B.A. Lyon*, K. Doederer*, **H.S. Weinberg**, W. Gernjak, & J. Keller. 2016. Engineering Solutions to Minimize Nitrogen-Containing DBPs. Water Research Foundation, Denver, CO.
3. **H.S. Weinberg**, K. Doederer*, A. Atkinson*, & W. Gjernak. 2015. Regulated and Emerging Disinfection By-Products During the Production of High Quality Recycled Water. WaterReuse Research Foundation, Alexandria, VA.
4. D.R.U. Knappe, L-A. Dudley, Q. Deng, M. Hennessey, Y. Wang, **H. Weinberg**, P. Kaplan*, & Y. Liu*. 2012. Treatment Options for the Removal of Emerging Pollutants of Concern. Water Resources Research Institute of the University of North Carolina, Raleigh, NC.
5. K.G. Linden, A.D. Dotson, **H.S. Weinberg**, B. Lyon*, W.A. Mitch, & A. Shah. 2012. Impact of UV Location and Sequence on By-Product Formation. Water Research Foundation, Denver, CO.
6. A. Galyean*, **H.S. Weinberg**, R.D. Holbrook, & M. Leopold. 2012. "Characterization of Engineered Nanoparticles in Natural Waters" In: Comprehensive Analytical Chemistry, Volume 59, Elsevier Amsterdam, Netherlands, pp.169–195.
7. **H.S. Weinberg**, K. Kritsch*, & S.W. Krasner. 2011. "Iodoacids in Drinking Water Supplies: Methods and Occurrence." Water Research Foundation, Denver, CO.
8. **H.S. Weinberg**, V.J. Pereira*, & Z. Ye*. 2008. "Drugs in Drinking Water: Treatment Options." In: Fate of Pharmaceuticals in the Environment and in Water Treatment Systems, CRC Press, Taylor & Francis, MI, pp. 217-228.
9. D.A. Savitz, P.C. Singer, K.E. Hartmann, A.H. Herring, **H.S. Weinberg** et al. 2005. Drinking Water Disinfection Byproducts and Pregnancy Outcome. AWWA Research Foundation.
10. **H.S. Weinberg**, S.W. Krasner, S.D. Richardson, & A.D. Thruston, Jr. 2002. The Occurrence of Disinfection By-Products (DBPs) of Health Concern in Drinking Water: Results of a Nationwide DBP Occurrence Study. U.S. Environmental Protection Agency, National Exposure, Research Laboratory, Athens, GA. EPA/600/R-02/068.
11. P.C. Singer, **H.S. Weinberg**, et al. 2002. Relative Dominance of HAAs and THMs in Treated Drinking Water. AWWA Research Foundation.
12. **H.S. Weinberg**, P.C. Singer, & S.J. Cook*. 2002. Assessment of Trace Element Concentrations in Municipal Wastewater Treatment Plant Discharges in North Carolina. Water Resources Research Institute Research Series (UNC-WRRI-2002-337), Raleigh, NC.

Books and Chapters in Books (continued)

13. **H.S. Weinberg**. 2002. "Drinking Water Quality for the 21st Century – New Technologies for a New Era." In: Water Resources Quality, edited by H. Rubin et al. Springer-Verlag, Berlin, pp. 273-294.
14. K.S. Brophy*, **H.S. Weinberg**, & P.C. Singer. 2000. "Quantification of Nine Haloacetic Acids Using Gas Chromatography with Electron Capture Detection." In: Natural Organic Matter and Disinfection By-Products, ACS Symposium Series 761, Washington, DC, pp. 343-355.
15. **H.S. Weinberg** and 12 others, Editorial Board. 1999. Identification of New and Uncharacterized Disinfection By-products in Drinking Water. An ILSI Health & Environmental Sciences Institute Report. ILSI, Washington, DC.
16. M. Fielding, J. Hutchison, D.M. Hughes, W.H. Glaze, & **H.S. Weinberg**. 1999. Analytical Methods for Polymers and Their Oxidation By-Products. AwwaRF, Denver, CO.
17. W.H. Glaze & **H.S. Weinberg**. 1995. "Overview of Recent Studies of Ozonation Disinfection By-Products." In: Disinfection By-products in Water Treatment, edited by G. Amy and R. Minnear. Lewis Publishers Inc., pp.165-186.
18. W.H. Glaze & **H.S. Weinberg**. 1993. Identification and Occurrence of Ozonation By-Products in Drinking Water. AwwaRF, Denver, CO.
19. **H. Weinberg** & N. Narkis. 1991. "Oxidation By-Products Resulting from the Interaction of Chlorine Dioxide with Non-Ionic Surfactants." In: Chemical Oxidation - Technology for the Nineties, Technomic, Lancaster, PA, pp.20-43.
20. N. Narkis, B. Ben David, & **H.S. Weinberg**. 1990. "Activated Carbon Adsorption of Non-Ionic Surfactants from Aqueous Solutions and Effluents." In: Activated Carbon Technology, edited by R.W. Peters and C.P. Huang. Lewis Publishers Inc., pp.44-51.

Peer Reviewed Publications (*indicates student or postdoc advisee)

1. *Holmes, B.E., Smeester, L., Fry, R.C., & **Weinberg, H.S.** 2019. "Disinfection Byproducts Bind Human Estrogen Receptor- α ." *Environmental Toxicology and Chemistry* 38(5):956-964.
2. *Holmes, B.E., Smeester, L., Fry, R.C., & **Weinberg, H.S.** 2017. "Identification of Endocrine Active Disinfection By-Products (DBPs) that Bind to the Androgen Receptor." *Chemosphere* 187:114-122.
3. *De Vera, G.A., Gernjak, W., **Weinberg, H.S.**, Farré, M.J., Keller, J., & von Gunten, U. 2016. "Kinetics and Mechanisms of Nitrate and Ammonium Formation During Ozonation of Dissolved Organic Nitrogen." *Water Research* 108:451-461.

Peer Reviewed Publications (continued)

4. *Galyean, A.A., Filliben, J.J., Holbrook, R.D., Vreeland, W.N., & **Weinberg, H.S.** 2016. "Asymmetric Flow Field Flow Fractionation with Light Scattering Detection – An Orthogonal Sensitivity Analysis." *Journal of Chromatography A* 1473:122-132.
5. *De Vera, G.A., Keller, J., Gernjak, W., **Weinberg, H.S.**, & Farré, M.J. 2016. "Biodegradability of DBP Precursors After Drinking Water Ozonation." *Water Research* 106:550-561.
6. *De Vera, G.A., Stalter, D., Gernjak, W., **Weinberg, H.S.**, Keller, J., & Farré, M.J. 2015. "Towards Reducing DBP Formation Potential of Drinking Water by Favouring Direct Ozone Over Hydroxyl Radical Reactions During Ozonation." *Water Research* 87: 49-58.
7. *Galyean, A.A., Vreeland, W.N., Filliben, J.J., Holbrook, R.D., Ripple, D.C., & **Weinberg H.S.** 2015. "Using Light Scattering to Evaluate the Separation Polydisperse Nanoparticles." *Analytica Chimica Acta* 886: 207-213.
8. *Lyon, B.A., Farré M.J., De Vera, G.A., Keller, J., Roux, A., **Weinberg, H.S.**, & Gernjak, W. 2014. "Organic Matter Removal and Disinfection Byproduct Management in South East Queensland's Drinking Water." *Water Science & Technology: Water Supply* 14 (4), 681–689.
9. *Doederer, K., Farré M.J., Pidou, M., **Weinberg, H.S.**, & Gernjak, W. 2014. "Rejection of Disinfection By-Products by RO and NF Membranes: Influence of Solute Properties and Operational Parameters." *Journal of Membrane Science* 467: 195-205.
10. *Lyon, B.A., *Milsk, R.Y., DeAngelo, A.B., Simmons, J.E., Moyer, M.P., & **Weinberg, H.S.** 2014. "Integrated Chemical and Toxicological Investigation of UV-Chlorine/Chloramine Drinking Water Treatment." *Environmental Science & Technology* 48(12): 6743-6753.
11. *Lyon, B.A., Cory, R.M., & **Weinberg, H.S.** 2014 "Changes in Dissolved Organic Matter Fluorescence and Disinfection Byproduct Formation from UV and Subsequent Chlorination/Chloramination." *Journal of Hazardous Materials* 264:411-419.
12. *Doederer, K., Gernjak, W., **Weinberg, H.S.**, & Farré, M.J. 2014 "Factors Affecting the Formation of Disinfection By-Products During Chlorination and Chloramination of Secondary Effluent for the Production of High Quality Recycled Water." *Water Research* 48(1):218-229.
13. *Lyon, B.A., Dotson, A.D., Linden, K.G., & **Weinberg H.S.** 2012. "The Effect of Inorganic Precursors on Disinfection Byproduct Formation During UV-Chlorine/Chloramine Drinking Water Treatment." *Water Research* 46(15):4653-6.
14. Farré, M.J., *Doederer, K., Gernjak, W., Poussade, Y., & **Weinberg, H.** 2012. "Disinfection By-Products Management in High Quality Recycled Water." *Water Science and Technology: Water Supply* 12(5):573–579.

Peer Reviewed Publications (continued)

15. *Yang, X., Flowers, R.C., **Weinberg, H.S.**, & Singer, P.C. 2011. "Occurrence and Removal of Pharmaceuticals and Personal Care Products (PPCPs) in an Advanced Wastewater Reclamation Plant." *Water Research* 45(16): 5218-5228.
16. Horton, B.J., Luben, T.J., Herring, A.H., Savitz, D.A., Singer, P.C., **Weinberg, H.S.**, & Hartmann, K.E. 2011. "The Effect of Water Disinfection By-products on Pregnancy Outcomes in Two Southeastern US Communities." *Journal of Occupational and Environmental Medicine* 53(10): 1172-1178.
17. **Weinberg, H.S.**, *Galyean, A., & Leopold, M. 2011. "Approaches for Evaluating the Presence and Type of Engineered Nanoparticles in Natural, Recreational, and Drinking Waters." *Trends in Analytical Chemistry* 30(1):72-83.
18. Pressman, J.G., Richardson, S.D., Speth, T.F., Miltner, R.J., Narotsky, M.G., Hunter, E.S., Rice, G.E., Teuschler, L.K., McDonald, A., Parvez, S., Krasner, S.W., **Weinberg, H.S.**, McKague, A.B., Parrett, C.J., *Bodin, N., Chinn, R., Lee, C.-F. T., & Simmons, J.E. 2010. "Concentration, Chlorination, and Chemical Analysis of Drinking Water for Disinfection Byproduct Mixtures Health Effects Research: U.S. EPA's Four Lab Study." *Environmental Science & Technology* 44: 7184–7192.
19. *Rodriguez-Mozaz, S. & **Weinberg, H.S.** 2010. "Pharmaceuticals in Water – An Interdisciplinary Approach to a Public Health Challenge." *Environmental Health Perspectives* 18(7):1016-1010.
20. *Stanford, B.D. & **Weinberg, H.S.** 2010. "Evaluation of On-Site Wastewater Treatment Technology to Remove Estrogens, Nonylphenols, and Estrogenic Activity from Wastewater." *Environmental Science & Technology* 44(8):2994–3001.
21. *Stanford, B.D., Amoozegar, A., & **Weinberg, H.S.** 2010. "The Impact of Co-Contaminants and Septic System Effluent Quality on the Transport of Estrogens and Nonylphenols Through Soil." *Water Research* 44(5):1598-1606.
22. **Weinberg, H.S.** 2009. "Modern Approaches to the Analysis of Disinfection By-Products in Drinking Water." *Philosophical Transactions of the Royal Society A*. 367:4097–4118.
23. Miltner R.J., Speth. T.F., Richardson S.D., Krasner, S.W., **Weinberg, H.S.**, & Simmons, J.E. 2008. "Integrated Disinfection By-Products Mixtures Research: Disinfection of Drinking Waters by Chlorination and Ozonation/Postchlorination Treatment Scenarios." *Journal of Toxicology & Environmental Health* 71(A):1133–1148.
24. Richardson S.D., Thruston Jr, A.D., Krasner, S.W., **Weinberg, H.S.**, Miltner R.J., Schenck, K.M., Narotsky, M.G., McKague, A.B., & Simmons, J.E. 2008. "Integrated Disinfection By-Products Mixtures Research: Comprehensive Characterization of Water Concentrates Prepared from Chlorinated and Ozonated/Postchlorinated Drinking Water." *Journal of Toxicology & Environmental Health* 71(A):1165–1186.

Peer Reviewed Publications (continued)

25. Hoffman, C.S., Mendola, P., Savitz, D.A., Herring, A.H., Loomis, D., Hartmann, K.E., Singer, P.C., **Weinberg, H.S.**, & Olshan, A. 2008. "Drinking Water Disinfection By-Product Exposure and Duration of Gestation." *Epidemiology* 19(5):738-746.
26. Hoffman, C.S., Mendola, P., Savitz, D.A., Herring, A.H., Loomis, D., Hartmann, K.E., Singer, P.C., **Weinberg, H.S.**, & Olshan, A. 2008. "Drinking Water Disinfection By-Product Exposure and Fetal Growth." *Epidemiology* 19(5):729-737.
27. *Onstad, G.D., **Weinberg, H.S.**, & Krasner, S.W. 2008. "Occurrence of Halogenated Furanones in U.S. Drinking Waters." *Environmental Science & Technology* 42(9):3341-3348.
28. *Khan, S.J. & **Weinberg, H.S.** 2007. "Characterization of Carbonyl Byproducts of Drinking Water Ozonation." *Water Science & Technology: Water Supply* 7(5-6):95-100.
29. *Stanford, B.D. & **Weinberg, H.S.** 2007. "Isotope Dilution for Quantitation of Steroid Estrogens and Nonylphenols by Gas Chromatography with Tandem Mass Spectrometry in Septic, Soil, and Groundwater Matrices." *Journal of Chromatography* 1176A:26-36.
30. *Pereira, V.J., Linden, K.G., & **Weinberg, H.S.** 2007. "Evaluation of UV Irradiation for Photolytic and Oxidative Degradation of Pharmaceutical Compounds in Water." *Water Research* 41:4413-4423.
31. Luben, T.J., Olshan, A.F., Herring, A.H., Jeffay, S., Strader, L., Buus, R.M., Chan, R.L., Savitz, D.A., Singer, P.C., **Weinberg H.S.**, & Perreault, S.D. 2007. "The Healthy Men Study: An Evaluation of Exposure to Disinfection By-Products in Tap Water and Sperm Quality." *Environmental Health Perspectives* 115(8):1169-1176.
32. *Pereira, V.J. **Weinberg H.S.**, Linden, K.G., & Singer, P.C. 2007. "UV Degradation Kinetics and Modeling of Pharmaceutical Compounds in Laboratory Grade and Surface Water Via Direct and Indirect Photolysis at 254 nm." *Environmental Science & Technology* 41(5):1682-1688.
33. *Ye, Z., **Weinberg H.S.**, & Meyer, M.T. 2007. "Trace Analysis of Trimethoprim and Sulfonamide, Macrolide, Quinolone, Tetracycline Antibiotics in Chlorinated Drinking Water Using Liquid Chromatography Electrospray Tandem Mass Spectrometry." *Analytical Chemistry* 79(3):1135-1144.
34. Savitz, D.A., Singer, P.C., Herring, A.H., Hartmann, K.E., **Weinberg, H.S.**, & Makarushka, C. 2006. "Exposure to Drinking Water Disinfection By-Products and Pregnancy Loss." *American Journal of Epidemiology* 164(11):1043-1051.
35. Krasner, S.W., **Weinberg, H.S.**, Richardson, S.D., Pastor, S.J., Chinn, R., Scilimenti, M. J., *Onstad, G.D., & Thruston Jr., A. D. 2006. "Occurrence of a New Generation of Disinfection Byproducts." *Environmental Science & Technology* 40(23):7175-7185.

Peer Reviewed Publications (continued)

36. *Khan, S., **Weinberg H.S.**, & *Bedford, E.C. 2006. "Aqueous-Phase Aminolysis: Approach for the Analysis of Epoxides in Water." *Analytical Chemistry* 78(8):2608-2616.
37. **Weinberg, H.S.** 2006. "Measuring Quality - The Development of Methods to Assess Drinking Water." *Journal of the American Water Works Association* 98(3):192-196.
38. **Weinberg H.S.**, *Pereira, V.J., & Singer, P.C. 2006 "Considerations for Improving the Accuracy of Exposure to Disinfection By-Products by Ingestion in Epidemiologic Studies." *Science of the Total Environment* 354(1):35-42.
39. *Onstad, G.D. & **Weinberg, H.S.** 2005. "Methodology for Assessment of Halogenated Furanones in a Nationwide Study of Drinking Waters." *Analytica Chimica Acta* 543(2):281-292.
40. **Weinberg, H.**, *Cook, S., & Singer, P.C. 2005. "Insights into False Positive Total Cyanide Measurements in Wastewater Plant Effluents." *Water Environment Research* 77(5):491-499.
41. *Pereira, V.J., **Weinberg H.S.**, & Singer, P.C. 2004. "Disinfection By-Product Variability in a Chloraminated Distribution System." *Journal of the American Water Works Association* 96(11):91-102.
42. **Weinberg H.S.**, *Unnam, V.P., & *Delcomyn, C.D. 2003. "Bromate in Chlorinated Drinking Waters: Occurrence and Implications for Future Regulation." *Environmental Science & Technology* 37(14):3104-3110.
43. Richardson, S.D., Thruston Jr. A., Krasner, S.W., & **Weinberg H.S.** 2002. "Results of a Nationwide DBP Occurrence Study: Identification of New DBPs of Potential Health Concern." *Epidemiology* 13(4):168.
44. **Weinberg, H.** & *Cook, S. 2002. "Segmented Flow Injection, UV Digestion, and Amperometric Detection for the Determination of Total Cyanide in Wastewater Treatment Plant Effluents." *Analytical Chemistry* 4(23), 6055-6063.
45. *Eyring, A.M., **Weinberg H.S.**, & Singer, P.C. 2002. "Measurement and Effect of Trace Element Contaminants in Alum." *Journal of the American Water Works Association* 94(5):135-146.
46. *Delcomyn, C.D., **Weinberg H.S.**, & Singer, P.C. 2001. "Use of Ion Chromatography with Post-Column Reaction for the Measurement of Tribromide to Evaluate Bromate Levels in Drinking Water." *Journal of Chromatography* 920A(1-2):213-219.
47. **Weinberg, H.** 1999. "Disinfection By-Products in Drinking Water – The Analytical Challenge." *Analytical Chemistry* 71:801A-808A.
48. **Weinberg, H.**, Yamada, H., & Joyce, R. 1998. "A New, Sensitive, & Selective Method for Determining Levels Below 1µg/L of Bromate in Drinking Water." *Journal of Chromatography* 804A:137-142.

Peer Reviewed Publications (continued)

49. **Weinberg, H.** & Yamada, H. 1998. "Post Ion Chromatography Derivatization for the Analysis of Oxyhalides at Sub PPB Levels in Drinking Water." *Analytical Chemistry* 70(1):1-6.
50. **Weinberg, H.** & Glaze, W.H. 1997. "A Unified Approach to the Analysis of Polar Organic By-Products of Oxidation in Aqueous Matrices." *Water Research* 31(7):1555-1572.
51. **Weinberg, H.** 1994. "Pre-Concentration Techniques for Bromate Analysis in Ozonated Waters." *Journal of Chromatography* 67A(1+2):141-149.
52. **Weinberg, H.**, Glaze, W.H., Krasner, S.W., & Scilimenti, M.J. 1993. "Formation and Removal of Aldehydes in Plants that use Ozone." *Journal of the American Water Works Association* 85(5):72-85.
53. Krasner, S.W., Glaze, W.H., **Weinberg, H.S.**, Daniel, P.A. & Najm, I.N. 1993. "Formation and Control of Bromate during Ozonation of Water Containing Bromide." *Journal of the American Water Works Association* 85(1):73-81.
54. Glaze, W.H., **Weinberg, H.S.**, & Cavanagh, J.E. 1993. "Evaluating the Formation of Brominated DBPs During Ozonation." *Journal of the American Water Works Association* 85(1):96-103.
55. Cavanagh, J.E., **Weinberg, H.S.**, Gold, A., Sangaiah, R., Marbury, D., & Glaze, W.H. 1992. "Ozonation By-Products: Identification of Bromohydrins from the Ozonation of Natural Waters with Enhanced Bromide Levels." *Environmental Science & Technology* 26(8):1658-168.
56. **Weinberg, H.** & Narkis, N. 1991. "Effect of Chlorine Dioxide on Anionic and Non-Ionic Surfactants Present in Wastewaters." *Tenside Surfactant Detergents* 28(4):282-286.
57. Narkis, N. & **Weinberg, H.** 1989. "Removal of Non-Ionic and Anionic Surfactants from Effluents Intended for Reuse." *Tenside Surfactants Detergents* 26(6):400-405.
58. **Weinberg, H.** & Narkis, N. 1987. "Physico-Chemical Treatments for the Complete Removal of Non-Ionic Surfactants from Effluent." *Environmental Pollution* 45:245-2603.

Refereed Unpublished Oral Presentations and/or Abstracts

1. 2022: American Water Works Association Annual Conference (ACE), June 12-15, San Antonio, TX. A. Beciragic* & **H.S. Weinberg**. "NF/RO Membrane Leachates and Their Fate in Water Treatment: DBP Formation and Permeation."
2. 2022: NCDEQ Stakeholder Meeting, March 23, Salisbury, NC. Aashna Shukla* and **H.S. Weinberg**. "Fluoride Overview".

Refereed Unpublished Oral Presentations and/or Abstracts

3. 2022: *NCDEQ Stakeholder Meeting, March 23, Salisbury, NC.* Cassidy Rice* and **H.S. Weinberg**. “Cyanide Species, Toxicity, and Methods.”
4. 2022: *NCDEQ Stakeholder Meeting, March 23.* Claire Connelly * and **H.S. Weinberg**. “Overview of NPDES Permit NC0004308 & ALCOA Compliance Status Regarding Cyanide and Fluoride.”
5. 2022: *NCDEQ Stakeholder Meeting, March 23.* Samantha Feinsetin* and **H.S. Weinberg**. “Mapping Badin Lake for Future Analysis”.
6. 2021: *American Water Works Association Water Quality Technology Conference, Tacoma, WA, Nov 7-10.* A. Beciragic* and **H.S. Weinberg**. “High Pressure Membrane Leachates & their Fate in Water Treatment: Concentrations, Permeation, and DBP Formation.”
7. 2020: *American Water Works Association Virtual Summit, September 23-24.* K.E. Studer* and **H.S. Weinberg**. “Tracking the Transformation of Total Iodine within a Drinking Water Plant to Limit Iodinated Disinfection Byproducts.”
8. 2020: *AMTA/AWWA Membrane Technology Conference, Phoenix, AZ.* A. Beciragic* & **H.S. Weinberg**. “High Pressure Membrane Leachates & their Fate in Water Treatment: Concentrations, Permeation, and Methods for Minimization.”
9. 2019: *American Water Works Association Annual Conference and Exposition, Denver, CO, June 9-12.* K.E. Studer* & **H.S. Weinberg**. “Impact of Wastewater Effluent on Drinking Water Quality: How Does Iodine Speciation Affect Disinfection By-product Formation?”
10. 2019: *AMTA/AWWA Membrane Technology Conference, New Orleans, LA. March.* A. Beciragic* & **H.S. Weinberg**. “Membrane-Disinfectant Reactions: Developing Methods for the Detection of Membrane Leachates and Byproducts.”
11. 2018: *AWWA Membrane Technology Conference, West Palm Beach, FL, March 12-16.* K. Grzebyk*, **H. Weinberg**, & O. Coronell. “Optimizing and Evaluating Thin-Film Nanocomposite (TFN) Membranes for Water Reuse.”
12. 2018: *AWWA Membrane Technology Conference, West Palm Beach, FL, March 12-16.* A. Beciragic* & **H.S. Weinberg**. “Membrane-Disinfectant Reactions: Developing Methods for the Detection of Membrane Leachates and Byproducts During Water Treatment.”
13. 2017: *SERMACS, Charlotte, NC, November 7-11.* **H. Weinberg**, B. Holmes*, K. McDermott*, & E. Tully*. “Evaluating Chemical Uptake in Food Crops Irrigated with Reclaimed Wastewater.”
14. 2017: *29th Annual Scientific Conference of the International Society for Environmental Epidemiology (ISEE), Sydney, Australia, September 24–28.* C.J. Lin*, T.J. Wade, E.D. Hilborn, **H.S. Weinberg**, L.S. Engel, & D.B. Richardson. “Hospital Visits for Gastrointestinal Illness after a Major Water Main Break in 2010.”

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

15. 2017: *Gordon Conference on Disinfection Byproducts, Holyoke College, Mount Holyoke, MA, August.* K.E. Studer* & **H.S. Weinberg**. “Implications of Iodine Speciation in Disinfection Byproduct Formation with Surface Waters Receiving Wastewater Effluent.”
16. 2017: *Water Resources Research Institute of NC, Raleigh, NC, March 15-16.* K.E. Studer* & **H.S. Weinberg** “Impact of Hospital and Patient Discharges on North Carolina Surface and Drinking Water Quality as Measured by Iodinated Contrast Agents.”
17. 2016: *National Institute of Environmental Health Sciences. Environmental Health Science FEST, Durham NC, December.* K. Studer* & **H.S. Weinberg**. “Impact of Hospital Waste on Drinking Water Quality: Disinfection Byproduct Formation Implications from Anthropogenic Contributions.”
18. 2015: *Gordon Research Conference on Disinfection ByProducts. Mount Holyoke, August.* G. De Vera*, D. Stalter, W. Gernjak, **H.S. Weinberg**, J. Keller, & M.J. Farré. “Towards Reducing DBP Formation Potential of Drinking Water by Favouring Direct Ozone Over Hydroxyl Radical Reactions During Ozonation.”
19. 2015: *Gordon Research Conference on Disinfection ByProducts. Mount Holyoke, August.* B.E. Holmes*, L. Smeester, R.C. Fry, & **H.S. Weinberg**. “Identifying Disinfection By-Products as Estrogenic or Androgenic Substances.”
20. 2013: *WRI Annual Conference, Raleigh, NC, March 20.* L-A. Dudley, Q. Deng, P. Kaplan*, Y. Liu*, **H. Weinberg**, & D. Knappe. “Removal of Emerging Contaminants with Water Treatment Processes Commonly Used in North Carolina.”
21. 2013: *Environmental Health - Science and Policy to Protect Future Generations, Boston, MA, March 3-6.* J. Casanova* & **H.S. Weinberg**. “Strategies for Approaching Wastewater as a Safe Resource: Natural Systems of Remediation.”
22. 2012: *243rd ACS National Meeting, San Diego, CA, March 25-29.* **H.S. Weinberg** & D.C. Ramon Alatorre*. “ELISAs Determine Fate of Emerging Contaminants in Crops Irrigated With Reuse Wastewater.”
23. 2011: *Society of Environmental Toxicology and Chemistry North America Conference, Boston, MA, November 13-17.* B. A. Lyon*, R. Milsch*, & **H.S. Weinberg**. “Comparison of Toxicity Measures and Disinfection Byproduct Analysis for Evaluating Drinking Water Quality after Disinfection.”
24. 2011: *AWWA Water Quality Technology Conference, Phoenix, AZ, November 13-17.* K. Doederer*, W. Gernjak, **H.S. Weinberg**, J. Keller, Y. Poussade, & M.J. Farré. “How to Minimize Disinfection By-Products During the Production of High Quality Recycled Water.”

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

25. 2011: *Water Services Association of Australia, Technology Transfer Conference: Managing Assets, Water Quality and Energy in a Carbon Constrained Future, Sydney, October 24-26.* M.J. Farré, K. Doederer*, W. Gernjak, Y. Poussade, & **H. Weinberg**. “Management of Disinfection By-Products in High Quality Recycled Water.”
26. 2011: *Water Reuse Conference, Barcelona, Spain, September 26-29.* M.J. Farré, K. Döderer*, W. Gernjak, Y. Poussade, & **H. Weinberg**. “Disinfection By-products Management in High Quality Recycled Water.”
27. 2011: *Association for Environmental Health and Sciences Conference on Soils, Sediments, Water, and Energy San Diego, CA, March 14-17.* A.B. DeAngelo, B. Lyon*, J. E. Simmons, & **H. Weinberg**. “Use of Normal Human Colon Cells to Assess Toxicities of Unregulated Disinfection By-products and Mixtures.”
28. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* A. Galyean*, H.S. Weinberg, M. Leopold, & W. Vreeland. “Characterization, Isolation, and Detection of Engineered Nanoparticles in Drinking Water.”
29. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* M.J. Farré, H.S. Weinberg, B. Lyon*, J. Keller, Y. Poussade, & W. Gernjak. “The Fate of Disinfection By-Products and their Precursors Across Reverse Osmosis Membranes During the Production of High Quality Recycled Water.”
30. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* P.J. Kaplan* & H.S. Weinberg. “Transformation Products of Biochemically Active Compounds During Drinking Water Treatment.”
31. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* S. Rodriguez-Mozaz* & H.S. Weinberg. “Emerging and Regulated Disinfection Byproduct Formation in Water Treated with Mixed Oxidant Solutions and Conventional Disinfectants.”
32. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* K. Kritsch*, H.S. Weinberg, & S.W. Krasner. “Iodoacetic Acids in U.S. Drinking Waters: Occurrence and Fate.”
33. 2010: *Water Quality Technology Conference, Savannah, GA, November 14-17.* B. Lyon*, **H.S. Weinberg**, A. Dotson, & K. Linden. “Impact of UV-Chlorine/Chloramine Drinking Water Treatment on DBP Formation in Bromide- and Nitrate-Containing Waters.”
26. 2010: *WEFTEC, New Orleans, LA, October 2-6.* B.D. Stanford* & **H.S. Weinberg**. “Investigating the Processes Governing Hormone and Nonionic Surfactant Removal and Transport in On-Site Wastewater Treatment and Reuse.”
27. 2010: *WEFTEC, New Orleans, LA, October 2-6.* P. Singer, X. Yang*, R. Flowers, & **H.S. Weinberg**. “Occurrence and Removal of Pharmaceutically Active Compounds and Personal Care Products During Advanced Wastewater Treatment: A Case Study.”

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

28. 2009: *SETAC, New Orleans, LA, November 19-23*. S. Rodriguez-Mozaz*, **H.S. Weinberg**, A.M. Saenz de Jubera*, B. Lyon*, J. Chu*, H. Colangelo*, & A.C. Sykes*. "Characterization of Disinfection By-products (DBPs) in Mixed-Oxidant Solutions used for Water Disinfection."
29. 2009: *Water Quality Technology Conference, Seattle, WA, November 15-19*. B. Lyon, **H. Weinberg**, A. Dotson, A. Shah, W. Mitch, & K. Linden. "Influence of Precursors on Byproducts Produced from UV-Chlorine Treatment of Natural Waters."
30. 2009: *American Water Works Association Annual Conference, San Diego, CA, June 14-18*: T. Speth, S. Parvez, G. Rice, L. Teuschler, S. Richardson, S. Hunter, A. McDonald, M. Narotsky, J. Simmons, R. Miltner, J. Pressman, S. Krasner, & **H. Weinberg**. "Chemical Analysis of Drinking Water Concentrates in the Four Lab Study."
31. 2009: *6th IWA/GRA Specialized Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water, San Francisco, CA, June 8-10*. S. Richardson, J.E. Simmons, M. Narotsky, L. Claxton, S. Hunter, R. Miltner, J. Pressman, T. Speth, G. Rice, L. Teuschler, S. Krasner, and **H. Weinberg**. "Integrated Disinfection By-Product Mixtures Research: Results from the Four Lab Study."
32. 2008: *Water Quality Technology Conference, Cincinnati, OH, November 16-20*. S.W. Krasner, C.F.T. Lee, R. Chinn, S. Hartono, **H.S. Weinberg**, S.D. Richardson, J.G. Pressman, T.F. Speth, R.J. Miltner, & J.E. Simmons. "Bromine Incorporation in Regulated and Emerging DBPs and the Relative Predominance of Mono-, Di-, and Trihalogenated DBPs."
33. 2008: *UNC Environmental Symposium; Sustainable and Safe Drinking Water in Developing and Developed Countries: Where Science Meets Policy, Chapel Hill, NC, November 5-6*. P.C. Singer, X. Yang*, R. Flowers, and **H.S. Weinberg**. "Occurrence of Pharmaceutically Active Compounds and Personal Care Products during Advanced Wastewater Treatment: A Case Study."
34. 2008: *Annual American Water Works Association Conference, Atlanta, GA, June 8-12*. S. Rodriguez-Mozaz*, **H.S. Weinberg**, A. Saenz de Jubera*, and A. Sykes*. "Novel Strategies for the Characterization of Mixed-Oxidant Solutions for Drinking Water Disinfection."
35. 2008: *Annual American Water Works Association Conference, Atlanta, GA, June 8-12*. **H.S. Weinberg** and S.W. Krasner. "Occurrence of Emerging Carbonaceous DBPs from Alternative Disinfectants."
36. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. A. Sykes* and **H. Weinberg**. "Evaluation of the Character of Mixed-Oxidant Species Formed from Electrolysis of Brine."

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37. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. B.D. Stanford* and **H.S. Weinberg**. "The Impact of Co-Contaminants on the Transport and Fate of Steroid Estrogens through Soil-Water Treatment."
38. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. K. Weissbach* and **H.S. Weinberg**. "Methods for the Analysis of Iodoacids in Drinking Water."
39. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. K. Bronstein* and **H.S. Weinberg**. "Environmental Risk Associated with Antibiotics and Pharmaceuticals in Surface Waters."
40. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. N. Bodin*, **H.S. Weinberg**, S.W. Krasner, J.G. Pressman, T.F. Speth, R.J. Miltner, J.E. Simmons, and S.D. Richardson. "Methods for the Analysis of Priority DBPs in RO-Concentrated Drinking Water."
41. 2007: *Water Quality Technology Conference, Charlotte, NC, November 4-8*. L. Richards* and **H.S. Weinberg**. "Antibiotics in the Environment: A Watershed-Scale Fate and Transport Study."
42. 2007: *17th Annual Conference of the International Society of Exposure Analysis, Durham, NC, October 14-18*. K. Bronstein* and **H.S. Weinberg**. "Environmental Risk Associated with Pharmaceuticals in Wastewater Effluent Discharged to Surface Waters."
43. 2007: *17th Annual Conference of the International Society of Exposure Analysis, Durham, NC, October 14-18*. S.R. Starck* and H.S. Weinberg. "Use of 3-D Fluorescence for Rapid Detection of Impaired Water Quality."
44. 2007: *MICROPOL/ECOHAZARD, Frankfurt, Germany, June 17-20*. S.J Khan* and **H.S. Weinberg**. "Characterisation of carbonyl and epoxide byproducts of drinking water ozonation."
45. 2007: *6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24*. L.A. Richards* and **H.S. Weinberg**. "Antibiotic Fate and Transport in Watersheds."
46. 2007: *6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24*. A.C. Sykes* and **H.S. Weinberg**. "Mixed Oxidants: An Alternative to Chlorine for Disinfection. What is in them?"
47. 2007: *6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24*. A. Parks* and **H.S. Weinberg**. "Nonylphenol Isomers and Triclosan in Biosolids: The Potential for Organic Contaminants in Biosolids to be Used as Chemical Indicators of Non-Point Source Pollution."
48. 2007: *6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24*. K. Weissbach* and **H.S. Weinberg**. "Iodoacids in our Drinking Water: The Challenge to Identify Low-Level By-Products of Chronic Health Concern."
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50. *Refereed Unpublished Oral Presentations and/or Abstracts (continued)*

51. 2007: 233rd American Chemical Society National meeting, Chicago, IL, March 25-29. **H.S. Weinberg**, S.A. Eslinger*, and P.C. Singer. "Impact of Point-of-Use Treatment on Disinfection Byproduct Levels in Ingested Drinking Water."
52. 2007: 233rd American Chemical Society National Meeting, Chicago, IL, March 25-29. N. Bodin*, **H.S. Weinberg**, S.W. Krasner, S.D. Richardson, J.G. Pressman, T.F. Speth, R.J. Miltner, and J.E. Simmons. "Methodological Approach for Measuring Priority DBPs in Reverse Osmosis Concentrated Drinking Water."
53. 2007: Water Resources Research Institute Annual Conference, Raleigh, NC, March 27-28. Parks* and **H.S. Weinberg**. "Nonylphenols and Triclosan as Potential Chemical Indicators of Non-Point Source Pollution in Surface Waters."
54. 2006: SETAC North America Conference, Montreal, Canada, November 5-9. B.D. Stanford and **H.S. Weinberg**. "Competitive Sorption between Nonylphenols and Steroid Estrogens: Analytical Methods and Batch Study Results."
55. 2006: NCSU Soils and On-Site Wastewater Training Academy On-site Wastewater Treatment Conference, Raleigh, NC, October 25-27. T. Chalew* and **H. Weinberg**. "Developing Indicators of Contamination Originating from On-Site Wastewater Treatment."
56. 2006: NCSU Soils and On-Site Wastewater Training Academy On-site Wastewater Treatment Conference, Raleigh, NC, October 25-27. B. Stanford* and **H. Weinberg**. "Hormones and Nonionic Surfactants in Septic and Soil Samples: Analytical Methods and System Evaluation."
57. 2007: 6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24. A.C. Sykes* and **H.S. Weinberg**. "Mixed Oxidants: An Alternative to Chlorine for Disinfection. What is in them?"
58. 2007: 6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24. A. Parks* and **H.S. Weinberg**. "Nonylphenol Isomers and Triclosan in Biosolids: The Potential for Organic Contaminants in Biosolids to be Used as Chemical Indicators of Non-Point Source Pollution."
59. 2007: 6th Annual American Water Works Association Eastern Regional Conference, Sea Trail Resort & Conference Center, April 22-24. K. Weissbach* and **H.S. Weinberg**. "Iodoacids in our Drinking Water: The Challenge to Identify Low-Level By-Products of Chronic Health Concern."
60. 2007: 233rd American Chemical Society National meeting, Chicago, IL, March 25-29. **H.S. Weinberg**, S.A. Eslinger*, and P.C. Singer. "Impact of Point-of-Use Treatment on Disinfection Byproduct Levels in Ingested Drinking Water."
59. 2007: 233rd American Chemical Society National meeting, Chicago, IL, March 25-29. N. Bodin*, **H.S. Weinberg**, S.W. Krasner, S.D. Richardson, J.G. Pressman, T.F. Speth, R.J. Miltner, and J.E. Simmons. "Methodological Approach for Measuring Priority DBPs in Reverse Osmosis Concentrated Drinking Water."

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

60. 2007: *Water Resources Research Institute Annual Conference, Raleigh, NC, March 27-28.* A. Parks* and **H.S. Weinberg**. “Nonylphenols and Triclosan as Potential Chemical Indicators of Non-Point Source Pollution in Surface Waters.”
61. 2006: *SETAC North America Conference, Montreal, Canada, November 5-9.* B.D. Stanford and **H.S. Weinberg**. “Competitive Sorption between Nonylphenols and Steroid Estrogens: Analytical Methods and Batch Study Results.”
62. 2006: *NCSU Soils and On-Site Wastewater Training Academy On-site Wastewater Treatment Conference, Raleigh, NC, October 25-27.* T. Chalew* and **H. Weinberg**. “Developing Indicators of Contamination Originating from On-Site Wastewater Treatment.”
63. 2006: *NCSU Soils and On-Site Wastewater Training Academy On-site Wastewater Treatment Conference, Raleigh, NC, October 25-27.* B. Stanford* and **H. Weinberg**. “Hormones and Nonionic Surfactants in Septic and Soil Samples: Analytical Methods and System Evaluation.”
64. 2006: *Northeastern Regional Meeting (NERM) of the American Chemical Society, Binghamton, NY, October 5-7.* B.D. Stanford* and **H.S. Weinberg**. “Nonylphenols and Steroid Estrogens in Septic and Soil-Water Systems: Analytical Methods and Batch Study Results.”
65. 2006: *American Water Works Association Annual Conference & Exposition, San Antonio, TX, June 11-15.* P. Singer, D. Savitz, **H. Weinberg**, and A. Herring. “Disinfection By-Product Exposure and Pregnancy Loss.”
66. 2006: *Water Resources Research Institute Annual Conference, Raleigh, NC, April 5.* K. Stauffenberg* and **H. Weinberg**. “Preparing the Framework for Evaluating Microbial Resistance in Surface Waters and Sediments.”
67. 2006: *Water Resources Research Institute Annual Conference, Raleigh, NC, April 5.* T. Chalew* and **H. Weinberg**. “Developing Chemical Indicators of Surface Water Contamination Distinguishing On-site Wastewater Treatment and Municipal Wastewater Treatment Plant Sources.”
68. 2005: *American Water Works Association Water Quality Technology Conference, Quebec City, Canada, November 2-5.* V.J. Pereira*, K.G. Linden, and **H.S. Weinberg**. “Photodegradation of Pharmaceutical and Contrast Media Agents in Surface Water by Direct Photolysis and UV Advanced Oxidation Processes.”
69. 2005: *3rd International Congress on Ultraviolet Technologies, Whistler, BC, Canada, May 24-27.* V.J. Pereira*, K.G. Linden, and **H.S. Weinberg**. “Direct photolysis and UV advanced oxidation processes of pharmaceuticals in surface water.”
70. 2005: *Water Resources Research Institute Annual Conference, Raleigh, NC, April 5.* K. Stauffenberg* and **H. Weinberg**. “Fate of Antibiotics in Surface Waters and Sediments.”

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71. 2004: *4th International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water, Minneapolis, MN, October 13-15.* Z.Ye, **H.S. Weinberg**, and M.T. Meyer. "Occurrence of Antibiotics in Drinking Water."
72. 2004: *4th International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water, Minneapolis, MN, October 13-15.* V.J. Pereira*, K.G Linden, and **H.S. Weinberg**. "Photodegradation of Pharmaceutical and Contrast Media Agents in Surface Water by Direct Photolysis and UV Advanced Oxidation Processes."
73. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* Z.Ye*, **H.S. Weinberg**, and M.T. Meyer. "Occurrence of Antibiotics in Drinking Water Sources and their Transformation in Chlorine Disinfection."
74. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* L. Weinrich* and **H.S. Weinberg**. "Stability and Persistence of Ozonation Byproducts in Chlorinated and Chloraminated Drinking Water."
75. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* G.O. Onstad*, **H.S. Weinberg**, and G.R. Aiken. "Relationship Between Halogenated Furanones, Haloacetic Acids, and Trihalomethanes in Chlorinated Natural Organic Matter."
76. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* S.J. Khan* **H.S. Weinberg**, and P. Strunk*. "Approaches for the Identification of New Ozonation By-Products in Drinking Water."
77. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* L. Biddle*, **H.S. Weinberg**, and P.C. Singer "Temporal and Spatial Variability in Brominated Speciation of Disinfection Byproducts in Water Distribution Systems."
78. 2003: *American Water Works Association Water Quality Technology Conference, Philadelphia, PA, November 2-5.* S. Eslinger* and **H.S. Weinberg**. "Estimating Average Daily Exposure to Disinfection By-Products In Drinking Water By Examining Alternate Ingestion Pathways."
79. 2003: *International Symposium, Karlsruhe, Germany, September 22-24.* S.D. Richardson, A.D. Thruston, Jr, S.W. Krasner, **H.S. Weinberg**, R. Chinn, M.J. Scilimenti, S. Pastor, and G.D. Onstad*. "Disinfection By-Products of Emerging Concern: Results of a U.S. Nationwide Occurrence Study."
80. 2003: *16th International Mass Spectrometry Conference, Edinburgh, Scotland, August 31-September 5.* S.D. Richardson, A.D. Thruston, Jr, S.W. Krasner, **H.S. Weinberg**, R. Chinn, M.J. Scilimenti, S. Pastor, and G.D. Onstad*. "Disinfection By-Products of Health Concern in Drinking Water: Results of a U.S. Nationwide Occurrence Study."

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

81. 2003: *51st Annual Conference on Mass Spectrometry and Allied Topics of the American Society of Mass Spectrometry, Montreal, Canada, June 8-12.* S.J. Pastor, S.W. Krasner, **H.S. Weinberg**, and S.D. Richardson. "Investigation of New Disinfection By-Products in Drinking Water Using Solid Phase Extraction Coupled with Mass Spectrometry."
82. 2003: *51st Annual Conference on Mass Spectrometry and Allied Topics of the American Society of Mass Spectrometry, Montreal, Canada, June 8-12.* S.D. Richardson, A.D. Thruston, Jr, S.W. Krasner, **H.S. Weinberg**, R. Chinn, M.J. Scilimenti, S. Pastor, and G.D. Onstad*. "Disinfection By-Products of Health Concern in Drinking Water: Results of a Nationwide Occurrence Study."
83. 2003: *AWA/IWA Specialty Conference on Chemicals of Concern in Water, Sydney, Australia, June 4-5.* S.J. Khan* and **H.S. Weinberg**. "An Improved and Expanded Method for the Identification of Carbonyl Byproducts of Drinking Water Ozonation."
84. 2003: *Water Resources Research Institute Annual Conference, Raleigh, NC, April 1.* Z.Ye, **H.S. Weinberg** and M.T. Meyer. "Survey of Antibiotics in NC Surface and Drinking Waters."
85. 2002: *Water Resources Research Institute Annual Conference, Raleigh, NC, April 9.* **H.S. Weinberg**, Z.Ye*, V.J. Pereira*, and M.T. Meyer. "Approaches to Determining Whether Pharmaceutical Residues are Present in NC Drinking Waters."
86. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* **H.S. Weinberg**, S.W. Krasner, and S.D. Richardson. "Determination of New Carbonyl-Containing Disinfection By-Products in Drinking Water."
87. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* S.W. Krasner, S. Pastor, R. Chinn, M.J. Scilimenti, **H.S. Weinberg**, and S.D. Richardson. "The Occurrence of a New Generation of DBPs (Beyond the ICR)."
88. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* G.D. Onstad* and **H.S. Weinberg**. "Improvements in Extraction of MX-analogues from Drinking Water."
89. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* S. Bhatnagar* and **H.S. Weinberg**. "Analysis of Epoxides in Drinking Water Using *In Situ* Derivatization and Detection by ECD and CI-MS."
90. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* V.J. Pereira*, **H.S. Weinberg**, and P.C. Singer. "Use of a Chloraminated Drinking Water System to Develop Accurate Predictive Patterns of Exposure to Disinfection-By-Products by Consumers."
91. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* A.E. Harris* and **H.S. Weinberg**. "Development of an Analytical Method for Detection of Peroxides in Drinking Water."

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92. 2001: *Water Quality Technology Conference, Nashville, TN, November 11-15.* V.P. Unnam*, **H.S. Weinberg**, and J. Raymer. "Bromate Transference from Food into Water During Cooking in Ozonated Water."
93. 2001: *Eleventh Annual Meeting ISEA, Charleston, SC, November 4-8.* J.H. Raymer, E.D. Pellizzari, G.Akland, H.Yu, B.Childs, K.Briggs, **H.Weinberg**, and V. Unnam*. "The Uptake of the Water Disinfection By-Product Bromate into Foods During Home Processing."
94. 2001: *Eleventh Annual Meeting ISEA, Charleston, SC, November 4-8.* P.C. Singer, V.J. Pereira*, **H.S.Weinberg**, and D. Radiloff. "Spatial and Temporal Variability of Disinfection By-Products in a Water Distribution System."
95. 2001: *49th ASMS Conference on Mass Spectrometry and Allied Topics, Chicago, IL, May27-31.* S.D. Richardson, A.D.Thruston, Jr., T.F. Speth, R.J. Miltner, G.Rice, K.M. Schenck, S.W.Krasner, **H.S. Weinberg**, L.K.Teuschler, and J.E. Simmons. "Chemical and Toxicological Evaluation of Chlorinated and Ozonated-Chlorinated Drinking Water: a Collaboration of the Four National Labs of the U.S. EPA."
96. 2001: *49th ASMS Conference on Mass Spectrometry and Allied Topics, Chicago, IL, May 27- 31.* C.N. Dalton, Z.Ye*, **H.S.Weinberg**, and G.L.Glish. "Application of Electrospray/Atmospheric Sampling Glow Discharge Ionization for Direct Analysis of Polar Disinfection By-Products."
97. 2001: *49th ASMS Conference on Mass Spectrometry and Allied Topics, Chicago, IL, May 27- 31.* A.D. Thruston, Jr., S.D. Richardson, S.W. Krasner, S. Pastor, **H.S. Weinberg**, and G.D. Onstad*. "Occurrence of Disinfection By-Products in Drinking Waters - Preliminary Results of a Nationwide Study."
98. 2001: *115th North Carolina ACS Section Meeting, North Carolina State University, April 21.* C.N.Dalton, Z.Ye*, **H.S.Weinberg**, and G.L.Glish. "Application of a New Tandem Ionization Source for Direct Mass Spectrometric Analysis of Semi-Volatiles."
99. 2001: *Microbial/Disinfection By-Products Health Effects Symposium RTP, NC, March 24- 26.* J.E. Simmons, S.D. Richardson, A.D.Thruston, Jr., T.F. Speth, R.J. Miltner, G.Rice, K.M. Schenck, L.K.Teuschler, S.W.Krasner, and **H.S. Weinberg**. "Development of a Research Strategy for Integrated Disinfection By-Products Mixtures Research Toxicological and Chemical Evaluation of Alternative Disinfection Treatment Scenarios."
100. 2001: *Application of Technology to Chemical Mixtures Research, Colorado State University, Jan 9-11.* J.E. Simmons, S.D. Richardson, A.D.Thruston, Jr., T.F. Speth, R.J. Miltner, G.Rice, K.M. Schenck, , L.K.Teuschler, S.W.Krasner, and **H.S. Weinberg**, "Integrated Technology-Based Toxicology Studies on DBPs."
101. 2000: *AWWA Water Quality Technology Conference, Salt Lake City, UT, November.* **H.S. Weinberg**, K. Brophy*, and P.C. Singer. "Effective Quality Control for Accurate Measurement of HAA9 Using Diazomethane Derivatization."

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102. 2000: AWWA Water Quality Technology Conference, Salt Lake City, UT, November. G.D. Onstad*, **H.S. Weinberg**, S.W. Krasner, and S.D. Richardson. "Evolution and Application of an Analytical Method for Nine Halogenated Furanones in Drinking Water."
103. 2000: AWWA Water Quality Technology Conference, Salt Lake City, UT, November. C.A. Delcomyn*, **H.S. Weinberg**, and P.C. Singer. "Measurement of sub- $\mu\text{g/L}$ Levels of Bromate in Chlorinated Drinking Waters."
104. 2000: AWWA Water Quality Technology Conference, Salt Lake City, UT, November. A.C. Gonzalez, S.W. Krasner, **H.S. Weinberg**, and S.D. Richardson. "Determination of Newly Identified Disinfection By-Products in Drinking Water."
105. 2000: International Ion Chromatography Symposium, Nice, France, September. **H.S. Weinberg**. "DBPs in Drinking Water; the Analytical Challenge for the Next Generation of DBPs Derived from NOM."
106. 2000: International Ion Chromatography Symposium, Nice, France, September. **H.S. Weinberg**. "Bromate in Chlorinated Waters by IC-PCR with Quantitation Down to 0.05 $\mu\text{g/L}$."
107. 2000: 48th ASMS Conference. Investigation of Disinfection By-Products in Drinking Water, Long Beach, CA, June 11-15. S.J. Pastor, S.W. Krasner, **H.S. Weinberg**, and S.D. Richardson. "Investigation of Disinfection By-Products in Drinking Water Using Solid-Phase Extraction and Gas Chromatography/Mass Spectrometry."
108. 2000: 48th ASMS Conference. Investigation of Disinfection By-Products in Drinking Water, Long Beach, CA, June 11-15. A.C. Gonzalez, S.W. Krasner, **H.S. Weinberg**, and S.D. Richardson. "Investigation of Disinfection By-Products in Drinking Water Using Solid-Phase Extraction and Gas Chromatography/Mass Spectrometry."
109. 1999: AWWA Water Quality Technology Conference, Tampa, FL, November. P.C. Singer, H. Arora, E. Dundore, K. Brophy*, and **H. Weinberg**. "Control of Haloacetic Acid Concentrations by Biofiltration: A Case Study."
110. 1999: ACS Spring Meeting, Anaheim, CA, April. K.S. Brophy*, **H.S. Weinberg**, and P.C. Singer. "Quantification of Nine Haloacetic Acids Using Gas Chromatography with Electron Capture Detection."
111. 1999: ACS Spring Meeting, Anaheim, CA, April. **H.S. Weinberg**, S.W. Krasner, S.D. Richardson, and R. Sangaiah. "Current Research into the Occurrence of New Disinfection By-Products in Drinking Water."
112. 1998: AWWA Water Quality Technology Conference, San Diego, CA, November. P.C. Singer, J. Shi, and **H.S. Weinberg**. "Impact of pH Adjustment and Chloramination for the Control of Haloacetic Acid Formation in North Carolina Drinking Water."
113. 1998: NC AWWA/WEF Annual Conference, Durham, NC, November. **H.S. Weinberg**, S.J. Cook*, and P.C. Singer. "Cyanide Analysis in Wastewater; Observations and Solutions."

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114. 1998: *Water Environment Federation Annual Conference & Exposition, 71st, Orlando, FL, October.* **H.S. Weinberg**, S.J. Cook*, and P.C. Singer. "Application of Flow Injection to the Analysis of Total Cyanide in Wastewater Treatment Plant Effluents."
115. 1998: *WRI Annual Conference, Raleigh, NC, April.* **H.S. Weinberg**, A. Eyring*, and P.C. Singer. "Trace Element Analysis."
116. 1998: *ILSI Workshop, Washington, DC, February.* **H.S. Weinberg**. "Overview of Isolation and Concentration; Procedures Currently Applied to Drinking Water Disinfection By-Products."
117. 1998: *ILSI Workshop, Washington, DC, February.* **H.S. Weinberg**. "Solid Phase Extraction Techniques."
118. 1997: *AWWA Water Quality Technology Conference, Denver, CO, November.* **H.S. Weinberg** and H. Yamada. "Sub Part Per Billion Analysis of Bromate, Iodate, and Chlorite in drinking Water Using a New Post Ion Chromatography Column Reaction and UV Detection."
119. 1997: *AWWA Water Quality Technology Conference, Denver, CO, November.* P.C. Singer, T.L. Hickey, and **H.S. Weinberg**. "Formation of Bromate in a Continuous Flow Ozonation Reactor."
120. 1997: *International Ion Chromatography Symposium, Santa Clara, CA, September.* **H.S. Weinberg** and H. Yamada. "A New, Sensitive, and Selective Method for Determining Sub $\mu\text{g/L}$ Levels of Bromate in Drinking Water."
121. 1996: *AWWA Water Quality Technology Conference, Boston, MA, November.* **H.S. Weinberg** and W.H. Glaze. "Ozonation By-Products in Drinking Water."
120. 1996: *EPA/WEF 19th Annual Conference on Analysis of Pollutants in the Environment, Norfolk, VA, May.* **H.S. Weinberg**, A. Eyring*, and P.C. Singer. "Analysis of Trace Metals in Complex Matrices."
121. 1995: *ACS Annual Meeting, Chicago, IL, August.* P.C. Singer, L.J. Harrington, and **H.S. Weinberg**. "Formation and Control of Bromate in Continuous-Flow Ozonation Reactors."
122. 1993: *International Ion Chromatography Symposium, Baltimore, MD, September.* **H.S. Weinberg** and W.H. Glaze. "On-Line Pre-Concentration Techniques for the Analysis of Bromate in Ozonated Surface Waters."
123. 1993: *ACS Symposium, Washington DC, August.* **H.S. Weinberg** and W.H. Glaze. "An Overview of Recent Studies of Ozonation By-Products."
124. 1993: *AWWA Annual Conference, May.* S.W. Krasner, W.H. Glaze, **H.S. Weinberg**, and P.A. Daniel. "Bromate Occurrence and Control: Pilot- and Full-Scale Studies."

Refereed Unpublished Oral Presentations and/or Abstracts (continued)

125. 1992: *AWWA Water Quality Technology Conference, Toronto, Canada, November.* **H.S. Weinberg** and W.H. Glaze. "Control of Polar By-Product Formation in Ozonation Plants."
126. 1992: *AWWA Water Quality Technology Conference, Toronto, Canada, November.* **H.S. Weinberg.** "Methodology for Plant Surveys; Analytical Pitfalls."
127. 1991: *AWWA Water Quality Technology Conference, Orlando, FL, November.* **H.S. Weinberg,** W.H. Glaze, and J.J. Pullin. "Modification and Application of Hydrogen Peroxide Analysis in Ozonation Plant Surveys."
128. 1991: *AWWA Annual Conference, Water Quality Division, Philadelphia, PA, June.* W.H. Glaze, **H.S. Weinberg,** S.W. Krasner, and M.J. Scilimenti. "Trends in Aldehyde Formation and Removal Through Plants Using Ozonation."
129. 1991: *AWWA Annual Conference, Water Quality Division, Philadelphia, PA, June.* **H.S. Weinberg,** W.H. Glaze, N. Scheller, and J. Cavanagh. "Identification and Occurrence of Ozonation By-Products in Drinking Water."
130. 1991: *Chemical Oxidation – Technology for the Nineties, 2nd International Symposium Nashville, TN, February.* **H.S. Weinberg** and N. Narkis. "Oxidation By-Products Resulting from the Interaction of Chlorine Dioxide with Non-Ionic Surfactants."
131. 1990: *AWWA Annual Conference, Water Quality Division, June.* C.Y Kuo, S.W. Krasner, G.A. Stalker, and **H.S. Weinberg.** "Analysis of Inorganic Disinfection By-Products in Ozonated Drinking Water by Ion Chromatography."
132. 1990: *AWWA Annual Conference, Water Quality Division, June.* M.J. Scilimenti, S.W. Krasner, W.H. Glaze, **H.S. Weinberg.** "Ozone Disinfection By-Products: Optimization of the PFBHA Derivatization Method for the Analysis of Aldehydes."

Other Non-Refereed (Invited) Works

1. 2012: *Gordon Research Conference, Mount Holyoke, MA, August.* Discussion Leader, "Identification of Emerging DBPs."
2. 2007: *Imperial College, University of London, UK. July.* HAA Occurrence and Formation Meeting, "Developments with DBPs in the USA."
3. 2006: *Gordon Research Conference, Mount Holyoke, MA, August.* Opening presentation, "Drinking Water Disinfection Byproducts."
4. 2006: *Pittsburgh Conference (PITTCON), Orlando, FL, March.* Invited seminar, "Drugs in Drinking Water."

Other Non-Refereed (Invited) Works (continued)

5. 2005: *U.S. Environmental Protection Agency Workshop on Pharmaceuticals in the Environment, Las Vegas, NV, August*. Invited seminar, "Occurrence and Fate of Antibiotics and Other Pharmaceutically Active Compounds During Transport to and During Drinking Water Treatment."
6. 2005: *American Chemical Society. Symposium on Halogen and Halamine Chemistry in Biology, health, and the Environment. Washington, DC, August*. Invited lecture, "Analysis and Stability of Disinfection Byproducts in Distribution Systems."
7. 2005: *U.S. Environmental Protection Agency BOSC Subcommittee on Drinking Water, Cincinnati, OH, June*. Invited poster, "PPCPs in Drinking Water Sources & Fate During Treatment."
8. 2005: *U.S. Environmental Protection Agency, Workshop on Optimizing the Design and Interpretation of Epidemiologic Studies to Consider Alternative Disinfectants of Drinking Water. Raleigh, NC, June*. Invited presentation and panel member, "Identification and Formation of DBPs in Plants Using Alternative Disinfectants."
9. 2004: *North Carolina State University, Department of Environmental and Molecular Toxicology, Raleigh, NC*. Invited seminar, "Investigation of the Occurrence of Antibiotics in Drinking Water."
10. 2003: *U.S. Environmental Protection Agency, Region 4 Environmental Research Seminar, Atlanta, GA*. Invited seminar, "Downstream Impacts from Pharmaceutical Drugs and By-Products: Impacts on Drinking Water Treatment Facilities."
11. 2002: *Society of Environmental Toxicology and Chemistry Workshop on Emerging Contaminants in the Aquatic Environment-Risk and Regulatory Perspectives, NC State University, Raleigh, NC, October 3*. Invited seminar and workshop participant, "An Approach to Assessing the Occurrence, Fate, and Transport of Pharmaceutically Active Compounds in N. Carolina Drinking Waters."
12. 2002: *UNC Drinking Water Research Center Symposium, Chapel Hill, May 22*. Invited seminar, "Bromate in Non-Ozonated Drinking Waters."
13. 2002: *Society of Environmental Toxicology and Chemistry Workshop on Emerging Contaminants in the Aquatic Environment – Risk & Regulatory Perspectives, Raleigh, NC, April*. Invited seminar, "An Approach to Assessing the Occurrence, Fate, and Transport of Pharmaceutically Active Compounds in N. Carolina Drinking Water."
14. 2001: *NC Society of Toxicology Fall 2001 Meeting, Chapel Hill, Oct 16*. Invited seminar, "What's in our water? A Survey of the Various Long-Known and Newly Identified DBPs Produced by Different Water Treatment Processes."
15. 2001: *AWWA NC Section, Chapel Hill, NC, May 21*. Teleconference Invited seminar, "Analytical Methods for Detection of Taste and Odor causing Compounds."

Other Non-Refereed (Invited) Works (continued)

16. 2000: *NC/Israel Binational Foundation on Research. Kfar Giladi, Israel, March 12–14.* Invited seminar, "Water Quality Assessment and Enhancement."
17. 1998: *US EPA STAR Grants Drinking Water Program Review Meeting, Crystal City, VA, December.* Invited seminar, "Development of a New, Simple, Innovative Procedure for the Analysis of Bromate and Other Oxy-Halides at Sub-ppb Levels in Drinking Water."
18. 1997: *North Carolina State University, Water Resources and Environmental Engineering Fall Seminar Series, Raleigh, NC, November.* Invited seminar, "Assessment of Trace element Concentrations in Municipal Wastewater Treatment Plant Discharges in North Carolina."
19. 1994: *Nippon Dionex Fall Seminar Series, Tokyo, Osaka, and Nagoya, Japan, October.* Invited lecture circuit speaker, "Controlling Disinfection By-Products; the Challenges of Finding and Then Removing Them."
20. 1994: *APHA 122nd Annual Meeting, Washington, DC, October.* Invited lecture, "Formation and Methods for Detection of Disinfection By-Products."
21. 1993: *PITTCO, Atlanta, GA, March.* Invited seminar, "Parts-Per-Billion Level Determination of Bromate in Ozonated Drinking Water Using Ion Chromatography."
22. 1992: *Technion - Israel Institute of Technology, Haifa, Israel, August.* Invited seminar, "Analysis of Polar Disinfection By-Products - The Latest Approaches."
23. 1990: *University of North Carolina, Water Resources Engineering Seminar Program, Fall.* Invited seminar, "The Effect of Chlorine Dioxide on Organics Removal from Wastewater."

Teaching Activities***Classes Taught***

- CHEM 395 Research in Chemistry for Undergraduates; 1 student.
- ENVR 400 Seminar Series in Environmental Sciences and Engineering; Moderator; ~500 students; Fall 2009-2020 and Spring 2010-2022.
- ENVR 401 Unifying Concepts; ~30 students.
- ENVR 403 Environmental Chemistry Processes; Guest Lecturer; ~30 students.
- ENVR 411 Laboratory and Field Techniques in Environmental Sciences; Instructor/Lead Instructor; ~90 students; Fall 2009-2010 and Fall 2012-2016.
- ENVR 593 Undergraduate Practicum; Lead Instructor; 3 students in Spring 2022
- ENVR 691H Honors Research; Lead Instructor Fall 2018-Spring 2022, 1 student
- ENVR 724 Current Topics in Environmental Analytical Chemistry; Instructor; varying number of students; Spring 2012, Spring 2015, Spring 2018.
- ENVR 726 Instrumental Methods for the Chemical Analysis of Environmental Samples; Instructor; ~ 20 students; Spring 2013-2015
- ENVR 691 Undergraduate Research; Instructor; 1 student; Fall 2011, Spring 2020
- ENVR 890 Special Topics: Water Quality and Analysis; Instructor Spring 2021 and 2022. 9 students
- ENVR 991 Research in Environmental Sciences and Engineering; Instructor/Lead Instructor; ~53 students; Fall 2010-2012, Sp 2011-2013, Fall 2014-2020, and Sp 2015-2022.

Research Grants*In Progress*

2022	PI	Alcoa Foundation: “Developing Stronger Community-Stakeholder Engagement for Resolution of Environmental Issues at Alcoa Badin Works/Badin Business Park” \$80,000
2022	<i>Co-Investigator with A. Salzberg, M Fisher, & J. Brown</i>	The United Nations Institute for Training and Research (UNITAR). “Develop Training Materials and Provide Training to Laboratories in Caribbean Small Island Developing States on Environmental Quality Monitoring,” \$40,000

Completed

2013-2018	PI	National Science Foundation: “Retooling Green Wastewater Treatment Infrastructure to Support Edible Crop Growth.” \$323,000 (total)
2013-2017	Co-PI (with O. Coronell)	National Science Foundation: “Tailoring ThinFilm Nanocomposite Membranes for Water Reuse Applications.” \$360,000 (total)
2013-2015	Co-PI (with M. Farre)	University of Queensland (Australia), Water Research Foundation and Seqwater: “Engineering Solutions to Minimize Nitrogen Containing DBPs.” \$300,000 (total)
2011-2013	PI	University of Queensland (Australia): “Regulated and Emerging Disinfection By-Products during the Production of High Quality Recycled Water.” \$67,000 (direct)
2010-2012	PI	Water Research Foundation: “Evaluating Changes in Distributed Water Quality After Chloramination Through Measurements of Cytotoxicity and Organic N-Containing Disinfection Byproducts.” \$75,000 (total)
2010-2014	Co-PI (with R. Fry)	Water Research Foundation: “Screening Endocrine Activity of DBPs.” \$300,000 (total)

2009	PI	Water Resources Research Institute – Urban Water Consortium: “The Occurrence and Fate of Biochemically Active Compounds in North Carolina Drinking Waters.” \$62,081 (direct)
2007-2009	PI	American Water Works Association Research Foundation: “Impact of UV Location and Sequence on By-Product Formation.” \$102,000 (direct)
2007-2009	Co-investigator (with P. Singer)	Gwinnett County, GA: “ Occurrence of Selected Pharmaceutically Active Compounds and PCPs.” \$265,000 (total)
2006-2008	PI	MIOX Corporation: “Characterization of the Chemical Constituents of Mixed Oxidant Disinfection.” \$100,000 (total)
2006-2009	PI	American Water Works Association Research Foundation: “Iodinated Acids and Iodide in Drinking Water Supplies.” \$150,000 (total)
2006-2008	PI	Water Resources Research Institute: “Screening for Anthropogenic Sources of Contamination in Surface Waters Using Synchronous Scan Fluorescence.” \$50,000 (total)
2006-2007	PI	Metropolitan Water District of Southern California: “4-Lab Study – Priority Chlorination Disinfection Byproduct Analysis.” \$90,000 (direct)
2005-2006	PI	Water Resources Research Institute: “Use of Indicators to Distinguish Between Point and Non-Point Sources of Chemical Contamination in North Carolina Streams.” \$50,000 (total)
2005	PI	University of North Carolina Junior Faculty Excellence Award. \$5,000 (total)
2004-2006	PI	University Research Council: "Preliminary Studies for Use of Automated Solvent Extraction for the Isolation of Antibiotics from Sediments and Soils." \$4,000 (total)

2001-2005	PI	U.S. Environmental Protection Agency: “Impact of Residual Pharmaceutical Agents and their Metabolites in Wastewater Effluents on downstream Drinking Water Treatment Facilities.” \$524,992 (total)
2001-2003	PI	North Carolina Utilities Consortium: “Investigation of the Occurrence of Residual Antibiotics and their Metabolites in Drinking Water.” \$50,000 (total)
2000-2001	PI	Research Triangle Institute: "Determination of Uptake of Bromate of Foods Cooked in Drinking Water." \$22,000 (direct)
2000	PI	American Water Works Association, Chlorine Institute, & Chlorine Chemistry Council: "Bromate Occurrence in Chlorinated Waters." \$20,000 (direct)
1999-2004	Co-Investigator (with D. Savitz)	American Water Works Association Research Foundation: "Drinking Water Disinfection By-Products and Spontaneous Abortion." \$3,000,000 (total)
1999-2000	PI	University Research Council: "Preliminary Studies of Solid Phase Micro-Extraction for the Isolation of Polar Disinfection By-Products from Drinking Water." \$2,000 (total)
1998-2003	PI	United States Environmental Protection Agency: "Formation and Stability of Ozone By-Products in Drinking Water." \$441,261 (total)
1998-2001	PI	United States Environmental Protection Agency: “Occurrence of Drinking Water Disinfection By-Products.” \$1,505,318 (total)
1998-2000	PI	United States Environmental Protection Agency: “Development of a New, Simple, Innovative Procedure for the Analysis of Bromate and Other Oxy-Halides at Sub-ppb Levels in Drinking Water.” \$198,460 (total)

1998-2000	Co-PI (with P. Singer)	American Water Works Association Research Foundation: "Formation, Occurrence, Stability, and Dominance of Haloacetic Acids and Trihalomethanes in Treated Drinking Water." \$250,000 (total)
1998-2000	Co-investigator (with P. Singer)	Colorado State University: "Development of Methods for Predicting Trihalomethanes and Haloacetic Acids. Concentrations in Exposure Assessment." \$12,737 (direct)
1998-2000	Co-investigator	United States Environmental Protection Agency: "Ozonation and Enhanced Coagulation for Control of DBPs." \$299,792 (total)
1997	PI	United States Environmental Protection Agency: "Research in and Biochemical and Environmental Epidemiology." \$25,000 (total)
1996-1998	Co-investigator (with P. Singer)	Associated Schools of Public Health: "Assessment of Chlorinated Disinfection By- Product Exposure in Metropolitan Atlanta: Linkages to CDC's Birth Defects Risk Factor." \$84,063 (total)
1995 - 1997	Co-PI (with P. Singer)	Water Resources Research Institute of North Carolina: "Assessment of Trace Element Concentrations in Municipal Wastewater Treatment Plant Discharges in North
1994 - 1995	PI	State of New Jersey Department of Environmental Protection and Energy: "Determination of Impurities in Chemicals Used for Water Treatment – Alum." \$30,566 (total)
1993 - 1994	Co-PI (with W.H. Glaze)	American Water Works Association Research Foundation/Water Research Centre, U.K.: "Analytical Methods for Polymers, Associated Contaminants, and Oxidative By-Products." \$86,478 (direct)
1992 - 1993	PI	Quebec Ministry of Environment/Ecole Polytechnique/University of N. Carolina: "Regrowth in Distribution Systems." \$20,000 (total)

1990 - 1992	PI	Service de l'environnement, Laval, Quebec, Canada: "Investigation of Disinfection By-Products in the Sainte Rose Water Treatment Plant." \$20,000 (total)
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Professional Service

To Discipline

- (i) UNC Environmental Sciences and Engineering Coordinator for Teaching at Tuebingen (2015 to present)
- (ii) Editorial Board member of the journal Environmental Health Perspectives (2011 to 2016)
- (iii) Peer reviewer for the journals: American Chemical Society Conference Publications, Environmental Science & Technology, Journal of the American Water Works Association, Journal of Chromatography, Ozone Science and Engineering, Revue des Sciences de l'eau, Analytical Chemistry, Water Research, Mikrochemica Acta, Advances in Environmental Research, Acta Hydrochimica et Hydrobiologica (2002 to present)
- (iv) Session Chair: Gordon Research Conference on Disinfection Byproducts (August 2012)
- (v) Chair of HIWATE Open Day, London UK (February 23, 2010)
- (vi) Member of European HIWATE Consortium Science Advisory Board (2009-2010)
- (vii) Session chair at the AWWA Water Quality Technology Conference, Charlotte, NC (November 7, 2007)
- (viii) Session chair at the 17th Annual Conference of the ISEA, Durham, NC (October 17, 2007)
- (ix) Member of Peer Review Editorial Board for the American Water Works Association Journal (2006-2012)
- (x) Invited, presented and panel member on workshop exploring the current science on disinfection byproducts. CIIT Centers for Health Research, RTP, NC (September 2004)
- (xi) Project Advisory Committee Member to American Water Works Association research foundation (August 2004-July 2009 and 1998-2001)
- (xii) Associate Editor - Water Research (2003-2007)
- (xiii) Disinfection By-Products Technical Advisory Workgroup: American Water Works Association (1999-2004)
- (xiv) Review Panel Committee Member: U.S. Environmental Protection Agency - Small Business Innovative Research (2001)
- (xv) U.S. Environmental Protection Agency, Risk Assessment Group, Cincinnati, presenter and reviewer, "Considering Unidentified DBPs" (March-July 2000)
- (xvi) International Life Sciences Institute, Health & Environmental Sciences Institute: Collaboration with analytical chemists to produce peer-reviewed report and generate research interface between environmental and analytical chemistry (1997-1999)
- (xvii) Chair of the Joint Task Group: Standard Methods for the Examination of Water & Wastewater - Ozone By-products Section, (1996-2001)
- (xviii) Technical Proposal Review Committee Member, American Water Works Association Research Foundation (1996)
- (xix) Pfizer Pharmaceutical Company: Investigation of potential by-products resulting from chlorination of pharmaceutical waste streams (1996)
- (xx) University of Montreal, Ecole Polytechnique: Consultant to the Chair in Establishment of water quality laboratories and academic program (1996)

- (xxi) James Montgomery Engineers, Walnut Creek, CA., QA/QC protocols and evaluation of analytical method for determination of aldehydes in drinking water (1991)

Within UNC-Chapel Hill

Fall 2021 and continuing: Member of Gillings Global Health Admissions Committee

Fall 2021 and continuing: Co-lead on Water Institute Innovation Accelerator Award

Fall 2019 and continuing: Member of Graduate School Weiss Fellowship Review Board

Spring 2018: Chair of ad hoc committee to evaluate Tenured Faculty member for promotion

Spring 2018: Member of ad hoc committee to evaluate Tenured Faculty member for promotion

Fall 2016: Convened and Led Water Faculty Focus Area Meeting

Fall 2016: Member of Ad Hoc group to Revise Policy on Adjunct Appointments

Spring 2013- present: Member of SPH Monitoring Committee for COI Compliance

Spring 2013: Chair of committee to evaluate Tenure Track Faculty member for reappointment

2012-2015: Member of UNC ENVR Space Committee

Fall 2010-Summer 2011: Chair of ENVR Admissions Committee Fall 2008 to Spring 2021: Member of ENVR Admissions Committee

Fall 2007-Spring 2008: Member of search committee for new ENVR faculty

Fall 2005-Spring 2006: ENVR Chair Search Committee member

Summer 2005: Member of planning committee for grand opening of Hooker Research Building

November 2003: Member of Office of Postdoctoral Services awards committee.

March 2003-September 2005: UNC-ESE Graduate Admissions committee member

March 2003-present: UNC-ESE space committee member

September-December 2001: UNC ESE Member of ad-hoc committee to address approaches for future student recruitment

March-September 2001: UNC Human Resources search committee member for appointment of Head of Benefits

March 2001-present: UNC Purchasing Department – Member of fine chemicals committee

Graduated Students Supervised as Primary Advisor

Alma Beciragic – PhD 2020 – “Assessing Nanofiltration Membrane Leachates and Their Impact on Drinking Water Quality.” Since September 2020 Water Engineer and Management Consultant at Arcadis Design & Consultancy, Charlotte NC

Kirsten Studer - PhD 2020 – “Characterization and Formation of Iodinated Disinfection Byproducts from Organic and Inorganic Precursors.” Since August 2020 Environmental Engineer at the U.S. Environmental Protection Agency, Washington, DC

Kasia Grzebyk – PhD 2019 – “Modifying Interfacial Polymerization Reaction Conditions in High-Pressure Membrane Fabrication for Enhanced Organic Micropollutant Removal.” Since January 2020 Environmental Scientist at Exponent Management Consulting, Bellevue, WA

Rebecca Wentzel Martinez - MSEE 2018 – “Constructed Wetlands for Secondary Wastewater Treatment at the San Pedro Tesistán Wastewater Treatment Plant in Jocotepec, Jalisco, Mexico.” Currently Water and Wastewater Project Engineer at Remington & Vernick Engineers, Cherry Hill NJ.

Breanne Holmes - PhD 2017 – “Occurrence and Control of Estrogenic and Androgenic Activity in Water”. Currently Scientific Manager at Bayer in Koln, Germany.

Kathleen McDermott – MS 2017 – “Monitoring the Removal of Estrogenic Activity in Wastewater Treated by a Pilot-Scale Constructed Wetland using the Yeast Estrogen Screen.” Since 2017 Program Consultant and Bridge Counselor at the NC Division of Public Health, Carrboro, NC.

Vaishnavi Komaravolu – MSEE 2016 - “Adapting Constructed Wetlands Treatment of Domestic Wastewater for New Reuse Applications.” Since 2018 Senior Staff Environmental Engineer at Hart Crowser Geotechnical, Environmental, and Natural Resources Consulting, Seattle, WA

Chuck McCall – MSEE 2016 – “Using Batch Studies to Optimize On-Site Wastewater Treatment Systems for Removing Emerging Contaminants.” From March 2015, employed as Environmental Engineer at CDM Smith Consultants in Raleigh, NC.

Michael Weiss – MSEE 2015 – “Minimizing Disinfection By-Product Formation by Evaluating Drinking Water Treatment Options.” From July 2016, employed as Environmental Engineer at U.S. EPA Region 9 Wastewater Section Enforcement Office in San Francisco, CA.

Anne Galyean – PhD 2015 – “Characterizing Silver Engineered Nanoparticles in Natural Waters: Analytical Considerations for Instrumental and Environmental Factors Using Asymmetric Flow Field Flow Fractionation.” Research Supported by a National Science Foundation Graduate Fellowship. From December 2015, Postdoctoral Researcher in the Chemical and Biological Engineering Department in the Colorado School of Mines.

Monica Kuroki – MSEE 2015 – “Model Prediction of HAA9 Values for Chlorinated And Chloraminated Disinfection in Drinking Water Using ICR Data.” From September 2015, Consultant at IBM Sustainability in NY.

Will Stanley – MS 2014 – “Column Studies of Micropollutant Removal From Wastewater.”

Currently a partner in Five Fork Studio.

Yi Liu – MS 2013– “Fate of Contaminants of Emerging Environmental Concern (CEECs) During Drinking Water Treatment Processes.” Research Supported by the NC Water Resources Research Institute. Currently Research Associate at UC Berkeley, CA.

Megan Nunes – MS 2013 – “Evaluating Endocrine Activity of Individual and Complex Mixtures of Disinfection By-Products Using Yeast Assays.” Research supported by the Water Research Foundation.

Jennifer Casanova – MSPH 2013 – “Constructed Wetlands for Wastewater Treatment and Reuse in North Carolina: Case Study and Community Perceptions.” Recipient of the 2012 Gillings School of Global Public Health Alumni Association Spirit of Giving Scholarship and Brown and Caldwell Minority Scholarship.

Bonnie Lyon – PhD 2012 – “Impact of UV Treatment on Disinfection Byproduct Precursors and Subsequent Byproduct Formation from Chlorine and Chloramine.” Research supported by Water Research Foundation and Graduate School Dissertation Completion Fellowship.

Ramon Alatorre – MS 2012 – “Integrating Engineered Wetlands with Crop Irrigation: An Evaluation of Chemical Uptake.” Research supported by the Alliances for Graduate Education and the Professoriate of the National Science Foundation.

Rebecca Milsk – MS 2012 – “Comparative Cytotoxicity of Drinking Water Disinfection By-Product Mixtures Produced During Chlorination and Chloramination.” Research Supported by the Water Research Foundation.

Will Stanley – MS 2011 – “Column Studies of Micropollutant Removal From Wastewater.” Currently a Fellow with Fondation Enfant Jesus, Haiti.

Paul Ebohon – MS 2011 – “Screening Disinfection Byproducts and Phenolic Compounds for Estrogenic Activity.” Research supported by the Water Research Foundation. Recipient of the 2012 Presidential Management Fellow Award.

Pearl Kaplan – MS 2011 – “Impact of Free Chlorine on the Fate of Biochemically Active Compounds in Drinking Water.” Research supported by the Urban Water Consortium of the Water Resources Research Institute of North Carolina. Currently supported by a Fulbright U.S. Student Program award at McGill University, Montreal, Canada.

Jennifer Chu – MSPH 2009 - “Treating Disinfectant By-products as Mixtures: Using Total Organic Halogen Content and the Growth Inhibition Assay as Potential Indicators of Toxicity in Drinking Water.” Research supported by the Water Research Foundation. Currently employed at ChemRisk LLC in Pittsburgh, PA.

Ana Martinez – PhD (exchange student 2009). Currently enrolled at the University of Illinois at Urbana-Champaign.

Cynthia Bougeard Kalweit – PhD (exchange student 2009). Currently Scientific Researcher at the Federal Environmental Agency, Bad Elster, Germany

Katherine Bronstein – MS 2008 – “Antibiotic Occurrence and Associated Environmental Hazard: A Case Study of a Drinking Water Reservoir Impacted by Wastewater Discharge.” Research supported by the NC Water Resources Research Institute. Currently employed as Research Assistant at Research Triangle Institute, Research Triangle Park, NC.

Benjamin Stanford – PhD 2008 – “The Fate and Transport of Steroid Estrogens and Nonylphenols through Soils.” Research supported by National Science Foundation Graduate Fellowship. Since 2019 Associate Vice President at Hazen and Sawyer, Denver, CO.

Ashley Parks – MSEE 2007 – “Indicators of Non-Point Source Pollution in Surface Waters Originating from Biosolids.” Research supported by the NC Water Resources Research Institute. Currently employed as a Consulting Engineer by LimnoTech in Washington, DC.

Laura Richards – MSEE 2007 – “Antibiotic Fate and Transport in Aqueous and Sediment Watershed Environments.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently studying for the PhD at the University of Edinburgh, Scotland, under Professor Andrea Schaeffer.

Talia Chalew – MS 2006 – “Chemical Indicators of Surface Water Pollution.” Research supported by the NC Water Resources Research Institute. Currently studying for the PhD at Johns Hopkins University, Baltimore, under Professor Rolf Halden.

Katherine Stauffenberg – MS 2006 – “Evaluating Photolysis and Sorption of Antibiotics in both Laboratory-Simulated and Environmental Settings.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed by the U.S. Army.

Embrey Bronstad - MSEE 2005 – “Impact of Wastewater Effluent on Antibiotic Resistance in Sediment-Associated Aeromonas.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed as Engineer II by Parametrix in Sumner, WA.

Zhengqi Ye – PhD 2005 – “Occurrence, Fate, and Transformation of Antibiotics during Drinking Water Treatment.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed as Research Scientist at Vertex Pharmaceuticals Inc. in Cambridge, MA.

Lauren Weinrich – MS 2005 – “Stability, Transformation, and Persistence of Ozonation Byproducts in Chlorinated and Chloraminated Drinking Water.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently Senior Scientist at American Water, Delran NJ.

Vanessa Pereira – PhD 2005 – “Analytical Methods Validation and Bench Scale UV Treatment of Pharmaceutical Compounds and Contrast Media in Water.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed as a Postdoctoral Research Fellow at the New University of Lisbon, in the Dept of Chemistry, under Professor Joao Crespo.

Lisa Biddle – MSEE 2004 – “Variability and Speciation of Halogenated Disinfection Byproducts in Chloraminated Drinking Waters and their Regulatory Implications”. Research supported by American Water Works Association Research Foundation and the U.S. Environmental Protection Agency. Currently employed as an Engineer in Training by the consulting engineering firm of ERG in Chantilly, VA in their Leadership in Energy and Environmental Design program.

Sara Eslinger – MS 2004 – “An Examination of Domestic Tap Water Treatments and their Impact on Average Daily Ingestion Exposure to Halogenated Disinfection Byproducts in Drinking Water.” Research supported by American Water Works Association Research Foundation and the U.S. Environmental Protection Agency. Currently employed by Micell Technologies in Raleigh, NC.

Gretchen Onstad – PhD 2003 – “Development and Application of an Analytical Method for the Detection of Halogenated Furanones in U.S. Drinking Waters.” Research supported by a co-operative agreement with U.S. Environmental Protection Agency. Since 2017 Industrial Enforcement Specialist at the Washington State Department of Ecology, Seattle, WA

Shikha Bhatnagar – MS 2002 - “Development of an Analytical Method for the Detection of Epoxides in Water.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed as Quality Analytical Chemist at Amgen Inc. in Simi Valley, CA.

Vasu Unnum MS 2001 – “Bromate Uptake in Food Cooked in Drinking Water.” Research supported by a collaborative agreement with Research Triangle Institute. Currently employed at Santa Clara Valley Water District in San Jose, CA.

Vanessa Pereira - MSEE 2001 – “Use of a Chloraminated Drinking Water System to Develop Accurate Predictive Patterns of Exposure to Disinfection By-Products by Consumers.” Research supported by American Water Works Association Research Foundation. Currently employed as a Research Fellow at the New University of Lisbon, in the Department of Chemistry, under Professor Joao Crespo.

Alice Harris – MS 2001 – “Development of an Analytical Method for the Detection of Peroxides in Water.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed as Senior Project Manager for the Water Research Foundation in Denver, CO.

Carrie Delcomyn – MS 2000 – “Detection of Sub $\mu\text{g/L}$ Levels of Bromate and other Oxyhalides in Treated Drinking Waters.” Research supported by U.S. Environmental Protection Agency STAR grant. Currently employed at Applied Research Associates, Inc., Tyndall Air Force Base, FL.

Steven Cook - MSEE 1999 – “Application of Flow Injection Analysis to Assess the Impact of Chlorination on Total Cyanide Concentrations in Municipal Wastewaters.” Currently employed by Malcolm Pirnie in Newport News, VA.

Katherine Brophy – MS 1999 – “Methodology for the Accurate Quantification of Nine Haloacetic Acids in Drinking Water and Application to Real Water Systems.” Research supported by American Water Works Association Research Foundation. Currently employed at California Water Service Company in San Francisco, CA.

Adam Eyring – MS 1998 – “Development and Application of Methods for the Analysis of Trace Metals in Alum.” Research supported by New Jersey Department of Environment and Protection. Currently employed by the City of Philadelphia Bureau of Laboratory Services in Philadelphia, PA.

Current Students (degree/anticipated graduation date)

Berkley Wood & Lunide Sylne (MSPH 2022), Susie Proctor (MPH 2022), Aashna Shukla, Kathryn Banks, Claire Connelly, & Toby Turla (BSPH 2022), Cassidy Rice & Samantha Feinstein (MSPH 2023), Katherine Kimmel, Lauren Ferner, & Jenna Frey (MPH 2023), Megan Lienau (BSPH 2023), Carlan Welsby, Cole Seifert, & Lindsey Pegram (BSPH 2024).

Student Committees Served as Member

PhD

Cynthia Lin (Epidemiology, 2016); Glen De Vera (University of Queensland, Australia, 2013-2016); Caroline Nottle (Curtin University, Australia, 2013); Panitan Jutaporn (2013-2016); Colin Ward (2011-2013); Riley Flowers (2008-2011); Amanda Northcross (2004-2007); Erik Rosenfeld (Duke University 2005-2007); Lindsay Dubbs (2005-2009); Alexa Obolensky (2003-2005).

Masters

Lunide Sylne (MSPH 2022); Emily Tully (MS 2017); Elliot Meyer (MSEE 2012); Katherine Harrold (MS 2011-2013); Colleen Block (MSEE 2010); Susan Hsu (MSEE 2008); Andrew Westbrook (MSEE 2006); Patrick Sanderson (MS 2006); Nora Han (MSEE 2005); Clayton Johnson (MSEE 2004); Cora Nichols (MSEE 2004); Maria Meisch (MSEE 2004); Christina Likirdopolus (MSPH 2001); Nicole Snider (MSEE 2000); Rob Isabel (MSEE 2000); Christie Arlotta (MSEE 2000); Thom Chaiket (MSEE 1999); Jian Shi (MS 1998); Xing Lu (MS 1998); Tara Hickey (MSEE 1997).

Postdoctoral Student Mentoring

Maria Jose Farré (2010): Currently Research Scientist at the Catalan Institute for Water Research, Girona, Spain (ICRA).

Xin Yang (2007-2009): Currently a Faculty Member at Sun Yat-Sen University Guangzhou, Guangdong, China.

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