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Education

B.S. 1984 Chemistry & Mathematics, Georgia College & State University

Ph.D. 1989 Physical Organic Chemistry, Emory University

Experience

1/2014 Arthur Sease Williams Professor of Chemistry
to Department of Chemistry and Biochemistry, University of South Carolina, Columbia, SC
Present

12/1989 Research Chemist, National Exposure Research Laboratory,
to U.S. Environmental Protection Agency, Athens, GA.
12/2013

3/1989 Postdoctoral Research Associate, Environmental Research Laboratory,
to U.S. Environmental Protection Agency, Athens, GA.
12/1989

Honors and Awards

Herty Medal. 2020.

American Association for the Advancement of Science (AAAS) Fellow. 2019.

Analytical Scientist Power List (Top 100 analytical scientists). 2019.

American Chemical Society (ACS) Fellow. 2016.

ACS Award for Creative Advances in Environmental Science & Technology. 2008.

Honorary Doctorate (Doctor of Letters, *honoris causa*), Cape Breton University, Sydney, Nova Scotia, Canada, for ‘Research contributions at the forefront of public health issues around drinking water’. 2006.

Arthur Sease Williams Chair in Chemistry, University of South Carolina. 2014-current.

ACS Expert. (Representing ACS in media requests, panel discussions, opinion pieces, community science cafés, and other public venues on environmental and water matters). 2014-current.

Guest Professor, Central South University, Changsha, China. 2015-2020.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* articles, (1) ‘Comprehensive Assessment of a Chlorinated Drinking Water Concentrate in a Rat Multigenerational Reproductive Toxicity Study’, published in *Environmental Science and Technology* and (2) ‘Reproductive Toxicity of a Mixture of Regulated Drinking-Water Disinfection By-Products in a Multigenerational Rat Bioassay’, published in *Environmental Health Perspectives*. 2017.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* article, ‘Formation of Toxic Iodinated Disinfection By-Products from Compounds Used in Medical Imaging’. 2013. (Level I Award).

U.S. EPA Scientific and Technological Achievement Award for *Analytical Chemistry* review article, ‘Water Analysis: Emerging Contaminants and Current Issues’. 2011.

U.S. EPA Scientific and Technological Achievement Award—Honorable Mention—for *Environmental Health Perspectives* article, ‘What’s in the Pool? A Comprehensive Identification of Disinfection By-Products and Assessment of Mutagenicity of Chlorinated and Brominated Swimming Pool Water’. 2011.

Analytical Chemistry, Top 3 Significantly Highly-Cited Reviews, ‘Water Analysis: Emerging Contaminants and Current Issues’ (2016 review). 2018.

Environmental Science & Technology, Top 20 Most Read Article, ‘Progressive Increase in Disinfection Byproducts and Mutagenicity from Source to Tap to Swimming Pool and Spa Water: Impacts of Human Inputs. 2016 (last 12 months).

Analytical Chemistry, Top 20 Most Read Article, ‘Water Analysis: Emerging Contaminants and Current Issues’. 2016 (last 12 months).

Analytical Chemistry, Top 20 Most Read Article, ‘Water Analysis: Emerging Contaminants and Current Issues’. 2014 (last 12 months).

Analytical Chemistry, Top 10 Most Read Article, ‘Environmental Mass Spectrometry: Emerging Contaminants and Current Issues’. 2012.

Journal of Environmental Monitoring, Top 10 Most Accessed Article, ‘The Role of GC-MS and LC-MS in the Discovery of Drinking Water Disinfection By-Products’. 2011.

Analytical Chemistry, Top 10 Most Read Article, ‘Water Analysis: Emerging Contaminants and Current Issues’. 2011-2012.

U.S. EPA Scientific and Technological Achievement Award for ‘Concentration, Chlorination, and Chemical Analysis of Drinking Water Disinfection Byproduct Mixtures Health Effects Research: U.S. EPA’s Four Lab Study’, 2010. (Level I Award).

Environmental Science & Technology, Excellence in Review Award. 2010.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* article, ‘Drowning in Disinfection Byproducts? Assessing Swimming Pool Water’. 2009.

U.S. EPA Scientific and Technological Achievement Award for *Mutation Research* article, ‘Occurrence, Genotoxicity, and Carcinogenicity of Regulated and Emerging Disinfection By-Products in Drinking Water: A Review and Roadmap for Research’. 2009.

U.S. EPA Scientific and Technological Achievement Award—Honorable Mention—for *Analytical Chemistry* review article, ‘Water Analysis: Emerging Contaminants and Current Issues’. 2009.

Analytical Chemistry, Top 10 Most Read Article April-June 2009 and Top 20 Most Cited Article from 2009-2012, ‘Water Analysis: Emerging Environmental Contaminants and Current Issues’. 2009-2012.

Chemist of the Year, Northeast Georgia Section of the American Chemical Society. 2008.

Mutation Research, Top 10 Cited Author in 2007 and 2008, ‘Occurrence, Genotoxicity, and Carcinogenicity of Regulated and Emerging Disinfection By-Products in Drinking Water: A Review and Roadmap for Research’.

Analytical Chemistry, Top 20 Most Accessed Articles 2007, ‘Water Analysis: Emerging Environmental Contaminants and Current Issues’, 2nd most accessed *Anal. Chem.* article in 2007.

U.S. EPA, National Exposure Research Laboratory Special Achievement Award (Leader in the Environmental Research Community). 2006.

Environmental Science & Technology, Top 20 Most Accessed Articles in 2007, ‘Drowning in Disinfection Byproducts? Assessing Swimming Pool Water’, 8th most accessed *ES&T* article in 2007.

Environmental Science & Technology, Top 20 Most Accessed Articles in 2006, ‘Occurrence of a New Generation of Disinfection Byproducts’, 16th most accessed *ES&T* article in 2006.

Analytical Chemistry, Top 20 Most Accessed Articles in 2005 and 2006, ‘Water Analysis: Emerging Contaminants and Current Issues’, 2nd most accessed *Anal. Chem.* article in 2006 and 3rd most accessed in 2005.

American Chemical Society (Northeast Georgia Section) Chemist of the Year Award for Service. 2004.

U.S. EPA Scientific and Technological Achievement Award for *Analytical Chemistry* review article, 'Water Analysis: Emerging Contaminants and Current Issues' and *Trends in Analytical Chemistry* review article, 'Disinfection By-Products and Other Emerging Contaminants in Drinking Water'. 2004.

U.S. EPA Scientific and Technological Achievement Award—Honorable Mention—for journal article, 'Development of a Research Strategy for Integrated Technology-Based Toxicology Studies on Drinking Water Disinfection ByProducts.' 2004.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* article, 'Tribromopyrrole and Other DBPs Produced by the Disinfection of Drinking Water Rich in Bromide.' 2004.

Environmental Science & Technology, Top 20 Most Accessed Articles in 2004, 'Halonitromethane Drinking Water Disinfection By-Products: Chemical Characterization and Mammalian Cell Cytotoxicity and Genotoxicity', 13th most accessed *ES&T* article in 2004.

Analytical Chemistry, Top 20 Most Accessed Articles in 2004, 'Environmental Mass Spectrometry: Emerging Contaminants and Current Issues', 9th most accessed *Anal. Chem.* article in 2004.

U.S. EPA Bronze Medal. 2003.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* article, 'Hydrogen Abstraction and Decomposition of Tribromonitromethane and Other Trihalo Compounds by GC/MS.' 2003.

U.S. EPA Scientific and Technological Achievement Award for *Analytical Chemistry* review article, 'Environmental Mass Spectrometry: Emerging Contaminants and Current Issues.' 2003.

U.S. EPA Scientific and Technological Achievement Award Honorable Mention for *Ozone: Science & Engineering* article, 'Application of DNPH Derivatization with LC/MS to the Identification of Polar Carbonyl Disinfection By-Products in Drinking Water.' 2002.

U.S. EPA Scientific and Technological Achievement Award for *Environmental Science & Technology* articles, 'Identification of New Ozone Disinfection Byproducts in Drinking Water' and 'Identification of New Drinking Water Disinfection Byproducts Formed in the Presence of Bromide.' 2001.

U.S. EPA Bronze Medal (to Athens Drinking Water Research Team for 'Providing a Scientific Basis for Solving the DBP Problem'). 2000.

U.S. EPA Science Achievement Award in Chemistry. (Awarded jointly by the U.S. EPA and the American Chemical Society). 2000.

U.S. EPA Scientific and Technological Achievement Award for *Analytical Chemistry* review article, 'Water Analysis.' 2000.

U.S. EPA Scientific and Technological Achievement Award—Honorable Mention for journal article, 'Identification of Drinking Water Contaminants in the Course of a Childhood Cancer Investigation in Toms River, New Jersey.' 2000.

U.S. EPA Letter of Commendation for support to the Office of Water in the development of the Stage I Disinfectants/Disinfection By-Products Rule and Interim Enhanced Surface Water Treatment Rule. 1999.

Sigma Xi Research Paper Award (University of Georgia Chapter) for John Wiley Encyclopedia article 'Drinking Water Disinfection By-Products.'. 1998.

U.S. EPA Scientific and Technological Achievement Award for John Wiley Encyclopedia review article, 'Drinking Water Disinfection By-Products.' 1998.

U.S. EPA Scientific and Technological Achievement Award for journal article, 'Identification of Bromohydrins in Ozonated Waters.' 1997.

U.S. EPA Science Achievement Award in Water Quality. (Awarded jointly by the U.S. EPA and the Society of Environmental Toxicology and Chemistry). 1997.

American Men and Women of Science. 1992.

Honors and Awards for Ph.D. Students and Undergraduate Research Students Supervised (University of South Carolina, since 2014)

- Dallas Abraham, 1st Prize in Poster Competition (Effects of Oil and Gas Extraction on Drinking Water: Measuring Priority DBPs in Hydraulic Fracturing Impacted Waters). South Carolina Environmental Conference (SCEC). Virtual conference (due to Covid-19). 2020.
- Caroline Granger, 2nd Prize in Poster Competition (Role of Iodinated X-ray Contrast Media as a Source of Iodine in the Formation of Iodinated DBPs Upon Chlorination at Wastewater Treatment Plants). South Carolina Environmental Conference (SCEC). Virtual conference (due to Covid-19). 2020.
- Danielle Westerman, 3rd Prize in Poster Competition (Evaluating Desalination Wastewaters as a Source of Disinfection By-Products in Aquatic Ecosystems). South Carolina Environmental Conference (SCEC). Virtual conference (due to Covid-19). 2020.
- Hannah Liberatore, University of South Carolina Breakthrough Graduate Scholar Award. 2019.
- Amy Cuthbertson, Dean's Award for Excellence in Leadership, University of South Carolina. 2019.
- Gretchen Bollar and Anthony Kocur, William A. Mould Award for Best Honors Thesis, 'Disinfection By-Products in Bottled Water: Is It Really Safer than Tap Water?' University of South Carolina Honors College. 2019.
- Jacqueline Schoener, 1st Prize in Poster Competition (morning session), 'Bromide and Iodide Mapping of SC Rivers Using Ion Chromatography: Is South Carolina Really the 'Wonderful Iodine State'?'. University of South Carolina Discovery Day, Columbia, SC. 2019.
- Gretchen Bollar and Anthony Kocur, 1st Prize in Poster Competition (afternoon session), 'Disinfection By-Products in Bottled Water: Is it Really Safer Than Tap Water?'. University of South Carolina Discovery Day, Columbia, SC. 2019.
- Hannah Liberatore, Lake Louise International Tandem Mass Spectrometry Workshop Student Travel Award. Lake Louise, Canada. 2018.
- Danielle Westerman, Early Career Award (Best oral presentation: Transformation Products and Disinfection By-Products in Wastewater-Impacted Drinking Water), National Environmental Monitoring Conference, New Orleans, LA. 2018.
- Kristin Cochran, 3rd Prize in Poster Competition (Safer Wastewater for Indirect Potable Reuse: Removal/Transformation of Priority Emerging Contaminants Via Advanced Oxidation, and High-Resolution Mass Spectrometry Product Identification), South Carolina Water Resources Conference, Columbia, SC. 2018.
- Danielle Westerman, Joseph W. Bouknight Teaching Award. University of South Carolina, 2018.
- Hannah Liberatore, 1st Prize in Poster Competition (Impacts of Hydraulic Fracturing on Chloraminated Drinking Water: New Iodo-Phenolic Disinfection By-Products), South Carolina Environmental Conference, Myrtle Beach, SC. 2017.
- Ashley Perkins and Vincent Esposito, 1st Prize in Poster Competition (morning session), 'Disinfection By-Product Removal Efficiency of Activated Carbon Filters for Home Use'. University of South Carolina Discovery Day, Columbia, SC. 2017.
- Kristin Cochran, 3rd Prize in Poster Competition (Removal and Transformation of Persistent Priority Emerging Contaminants Via Advanced Oxidation Techniques and Transformation Product Identification Using Mass Spectrometry), South Carolina Water Resources Conference, Columbia, SC. 2016.
- Joshua Allen, Joseph W. Bouknight Teaching Award. University of South Carolina, 2016.

Ph.D. Students Supervised (University of South Carolina, since 2014)

- Joshua Allen, Ph.D., May 2020.
- Amy Cuthbertson, Ph.D., July 2019.
- Hannah Liberatore, Ph.D., July 2019.
- Kristin Cochran, anticipated Ph.D. December 2020.

- Danielle Westerman, anticipated Ph.D. May 2021.
- Caroline Granger, anticipated Ph.D. May 2022.
- Madison Kilpatrick, anticipated Ph.D. May 2023.
- Tareq Aziz, anticipated Ph.D. May 2023.
- Alexandra Forster, anticipated Ph.D. May 2024.

Masters Students Supervised (University of South Carolina, since 2014)

- Dallas Abraham, anticipated October 2020.
- Christina Joseph, 2017.

Ph.D. Committees (external)

- External Reviewer, Ph.D. Committee (Piia Liigand), University of Tartu, Estonia. 2019.
- External Reviewer, Ph.D. Committee (Noelle DeStefano), Duke University. 2018.
- External Reviewer, Ph.D. Committee (Trang Vu), University of Illinois. 2018.
- External Reviewer, Ph.D. Committee (Tarek Manasfi), University of Marseille, France, 2016.
- External Reviewer, Ph.D. Committee (Qingqing Liu), University of Alberta, Canada, 2016.
- External Reviewer, Ph.D. Committee (Clara Jeong), University of Illinois, 2014.
- External Reviewer, Ph.D. Dissertation Review Committee (Maria Ibanez Martinez), University Jaume I, Castellon, Spain, 2006.
- External Reviewer, Ph.D. Dissertation Review Committee (Xiangru Zhang), University of Illinois, 2002.

Professional Activities

• Elected/Appointed Offices Held

- ▶ President, American Society for Mass Spectrometry. 2020-2022.
- ▶ Vice President for Programs, American Society for Mass Spectrometry. 2018-2020.
- ▶ Councilor, American Chemical Society, Northeast Georgia Section. 2013-2018.
- ▶ Committee on Public Relations and Communications, American Chemical Society. 2018-2021.
- ▶ Associate Editor, *Environmental Science & Technology*. 2017-present.
- ▶ Editorial Advisory Board, *Environmental Science & Technology*. 2009-2017.
- ▶ Associate Editor, *Water Research*. 2009-present.
- ▶ Editorial Advisory Board, *Analytical Chemistry*. 2020-2023.
- ▶ Chair, Awards Committee for *Environmental Science & Technology* Best Papers of the Year. 2009 and 2010.
- ▶ Awards Committee for *Environmental Science & Technology* Best Papers of the Year. 2009, 2010, 2011, 2012, 2013, 2014.
- ▶ Editorial Board, *Current Opinion in Environmental Science and Health*. 2017-2019.

- ▶ Editorial Board, *Journal of Hazardous Materials*. 2014-2020.
- ▶ Editorial Board, *Rapid Communications in Mass Spectrometry*. 2006-present.
- ▶ Editorial Advisory Board, *Environmental Science and Pollution Research*. 2009-present.
- ▶ Editorial Advisory Board, *Journal of Environmental Sciences*. 2015-present.
- ▶ Associate Editor, *Encyclopedia of Analytical Chemistry* (Wiley). 2007-2010.
- ▶ Editorial Advisory Board, Comprehensive Analytical Chemistry book series (Elsevier). 2005-present.
- ▶ Organizing Committee, International Workshop on Tandem Mass Spectrometry. 2006-present.
- ▶ Awards Committee, American Society for Mass Spectrometry (ASMS). 2008-2010.
- ▶ Audit Committee, American Society for Mass Spectrometry (ASMS). 2007-2008.
- ▶ Nominations Committee, American Society for Mass Spectrometry (ASMS). 2006-2007.
- ▶ Treasurer, American Society for Mass Spectrometry (ASMS). 2002-2004. As Treasurer, also served on the Board of Directors for ASMS.
- ▶ Chair, Northeast Georgia Section of the American Chemical Society. 2003.
- ▶ Secretary, Northeast Georgia Section of the American Chemical Society. 2004-2007.
- ▶ Chair-Elect, Northeast Georgia Section of the American Chemical Society. 2002.
- ▶ National Chemistry Olympiad Coordinator, Northeast Georgia Section of the American Chemical Society. 2003-2004. In 2003, began the first participation of Northeast Georgia Section in this program.
- ▶ President, University of Georgia Chapter of Sigma Xi Scientific Research Society. 2000-2001.
- ▶ President-Elect, University of Georgia Chapter of Sigma Xi Scientific Research Society. 1999-2000.
- ▶ Environmental Interest Group Chairman, American Society for Mass Spectrometry (ASMS). 1999, 2000, and 2001.
- ▶ Program Review Committee, American Society for Mass Spectrometry. 2000, 2001, and 2003.
- ▶ Measurements and Standards Committee, American Society for Mass Spectrometry. 2000-2002.
- ▶ Education Committee, American Society for Mass Spectrometry. 1997-1998.
- ▶ Chairman, Research Advisory Board, U.S. EPA, National Exposure Research Laboratory, Athens, GA. 1996-1998.

- **International, National, and Other Committees/Expert Panels**
 - ▶ Expert Panel, U.S. EPA Stakeholder Meeting for 6-Year Review of Disinfectants/Disinfection By-Products Rule: ‘Further Improving Public Health Protection from Microbial Contaminants and Disinfection Byproducts in Drinking Water’. October 2020.
 - ▶ Technical Advisory Committee, Water Research Foundation. 2017-present.
 - ▶ Scientific Advisory Committee. Catalan Institute of Water Research (ICRA). 2018-present.
 - ▶ Scientific and Technological Board, World Joint Programming Initiative (JPI) for ‘Water Challenges for a Changing World’. European Commission, 2014-2015.
 - ▶ Scientific Advisory Committee, NIREAS Cyprus International Water Institute, 2010-present.
 - ▶ Expert Panel, Department of Energy (DOE) Workshop on ‘Basic Research Needs for the Energy-Water Nexus: New Approaches to Ensure Robust and Secure Energy and Water Systems’. Washington, D.C. 2017.
 - ▶ Expert Panel, National Council for Science and the Environment Annual Conference, Session on ‘The Role of Academia in the Environmental and Health Nexus’. Washington, D. C. 2017.
 - ▶ Expert Panel, National Science Foundation (NSF) CAREER proposals. Washington, D.C. 2016.
 - ▶ Expert Panel, Next Generation Nano Governance Workshop. Washington, D.C. 2015.
 - ▶ National Sciences and Engineering Research Council of Canada (NSERC) Industrial Research Chair Committee, Source Water Quality Monitoring and Advanced/Emerging Technologies for Drinking Water Treatment. Toronto, Canada. 2012 and 2014.
 - ▶ National Academy of Sciences Expert Panel, Emerging Contaminants: Opportunities for a National Research Council Assessment. Washington, D.C. 2011.
 - ▶ U.S. EPA Office of Water, Contaminant Candidate List-3 (CCL-3) Regulatory Determination Workgroup, 2010-2012.
 - ▶ U.S. EPA Office of Water Unregulated Contaminant Monitoring Rule-3 (UCMR-3) Workgroup, 2011-2012.
 - ▶ Scientific Advisory Board, European Union sponsored project on ‘Health Impacts of Long- Term Exposure to Disinfection By-Products in Drinking Water (HIWATE)’, 2007-2012.
 - ▶ *Environmental Science & Technology* Committee, Best Video Contest in honor of the 40th anniversary of Earth Day, ‘How does chemistry help you be green?’ 2010.
 - ▶ Unsolicited Proposals Committee, Water Research Foundation, 2009-2010.
 - ▶ Project Advisory Committees for the American Water Works Association Research Foundation (now called the Water Research Foundation):
 - ‘Development and Application of a Total Nitrosamine Assay for Disinfected Waters’. 2008-2011.
 - ‘Exploring Formation and Control of Emerging DBPs in Treatment Facilities: Halonitromethanes and

- Iodo-Trihalomethanes.’ 2006-2011.
- ‘Characterization of TOX Produced During Disinfection Processes.’ 2001-2005.
 - ‘Application of ESI-FAIMS-MS to Drinking Water Contaminant and Disinfection By-Product Analysis.’ 1999-2001.
 - ‘Impacts of Ozonation and Hydroxyl Radicals on Amino Acids.’ 1992-1994.
- ▶ U.S. EPA Technical Qualifications Board (Promotion panel) for Office of Research and Development (ORD) promotion candidates. 2005, 2007, 2009, 2010, 2011, 2012.
 - ▶ National Exposure Research Laboratory lead for Contaminant Candidate List (CCL) Research Planning Team for new Chemical Safety for Sustainability (CSS) research program. 2011.
 - ▶ Expert panel, U.S. EPA Office of Water and Office of Science Policy Chloramine Criteria Document, 2008.
 - ▶ Expert panel, U.S. EPA Office of Water, Contaminant Candidate List (CCL-3). 2006-2009.
 - ▶ International Water Association World Congress Scientific Committee, 2007.
 - ▶ DBP Issue Group, American Water Works Association Research Foundation (AWWARF), for development of new ideas for future AWWARF research projects, 2007.
 - ▶ American Water Works Association Academic Achievement Award Committee, 2003-2006.
 - ▶ American Water Works Association Health Effects Research Committee, 2005-2006.
 - ▶ Advisory Panel, Water Environment Federation (WEF), for development of White Paper on Analytical Technologies for Contaminants of Emerging Concern, 2006-2007.
 - ▶ DBP Theme Team and CCL Theme Team, for long range planning of EPA's research on DBPs and CCL contaminants. 2006.
 - ▶ U.S. EPA Office of Water meeting on New Issues Involving Chloramination and the Upcoming Stage 2 DBP Rule. 2004. (Invited).
 - ▶ Expert Advisory Panel, for Natural Sciences and Engineering Research Council (NSERC) of Canada Strategic Grant, ‘Exposure Biomarkers for Drinking Water Disinfection By-Products’ (PI: Steve Hrudey, University of Alberta, Canada). 1999-2002.
 - ▶ National Advisory Board, for National Science Foundation (NSF) Analytical Sciences Digital Library (ASDL). 2001-2006.
 - ▶ Steering Committee, U.S. EPA project on ‘Integrated Disinfection By-Products Mixtures Research: Toxicological and Chemical Evaluation of Alternative Disinfection Treatment Scenarios’. A collaborative effort between the National Exposure Research Laboratory (NERL), the National Health and Environmental Effects Laboratory (NHEERL), the National Risk Management Research Laboratory (NRMRL), and the National Center for Environmental Assessment (NCEA). 1999-2012.
 - ▶ National Science Foundation (NSF) review panel. 2001-2002.
 - ▶ Writing Team, U.S. EPA STAR Grant Solicitations (Drinking Water). 1997-2002.
 - ▶ Invited participant in EPA's National Health and Environmental Effects Research Laboratory's (NHEERL's) Subcommittee on DBPs for developing a Drinking Water Research Implementation Plan.

Committee recommends future health effects research areas and coordinates research planning with related research at the National Toxicology Program (NIH) and the American Water Works Research Foundation. 2001-2002.

- ▶ Reviewer, U.S. EPA External (STAR) Grants in Drinking Water. 1998-2000.
- ▶ Participated in two Stakeholder Meetings sponsored by the U.S. EPA's Office of Water: 1) Linkage Between Research and Regulatory Needs for the Stage 2 DBP Rule and Enhanced Surface Water Treatment Rule (ESWTR), and 2) Adequacy of Microbial (M)/DBP Research to Support Development of Long-Term M/DBP Rules. May and November 1997.
- ▶ EPA-Athens representative to the U.S. EPA Issue 19 (Drinking Water) Planning Group. 1993-1995.
- ▶ Local Expert Panel, Workshop on Tools for Drinking Water Protection, Athens, GA. 1997.

- **Organized/Chaired the following International Symposia/Workshops**
 - ▶ Symposium Organizer/Co-Chair, 'Analytical Development Relevant to Environmental Exposure and Effects'. Pacificchem Conference. Honolulu, HA. 2020. (Conference postponed to December 2021 due to Covid-19).
 - ▶ Co-Chair, Round Table Discussion on 'Tackling Unknowns, Risks, and Barriers for Enhancing Wastewater Reuse: Monitoring Big or Monitoring Smart?' International Conference on Challenges and Solutions related to Xenobiotics and Antimicrobial Resistance in the Framework of Urban Wastewater Reuse: Towards a Blue Circle Society, XENOWAC II. Limassol, Cyprus. 2018.
 - ▶ Session Chair, 'Accumulation of Persistent Anthropogenic Pollutants', 13th Annual LC-MS/MS Workshop on Environmental and Food Safety, Buffalo, NY. 2017.
 - ▶ Session Organizer/Chair, 'Emerging and Persistent Environmental Contaminants'. International Mass Spectrometry Conference. Toronto, Canada. 2016.
 - ▶ Symposium Organizer/Co-Chair, 'Analytical Development Relevant to Environmental Exposure and Effects'. Pacificchem Conference. Honolulu, HA. 2015.
 - ▶ Program Committee, Micropol & Ecohazard 2015 and the 8th International Water Association (IWA) Specialised Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water. Singapore. 2015.
 - ▶ Program Committee, DBP 2014: Disinfection By-Products in Drinking Water. Mülheim, Germany. 2014.
 - ▶ Program Committee, Micropol & Ecohazard 2013 and the 8th International Water Association (IWA) Specialised Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water. Zürich, Switzerland. 2012-2013.
 - ▶ Session Chair, 'Current State-of-the-Art on Occurrence and Treatment of Micropollutants and Future Regulations'. International Workshop on Endocrine Disrupting Compounds (EDCs), Pharmaceuticals and Personal Care Products (PPCPs), and Disinfection By-Products (DBPs): Which Monitoring and Treatment Solutions for Water Utilities? Beijing, China. 2011.
 - ▶ Symposium Organizer/Co-Chair, 'Analytical and Environmental Chemistry in Human Health'. Pacificchem Conference. Honolulu, HA. 2010.

- ▶ Program Committee, Micropol & Ecohazard 2011 and the 7th International Water Association (IWA) Specialised Conference on Assessment and Control of Micropollutants/Hazardous Substances in Water. Sydney, Australia. 2010-2011.
 - ▶ International Scientific Committee, Micropol and Ecohazard Conference. San Francisco, CA. 2008-2009.
 - ▶ Co-Chair, Workshop on Advancing the Science: Childhood Asthma and Environmental Exposures at Swimming Pools. Leuven, Belgium. 2007.
 - ▶ Session Organizer/Chair, 20th Annual International Tandem Mass Spectrometry Workshop. Lake Louise, Canada. 2007.
 - ▶ International Scientific Committee, Micropol and Ecohazard Conference. Frankfurt, Germany. 2006-2007.
 - ▶ Chair of a new Gordon Research Conference on ‘Drinking Water Disinfection By-Products: Integrating Occurrence and Formation, Exposure, Toxicity, and Epidemiology’. South Hadley, MA. 2006. (Initiated and received approval for this as a new Gordon Research Conference).
 - ▶ International Scientific Committee and Session Chair, 34th International Symposium on Environmental Analytical Chemistry. Hamburg, Germany. 2006.
 - ▶ Organizing committee, 1st International Workshop on ‘Liquid Chromatography-Tandem Mass Spectrometry for Screening and Trace Level Quantitation in Environmental and Food Samples’. Barcelona, Spain. 2005.
 - ▶ Session Organizer/Chair, International Workshop on ‘Optimizing the Design and Interpretation of Epidemiologic Studies to Consider Alternative Disinfectants of Drinking Water’, Raleigh, NC. 2005.
 - ▶ Session Organizer/Chair, ‘Environmental Chemistry in 2003: New Problems and Innovative Solutions’. The 16th International Mass Spectrometry Conference. Edinburgh, Scotland. 2003.
 - ▶ Symposium Organizer/Chair, ‘Drinking Water Disinfection By-Products: New Exposure, Occurrence, Toxicity, and Epidemiology Studies’. The International Society of Exposure Analysis (ISEA)-International Society of Environmental Epidemiology (ISEE) Joint International Conference, Vancouver, Canada. 2002.
 - ▶ Symposium Organizer/Chair, ‘Drinking Water Disinfection By-Products (DBPs): Exposure Methods and Epi Studies’. The International Society of Exposure Analysis (ISEA) Annual Conference, Monterey, CA. 2000.
 - ▶ Session Chair, ‘Disinfection and Disinfection By-Products’. The 7th International Conference of the Israel Society for Ecology and Environmental Quality Sciences on ‘Environmental Challenges for the New Millennium’. Jerusalem, Israel. 1999.
 - ▶ Organizing Committee, International Workshop on ‘Identification of New and Uncharacterized Disinfection By-Products in Drinking Water’. Sponsored by the International Life Sciences Institute. Washington, D.C. 1998.
 - ▶ Session Chair, ‘Drinking Water Exposures’. The International Society of Exposure Analysis Annual Meeting, Research Triangle Park, NC. 1997.
- **Organized/Chaired the following National/Regional Symposia/Workshops**

- ▶ Conference Organizer (as Vice President for Programs), 68th ASMS Conference on Mass Spectrometry and Allied Topics. Houston, TX. 2020 (online conference due to Covid-19).
- ▶ Conference Organizer (as Vice President for Programs), 67th ASMS Conference on Mass Spectrometry and Allied Topics. Atlanta, GA. 2019.
- ▶ Discussion Leader ‘Disinfection Systems of the Future: How Can We Minimize Toxicity Drivers?’. Gordon Research Conference on Drinking Water Disinfection By-Products, Mount Holyoke, MA. 2017.
- ▶ Symposium Organizer, ‘Emerging Environmental Contaminants’. Southeast Regional American Chemical Society Conference (SERMACS). Columbia, SC. 2015-2016.
- ▶ Organizing Committee, Gordon Research Conference on Drinking Water Disinfection By-Products. 2014-2015.
- ▶ Session Organizer/Chair, ‘Emerging Environmental Contaminants’. The 63rd ASMS Conference on Mass Spectrometry and Allied Topics. St. Louis, MO. 2015.
- ▶ Symposium Co-Organizer, ‘Analytical Methods for Detecting and Prioritizing Contaminants of Concern’. The 248th American Chemical Society National Meeting. San Francisco, CA. 2014.
- ▶ Symposium Co-Organizer, ‘Women in Environmental Science and Engineering’. The 248th American Chemical Society National Meeting. San Francisco, CA. 2014.
- ▶ Conference Co-Organizer, Asilomar Conference on ‘Mass Spectrometry in Environmental Chemistry, Toxicology, and Health’. Pacific Grove, CA. 2013.
- ▶ Workshop Co-organizer/Co-Chair, ‘Emerging Contaminants in Environmental Research: Hydraulic fracturing fluids and shale gas produced waters - advances, challenges and opportunities using mass spectrometry’. The 61st ASMS Conference on Mass Spectrometry and Allied Topics. Minneapolis, MN. 2013.
- ▶ Symposium Organizer/Co-Chair, ‘Emerging Environmental Contaminants: Chemistry and Toxicology’. The 243rd American Chemical Society National Meeting. San Diego, CA. 2012.
- ▶ Discussion Leader/Session Chair, ‘Emerging Contaminants’. The Gordon Research Conference on Environmental Sciences: Water, Holderness, NH. 2012.
- ▶ Discussion Leader/Session Chair, ‘Future in Research on DBPs’. Gordon Research Conference on Drinking Water Disinfection By-Products. South Hadley, MA. 2012.
- ▶ Co-Chair, Workshop on ‘Challenges in Water Safety’. The 60th ASMS Conference on Mass Spectrometry and Allied Topics. Vancouver, Canada. 2012.
- ▶ Symposium Organizer and Chair, ‘Emerging Environmental Contaminants: Advanced Mass Spectrometry Tools for Understanding Their Fate and Transport’. The Southeast Regional American Chemical Society (SERMACS) Conference. Raleigh, NC. 2012.
- ▶ Co-Chair, Workshop on ‘A Unified LC/MS Library for Advancing Research in Environmental Chemistry and Health Sciences’. The 59th ASMS Conference on Mass Spectrometry and Allied Topics. Denver, CO. 2011.
- ▶ Session Organizer/Chair, ‘Environmental Chemistry and Health’. The 59th ASMS Conference on Mass Spectrometry and Allied Topics. Denver, CO. 2011.

- ▶ Workshop Co-organizer/Chair, ‘Screening for Unknowns in our Environment: Identifying “Known-Unknowns”’. The 58th ASMS Conference on Mass Spectrometry and Allied Topics, Salt Lake City, UT. 2010.
- ▶ Symposium Co-organizer/Chair, ‘Legends of Environmental Chemistry’. Two-day invited symposium: the 236th American Chemical Society National Meeting. Philadelphia, PA. 2008.
- ▶ Workshop Organizer/Chair, ‘Signal Suppression in LC-MS Determination of Environmental Contaminants’. The 56th ASMS Conference on Mass Spectrometry and Allied Topics, Denver, CO. 2008.
- ▶ Session Organizer/Chair, ‘The Golden Era of Environmental Mass Spectrometry: Honoring Ron Hites and Bill Budde’. The 55th ASMS Conference on Mass Spectrometry and Allied Topics, Indianapolis, IN. 2007.
- ▶ Session Organizer/Chair, ‘New and Emerging Environmental Contaminants’. The 53rd ASMS Conference on Mass Spectrometry and Allied Topics, San Antonio, TX. 2005.
- ▶ Session Co-organizer/Chair, ‘MS and Chromatography: Essentials for Environmental Analysis’ and ‘Environmental MS Analysis, Diverse Techniques and Media’. The 50th ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, FL. 2002.
- ▶ Symposium Co-organizer/Chair, ‘Elegant Analytical Chemistry Applied to Environmental Problems’. Four-day invited symposium; the 221st American Chemical Society National Meeting, San Diego, CA. 2001.
- ▶ Symposium Co-organizer/Chair, ‘Elegant Analytical Chemistry Applied to Environmental Problems’. Three-day symposium; the 222nd American Chemical Society National Meeting, Chicago, IL. 2001.
- ▶ Symposium Organizer/Chair, ‘Environmental Mass Spectrometry’. The Federation of Analytical Chemistry and Spectroscopy Societies (FACSS) Annual Conference, Detroit, MI. 2001.
- ▶ Session Organizer/Chair, ‘Environmental Mass Spectrometry: New Problems, Diverse Approaches’. The 48th ASMS Conference on Mass Spectrometry and Allied Topics, Long Beach, CA. 2000.
- ▶ Co-organizer, ‘Risk Assessment of Disinfection By-Products (DBPs): Considering Unidentified DBPs’ Workshop. This two-day workshop, co-sponsored by the U.S. EPA’s National Center for Environmental Assessment (Cincinnati, OH) and the U.S. EPA’s National Exposure Research Laboratory (Athens, GA), addressed the potential toxicity of, as yet, unidentified chemical by-products of drinking water disinfection and identified approaches for incorporating these components when estimating risks posed by DBPs. 2000.
- ▶ Organizer/Session Chair, ‘Environmental Mass Spectrometry’. The 46th ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, FL. 1998.
- ▶ Symposium Organizer/Chair, ‘New Perspectives in Environmental Chemistry: Measurement and Detection’. The 211th American Chemical Society National Meeting, New Orleans, LA. 1996.
- ▶ Session Organizer/Chair, ‘Mass Spectrometry in Environmental Research’. The 43rd ASMS Conference on Mass Spectrometry and Allied Topics, Atlanta, GA. 1995.

- **Other Professional Activities**

- ▶ Guest Editor, *Current Opinion in Environmental Science and Health* special issue on Drinking Water Contaminants and Health Effects. 2017-2020.
- ▶ Guest Co-Editor, *Journal of Environmental Sciences* special issue on Drinking Water Disinfection By-Products. 2016-2017.
- ▶ Invited by the National Institute of Standards & Technology (NIST) to submit local EPA DBP library database of mass spectra for inclusion in NIST library release. 1999-2000.
- ▶ Guest Editor, *Journal of Exposure Analysis and Environmental Epidemiology*, journal articles resulting from ‘Drinking Water Exposures’ session presented at the 1997 International Society of Exposure Analysis Annual Conference. 1998.
- ▶ Serve as a reviewer for scientific journals, including *Environmental Science & Technology*, *Environmental Science & Technology Letters*, *Analytical Chemistry*, *Water Research*, *Rapid Communications in Mass Spectrometry*, *Environmental Science and Pollution Research*, *Journal of Hazardous Materials*, *Environmental Toxicology & Chemistry*, *The Journal of Chromatography A*, *Chemosphere*, *Science of the Total Environment*, *The Journal of the American Water Works Association*, *The Journal of Mass Spectrometry*, *The Journal of the American Society for Mass Spectrometry*, *Analytica Chimica Acta*, and *The Journal of AOAC International*. Also serve as a reviewer for National Science Foundation (NSF) proposals, government agency proposals, international government agency-funded proposals (such as proposals to NSERC, the Natural Sciences and Engineering Research Council of Canada and the Swiss National Science Foundation), and state-sponsored proposals.

- **Organizational Affiliations**

- ▶ Council of Scientific Society Presidents. 2020-present.
- ▶ American Chemical Society. 1983-present.
- ▶ American Association for the Advancement of Science. 2015-present.
- ▶ American Water Works Association. 1998-current.
- ▶ American Society for Mass Spectrometry. 1989-present.
- ▶ International Ozone Association. 1998-2007.
- ▶ Environmental Division of the American Chemical Society. 1992-present.
- ▶ Analytical Division of the American Chemical Society. 2014-present.
- ▶ Atlanta/Athens Mass Spectrometry Discussion Group. 1992-2013.
- ▶ Society of Sigma Xi. 1990-2005.

Publications (54 Invited)

1. Cuthbertson, A. A., H. K. Liberatore, S. Y. Kimura, J. M. Allen, A. V. Bensussan, and S. D. Richardson. 2020. Trace Analysis of 61 Emerging Br-, Cl-, and I-DBPs: New Methods to Achieve Part-Per-Trillion Quantification in Drinking Water. *Anal. Chem.*, 92 (4): 3058-3068.

2. Liberatore, H. K., D. C. Westerman, J. M. Allen, M. J. Plewa, E. D. Wagner, A. M. McKenna, C. R. Weisbrod, J. P. McCord, R. J. Liberatore, D. B. Burnett, L. H. Cizmas, and S. D. Richardson. 2020. High-Resolution Mass Spectrometry Identification of Novel Surfactant-Derived Sulfur-Containing Disinfection By-Products from Gas Extraction Wastewater. *Environ. Sci. Technol.*, 54: 9374–9386.
3. Powers, L. C., A. Conway, C. L. Mitchelmore, S. J. Fleischaker, M. Harir, D. C. Westerman, J. P. Croué, P. Schmitt-Kopplin, S. D. Richardson, and M. Gonsior. 2020. Tracking the Formation of New Brominated Disinfection By-Products during the Seawater Desalination Process. *Environ. Sci. Water Res. Technol.*, 6: 2521-2541.
4. Verdugo, E. M., M. Gifford, C. Glover, A. A. Cuthbertson, R. Trenholm, S. Y. Kimura, H. K. Liberatore, S. D. Richardson, B. D. Stanford, R. S. Summers, and E. R. V. Dickenson. 2020. Controlling Disinfection Byproducts from Treated Wastewater using Adsorption with Granular Activated Carbon: Impact of Pre-Ozonation and Pre-Chlorination. *Water Res.*, in press.
5. Dong, H., A.A. Cuthbertson, and S.D. Richardson. 2020. Effect-Directed Analysis (EDA): A Promising Tool for Nontarget Identification of Unknown Disinfection Byproducts in Drinking Water. *Environ. Sci. Technol.*, 54 (3): 1290-1292.
6. Richardson, S. D., and M. J. Plewa. 2020. To regulate or not to regulate? What to Do With More Toxic Disinfection By-Products? *J. Environ. Chem. Eng.*, 8: 103939. (invited opinion article).
7. Richardson, S. D., and S. Y. Kimura. 2020. Water Analysis: Emerging Contaminants and Current Issues. *Anal. Chem.*, 92 (1): 473-505. (Invited biennial review article).
8. Apul, O. G., L. S. Rowles, III, A. Khalid, T. Karanfil, S. D. Richardson, and N. B. Saleh. 2020. Transformation Potential of Cannabinoids During Their Passage Through Engineered Water Treatment Systems: A Perspective. *Environ. Int.*, 137: 105586.
9. Bradley, P. M., M. Argos, D. W. Kolpin, S. M. Meppelink, K. M. Romanok, K. L. Smalling, M. J. Focazio, J. M. Allen, J. E. Dietze, M. J. Devito, A. R. Donovan, N. Evans, C. E. Givens, J. L. Gray, C. P. Higgins, M. L. Hladik, L. R. Iwanowicz, C. A. Journey, R. F. Lane, Z. R. Laughrey, K. A. Loftin, R. B. McCleskey, C. A. McDonough, E. Medlock-Kakaley, M. T. Meyer, A. R. Putz, S. D. Richardson, A. E. Stark, C. P. Weis, V. S. Wilson, and A. Zehraoui. 2020. Mixed Organic and Inorganic Tapwater Exposures and Potential Effects in Greater Chicago Area, USA. *Sci. Total Environ.*, 719: 137236.
10. Cuthbertson, A. A., S. Y. Kimura, H. K. Liberatore, D. R. U. Knappe, B. Stanford, R. S. Summers, E. R. Dickenson, C. Maness, C. Glover, M. Selbes, and S. D. Richardson. 2020. GAC to BAC: Does It Make Chloraminated Drinking Water Safer? *Water Res.*, 172: 115432.
11. Huang, Y., M. Kong, S. Coffin, K. H. Cochran, D. C. Westerman, D. Schlenk, S. D. Richardson, L. Lei, and D. D. Dionysiou. 2020. Degradation of Contaminants of Emerging Concern by UV/H₂O₂ for Water Reuse: Kinetics, Mechanisms, and Cytotoxicity Analysis. *Water Res.*, 174: 115587.
12. Richardson, S. D. 2020. Coming to Academia Through the “Back Door”. *Anal. Bioanal. Chem.*, 412 (8): 1719-1720. (Invited perspective article).
13. Zhang, C., J. C. Maness, A. A. Cuthbertson, S. Y. Kimura, H. K. Liberatore, S. D. Richardson, B. D. Stanford, M. Sun, and D. R. U. Knappe. 2020. Treating Water Containing Elevated Bromide and

Iodide Levels with Granular Activated Carbon and Free Chlorine: Impacts on Disinfection Byproduct Formation and Calculated Toxicity. *Environ. Sci. Water Res. Technol.*, in press.

14. Cuthbertson, A. A., S. Y. Kimura, H. K. Liberatore, R. S. Summers, D. R. U. Knappe, B. D. Stanford, J. C. Maness, R. E. Mulhern, M. Selbes, and S. D. Richardson. 2019. Does Granular Activated Carbon with Chlorination Produce Safer Drinking Water? From Disinfection Byproducts and Total Organic Halogen to Calculated Toxicity. *Environ. Sci. Technol.*, 53 (10): 5987-5999.
15. Dong, H., Z. Qiang, and S. D. Richardson. 2019. Formation of Iodinated Disinfection Byproducts (I-DBPs) in Drinking Water: Emerging Concerns and Current Issues. *Acc. Chem. Res.*, 52 (4): 896-905. (Invited for a special issue on 'Water for Two Worlds: Urban and Rural Communities').
16. Cuthbertson, A. A.; C. Bach, S. D. Richardson, and X. Dauchy. 2019. A Novel Automated Method for the Quantification of Halobenzoquinones in Drinking Water Using Online Solid-Phase Extraction Coupled with Liquid Chromatography Tandem Mass Spectrometry. *J. Chromatogr., A*, 2020, 1612: 460642.
17. Smith, M. L., D. C. Westerman, S. P. Putnam, S. D. Richardson, and J. L. Ferry. 2019. Emerging *Lyngbya Wollei* Toxins: A New High Resolution Mass Spectrometry Method to Elucidate a Potential Environmental Threat. *Harmful Algae*, 90: 101700.
18. Russo, D., K. H. Cochran, D. C. Westerman, G. Li Puma, R. Marotta, R. Andreozzi, and S. D. Richardson. 2020. Ultrafast Photodegradation of Isoxazole and Isothiazolinones by UV254 and UV254/H₂O₂ Photolysis in a Microcapillary Reactor. *Water Res.*, 169: 115203.
19. Ackerson, N. O. B., H. K. Liberatore, M. J. Plewa, S. D. Richardson, T. A. Ternes, and S. E. Duirk. 2020. Disinfection Byproducts and Halogen-Specific Total Organic Halogen Speciation in Chlorinated Source Waters-The Impact of Iopamidol and Bromide. *J. Environ. Sci.*, 89: 90-101.
20. Parvez, S., J. Ashby, S. Y. Kimura, and S. D. Richardson. 2019. Exposure Characterization of Haloacetic Acids in Humans for Exposure and Risk Assessment Applications. *Int. J. Environ. Res. Public Health*, 16: 471-485.
21. DeHaven, B. A., H. K. Liberatore, A. Greer, S. D. Richardson, and L. S. Shimizu. 2019. Probing the Formation of Reactive Oxygen Species by a Porous Self-Assembled Benzophenone Bis-Urea Host. *ACS Omega*, 4(5): 8290-8298.
22. Vu, T. N., S. Y. Kimura, M. J. Plewa, S. D. Richardson, and B. J. Marinas. 2019. Predominant N-Haloacetamide and Haloacetonitrile Formation in Drinking Water via the Aldehyde Reaction Pathway. *Environ. Sci. Technol.*, 53 (2): 850-859.
23. Ackerson, N. O. B., A. H. Killinger, H. K. Liberatore, T. A. Ternes, M. J. Plewa, S. D. Richardson, and S. E. Duirk. 2019. The Impact of Chlorine Exposure Time on Disinfection Byproduct Formation in the Presence of Iopamidol and Natural Organic Matter During Chlorination. *J. Environ. Sci.*, 78: 204-214.
24. Stanford, B. D., D. Knappe, C. Maness, C. Zhang, R. S. Summers, R. Mulhern, S. D. Richardson, A. Cuthbertson, S.Y. Kimura, H. Liberatore, E. R. V. Dickenson, E. Verdugo, C. Glover, A. Ghosh, C. Seidel, M. Selbes, A. Reinert, M. Pierce, and E. Rosenfeldt. 2019. *GAC Control of Regulated and Emerging DBPs of Health Concern*. Denver, CO: The Water Research Foundation.

25. Richardson, S. D., and T. A. Ternes. 2018. Water Analysis: Emerging Contaminants and Current Issues. *Anal. Chem.*, 90 (1): 398–428. (Invited biennial review article).
26. Huang, Y., M. Kong, E. G. Xu, S. Coffin, D. Westerman, K. H. Cochran, D. Schlenk, S. D. Richardson, and D. D. Dionysiou. 2018. Effects of HCO_3^- on Degradation of Toxic Contaminants of Emerging Concern by UV/NO_3^- for Water Reuse Applications. *Environ. Sci. Technol.*, 52 (21): 12697–12707.
27. Kimura, S. Y., A. A. Cuthbertson, J. D. Byer, and S. D. Richardson. 2019. The DBP Exposome: Development of a New Method to Simultaneously Quantify Priority Disinfection By-Products and Comprehensively Identify Unknowns. *Water Res.*, 148: 324-333.
28. Ackerson, N. O. B., E. J. Machek, A. H. Killinger, E. A. Crafton, P. Kumkum, H. K. Liberatore, M. J. Plewa, S. D. Richardson, T. A. Ternes, and S. E. Duirk. 2018. Formation of DBPs and Halogen-Specific TOX in the Presence of Iopamidol and Chlorinated Oxidants. *Chemosphere*, 202: 349-357.
29. Postigo, C., D. M. DeMarini, M. D. Armstrong, H. K. Liberatore, K. Lamann, S. Y. Kimura, A. A. Cuthbertson, S. H. Warren, S. D. Richardson, T. McDonald, Y. Sey, N. O. B. Ackerson, S. E. Duirk, and J. E. Simmons. 2018. Chlorination of Source Water Containing Iodinated X-Ray Contrast Media: Mutagenicity and Identification of New Iodinated Disinfection By-Products. *Environ. Sci. Technol.*, 52 (22): 13047–13056.
30. Liberatore, H. K., M. J. Plewa, E. D. Wagner, J. M. VanBriesen, D. B. Burnett, L. H. Cizmas, and S. D. Richardson. 2017. Identification and Comparative Mammalian Cell Cytotoxicity of New Iodo-Phenolic Disinfection Byproducts in Chloraminated Oil and Gas Wastewaters *Environ. Sci. Technol. Lett.*, 4 (11): 475-480.
31. Warth, B., S. Spangler, M. L. Fang, C. H. Johnson, E. M. Forsberg, A. Granados, R. L. Martin, X. Domingo-Almenara, T. Huan, D. Rinehart, J. R. Montenegro-Burke, B. Hilmers, A. Aisporna, L. T. Hoang, W. Uritboonthai, H. P. Benton, S. D. Richardson, A. J. Williams, and G. Siuzdak. 2017. Exposome-Scale Investigations Guided by Global Metabolomics, Pathway Analysis, and Cognitive Computing. *Anal. Chem.*, 89 (21): 11505-11513
32. Luek, J. L., P. Schmitt-Kopplin, P. Mouser, W. T. Petty, S. D. Richardson, and M. Gonsior. 2017. Halogenated Organic Compounds Identified in Hydraulic Fracturing Wastewaters Using Ultrahigh Resolution Mass Spectrometry. *Environ. Sci. Technol.*, 51 (10): 5377-5385.
33. Richardson, S. D., S. Kimura. 2017. Emerging Environmental Contaminants: Challenges Facing Our Next Generation. *Environ. Technol. Innovation*, 8: 40-56. (Invited review article).
34. Kimura, S. Y., W. W. Zheng, T. N. Hipp, J. M. Allen, and S. D. Richardson. 2017. Total Organic Halogen (TOX) in Human Urine: A Halogen-Specific Method for Human Exposure Studies. *J. Environ. Sci.*, 58: 285-295.
35. Allen, J. M., A. A. Cuthbertson, H. K. Liberatore, S. Y. Kimura, A. Mantha, M. A. Edwards, and S. D. Richardson. 2017. Showering in Flint, MI: Is There a DBP Problem? *J. Environ. Sci.*, 58: 271-284.
36. Postigo, C., S. D. Richardson, and D. Barcelo. 2017. Formation of Iodo-Trihalomethanes, Iodo-Haloacetic Acids, and Haloacetaldehydes During Chlorination and Chloramination of Iodine Containing Waters in Laboratory Controlled Reactions. *J. Environ. Sci.*, 58: 127-134.
37. Plewa, M. J., E. D. Wagner, and S. D. Richardson. 2017. TIC-Tox: A Preliminary Discussion on

- Identifying the Forcing Agents of DBP-Mediated Toxicity of Disinfected Water. *J. Environ. Sci.*, 58: 208-216.
38. Jeong, C. H., E. J. Machek, M. Shakeri, S. E. Duirk, T. A. Ternes, S. D. Richardson, E. D. Wagner, and M. J. Plewa. 2017. The Impact of Iodinated X-Ray Contrast Agents on Formation and Toxicity of Disinfection By-Products in Drinking Water. *J. Environ. Sci.*, 58: 173-182.
 39. Parvez, S., G. E. Rice, L. K. Teuschler, J. E. Simmons, T. F. Speth, S. D. Richardson, R. J. Miltner, E. S. Hunter, III, J. G. Pressman, L. F. Strader, G. R. Klinefelter, J. M. Goldman, and M. G. Narotsky. 2017. A Method to Assess the Contribution of Components to the Toxicity of Complex Mixtures: Assessment of Puberty Acquisition in Rats Exposed to Disinfection Byproducts. *J. Environ. Sci.*, 58: 311-321.
 40. Plewa, M. J., and S. D. Richardson. 2017. Disinfection By-Products in Drinking Water, Recycled Water and Wastewater: Formation, Detection, Toxicity and Health Effects: Preface. *J. Environ. Sci.*, 58: 1.
 41. Daiber, E. J., D. M. DeMarini, S. A. Ravuri, H. K. Liberatore, A. A. Cuthbertson, A. Thompson-Klemish, J. D. Byer, J. E. Schmid, M. Z. Afifi, E. R. Blatchley, III, and S. D. Richardson. 2016. Progressive Increase in Disinfection Byproducts and Mutagenicity from Source to Tap to Swimming Pool and Spa Water: Impacts of Human Inputs. *Environ. Sci. Technol.*, 50 (13): 6652–6662. (Distinguished as an Editors' Choice for immediate open access, May 10, 2016).
 42. Wendel, F. M., T. A. Ternes, S. D. Richardson, S. E. Duirk, J. A. Pals, E. D. Wagner, and M. J. Plewa. 2016. Comparative Toxicity of High-Molecular Weight Iopamidol Disinfection Byproducts. *Environ. Sci. Technol. Lett.*, 3 (3): 81-84.
 43. Richardson, S. D., S. Y. Kimura. 2016. Water Analysis: Emerging Contaminants and Current Issues. *Anal. Chem.*, 88: 546-582. (Invited biennial review article).
 44. Postigo, C., C. I. Cojocariu, S. D. Richardson, P. J. Silcock, and D. Barcelo. 2016. Characterization of Iodinated Disinfection By-Products in Chlorinated and Chloraminated Waters Using Orbitrap Based Gas Chromatography-Mass Spectrometry. *Anal. Bioanal. Chem.*, 408: 3401-3411. (Article chosen for cover of the journal).
 45. Richardson, S. D., and C. Postigo. 2016. A New Technique Helps to Uncover Unknown Peptides and Disinfection By-Products in Water. *J. Environ. Sci.*, 42: 6-8. (Invited highlight article).
 46. Russo, D., D. Spasiano, M. Vaccaro, K. Cochran, S. D. Richardson, R. Andreozzi, G. Li Puma, N. M. Reis, and R. Marotta. 2016. Removal of the Major Cocaine Metabolite (Benzoylecgonine) in Wastewater Effluents and Surface Waters by UV254/H₂O₂ Process with a Flow Microcapillary Film Array Photoreactor. *Water Res.*, 89: 375-385.
 47. Richardson, S. D., and C. Postigo. 2016. Safe Drinking Water? Effect of Wastewater Inputs and Source Water Impairment and Implications for Water Reuse. In: *Emerging Challenges in Wastewater Reuse: Contaminants, Treatment, and Effects*, Chapter 7, Fatta-Kassinos, D., Dionysiou, D. D., and Kümmerer, K. (eds.); Springer: Heidelberg, pp 155-182. (Invited book chapter).
 48. LaKind, J., J. Overpeck, P. Breysse, L. Backer, S. D. Richardson, J. Sobus, A. Sapkota, C. Romeo, C. Jiang, B. Beard, J. Brunkard, J. Bell, R. Harris, J.-P. Chretien, and R. Peltier. 2016. Exposure Science in an Age of Rapidly Changing Climate: Challenges and Opportunities. *J. Exposure Sci. Environ.*

Epidemiol., 26 (6): 529-538.

49. Richardson, S. D., C. Postigo. 2016. Discovery of New Emerging DBPs by High Resolution Mass Spectrometry. In: *Comprehensive Analytical Chemistry: Applications of TOF and Orbitrap MS in Environmental, Food, Doping, and Forensic Analysis*. Elsevier: Amsterdam. (Invited book chapter).
50. Regli, S., J. Chen, M. Messner, M. S. Elovitz, F. J. Letkiewicz, R. A. Pegram, T. J. Pepping; S. D. Richardson, and M. J. Wright. 2015. Estimating Potential Increased Bladder Cancer Risk due to Increased Bromide Concentrations in Sources of Disinfected Drinking Waters. *Environ. Sci. Technol.*, 49 (22): 13094-13102.
51. Jeong, C. H., C. Postigo, S. D. Richardson, J. E. Simmons, S. Y. Kimura, B. J. Marinas, D. Barcelo, P. Liang, E. D. Wagner, and M. J. Plewa. 2015. Occurrence and Comparative Toxicity of Haloacetaldehyde Disinfection Byproducts in Drinking Water. *Environ. Sci. Technol.*, 49 (23): 13749-13759.
52. Yang, M., X. Zhang, J. Liu, and S. D. Richardson. 2015. Comparative Toxicity of Chlorinated Saline and Freshwater Wastewater Effluents to Marine Organisms. *Environ. Sci. Technol.*, 49 (24): 14475-14483.
53. Gonsior, M., C. L. Mitchelmore, A. Heyes, M. Harir, S. D. Richardson, W. T. Petty, D. A. Wright, and P. Schmitt-Kopplin. 2015. Bromination of Marine Dissolved Organic Matter Following Full Scale Electrochemical Ballast Water Disinfection. *Environ. Sci. Technol.*, 49 (15): 9048-9055.
54. Richardson, S. D., and C. Postigo. 2015. Formation of DBPs: State of the Science. In: *Recent Advances in Disinfection By-Products*, Chapter 11, vol. 1190, Karanfil, T., Mitch, W. A., and Xie, Y.-F. (eds.); *American Chemical Society Symposium Series*, pp 189-214. (Invited book chapter).
55. Postigo, C., S. D. Richardson, C. H. Jeong, E. D. Wagner, M. J. Plewa, J. E. Simmons, and D. Barcelo. 2015. Occurrence and Toxicity of Haloaldehydes in Drinking Waters: Iodoacetaldehyde as an Emerging Disinfection Byproduct. In: *Recent Advances in Disinfection By-Products*, Chapter 2, vol. 1190, Karanfil, T., Mitch, W. A., and Xie, Y.-F. (eds.); *American Chemical Society Symposium Series*, pp 25-43. (Invited book chapter).
56. Richardson, S. D., and C. Postigo. 2015. The Next Generation of Drinking Water Disinfection By-Products: Occurrence, Formation, Toxicity, and New Links with Human Epidemiology. In: *Disinfection By-Products in Drinking Water*, Thompson, K. C., Gillespie, S., and Goslan, E. (eds); Royal Society of Chemistry: London. (Invited book chapter).
57. Wendel, F. M., C. Luetke-Eversloh, E. J. Macheck, S. E. Duirk, M. J. Plewa, S. D. Richardson, and T. A. Ternes. 2014. Transformation of Iopamidol During Chlorination. *Environ. Sci. Technol.*, 48 (21): 12689-12697.
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61. Werschkun, B., S. Banerji, O. C. Basurko, M. David, F. Fuhr, S. Gollasch, T. Grummt, M. Haarich, A. N. Jha, S. Kacan, A. Kehrer, J. Linders, E. Mesbahi, D. Pughiuc, S. D. Richardson, B. Schwarz-Schulz, A. Shah, N. Theobald, U. Von Gunten, S. Wieck, and T. Hoefler. 2014. Emerging Risks from Ballast Water Treatment: The Run-Up to the International Ballast Water Management Convention. *Chemosphere*, 112: 256-266.
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65. Narotsky, M. G., J. G. Pressman, R. J. Miltner, T. F. Speth, L. K. Teuscher, G. E. Rice, S. D. Richardson, D. S. Best, A. McDonald, E. S. Hunter, III, and J. E. Simmons. 2012. Developmental Toxicity Evaluations of Whole Mixtures of Disinfection By-Products using Concentrated Drinking Water in Rats: Gestational and Lactational Effects of Sulfate and Sodium. *Birth Defects Res. Pt. B, Develop. Reprod. Toxicol.*, 95 (3): 202-212.
66. Richardson, S. D. 2012. Environmental Mass Spectrometry: Emerging Contaminants and Current Issues. *Anal. Chem.*, 84 (2): 747-778. (Invited biennial review article).
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