

# **Craig D. Adams, PhD, PE, F.ASCE, BCEE**

Professor

Department of Civil and Environmental Engineering  
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## **Education**

- Ph.D. Environmental Health Engineering, University of Kansas (Department of Civil and Environmental Engineering), 1991 (Advisor: Dr. Stephen J. Randtke, Co-Advisor: Dr. E. Michael Thurman, Dissertation: "Ozonation of Atrazine: A Kinetic Model and Byproduct Formation in Natural Waters.")
- M.S. Environmental Health Engineering, University of Kansas (Department of Civil and Environmental Engineering), 1988 (Advisor: Dr. Ross E. McKinney, Thesis: "Anaerobic Trickling Filter: Microbial Adhesion and Initial Operations.")
- B.S. Chemical Engineering, University of Kansas, 1983

## **Professional Registration/Certification/Fellows**

Registered Professional Engineer, State of Kansas, License No. 12048

Board Certified Environmental Engineer (No. 10-E0033), American Academy of Environmental Engineers

Fellow, American Society of Civil Engineers

## **Professional Experience**

### *Current*

- 2014-present Professor, Department of Civil and Environmental Engineering, Utah State University, Logan, UT
- 2013-present Adjunct Professor, Department of Biological Engineering, Utah State University, Logan, UT
- 2007-present Adjunct Professor, Department of Chemistry, Missouri University of Science and Technology, Rolla, MO
- 2012-2015 Adjunct Researcher, Department of Civil, Environmental and Architectural Engineering, University of Kansas, Lawrence, KS
- 2008-2015 Adjunct Professor, Department of Chemistry, University of Kansas, Lawrence, KS
- 2010-2015 Adjunct Professor, Chinese Academy of Sciences, State Key Laboratory of Environmental Aquatic Chemistry, Research Center for Eco-Environmental Sciences, Beijing, PRC

### *Previous*

- 2012-2014 Head, Department of Civil and Environmental Engineering, Utah State University, Logan, UT

- 2008-2012 Chair, Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, KS
- 2008-2012 J. L. Constant Distinguished Professor, Department of Civil, Environmental, and Architectural Engineering, University of Kansas, Lawrence, KS
- 2008-2012 Member, Ralph N. Adams Institute for Bioanalytical Chemistry, University of Kansas, Lawrence, KS
- 2008-2012 Faculty Advisor, Engineers-Without-Borders (University of Kansas Chapter) (EWB-KU), University of Kansas, Lawrence, KS
- 2010-2012 Affiliated Faculty, KU Center of Latin American Studies, University of Kansas, Lawrence, KS
- 2010-2012 Faculty Mentor, American Indian Science and Engineering Society (University of Kansas Chapter) (AESUS-KU), University of Kansas, Lawrence, KS
- 2012 Courtesy Appointment, Environmental Studies Program, University of Kansas, Lawrence, KS
- 2005-2008 John and Susan Mathes Chair of Environmental Engineering, Missouri S&T
- 1995-2005 John and Susan Mathes Professor of Environmental Engineering, Missouri S&T
- 1995-2008 Director, Environmental Research Center, Missouri S&T
- 2004-2008 Professor of Civil, Architectural and Environmental Engineering, Missouri S&T
- 2004-2008 (Joint Appointment) Professor of Chemical and Biological Engineering, Missouri S&T
- 2000-2006 Assistant Director, U.S. Environmental Protection Agency (U.S. EPA) Center for the Study of Metals in the Environment (University of Delaware)
- 1995-2004 Associate Professor of Civil Engineering, Missouri S&T
- 1991-1995 Assistant Professor of Environmental Systems Engineering (Promoted to Associate Professor, Summer 1995), Clemson University
- 1987-1991 Graduate Research Assistant, University of Kansas, Department of Civil and Environmental Engineering
- 1983-1987 Process/Research and Development Engineer, Optical Coating Laboratory, Inc., Advanced Product Development Division

### **Selected Professional Activities**

- 2014-present Chair, United States of America National Committee (USANC) of the International Water Association (IWA)
- 2003-present Member, American Water Works Association, Organic Contaminants Control Committee
- 2007-present Member, American Water Works Association, Contaminant Candidate List (CCL) Workgroup
- 2003-present Associate Editor, *Practice Periodical for Hazardous, Toxic, and Radioactive Waste (American Society of Civil Engineers (ASCE))*

- 2008-2014 Secretary and Treasurer, United States of America National Committee (USANC) of the International Water Association (IWA)
- 2002-2014 Member, Editorial Board of *Ozone Science and Engineering* (International Ozone Association)
- 2010 Panelist, Research Needs for Sustainable Water Environment in Natural Water Environment, 6th International Conference on Sustainable Water Environment, Newark, DE
- 2010 International Water Association Task Force on Water Quality and Health, University of North Carolina, Durham, NC
- 2008-2012 Faculty Advisor, KU Engineers-Without-Borders Section, University of Kansas, Lawrence, KS
- 2005-2009 Member, Project Advisory Committee (PAC) for AwwaRF Project No. 3175 by Wienberg and Krasner, titled: "Iodinated Acids and Iodide in Drinking Water Supplies: Method Development for ng/L Levels of Detection Relevant for Application in Occurrence Surveys"
- 2010 Panelist, Research Needs for Sustainable Water Environment: Natural Systems, 6th International Conference on Sustainable Water Environment
- 2006-2008 Member, Board of Scientific Counselors (BOSC) Subcommittee on Safe Pesticides/Safe Products Research, a Federal Advisory Committee for the U.S. Environmental Protection Agency's (U.S. EPA) Office of Research and Development
- 2008 Member, Scientific Program Committee, IWA Chemical Industries 2008 Conference, Research Center for Eco-Environmental Sciences (RCEES) of the Chinese Academy of Sciences (CAS) and the China University of Petroleum (CUP), Beijing, PRC
- 2008 Organizing Committee, International Water Association (IWA) Chemical Industries 2008 International Conference, Beijing, PRC
- 2008 Member, Editorial Board, Journal of Chongqing University (English Edition)
- 2007 External Examiner for doctoral candidate (M. Baawain), University of Alberta, Alberta, Canada
- 2006-2008 Faculty co-leader of UMR Engineers-Without-Borders Section (with emphasis on safe water and sanitation), Missouri University of Science and Technology, Rolla, MO
- 2006 Co-Lead (with Dr. J. Wang (MS&T)) in establishing Agreement of Academic Cooperation on Environmental Discipline Between the University of Missouri-Rolla, USA and Harbin Institute of Technology, People's Republic of China (Signed Nov/Dec 2006)
- 1994-2007 Director, Pan American Group Board of Directors of the International Ozone Association
- 1993-2007 Director, International Board of Directors of the International Ozone Association
- 2005-2006 Co-Lead (with Dr. J. Wang (MS&T)) in establishing "Agreement of Academic Cooperation on Environmental Discipline between the University of Missouri-Rolla, USA and Tongji University, People's Republic of China" (Signed April 21, 2006)

- 2005 Lead Panelist for the 1<sup>st</sup> International Conference on Sustainable Water, National Taiwan University, Taipei, Taiwan
- 2003 Guest Editor, *American Society of Civil Engineers (ASCE) Practice Periodical for Hazardous, Toxic, and Radioactive Waste*, special issue titled *Endocrine Disrupting Compounds in the Environment* (Guest Ed: C. Adams and A. Bhandari)
- 2002 Expert panel member for endocrine disruptors in the environment, American Water Works Association's 2002 Endocrine Disruptors & the Water Industry Symposium, Cincinnati, OH (April 19, 2002)
- 2001-2006 Member, American Water Works Association Technical Advisory sub-Workgroup on s-Triazines
- 2001-2004 Member, Editorial Advisory Board of *Environmental Progress* (American Institute of Chemical Engineers)
- 1999-2005 Member, American Water Works Association Technical Advisory Workgroup on SOCs and Pesticides
- 1999-2004 Chair, Association of Environmental Engineering and Science Professors' Membership Committee
- 1998-2001 Member, Association of Environmental Engineering and Science Professors' Diversity Committee
- 1998-2001 Member, Association of Environmental Engineering and Science Professors' Award Committee
- 2000 Lead in establishing cooperative agreement between the University of Missouri-Rolla, USA, and Hong Kong University of Science and Technology, Hong Kong (Signed June, 2000)
- 1998-1999 Member, Association of Environmental Engineering and Science Professors' Membership Committee
- 1994 Institutional Representative to U.S. Army, 1st Region (ROTC), Cadet Command, Camp All American (Ft. Bragg, NC)

### **Selected Professional Society Memberships**

American Academy of Environmental Engineers, American Water Works Association, International Water Association, American Chemical Society, Association of Environmental Engineering and Science Professors, American Society of Civil Engineers, Chi Epsilon, Engineers Without Borders, Phi Kappa Phi, Sigma Xi, Tau Beta Pi

### **Selected Reviewer for Professional Journals and Government Agencies**

*Association of Environmental Engineering and Science Professors (AEESP), Chemosphere, Environmental Engineering Science, Environmental Progress (AIChE), Environmental Science and Technology (ACS), Environmental Toxicology and Chemistry (SETAC), Geoscience Journals, Hong Kong University of Science and Technology, J. Chemical Technology and Biotechnology, J. Environmental Engineering, J. Environmental Engineering & Science, Journal of Hazardous Materials, J. Phytoremediation, Ozone Science and Engineering, Process Safety and Environmental Protection, Science of the*

*Total Environment, University of Missouri Research Board, U.S. Department of Agriculture, U.S. Department of State, Water Research*

## Honors and Awards

- 2010 Miller Scholar Award, University of Kansas
- 2008 Eddy Wastewater Principles and Processes Medal – 2008, Water Environment Federation (for outstanding contribution to wastewater principles or processes research)
- 2008 Outstanding Teaching Commendation Award, Missouri S&T (formerly UMR)
- 2008 Engineers Make a World of Difference Award (The Society of American Military Engineers)
- 2005 ASCE State-of-the-Art Civil Engineering Award (American Society of Civil Engineers) for the paper: Adams, C (2003), "Control of Total Chloro-s-Triazines in Conventional Drinking Water Treatment Plants," in *Special Edition of Practice Periodical for Hazardous, Toxic, and Radioactive Waste* (ASCE), titled *Endocrine Disrupting Compounds in the Environment* (Guest Ed: C. Adams and A. Bhandari), 7(4), 281-188.
- 2005 Alumni Merit Award, MSM-UMR Alumni Association
- 2004 Initiated as a UMR Chapter Honor Member of Chi Epsilon (National Civil Engineering Honor Society)
- 2004 Excellence in Teaching Award, School of Engineering, Missouri S&T (formerly UMR)
- 2004 Distinguished Service Award for Outstanding Service to the Association of Environmental Engineering and Science Professors
- 2003-2004 University of Missouri-Rolla Outstanding Teaching Award
- 2003 ASCE Rudolph Hering Medal winner (American Society of Civil Engineers) for "most valuable contribution to the increase of knowledge in, and to the advancement of, the environmental branch of the engineering profession" for the paper: Adams, C., Wang Y., Loftin K., Meyer M. (2002), "Removal of Antibiotics from Surface and Distilled Water in Conventional Water Treatment Processes" *J. Environmental Engineering*, 128:3, 253-260.
- 2000-2001 University of Missouri-Rolla Outstanding Teaching Award
- 2000 Distinguished Service Award for Outstanding Service to the Association of Environmental Engineering and Science Professors
- 1999-present *Who's Who in the World*; Marquis Publishers
- 2000-present *Who's Who in the America*; Marquis Publishers
- 1998-present *Who's Who in Science and Engineering*; Marquis Publishers
- 1998-present *Who's Who in Finance and Industry*; Marquis Publishers
- 1998-present *Who's Who in American Education*; Marquis Publishers
- 1997 Faculty Research Award, Department of Civil Engineering, University of Missouri-Rolla

- 1994 Best Paper Award, American Water Works Association, Research Division, for the manuscript: Adams, C., and Randtke, S. J. (1992), "Removal of Atrazine from Drinking Water by Ozonation," *Journal of the American Water Works Association*, 84:9, 91-102.
- 1992-1998 National Science Foundation Young Investigator Award: "Advanced Oxidation Processes for Water and Wastewater Treatment"
- 1992 First Place Academic Achievement Award, Best Ph.D. Dissertation for 1992 (American Water Works Association)
- 1990 Spahr-Borel Fellowship, University of Kansas, Department of Civil Engineering
- 1989 J. Lloyd Barron Outstanding Graduate Student in the Environmental Engineering Program, University of Kansas, Department of Civil Engineering
- 1988 Spahr-Borel Fellowship, University of Kansas, Department of Civil Engineering
- 1987 W. S. Strobel Scholarship, University of Kansas, Department of Civil Engineering
- 1987 W. C. McNown Fellowship, University of Kansas, Department of Civil Engineering
- 1981-1982 Vice-President, Student Chapter of the American Institute of Chemical Engineers, University of Kansas

### Selected Professional Development Activities

- 2005-2006 University of Missouri Leadership Development Program
- 2003 ExCEED Teaching and Learning Workshop

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### Publications and Presentations

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*Metrics on this work include an H-Index of 37 (37 publications with > 37 citations), 67 publications with >10 citations, and five publications with >200 citations. The body of work has focused on: emerging contaminants (>50 papers, including cyanotoxins, pharmaceuticals and personal care products, disinfection byproducts, degradates, and nanoparticles); development and/or application of new methods specifically (ca. 25 papers); and kinetic and other chemical modeling of environmental reactions (>20 papers). This work has been funded by various entities including EPA, WRF, AWWA, NSF, DOD, DHS, USGS, state agencies, water utilities, and industry.*

### Refereed Journal Publications

1. Wu, Q., Shi, H., Ma, Y., Adams, C., Jiang, H., Wang, J., Eichholz, T., Timmons, T. (2015) "Removal of Secondary and Tertiary Amines as N-nitrosamine Precursors in Drinking Water System by Adsorption Methods," *Separation and Purification Technology*. (In press)
2. Donovan, A., Adams, C., Ma, Y., Stephen, C., Eichholz, T., Shi, H. (2016) "Single Particle ICP-MS Characterization of Titanium Dioxide, Silver, and Gold Nanoparticles during Drinking Water Treatment," *Chemosphere*. **144**, 148-153. (In press)
3. Roberson, A., Adams, C., Bench, Rosen, J. (2015) "Development of Recommendations for the Fourth Contaminant Candidate List," *Journal of the American Water Works Association*, **107**, E509-E522.

4. Lane, R., Adams, C., Randtke, S., Carter, R. (2015) "Chlorination and Chloramination of Bisphenol A, Bisphenol F, and Bisphenol A Diglycidyl Ether in Drinking Water," *Water Research*, **79**, 68-78.
5. Lane, R., Adams, C., Randtke, S., Carter, R. (2015) "Bisphenol Diglycidyl Ethers and Bisphenol A and Their Hydrolysis in Drinking Water," *Water Research*, **72**, 331-339.
6. Zhang, H., Dong, H., Adams, C., Qiang, Z. (2015) "Formation and Speciation Byproducts During Chlor(am)ination of Aquarium Seawater," *J. Environmental Sciences*, **33**, 116-124.
7. West, D., Mu, R., Gamagedara, S., Ma, Y., Adams, C., Eichholz, T., Burken, J., Shi, H. (2015) "Simultaneous Detection of Perchlorate and Bromate Using Rapid High Performance Ion Exchange Chromatography – Tandem Mass Spectrometry and Perchlorate Removal in Drinking Water," *Environmental Science and Pollution Research*, **22**, 8594-8602.
8. Wu, Q., Shi, H., Adams, C., Eichholz, T., Timmons, T., Jiang, H., Ma, Y. (2014) "Determination of Secondary and Tertiary Amines as N-nitrosamine Precursors in Drinking Water System using Ultra-Fast Liquid Chromatography-Tandem Mass Spectrometry," *Talanta*. **131**, 736-741.
9. Rosen, J., Whelton, A., McGuire, M., Clancy, J., Bartrand, T., Eaton, A., Patterson, J., Dourson, M., Nance P., Adams, C. (2014) "The Charleston, West Virginia Crude 4-MCHM Chemical Spill," *J. American Water Works Association*, **106(9)**, 65-74.
10. Robbins, E., Guo, J., Adams, C. (2014) "Removal of As(III) and As(V) in Surface Modified Ceramic Filters," *J. Water, Sanitation, and Hygiene for Development (IWA)*, **4(2)**, 214-222.
11. Qiang, Z., Jiang, Y., Ben, W., Adams, C., Dong, H. (2013) "Monitoring Free Chlorine and Free Bromine in Aquarium Seawater Treated by Ozone," *Analytical Methods*, **4**, 3646.
12. Wang, C., Shi, H., Adams, C., Timmons, T., Ma, Y. (2013) "Investigation of Removal of N-nitrosamines and Their Precursors in Water Treatment using Activated Carbon Nanoparticles," *Int. J. Environmental Technology and Management*, **16(1/2)**, 34-48.
13. Shi, H., Qiang, Z., Adams, C. (2013) "Formation of Haloacetic Acids, Halonitromethanes, Bromate and Iodate during Chlorination and Ozonation of Seawater and Saltwater of Marine Aquaria Systems," *Chemosphere*, **90**, 2485-2492.
14. Wu, Q., Shi, H., Adams, C., Timmons, T., Ma, Y. (2012) "Oxidative Removal of Selected Endocrine-disruptors and Pharmaceuticals in Drinking Water Treatment Systems, and Identification of Degradation Products of Triclosan," *Science for the Total Environment*, **439**, 18-25.
15. Chamberlain, E., Shi, H., Wang, T., Ma, Y., Fulmer, A., Adams, C. (2012) "Comprehensive Screening Study of Pesticide Degradation During Drinking Water Disinfection", *Journal of Agriculture and Food Chemistry*, **60**, 354-363.
16. Shi, H., Ding, J., Timmons, T., Adams, C. (2012) "pH Effects on the Adsorption of Saxitoxin by Powdered Activated Carbon," *Harmful Algae*, **19**, 61-67.
17. Shi, H., Adams, C. (2012) "Occurrence and Formation of Trihalomethanes in Marine Aquaria Studied using Solid Phase Microextraction Gas Chromatography-Mass Spectrometry," *Water Environment Research*, **84**, 202-208.
18. Wang, C., Shi, H., Adams, C., Timmons, T., Ma, Y. (2012) "Investigation of Removal of N-nitrosamines and their Precursors in Water Treatments using Activated Carbon

- Nanoparticles and Liquid Chromatography–Tandem Mass Spectrometry”, *International Journal of Environment and Waste Management*, **16**, 34-49.
19. Cheng, X., Shi, H., Adams, C., Timmons, T., Ma, Y. (2011) “Removal Study of N-Nitrosamines by Powdered Activated Carbon in Natural and Reagent Water using SPE-LC/MS/MS,” *Global Journal of Analytical Chemistry*, **2**, 232-240.
  20. Wang, C., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2011) “Investigation of Degradation Byproducts of Molinate by Various Oxidation Systems Using Liquid Chromatography/Tandem Mass Spectrometry,” *Global Journal of Analytical Chemistry*, **2**, 107- 113.
  21. Wang, T., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2011) “Comprehensive Studies on Aldicarb Degradation in Various Oxidation Systems Using High Performance Liquid Chromatography coupled with UV Detection and Quadruple Ion Trap Mass Spectrometer,” *International Journal of Environmental Analytical Chemistry*, **91**, 97-111.
  22. Wang, C., Shi, H., Adams, C., Gamagedara, S., Stayton, I., Timmons, T., Ma, Y. (2011) “Investigation of Pharmaceuticals in Missouri Natural and Drinking Water Using High Performance Liquid Chromatography-Tandem Mass Spectrometry,” *Water Research*, **45**, 1818-1828.
  23. Cheng, X., Shi, H., Adams, C., Timmons, T., Ma, Y. (2011) “LC-MS/MS Determination of Cyanobacterial Toxins in Drinking and Surface Water Samples,” *Global Journal of Analytical Chemistry*, **2**, 281-287.
  24. Chelme-Ayala, P., Gamal El-Din, M., Smith, D., Adams, C. (2011) “Oxidation Kinetics of Two Pesticides in Natural Waters by Ozonation and Ozone Combined with Hydrogen Peroxide,” *Water Research*, **45**, 2517-2526.
  25. Kurwadkar, W., Adams, C., Meyer, M., Kolpin, D. (2011) “Comparative Mobility of Sulfonamides and Bromide Tracer in Three Soils,” *Journal of Environmental Management*, **92**, 1874-1881.
  26. Chamberlain, E., Wang, C., Shi, H., Adams, C., Ma, Y. (2010) “Oxidative Removal and Kinetics of Fipronil in Various Oxidation Systems for Drinking Water Treatment,” *Journal of Agricultural and Food Chemistry*, **58**, 6895-6899.
  27. Cheng, X., Shi, H., Adams, C., Timmons, T., Ma, Y. (2010) “Simultaneous Screening of Herbicide Degradation Byproducts in Water Treatment Plants Using High Performance Liquid Chromatography-Tandem Mass Spectrometry,” *Journal of Agricultural and Food Chemistry*, **58**, 4588-4593.
  28. Cheng, X., Shi, H., Adams, C., Ma, Y. (2010) “Assessment of Metal Contaminations Leaching Out from Recycling Plastic Bottles upon Treatments,” *Environmental Science and Pollution Research*, **17**, 1323-1330.
  29. Ding, J., Shi, H., Timmons, T., Adams, C. (2010) “Release and Removal of Microcystins from Microcystis during Oxidative-, Physical- and UV-based Disinfection,” *Journal of Environmental Engineering*, **136**, 2-11.
  30. Manda, K., Ercal, N., Adams, C. (2010) “Biologically Important Thiols in Aqueous Extracts of Spices and Evaluation of Their In vitro Antioxidant Properties,” *Food Chemistry*, **118**, 589-593.
  31. Wang, T., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2010) “Analysis of Oxidation Byproducts of Dyfonate in Various Oxidant Systems Using High Performance Liquid



- Chromatography Coupled with Quadrupole Ion Trap Mass Spectrometry,” *Toxicology and Environmental Chemistry*, **92**, 1-12.
32. Shi, H., Witt, E., Shu, S., Su, T., Wang, J., Adams, C. (2010) “Toxic Trace Element Assessment for Soils/sediments Deposited During Hurricanes Katrina and Rita from Southern Louisiana, USA: A Sequential Extraction Analysis, *Environmental Toxicology and Chemistry*, **29**, 1419-1428.
  33. Wang, T., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2010) “Identification of Hydrolytic Metabolites of Dyfonate in Alkaline Aqueous Solutions by using High Performance Liquid Chromatography Coupled with Quadrupole Ion Trap Mass Spectrometry,” *International Journal of Environmental Analytical Chemistry*, **90**, 948-961.
  34. Liu, C., Qiang, Z., Adams, C., Tian, F., Zhang, T. (2009) “Kinetics and Mechanism for Degradation of Dichlorvos by Permanganate in Drinking Water Treatment,” *Water Research*, **43**, 3435-3442.
  35. Cheng, X., Shi, H., Adams, C., Timmons, T., Ma, Y. (2009) “Effects of Oxidative and Physical Treatments on Inactivation of *Cylindrospermopsis Raciborskii* and Removal of Cylindrospermopsis,” *Water Science and Technology*, **60**, 689-697.
  36. Shi, H. Adams, C. (2009) “Rapid IC-ICP/MS Method for Simultaneous Analysis of Iodoacetic Acids, Bromoacetic Acids, Bromate, and other Related Halogenated Compounds in Water,” *Talanta*, **79**, 523-527.
  37. Roberson, A., Lueders, M., Adams, C., Rosen, J. (2009) “Development of Risk Indices for Draft Contaminant Candidate List 3 (CCL3) Chemicals,” *Journal American Water Works Association*, **101(9)**, 64-74.
  38. Nie, Y., Qiang, Z., Zhang, H., Adams, C. (2009) “Determination of Endocrine-disrupting Chemicals in the Liquid and Solid Phases of Activated Sludge by Solid Phase Extraction and Gas Chromatography–Mass Spectrometry,” *Journal of Chromatography A*, **1216**, 7071-7080.
  39. Adams, C. (2008) “Modeling Fate of Pharmaceuticals and Personal Care Products in Sewage Treatment,” *Practice Periodical of Hazardous, Toxic and Radioactive Waste Management*, **12**, 2-9.
  40. Demirkol, O., Cagri-Mehmetoglu, A., Qiang, Z., Ercal, N., and Adams, C. (2008) “Impact of Food Disinfection on Beneficial Biothiol Contents in Strawberry,” *J. Agriculture and Food Chemistry*, **56**, 10414-10421.
  41. Ben, W., Qiang, Z., Adams, C., Zhang, H. (2008) “Simultaneous determination of sulfonamides, tetracyclines and tiamulin in swine wastewater by solid-phase extraction and liquid chromatography-mass spectrometry,” *J. Chromatography A*, **1202**, 173-180.
  42. Su, T., Shu, S., Shi, H., Wang, J., Adams, C., Witt, E. (2008) “Distribution of Toxic Trace Elements in Soil/Sediment in post-Katrina New Orleans and the Louisiana Delta,” *Environmental Pollution*, **156**, 994-450.
  43. Auriol, M., Filali-Meknassi, Y., Adams, C., Tyagi, R., Noguerol, T., Pina, B. (2008) “Removal of Estrogenic Activity of Natural and Synthetic Hormones from a Municipal Wastewater: Efficiency of Horseradish Peroxidase and Laccase from *Trametes Versicolor*,” *Chemosphere*, **70**, 445-452.
  44. Patni, A., Ludlow, D., Adams, C. (2008) “Characteristics of Ground Granular Activated Carbon for Rapid Small Scale Column Tests,” *J. Environmental Engineering*, **131**, 216-221.

45. Loftin, K., Adams, C., Meyer, M., Surampalli, R. (2008) "Effects of Ionic Strength, Temperature, and pH on Degradation of Selected Antibiotics," *Journal of Environmental Quality*, **37**, 378-386.
46. Kurwadkar, S., Adams, C., Meyer, M., Kolpin, D. (2007) "Effects of Sorbate Speciation on Sorption of Selected Sulfonamides in Three Loamy Soils," *J. Agriculture and Food Chemistry*, **55**, 1370-1376.
47. Adams, C., Witt, E., Wang, J., Shaver, D., Summers, D., Filali-Meknassi, Y., Shi, H., Luna, R., Anderson, N. (2007) "Chemical Quality of Depositional Sediments and Associated Soils in New Orleans and the Louisiana Peninsula following Hurricane Katrina," *Environmental Science Technology*, **41**, 3437-3443.
48. Daigger, G., Adams, C., Steller, H. (2007) "Diffusion of Oxygen Through Activated Sludge Flocs: Experimental Measurement, Modeling, and Implications for Simultaneous Nitrification and Denitrification," *Water Environmental Research*, **79**, 375-387.
49. Auriol, M., Filali-Meknassi, Y., Tyagi, R., Adams, C. (2007) "Oxidation of Natural and Synthetic Hormones by the Horseradish Peroxidase Enzyme in Wastewater," *Chemosphere*, **68**, 1830-1837.
50. Filali-Meknassi, Y., Auriol, M., Adams, C., Surampalli, R. (2007) "Quantification of Steroid Sex Hormones using Solid-Phase Extraction followed by Liquid Chromatography-Mass Spectrometry," *Water Environment Research*, **79**, 687-696.
51. Auriol, M., Filali-Meknassi, Y., Tyagi, Adams, C. (2007) "Laccase-catalyzed Conversion of Natural and Synthetic Hormones from a Municipal Wastewater," *Water Research*, **41**, 3281-3288.
52. Macauley, J., Adams, C., Mormile, M. (2007) "Diversity of tet Resistant Genes in Tetracycline-Resistant Bacteria Isolated from a Swine Lagoon with Low Antibiotic Impact," *Canadian J. Microbiology*, **53**, 1307-1315.
53. Sutherland, J., Adams, C. (2007) "Determination of Hydroxyl Radical Rate Constants for Fuel Oxygenates," *Environmental Engineering Science*, **24**, 998-1005.
54. Chamberlain, E., Adams, C. (2006) "Oxidation of Sulfonamides, Macrolides, and Carbadox with Free Chlorine and Monochloramine," *Water Research*, **40**, 2463-2592.
55. Qiang, Z., Macauley, J., Mormile, M., Surampalli, R., Adams, C. (2006) "Treatment of Antibiotics and Antibiotic Resistant Bacteria in Swine Wastewater with Free Chlorine," *J. Agriculture and Food Chemistry*, **54**, 8144-8154.
56. Auriol, M., Filali-Meknassi, Y., Adams, C., Tyagi, R. D. (2006) "Natural and Synthetic Hormone Degradation using Horseradish Peroxidase Enzyme: Temperature and pH Effects," *Water Research*, **40**, 2847-2856.
57. Graziano, N., McGuire, M., Adams, C., Roberson, A., Jiang, H., Blute, N. (2006) "Using the ELISA Method to Track Atrazine Occurrence in a National Monitoring Program," *J. American Water Works Association*, **98:10**, 111-123.
58. Jiang, H., Adams, C., Graziano, N., Roberson, A., McGuire, M. (2006) "Enzyme Linked Immunoassay Analysis (ELISA) of Atrazine in Raw and Finished Drinking Water," *Environmental Engineering Science*, **20**, 503-515.
59. Auriol, M., Filali-Meknassi, Y., Tyagi, R., Adams, C., Surampalli, R. (2006) "Endocrine Disrupting Compounds Removal from Wastewater, A New Challenge," *Process Biochemistry*, **41**, 525-539.

60. Jiang, H., Adams, C. (2006) "Treatability of Chloro-s-triazines by Conventional Drinking Water Treatment Technologies," *Water Research*, **40**, 1657-1667.
61. Graziano, N., McGuire, M., Roberson, A., Adams, C., Jiang, H., Blute, N. (2006) "2004 National Atrazine Occurrence Monitoring Program Using the Abraxis ELISA Method," *Environmental Science and Technology*, **40**, 1163-1171.
62. Jiang, H., Adams, C., Graziano, N., Roberson, A., McGuire, M., Frey, M. (2006) "Occurrence and Removal of Total and Individual Chloro-s-triazines in Full-Scale Water Treatment Plants," *Environmental Science and Technology*, **40**, 3609-3616.
63. Macauley, J., Qiang, Z., Adams, C., Surampalli, R., Mormile, M. (2006) "Disinfection of Swine Wastes Using Chlorine and Ultraviolet Light," *Water Research*, **40**, 2017-2026.
64. Wu, W., Goldstein, G., Adams, C., Mathews, R., Ercal, N. (2006) "Separation and Quantification of N-acetyl-L-cysteine (NAC) and N-acetyl-cysteine-amide (AD4) by HPLC with Fluorescence Detection," *Biomedical Chromatography*, **20**, 415-422.
65. Qiang, Z., Demirkol, O., Ercal, N., Adams, C. (2005) "Impact of Food Disinfection using Ozone and other Oxidants on the Beneficial Antioxidant Biothiol Contents in Vegetables," *J. Agriculture and Food Chemistry*, **53**, 9830-9840.
66. Yu, L., Adams, C., Ludlow, D. (2005) "Adsorption of MTBE and Alternative Fuel Oxygenates on Granular Activated Carbon," *Journal of Environmental Engineering*, **131**, 983-987.
67. Sutherland, J., Adams, C., Kekobad, J. (2005) "Treatability of Alternative Fuel Oxygenates using Advanced Oxidation, Air Stripping and Carbon Adsorption," *J. Environmental Engineering*, **131**, 623-631.
68. Loftin, K., Henny, C., Adams, C., Surampalli, R., Mormile, M. (2005) "Inhibition of Microbial Metabolism in Anaerobic Lagoons by Selected Sulfonamides, Tetracyclines, Lincomycin, and Tylosin Tartrate," *Environmental Toxicology and Chemistry*, **24(4)**, 782-788.
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### **Selected Books, Book Chapters, Published Reports, Editorships, Software Tools**

1. Adams, C., Stanford, B., Arevalo, E., Reinert, A., and Rosenfeldt, E. (2015) "Hazen-Adams CyanoTOX (Ver. 1.0) - Cyanotoxin Tool for Oxidation Kinetics," *American Water Works Association (AWWA) Calculational Tool (spreadsheet)*.
2. Adams, C., Stanford, B., Arevalo, E., Reinert, A., and Rosenfeldt, E. (2015) "Cyanotoxin Oxidation Testing Protocol (Ver. 1.0)," *American Water Works Association (AWWA)*.
3. Adams, C., Stanford, B., Arevalo, E., Reinert, A., and Rosenfeldt, E. (2015) "AWWA PAC Calculator for Cyanotoxin Removal," *American Water Works Association (AWWA) Calculational Tool (spreadsheet)*.
4. Adams, C., Stanford, B., Arevalo, E., Reinert, A., and Rosenfeldt, E. (2015) "PAC Jare Testing Protocol for Cyanotoxin Removal in Drinking Water (Ver. 1.0)," *American Water Works Association (AWWA)*.
5. Roberson, A., Bench, R., Adams, C., Rosen, J. (2015) "Development of AWWA Recommendations for CCL4 Prioritization and Process," *American Water Works Association (AWWA) Report*.
6. Alfredo, K., Adams, C., Eaton, A., Roberson, A., Stanford, B. (2014) "The Potential Regulatory Implications of Strontium," *American Water Works Association (AWWA) Report*.
7. Alfredo, K., Adams, C., Eaton, A., Roberson, A., Stanford, B. (2014) "The Potential Regulatory Implications of Chlorate," *American Water Works Association*.
8. Adams, C., Whelton, A., Rosen, J. (2014) "Health Effects for Chemicals in 2014 West Virginia Chemical Release: Crude MCHM Compounds, PPH and DiPPH," Public report by *West Virginia Testing Assessment Project (WV TAP)* to the State of West Virginia.
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10. Cresser, M., Boxall, A., Adams, C., Batty, L. (2012) "Earth ± Man: An Integrated Introduction to Environmental Science", Elsevier, New York, NY, USA. (*Textbook*)

11. Adams, C., Ma, Y., Shi, H., Chamberlain, E., Wang, T., Wang, C., Cheng, X. "Project Report 3170: Pesticide Degradates in Water Treatment: Oxidative Formation and Partitioning Parameter Estimation," Water Research Foundation, Denver, CO, USA.
12. Adams, C. (2009) "Pharmaceuticals," Chapter 3 in *Contaminants of Emerging Concern*, Ed: A. Bhandari, R. Surampalli, C. Adams, P. Champagne, S. K. Ong, R. D. Tyagi, T. Zhang, ASCE Press.
13. Adams, C. (2009) "Treatment of Transformation Products," Chapter 9 in *Handbook of Environmental Chemistry – Degradation of Synthetic Chemicals in the Environment*, Ed: A. Boxall, Springer.
14. Adams, C. (2007) "Treatment of Antibiotics in Swine Wastewater," Chapter 14 in *Fate of Pharmaceuticals in the Environment and in Water Treatment Systems*, Ed: D. Aga, CRC Press, Taylor and Francis Books.
15. Witt, E., Adams, C., Wang, J., Shaver, D., Filali-Meknassi, Y. (2006) "Soil and Sediment Chemistry in the Mississippi Delta Following Hurricane Katrina," In *Science and the storms: the USGS Response to the Hurricanes of 2005* (U.S. Geological Survey Circular 1306), Eds., Farris *et al.*, USGS, 207-212.
16. Witt, E., Adams, C., Wang, J., Shaver, D., Filali-Meknassi, Y. (2006) "Selected Chemical Composition of Deposited Sediments in the Flooded Areas of New Orleans, Louisiana following Hurricane Katrina," In *Science and the storms: the USGS Response to the Hurricanes of 2005* (U.S. Geological Survey Circular 1306), Eds., Farris *et al.*, USGS, 201-206.
17. Randtke, S., Witt, A., Adams, P., Pancake, R., Adams, C. (2004) "Occurrence and Control of Atrazine in Midwestern Surface Water Supplies," in *Advances in Drinking Water Treatment*, Ed: R. Surampalli, ASCE, 356-394.
18. Adams, C., Bhandari, A. (2003) "Endocrine Disrupting Chemicals in the Environment," *Practice Periodical for Hazardous, Toxic, and Radioactive Waste* (ASCE) titled *Endocrine Disrupting Compounds in the Environment*, Special Ed: C. Adams and A. Bhandari, 7(4), 201.
19. Sutherland, J., Adams, C., Kekobad, J. (2002) "Pilot-Scale Treatment Study of MTBE and Alternative Fuel Oxygenates," in *3rd International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA (May, 2002).
20. Sutherland, J., Panka, B., Burken, J., Adams, C. (2000) "Chemical and Biological Oxidation of MTBE Pathways under Variable Conditions," in *Case Studies in the Remediation of Chlorinated and Recalcitrant Compounds*, Eds. G. Wickramanayake, A. Gavaskar, G. Biggs, J. Means., Battelle Press, Columbus, OH, 25-32.
21. Adams, C., Filipe, C., Vogg, C., Kanzelmeyer, T., Olivier, J. (1996) "Chromium Removal from Metal-complex Dyes using Oxidative Pretreatment and Ion Exchange," in *Chemical Oxidation: Technology for the Nineties*, Eds. W. Eckenfelder, A. Bowers, J. Roth, Technomic Publishing Co., Inc., Lancaster, PA, 5, 95-107.

### **Selected Invited Presentations (with Proceedings)**

1. Adams, C. (2008) "Sustainable Approaches for Pharmaceuticals in Municipal Sewage and Animal Agriculture." Keynote address at the *IWA Chemical Industries 2008 International Conference*, Beijing, PRC. (Nov. 9-11, 2008)

2. Adams, C. (2007) "Sustainable Approaches for Antibiotics in Municipal Sewage and Animal Agriculture." *3rd International Conference on Sustainable Water Environment: Integrated Water Resources Management – New Steps*, Sapporo, Japan. (October 24-25, 2007)
3. Adams, C. (2005) "Modeling Fate of Pharmaceuticals and Personal Care Products in Sewage Treatment," *2005 First International Conference on Sustainable Water Environment: Water Resource and Quality Management*, Taipei, Taiwan, USA. (November 5, 2005)
4. Adams, C. (2004) "Drinking Water Treatment: Formation and Removal of Pesticide Degradates," *International Symposium on Pesticide Degradates and Adjuvants*, Prague, Czech Republic, 1-10. (June 4, 2004)
5. Adams, C. (2004) "Modeling Transport of Sulfonamides, Tetracyclines, Macrolides, and Carbadox Soils," *Science to Secure Food and the Environment Conference 2004 ASA-CSSA-SSSA International Annual Meetings with the Canadian Society of Soil Science*, Seattle, Washington, USA. (Nov 2, 2004)

#### **Selected Invited Presentations (without Proceedings)**

1. Adams, C., Stanford, E., Reinert, A., Rosenfeldt, E., Casey, B. (2015) "Oxidative and Sorptive Treatment of Cyanotoxins," *Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences*, Chongqing, PRC. (September 21, 2015)
2. Adams, C., Cornwell, D., Stanford, B. (2015) "Status of Cyanotoxin Health Advisories, Monitoring and Utility Guidance in the US - 2015," *Chongqing Institute of Green and Intelligent Technology, Chinese Academy of Sciences*, Chongqing, PRC. (September 22, 2015)
3. Adams, C. (2015) "Oxidative Treatment of Cyanotoxins," *Research Center for EcoEnvironmental Science (RCEES), Chinese Academy of Science*, Beijing, PRC. (September 25, 2015)
4. Adams, C., Qiang, Z., Shi, H. (2015) "Disinfection Byproduct Control in Saltwater/Seawater Aquaria," *Beijing Aquaria*, Beijing, PRC. (September 25, 2015)
5. Cornwell, D., Pizzi, N., Adams, C. (2015) "HAB and Cyanotoxin SOP for Lake County Water," *Water Research Foundation Webinar*. (April 7, 2015)
6. Adams, C., Shi, H., Qiang, Z., Haji Eghrari, S. (2014) "Disinfection Byproduct in LSS: Summary of Chemistry, Analysis, Occurrence and Control," *SeaWorld Internal presentation*, San Diego, CA, USA. (November 4, 2014)
7. Adams, C., Shi, H., Qiang, Z., Haji Eghrari, S. (2014) "Disinfection Byproduct Speciation and Pathways Resulting from Ozone or Chlorine Application in Seawater Systems," *AQUALITY II - Water Quality and Water Treatment in Zoos and Aquariums*, Atlantis, Bahamas. (October 23, 2014)
8. Adams, C. (2014) "Emerging Contaminants in Drinking Water: Prioritization, Sources, and Tailored Oxidative and Sorptive Treatment Approaches," *ACS 248th National Meeting*, (Symposium honoring Dr. C.P. Huang), San Francisco, CA. (August 11, 2014)
9. Adams, C., Roberson, A., Rosen, J., Bench, R. (2014) "Alternative Contaminant Candidate List 4 (CCL4) Development and Analysis," *AWWA ACE2014 Water Utility Council*, Boston, MA, USA. (June 11, 2014)

10. Adams, C. (2014) "Engineering as a Career Choice," *Society of Women Engineers*, Logan, UT, USA. (April, 2014)
11. Adams, C., Shi, H., Qiang, Z. (2014) "Causes and Control of Disinfection Byproduct Formation in Marine Aquaria," *Life Support System Workshop*, Orlando, FL, USA. (April 2014)
12. Adams, C. (2014) "Emerging Micro-Pollutants in the Environment: Source, occurrence, risk and control," Keynote address to the *247<sup>th</sup> American Chemical Society National Meeting and Exposition*, Dallas, TX, USA. (March 16, 2014)
13. Adams, C., Chamberlain, E., Wang, T., Ma, Y., Shi, H., Meyer, M., Fulmer, A. (2014) "Screening Study and Byproduct Determination for Pesticide Degradation during Disinfection in Water Treatment (AWWARF Project #3170)" *US Environmental Protection Agency*, Office of Pesticide Programs, Arlington, VA, USA. (January 28, 2014)
14. Adams, C. (2013) "Disinfection in Human Composting Latrines using Solar, Composting or Electrical Heat", *Environmental Engineering Seminar*, Utah State University, Logan, UT, USA. (November 13, 2013)
15. Adams, C. (2012) "Filtration Technologies for Developing Nations: Ceramic Filters," *Engineers Without Borders Meeting*, University of Kansas, Lawrence, KS, USA. (March 1, 2012)
16. Adams, C. (2011) "Sustainable Sanitation Technology for Developing Nations," *Mini-College for Kansas Field Station*, Lawrence, KS, USA. (June 7, 2011)
17. Adams, C. (2011) "Sustainable Sanitation and Water Technologies for Developing Nations," *2011 American Indian Science and Engineering Student (AISES) Region IV Conference*, Lawrence, KS, USA. (April 2, 2011)
18. Adams, C. (2010) "Providing Sustainable Water and Sanitation in Developing Nations," *Santa Marta Special Presentation*, Olathe, KS, USA. (October 1, 2010)
19. Adams, C., Roberson, A. (2010) "Emerging Contaminants in Drinking Water: Occurrence, Risk, Control, and Regulatory Approach," *6<sup>th</sup> International Conference on Sustainable Water Environment*, Newark, DE, USA. (July 29, 2010)
20. Adams, C. (2010) "Research Needs for Sustainable Water Environment: Natural Systems," *6<sup>th</sup> International Conference on Sustainable Water Environment*, Newark, DE, USA. (July 29, 2010)
21. Adams, C. (2010) "The World and Us: How to Effectively Help Other Countries," *Panel Discussion by Office of Multicultural Studies*, University of Kansas, Lawrence, KS, USA. (April 13, 2010)
22. Adams, C. (2010) "Challenges of Providing Sustainable Water and Sanitation in Developing Nations," *Ecumenical Christian Ministries*, University of Kansas, Lawrence, KS, USA. (March 3, 2010)
23. Adams, C. (2010) "Cyanobacteria and their Associated Cyanotoxins," *Ecology Seminar*, Kansas Biological Survey, Higuchi Hall, University of Kansas, Lawrence, KS, USA. (February 26, 2010)
24. Adams, C. (2010) "Applications of Mathematics and Statistics in Environmental Engineering Applications," *Ellis B. Stouffer Colloquium*, Dept. of Mathematics, University of Kansas, Lawrence, KS, USA. (February 8, 2010)



25. Adams, C. (2010) "Occurrence and Control of Pharmaceuticals in Wastewater and Water Treatment Plants," *60<sup>th</sup> Kansas University Environmental Engineering Conference*, Lawrence, KS, USA. (February 3, 2010)
26. Adams, C. (2009) "Meeting Water and Sanitation Needs in Azacilo, Bolivia," Lawrence Rotary Club (District 5710), Lawrence, KS, USA. (November 23, 2009)
27. Adams, C. (2009) "Control of Pharmaceuticals and Endocrine Disrupting Compounds in Drinking Water Treatment Plants," Water KWEA and KsAWWA Joint Annual Conference, Topeka, KS. (September, 2009)
28. Adams, C. (2008) "Fate and Control of Emerging Contaminants in Drinking Water and Wastewater Treatment," Keynote address at the International Water Association Chemical Industries Conference, Beijing, PRC. (November, 2008)
29. Adams, C. (2008) "Sustainable Approaches for Antibiotics (and Other Pharmaceuticals) in Municipal Sewage and Animal Agriculture," *Ralph N. Adams Institute for Bioanalytical Chemistry Seminar*, University of Kansas, Lawrence, KS, USA. (November, 2008)
30. Adams, C. (2008) "Cyanobacteria and Cyanotoxins: Occurrence and Control in Water Treatment," Chinese Academy of Science, Research Center for Eco-Environmental Science (State Key Lab), Beijing, PRC. (June, 2008)
31. Adams, C. (2008) "Cyanobacteria and their Associated Cyanotoxins: Occurrence and Effects of Water Treatment Processes," Xi'an Jiaotong University, Xi'an, PRC. (June, 2008)
32. Adams, C. (2008) "Occurrence and Effects of Water Treatment Processes of Microcystis and Microcystins," *Urban Construction and Environmental Engineering Seminar*, Chongqing University, Chongqing, PRC. (June 17, 2008)
33. Adams, C. (2008) "Occurrence and Effects of Water Treatment Processes on Cyanotoxins," *Chongqing University Three Gorges Institute Seminar*, Chongqing University, Chongqing, PRC (June 17, 2008)
34. Adams, C. (2008) "Cyanobacteria and their Associated Cyanotoxins: Occurrence and Effects of Water Treatment Processes," *College of Environmental Science and Engineering Seminar*, State Key Laboratory of Pollution Control and Resource Reuse, Tongji University, Shanghai, PRC. (June 14, 2008)
35. Adams, C. (2008) "Providing Sustainable Safe Drinking Water and Sanitation Across the Globe," *HLTH 362 Environmental Health Seminar*, Truman State University, Kirksville, MO, USA. (April 10, 2008)
36. Adams, C. (2008) "Pedagogical Approach for Sustainability Course," *Sustainability Educator Roundtable*, Drake University, Des Moines, IA, USA. (August 14, 2007)
37. Adams, C. (2007) "Navigating Clear Waters: Providing Sustainable Safe Drinking Water and Sanitation Across the Globe," *Collaborative Genius: Taping Creativity in Science Seminar Series*, St. Louis Academy of Science/Saint Louis Zoo, St. Louis, MO, USA. (March 21, 2007)
38. Adams, C. (2006) "Fate, Effects and Treatment of Antibiotics in Wastewater and Drinking Water," *Research Center for Eco-Environmental Sciences*, Chinese Academy of Sciences, Beijing, PRC. (September 15, 2006)

39. Adams, C. (2006) "Veterinary Antibiotics: Fate, Effects, Transport and Treatment," *Environmental Seminar*, Harbin Institute of Technology, Harbin, PRC. (September 7, 2006)
40. Adams, C. (2006) "Antibiotics: Fate, Effects, and Treatment," *Environmental Seminar*, Chongqing University, Chongqing, PRC. (September 4, 2006)
41. Adams, C. (2006) "Pesticide Byproducts Formation during Disinfection of Drinking Water," *Environmental Seminar*, University of York, York, UK. (July 19, 2006)
42. Adams, C. (2006) "Disinfection Byproducts from Pesticides in Drinking Water Treatment," *Environmental Seminar*, Cranfield University, Cranfield, UK. (July 17, 2006)
43. Adams, C. (2006) "Perspectives and Research on Livestock Odor and Waste Treatment in Missouri," *Macon County Special Meeting on County Health Ordinances*, Macon, MO, USA. (March, 2006)
44. Adams, C. (2006) "Formation and Control of Trihalomethanes and Haloacetic Acids in Missouri Drinking Waters," *Chemistry Department Seminar*, University of Missouri-Rolla, Rolla, MO, USA. (March 6, 2006)
45. Adams, C. (2006) "Endocrine Disrupting Chemicals: A New Regulatory Endpoint for Drinking Water," *Biomedical Engineering Conference*, Saint Louis University, Saint Louis, MO, USA. (February 18, 2006)
46. Adams, C. (2006) "Drinking Water Research Conducted under Cooperative Agreement with MDNR," *Missouri Safe Drinking Water Commission*, Jefferson City, MO, USA. (January 19, 2006)
47. Adams, C. (2005) "Round Table Discussion Topic: Sediment, Turbidity and Water Supply Problem in Taoyun Area (Shin-men Reservoir)" *2005 First International Conference on Sustainable Water Environment: Water Resource and Quality Management*, Taipei, Taiwan. (November 3, 2005)
48. Adams, C. (2005) "Formation and Control of Pesticide Degradates, DBPs and Estrogenic Compounds in Drinking Water," *Missouri Safe Drinking Water Commission*, Jefferson City, MO, USA. (March 10, 2005)
49. Adams, C. (2005) "Fate, Effects and Transport of Veterinary Antibiotics at Livestock Operations," *Environmental Engineering Science Program Seminar*, Washington University, St. Louis, MO, USA. (February 4, 2005)
50. Adams, C. (2004) "Treatment of Fuel Oxygenate Ethers and Alcohols by Advanced Oxidation Technologies," *Advanced Oxidation Technologies Conference*, San Diego, CA, USA. (October 25, 2004)
51. Adams, C. (2004) "Endocrine Disrupting Chemicals-An Emerging Issue" *Omega Chi Epsilon-Omega Chapter*, University of Missouri-Rolla, Rolla, MO, USA. (October 20, 2004)
52. Adams, C. (2004) "Endocrine Disrupting Chemicals," *Department of Environmental Science and Engineering Seminar*, Tsinghua University, Beijing, PRC. (September 24, 2004)
53. Adams, C. (2004) "Endocrine Disrupting Chemicals," *School of Municipal and Environmental Engineering Seminar*, Harbin Institute of Technology, Harbin, PRC. (September 23, 2004)

54. Adams, C. (2004) "Antibiotics In The Environment: Occurrence, Analysis, Fate, Effects, and Treatment," *School of Environmental Science and Engineering Seminar*, Tongji University, Shanghai, PRC. (September 21, 2004)
55. Adams, C. (2004) "Endocrine Disrupting Chemicals," *School of Environmental Science and Engineering Seminar*, Tongji University, Shanghai, PRC. (September 21, 2004)
56. Adams, C. (2004) "Treatment Study of MTBE and Alternative Oxygenates in Varied Groundwaters," *Oxygenates Workshop at the 16<sup>th</sup> Annual UST/Leaking UST National Conference*, New Orleans, LA, USA. (March 3, 2004)
57. Adams, C. (2004) "Research on Antibiotic and Resistance Control," *Centers for Disease Control (CDC) Workshop on CAFOs and Public Health: State of the Science and Future Directions*, Atlanta, GA, USA. (March 12, 2004)
58. Adams, C. (2003) "Studies on Occurrence and Control of Disinfection Byproducts, Antibiotics, s-Triazines, and MTBE in Drinking Water," *Missouri Safe Drinking Water Commission*, Jefferson City, MO, USA. (May 22, 2003).
59. Adams, C. (2003) "Pilot-Scale Treatment Study of MTBE and Alternative Oxygenates in varied Missouri Groundwaters," *Missouri Petroleum Storage Tank Insurance Board of Trustees*, Columbia, MO, USA. (January 22, 2003).
60. Adams, C. (2002) "Endocrine Disruptors and the Water Industry," *Water Quality Coordinating Committee*, United States Geological Survey, Columbia Environmental Research Center Conference Building, Columbia, MO, USA. (August 20, 2002).
61. Adams, C. (2002) "Fate, Effects and Control of Antibiotics in CAFOs and Drinking Water," *North Fork Project 2002 Regional Watershed Conference*, Truman State University, Kirksville, MO, USA. (July 30, 2002).
62. Adams, C., Loftin, K., Qiang, Z., Meyer, M. (2002) "Occurrence and Control of the Major Classes of Antibiotics in Surface Waters," *Sigma Xi Lecture Series*, University of Missouri-Rolla, Rolla, MO, USA. (March 13, 2002)
63. Adams, C., Gale, N., Wixson, B., Loftin, K. (2002) "Heavy Metals in Fish and River Sediments in the Old Lead Belt of Missouri," *Geological and Geophysics Seminar Series*, University of Missouri-Rolla, Rolla, MO, USA. (March 5, 2002)
64. Adams, C. (2002) "Diffusion Estimation Techniques," Presented as ChemE 361 Chemodynamics guest lecture in the Department of Chemical Engineering at University of Missouri-Rolla, Rolla, MO, USA. (October 9, 2001).
65. Adams, C., Balakrishnan, M. (2001) "Effects of Water Quality on Biological Regrowth in Water Distribution Systems," *Missouri Department of Natural Resources Annual Seminar*, Jefferson City, MO, USA. (November 7, 2001)
66. Adams, C., Sutherland, J., Kekobad, J. (2001) "Pilot-Scale Treatment Testing of MTBE and Alternative Fuel Oxygenates: Effectiveness and Cost Comparisons" *Missouri Department of Natural Resources Annual Seminar*, Jefferson City, MO, USA. (November 7, 2001)
67. Adams, C. (2001) "THM and HAA Occurrence in Drinking Water Distribution Systems in Missouri" *Missouri Department of Natural Resources Annual Seminar*, Jefferson City, MO, USA. (November 7, 2001).

68. Adams, C., Beardsley, M. (2001) "Controlling Vinyl Chloride in Drinking Water Distribution Systems" *Missouri Department of Natural Resources Annual Seminar*, Jefferson City, MO, USA. (November 7, 2001).
69. Adams, C., Kaempfer-Stellar, H. (2001) "Nitrification and Denitrification in Activated Sludge," *Missouri Water Environment Association Plant Managers Workshop*, University of Missouri-Rolla, Rolla, MO, USA. (October 5, 2001).
70. Adams, C. (2001) "Cooperative Research between Missouri Department of Natural Resources and UMR's Environmental Research Center," *Missouri Safe Drinking Water Commission*, Jefferson City, MO, USA. (May 24, 2001).
71. Adams, C., Reed, R. (2001) "Development of an Applied Ozonation Model for Artificial Saltwater Aquaria," *Busch-Entertainment/Seaworld*, Orlando, FL, USA. (May 21, 2001)
72. Adams, C. (2000) "Controlling Vinyl Chloride in Water Distribution Systems with Early-Era PVC Pipe," *Missouri Public Drinking Water Annual Seminar*, *Missouri Department of Natural Resources*, Jefferson City, MO, USA. (December 13, 2000)
73. Adams, C. (2000) "HPC, E. coli, and Total Coliform Regrowth in Water Distribution Systems: Relationships with Water Quality Parameters," *Missouri Public Drinking Water Annual Seminar*, Missouri Department of Natural Resources, Jefferson City, MO, USA. (December 13, 2000)
74. Adams, C. (2000) "Treatment of MTBE and Alternative Fuel Oxygenating Agents in Groundwater: A Pilot-Study Approach to Comparative Technologies," *Missouri Public Drinking Water Annual Seminar*, Missouri Department of Natural Resources, Jefferson City, MO, USA. (December 13, 2000)
75. Adams, C. (2000) "Mission and Impact of the Environmental Research Center," *Rolla Rotary Club*, Rolla, MO, USA. (August 11, 2000)
76. Adams, C. (1999) "Ozone Disinfection for Small Groundwater Systems," *Missouri Department of Natural Resources Annual Public Drinking Water Program Regional Office*, Jefferson City, MO, USA. (October 14, 1999)
77. Adams, C., Wehmeyer, E., Meyer, M. (1999) "Treatability of Cyanazine and s-Triazine Metabolites using Activated Carbon: Technical and Economic Analysis," *Missouri River Public Water Supply Association*, Kansas City, MO, USA. (May 26, 1999)
78. Adams, C. (1999) "Integration of Chemical and Biological Processes for Wastewater Treatment," *Department of Civil and Environmental Engineering Seminar*, University of Kansas, Lawrence, KS, USA. (April 9, 1999)
79. Adams, C. (1998) "So You Want to Be an Environmental Engineer," *Rolla Middle School Careers Day*, Rolla, MO, USA. (March 11, 1998)
80. Adams, C. (1998) "Environmental Technology Development," *Environmental Engineering Seminar*, Hong Kong University of Science and Technology, Hong Kong, PRC. (February 24, 1998)
81. Adams, C. (1997) "Case Study: Toxicity Identification Evaluation (TIE) and Toxicity Reduction Evaluation (TRE) for a Lead Battery Recycling Facility," *Environmental Engineering Program Seminar*, Washington University, St. Louis, MO, USA. (November 14, 1997)
82. Adams, C., Gale, N. (1997) "Meeting Government Regulations in an Economical Way," *Leadership Missouri Class of 1997 Conference*, Rolla, MO, USA. (July 25, 1997)

83. Adams, C. (1997) "Metal Treatment Technologies: Case Studies," *Metallurgical Engineering Seminar*, University of Missouri-Rolla, Rolla, MO, USA. (April 21, 1997)
84. Adams, C. (1996) "Biodegradation Enhancement of Biorefractory Pollutants in Industrial Wastewater using Oxidative Pretreatment," *Missouri Water Environment Association Annual Meeting*, Columbia, MO, USA. (March 26, 1996)
85. Adams, C. (1995) "Advanced Oxidative Scrubber: A New Technology for VOCs," *UMR American Institute of Chemical Engineers Seminar*, UMR Chapter, Rolla, MO, USA. (December, 1995)
86. Adams, C. (1995) "Recovery of Cadmium from Complex Wastestreams," *Civil Engineering Seminar*, UMR, Rolla, MO, USA. (December, 1995)
87. Adams, C. (1995) "Environmental Engineering: An Exciting Career Choice for Civil Engineers," *American Society of Civil Engineers Seminar*, UMR Chapter, Rolla, MO, USA. (October, 1995)
88. Adams, C. (1995) "Environmental Engineering Program at UMR," *Environmental Council of the Regional Commerce and Growth Association*, St. Louis, MO, USA. (October, 1995)
89. Adams, C. (1995) "Industrial Wastewater Treatment: Approach and Selected Research Results," *UMR Chapter of Sigma Xi Seminar*, University of Missouri-Rolla, Rolla, MO, USA. (September, 1995)
90. Adams, C. (1995) "Industrial Wastewater Treatment: Approach and Selected Research Results," *Civil Engineering Seminar*, University of Missouri-Rolla, Rolla, MO, USA. (September, 1995)
91. Adams, C. (1994) "Biodegradability Enhancement of Biorefractory Organic Compounds using Oxidative Pretreatment," *Environmental Engineering Seminar*, California Institute of Technology (Caltech), Department of Environmental Engineering, Pasadena, CA, USA. (October 19, 1994)
92. Adams, C. (1994) "Effects of Advanced Oxidation on Biorecalcitrant Finishing Oils," *Hoechst Celanese Corporation*, Spartanburg, SC, USA. (April 26, 1994)
93. Adams, C. (1992) "On-site Treatment of Agricultural Wastewater using the TiO<sub>2</sub>/UV Advanced Oxidation Process," *Seminar Monsanto Corporation*, St. Louis, MO, USA. (September 18, 1992)
94. Adams, C. (1991) "Ozonation of Atrazine: A Kinetic Model and Byproduct Formation," *Environmental Engineering Seminar*, Department of Environmental Systems Engineering, Clemson University, Clemson, SC, USA. (February 21, 1991)
95. Adams, C. (1991) "Ozonation of Atrazine: A Kinetic Model and the Formation of Ozonation Byproducts," *Environmental Engineering Seminar*, College of Engineering, Tennessee Technological University, Cookeville, TN, USA. (February, 8, 1991)
96. Adams, C. (1991) "Occurrence and Removal of Atrazine and its Degradation Products in Drinking Water," *Civil Engineering Seminar*, University of California Irvine, Irvine, CA, USA. (February 1, 1991)
97. Adams, C. (1990) "Atrazine and its Degradation Products in Drinking Water," *American Institute of Hydrology Seminar - Kansas Section*, Topeka, KS, USA. (April 13, 1990)
98. Adams, C. (1990) "Atrazine Degradation Product Formation in the Vadose Zone," *U.S. Geological Survey*, Lawrence, KS, USA. (January, 1990)

**Short courses/Workshops Taught or co-Organized**

1. Klonicki, T., Westrick, J., Zamyadi, A., Adams, C., Nieminski, E. (2015) "Cyanobacteria Identification, Toxin Detection Methods and Treatment," *Water Quality Technology Conference Workshop*, Salt Lake City, USA. (November 15, 2015) (*to be taught*)
2. Adams, C., Roberson, J.A., Rosen, J., Bench, R. (2014) "Alternative Contaminant Candidate List 4 (CCL4) Development and Analysis Workshop," *AWWA Technical Advisory Workgroup Workshop*, Washington, D.C., USA. (January 29-31, 2014)
3. Adams, C. (2013) "Tailored Treatment of Cyanotoxins and Cyanobacteria: Oxidation, Adsorption and Other Technologies," *Water Quality Technology Conference Workshop*, Long Beach, CA, USA. (November 19, 2013)
4. Randtke, S. (presenter), Adams, C., Neeman, J. (2012) "Controlling Algal Metabolites in Drinking Water," *Kansas Water Office Kansas River Algae Workshop*, Topeka, KS, USA. (May 15, 2012)
5. Randtke, S., Adams, C., Neeman, J. (presenter) (2012) "Oxidation of Algal Metabolites and Tools for Operators," *Kansas Water Office Kansas River Algae Workshop*, Topeka, KS, USA. (May 15, 2012)
6. Adams, C. (2012) "Emerging Drinking Water Treatment Technologies for the Next Generation of Regulated Contaminants," *KU Professional Development Series*, Kansas City, MO, USA. (February, 2012)
7. Adams, C. (2011) "Emerging Technologies for Carcinogenic VOC Treatment," *AWWA Treatment Technology Workshop for Carcinogenic VOCs*, Washington, D.C., USA. (October 26, 2011)
8. Adams, C. (2010) "Appropriate Sanitation and Drinking Water Technologies and Approaches for the Developing World," *KU Professional Development Series*, Kansas City, MO, USA. (February, 2010)
9. Adams, C. (2009) "Sustainable Approaches to Control of Pharmaceuticals in Wastewater Treatment Plants (and related topics)," *KU Professional Development Series*, Kansas City, MO, USA. (February, 2009)
10. Adams, C., Graziano, N., Morley, K., Roberson, A., Tierney, D. (2006) "What Drinking Water Utilities Need to Know About Atrazine: Regulation, Occurrence, and Mitigation," *Water Quality Technology Conference* (American Water Works Association), Denver, CO, USA. (November 5, 2006)
11. Adams, C., Barrett, K., Millais, T., Koschorreck, J. (2005) "Environmental Risk Assessment of Pharmaceuticals," *SETAC Annual Conference*, Baltimore, MD, USA. (November 13, 2005)
12. Adams, C., Boxall, A. et al. (2005) "Environmental Modeling and Risk Assessment of Pharmaceuticals," *University of York/Central Science Laboratory*, York, UK. (March, 2005)
13. Adams, C. (2002) "Oxidant and Disinfection Chemistry," *Technical Workshop "Chem 101/102: Fundamentals of Environmental Chemistry"* at the *Water Quality Technology Conference* (American Water Works Association), Seattle, WA, USA. (November, 2002)
14. Adams, C. (2002) "Water Quality," *Science Olympiad-Region V Competition for High School Students*, University of Missouri-Rolla, Rolla, MO, USA. (February 17, 2002)

15. Adams, C. (2001) "Disposal and Utilization of Treated Products," *USEPA/Taiwan EPA Joint Workshop on Agriculture and Petroleum Chemical Waste*, Kaishung, Taiwan. (December 4-7, 2001)
16. Adams, C. (2001) "Odor Control," *USEPA/Taiwan EPA Joint Workshop on Agriculture and Petroleum Chemical Waste*, Kaishung, Taiwan. (December 4-7, 2001)
17. Adams, C. (2001) "Treatment Alternatives - A Review," *USEPA/Taiwan EPA Joint Workshop on Agriculture and Petroleum Chemical Waste*, Kaishung, Taiwan. (December 4-7, 2001)
18. Adams, C. (2001) "Fate and Effects of Antibiotics in Treatment Systems," *USEPA/Taiwan EPA Joint Workshop on Agriculture and Petroleum Chemical Waste*, Kaishung, Taiwan. (December 4-7, 2001)
19. Adams, C. (2001) "Workshop: Oxidant and Disinfection Chemistry," Technical Workshop "Chem 101/102: An In-depth Review of the Chemistry and Engineering of Water Quality and Treatment" at the *Water Quality Technology Conference* (American Water Works Association), Nashville, TN, USA. (November 11, 2001)
20. Adams, C., Kaempfer Stellar, H. (2001) "Nitrification/Denitrification by Activated Sludge Systems," *Water Environment Association Plant Managers' Workshop*, University of Missouri-Rolla, Rolla, MO, USA. (October 5, 2001)
21. Adams, C. (1999) "Workshop: Oxidant and Disinfection Chemistry," *Technical Workshop at the Water Quality Technology Conference* (American Water Works Association), Tampa, FL, USA. (October 31, 1999)
22. Adams, C. (1998) "Membrane Processes for the Treatment of Industrial Wastewater and Groundwater," *Industrial Wastewater Treatment Course*, Hong Kong University of Science and Technology, Hong Kong, PRC. (February 24, 1998)

#### **Conference Proceedings with Full Paper (Podium presenter underlined)**

1. Donovan, A., Shi, H., Ma, Y., Adams, C., Stephen, C., Eichholz, T. (2016) "Evaluation of Iodo-, Bromo-, and Chloro-acetic Acids Formation by Peracetic Acid Disinfection Using a Newly Developed Rapid HPIC-MS/MS Method," Pittcon 2016, Atlanta, GA, USA. (March 2016) (*To be presented*)
2. Donovan, A., Shi, H., Ma, Y., Adams, C., Stephen, C., Eichholz, T. (2016) "Nanoparticle Removal during Alum and Ferric Coagulation Characterized by Single Particle ICP-MS," Pittcon 2016, Atlanta, GA, USA. (March 2016) (*To be presented*)
3. Donovan, A., Adams, C., Shi, H., Ma, Y., Stephen, C., Eichholz, T., Timmons, T. (2015) "Rapid Tracking of Au, Ag, TiO<sub>2</sub>, ZnO, and CeO<sub>2</sub> Nanoparticles through Drinking Water Treatments by Single Particle ICP-MS", AWWA Water Quality Technology Conference & Exposition, Salt Lake City, Utah, USA. (November 15-19, 2015). (*To be presented*).
4. Donovan, A., Shi, H., Ma, Y., Adams, C., Stephan, C., Eichholz, T. (2015) "Rapid Tracking of ZnO and CeO<sub>2</sub> Nanoparticles through Drinking Water Treatment by Single Particle ICP-MS," American Society of Mass Spectrometry Conference, St. Louis, MO, USA. (June 2, 2015).
5. Donovan, A., Shi, H., Ma, Y., Adams, C., Stephan, C., Eichholz, T. (2015) "Single-Particle ICP-MS Method Development for Simultaneous Detection of Dissolved and

- Nanoparticulate Metals in Missouri Drinking Water Systems,” Pittsburgh Conference and Exposition, New Orleans, LA, USA. (March 8-12, 2015)
6. Donovan, A., Shi, H., Dan, Y., Adams, C., Ma, Y., Stephen, C., Eichholz, T. (2015) “Rapid Tracking of Nanoparticles through Drinking Water Treatment by Single Particle Inductively Coupled Plasma-Mass Spectrometry,” 2015 TechConnect World Innovation Conference and Expo, National Harbor, Maryland, USA. (June 14-17, 2015)
  7. Mu, R., Shi, H., Adams, C., Eichholz, T., Ma, Y. (2015) “A comprehensive Removal study of Selected PPCPs by PACs in Source and Drinking Water Using LC-MS/MS,” Pittsburgh Conference and Exposition, New Orleans, LA, USA. (March 8-12, 2015)
  8. Xue, R., Shi, H., Ma, Y., Adams, C., Eichholz, T., (2015) “Simultaneous Removal of N-Nitrosamine Precursor and Ammonia with Zeolites by Simulated Water Treatment Process,” *Pittsburgh Conference and Exposition*, New Orleans, LA, USA. (March 8-12, 2015)
  9. Mu, R., Shi, H., Adams, C., Eichholz, T., Ma, Y. (2015) “Investigation of Taste and Odor Problem in Selected Missouri Drinking Water Systems and their Detection and Removal”. *Pittsburgh Conference and Exposition*, New Orleans, LA, USA. (March 8-12, 2015)
  10. Jean, A., Adams, C., Medina, M., Miranville, F. (2014) “Natural Materials For Thermal Insulation: Mulch And Lava-Rock Characterizations,” 2014 International Conference on Renewable Energy Technologies (ICRET 2014), Hong Kong, PRC. (November 8, 2014)
  11. Jean, A., Boyer, H., Adams, C., Fakra, A., Medina, M.A., Miranville, F. (2014) “Simulation of Thermal Behavior of a Wall to the State Observation: Data Assimilation in CODYRUN in View of the Validation of Thermal Properties of a Material,” CIFEM2014 Conference, Comoro Island. (May 2014) (in French)
  12. Jean, A., Adams, C., Medina, M.A., and Miranville, F. (2013) "Natural Materials for Thermal Insulation: Mulch and Lava-rock Characterizations," 4th International Conference on Sustainable Energy and Green Architecture, Bangkok, Thailand. (December 11-13, 2013) (in French)
  13. Adams, C., Rendall, J., Medina, M., Eberhart, S., Adams, M. (2012) “Design of Human Composting Latrines for Robust Solar Disinfection Including Inactivation of *Ascaris Lumbricoides*,” *International Water Association World Water Congress and Exhibition*, Busan, Korea. (September 19, 2012)
  14. Jean, A., Adams, C., Medina, M., Miranville, F. (2011) “Experimental Method Calibration (MECr): A New Relative Method for Heat Flux Sensor Calibration,” *ECOS2011, The 24th International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy System*, Novi Sad, Serbia. (July 4–7, 2011) (in French)
  15. Sturm, B., Cheng, Y., Lane, R., Adams, C., Carter, R. (2011) “Impact of Sludge Residence Time on the Relative Biodegradation and Biosorption of Sulfonamide Antibiotics in Activated Sludge,” *American Chemical Society (ACS) 241st National Meeting*, Anaheim, CA, USA. (March 2011)
  16. Gentry, J., Shell, S., Adams, C. (2009) “Effect of Through-School Versus Direct-Community Training on Sustainable Implementation of SODIS Water Disinfection Technology in Rural Bolivia,” *1st IWA Development Congress*, Mexico City, Mexico. (November 16, 2009)
  17. Wang, C., Gamagedara, S., Shi, H., Stayton, I., Adams, C., Timmons, T., Ma, Y. (2009) “Investigation of Pharmaceutical and Personal Care Products in Missouri Natural and



- Drinking Water using Liquid Chromatography-Tandem Mass Spectrometry,” *American Society of Mass Spectrometry Annual Conference*, Philadelphia, PA, USA. (June 2, 2009)
18. Kurwadkar, S., Adams, C., Meyer, M., Kolpin, D. (2007) “Mobility of Selected Veterinary Antimicrobials in Three Loamy Soils,” *International Congress of Environmental Research*, Bhopal, India. (December 29, 2007)
  19. Jain, R., Ludlow, D., Adams, C., (2007) “Characterization of Powdered Activated Carbon using Gaseous- and Aqueous-Phase Indices,” *2007 AIChE Annual Conference*, Salt Lake City, UT, USA. (November 4, 2007)
  20. Chamberlain, E., Wang, T., Adams, C., Ma, Y., Shi, H., Meyer, M., Fulmer, A. (2007) “Screening Study and Byproduct Determination for Pesticide Degradation during Disinfection in Water Treatment,” *Water Quality Technology Conference (American Water Works Association Conference)*, Charlotte, NC, USA. (November 5, 2007)
  21. Cheeti, A., Adams, C., Ludlow, D. (2007) “Impacts of Ozonation on the Adsorption and Surface Characterization of Powdered Activated Carbon,” *Water Environment Federation (WEF) Compounds of Emerging Concern: What’s on the Horizon Conference*, Providence, RI, USA. (July 29, 2007)
  22. Wang, T., Chamberlain, E., Ma, Y., Shi, H., Meyer, M., Adams, C. (2006) “Pesticide Degradate Formation in Water Treatment: Oxidative Formation and Partition Parameter Estimation,” *Water Quality Technology Conference (American Water Works Association Conference)*, Denver, CO, USA. (November 7, 2006)
  23. Adams, C., Timmons, T. (2006) “Effectiveness of Control Measures on Trihalomethanes and Haloacetic Acids in Drinking Water for 1997-2005,” *Water Quality Technology Conference (AWWA Conference)*, Denver, CO, USA. (November 6, 2006)
  24. Cheeti, A., Adams, C., Ludlow, D. (2006) “Impacts of Ozonation on the Surface and Adsorption Characteristics of Activated Carbon,” *2006 AIChE Annual Conference*, San Francisco, CA, USA. (November, 2006)
  25. Auriol, M., Filali-Meknassi, Y. Adams, C., Tyagi, R. (2006) “Laccase and Horseradish Peroxidase in Oxidation of the Synthetic Steroid Estrogen – 17 $\alpha$ -ethinylestradiol,” *International Water Association Conference*, Beijing, PRC. (September, 2006)
  26. Filali-Meknassi, Y., Auriol, M., Adams, C., Tyagi, R. (2006) “Removal of Steroid Estrogens from a Municipal Wastewater by the Enzyme Horseradish Peroxidase,” *International Water Association Conference*, Beijing, PRC. (September, 2006)
  27. Filali-Meknassi, Y., Auriol, M., Adams, C., Surampalli, R. (2005) “Natural and Synthetic Hormones Degradation Ozone,” *International Ozone Association 17<sup>th</sup> World Congress*, Strasbourg, France. (August 22, 2005)
  28. Rubio, F., Adams, C. (2004) “Evaluation of Environmental ELISA Kits in the US by Independent Organizations,” *First SWIFT-WFD Workshop on Validation of Robustness of Sensors and Bioassays for Screening Pollutants*, Maó, Menorca (Balearic island), Spain. (December 2-3, 2004)
  29. Adams, C., Jiang, H., Frey, M., Graziano, N., Roberson, A. (2004) “Occurrence and Removal of Triazine Endocrine Disruptors in Full-Scale Drinking Water Treatment Plants,” *2004 AWWA Water Quality Technology Conference*, San Antonio, TX, USA. (November 16, 2004)

30. Adams, C., Jiang, H., Graziano, N., Roberson, A., Frey, M. (2004) "Analysis, Occurrence and Treatment of Chloro-s-Triazine Endocrine Disruptors," *2004 AWWA Water Quality Technology Conference*, San Antonio, TX, USA. (November 16, 2004)
31. Jain, R., Ludlow, D., Adams, C. (2004) "Comparison of Aqueous-Phase Indices for Powdered Activated Carbon to Pore Size Distribution Measured via Gas Adsorption," *2004 American Institute of Chemical Engineers Annual Conference*, Austin, TX, USA. (November, 2004)
32. Adams C. (2004) "Drinking Water Treatment: Formation and Removal of Pesticide Degradates," *International Symposium on Pesticide Degradates and Adjuvants*, Prague, Czech Republic, 1-10. (June 4, 2004)
33. Macauley, J., Adams, C., Surampalli, R., Mormile, M (2004) "Diversity of Tetracycline Resistance Among Bacterial Isolates from a Swine Lagoon," *Joint ASM Branch Annual Meeting and Midwest Microbiology Educators Conference*, Kansas City, MO, USA. (April 2-3, 2004)
34. Sasidhara Panicker, V., Henny, C., Surampalli, R., Adams, C., Mormile, M., Burken, J. (2004) "Effect of Antimicrobial Agents on the Performance of High-rate Anaerobic Treatment of Swine Waste," *Joint ASM Branch Annual Meeting and Midwest Microbiology Educators Conference*, Kansas City, MO, USA. (April 2-3, 2004)
35. Loftin, K., Adams, C., Surampalli, R. (2004) "The Fate and Effects of Selected Veterinary Antibiotics on Anaerobic Swine Lagoons," *Water Environment Federation's 77th Annual Technical Exhibition and Conference (WEFTEC)*, Washington, D.C., USA. (October, 2004)
36. Adams, C., Jiang, H. (2003) "Occurrence, Treatment and Measurement of Total Chloro-s-triazines in Drinking Water Treatment Plants," *Water Quality Technology Conference* (American Water Works Association), Philadelphia, PA, USA. (November 4, 2003)
37. Qiang, Z., Adams, C., Surampalli, R. (2003) "Determination of Reaction Rate Constants between Ozone and Selected Pharmaceutical Antibiotics," *Ozone World Congress*, Las Vegas, NE, USA. (September 1, 2003)
38. Adams, C., Qiang, Z., Barnes, E., Kurwadkar, S., Meyer, M. (2003) "Occurrence and Control of Sulfonamides and Macrolide Antibiotics in Full-Scale Drinking Water Treatment Plants," *3<sup>rd</sup> International Conference on Pharmaceuticals and Endocrine Disrupting Compounds in Water* (National Groundwater Association), Minneapolis, MN, USA. (March 21, 2003)
39. Loftin, K., Henny, C., Mormile, M., Adams, C. (2003) "Inhibition of Methanogenesis in Anaerobic Lagoons by Selected Tetracyclines, Sulfonamides, Lincomycin, and Tylosin Tartrate," *3<sup>rd</sup> International Conference on Pharmaceuticals and Endocrine Disrupting Compounds in Water* (National Groundwater Association), Minneapolis, MN, USA. (March 21, 2003)
40. Qiang, Z., Adams, C. (2003) "Determination of Acid Dissociation Constants (pK) for Veterinary Antibiotics by Potentiometric Titration," *3<sup>rd</sup> International Conference on Pharmaceuticals and Endocrine Disrupting Compounds in Water Conference* (National Groundwater Association), Minneapolis, MN, USA. (March, 2003)
41. Sutherland, J., Adams, C., and Kekobad, J. (2002) "Treatment Study of MTBE and Alternative Fuel Oxygenates from Various Groundwaters using Pilot-Scale Processes," *Water Quality Technology Conference*, Seattle, WA, USA. (November, 2002)

42. Reed, R., and Adams, C. (2002) "Ozonation of Artificial Saltwater Aquaria: Reaction Kinetics and Byproducts," *International Ozone Association Pan-American Group Conference*, Raleigh-Durham, NC, USA. (May 21, 2002)
43. Sutherland, J., Adams, C., Kekobad, J. (2002) "Advanced Oxidative Treatment Study of MTBE and Alternative Fuel Oxygenates," *International Ozone Association Pan-American Group Conference*, Raleigh-Durham, NC, USA. (May 21, 2002)
44. Reed, R., Adams, C., Cole, S. (2001) "Ozonation of Artificial Saltwater Aquaria Systems," *16<sup>th</sup> Ozone World Congress* (International Ozone Association), 1:379-389, London, UK. (September 12, 2001)
45. Adams, C., Sutherland, J. (2000) "Applicability of Ozone In Small Drinking Water Systems," *ASCE Convergence 2000 Conference*, Kansas City, MO, USA. (July 23-26, 2000)
46. Sutherland, J., Panka, B., Adams, C., Burken, J. G. (2000) "Chemical Oxidation of MTBE under O<sub>2</sub>-Rich and O<sub>2</sub>-Limited Environments Coupled with Biological Degradation of Oxidation Byproducts," *ASCE Convergence 2000 Conference*, Kansas City, MO, USA. (July 23-26, 2000)
47. Sutherland, J., Panka, B., Burken, J.G., Adams, C. (2000) "Chemical and Biological Oxidation of MTBE: Pathways under Variable Conditions," *2nd International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, USA. (May 24, 2000)
48. Adams, C., Fitch, M.W., Burken, J.G. (2000). "Army Officers on Campus: A Joint Program for Providing Master's Degrees," *2000 Annual Conference and Exposition*, St. Louis, MO, USA. (June 21, 2000)
49. Adams, C., Gorg, S., and Dimitriou, M. (1999) "Decolorization of Textile Dyes: Full Scale and Laboratory Studies," *14<sup>th</sup> Ozone World Congress*, Dearborn, MI, USA, 283-290. (September, 1999)
50. Adams, C., Lawson, R. (1999) "Ozonated Packed Tower for Treatment of Gas-phase VOCs," *Kansas University Environmental Engineering Conference*, Lawrence, KS, USA, 121-138. (February, 1999)
51. Adams, C., Chakravarty, C. (1997) "Ozonation of Metal:EDTA Complexes: Effects of pH, Metal Ratio, and Metal Species," *International Ozone Association / Pan-America Group Conference*, South Lake Tahoe, NV, USA. (August 18, 1997)
52. Adams, C., Yerapotini, R. (1997) "Effects of UV/Hydrogen Peroxide Pretreatment on the Electrochemical and Precipitative Recovery of Heavy Metals from Boiler Cleaning Wastewater," *Advanced Oxidation Technologies-4 Conference*, Orlando, FL, USA, 135-136. (September, 1997)
53. Kitis, M., Adams, C., Daigger, G. (1996) "Ozone/Hydrogen Peroxide Pretreatment of Nonyl-phenol Ethoxylates, Ethylene Oxide/Propylene Oxide Block Copolymers, and Polypropylene Glycol," *International Ozone Association Conference: Applications and Optimization of Ozone for Potable Water Treatment and other Related Topics*, Ottawa, Ontario, Canada, 231-242. (September 8-10, 1996)
54. Kitis, M., Adams, C., Daigger, G. (1996) "Biodegradability Enhancement of Non-ionic Surfactants using Oxidative Pretreatment: Laboratory Studies and Economic Analysis," *51st Purdue Industrial Waste Conference*, West Lafayette, IN, USA, 393-403. (May 7, 1996)

55. Cline, J. E., Sullivan, P. F., Fowler, R., Lovejoy, M. A., Collier, J., Adams, C. (1996) "Ozone/UV Treatment to Enhance Biodegradation of Surfactants in Industrial Wastewaters: A Pilot-Scale Study," *89th Annual Meeting of the Air and Waste Management Association*, Nashville, TN, USA. (March, 1996)
56. Lawson, R. B., Pelger, J. M., Adams, C. (1995) "Advanced Oxidative Scrubber: Experimental Results, Modeling and Economic Analysis," *Ozone for Drinking Water Treatment Conference* (International Ozone Association), Cambridge, MA, USA. (November 12-15, 1995)
57. Adams, C. (1994) "The Use of Oxidative Pretreatment for Biorefractory Xenobiotic Compounds," *Advances in the Application of Ozone in Water and Wastewater Treatment, International Ozone Association Pan American Group Conference*, Richmond, VA, USA, 117-124. (September, 1994)
58. Randtke, S. J., Witt, A., Adams, P., Pancake, C., Adams, C. (1994) "Occurrence and Control of Atrazine and Its Degradation Products in Drinking Water Supplies," *American Water Works Association 1994 Annual Conference*, New York, NY, USA. (June, 1994)
59. Adams, C., Scanlan, P. A. (1993) "Biodegradability Enhancement and Mineralization of 1,4-Dioxane by the Hydrogen Peroxide/Ozone Advanced Oxidation Process," *11th World Ozone Congress, International Ozone Association*, San Francisco, CA, USA, S-3-60-S-3-75. (August 29 - September 3, 1993)
60. Thurman, E. M., Meyer, M., Adams, C. (1991) "Analysis of Atrazine Metabolites by Enzyme-linked Immunosorbent Assay and Gas Chromatography/Mass Spectrometry," *Fourth Toxic Substances Hydrology Meeting*, Monterey, CA, USA. (March, 1991)
61. Adams, C., Randtke, S. J., Thurman, E. M., Hulse, R. A. (1990) "Occurrence and Treatment of Atrazine and its Degradation Products in Drinking Water," *American Water Works Association 1990 Annual Conference*, Cincinnati, OH, USA. (June 14-18, 1990)
62. Hulse, R. A., Long, B. W., Adams, C. (1990) "An Investigation of Oxidation Byproducts from Ozone Treatment of Atrazine," *1990 Spring Conference of the International Ozone Association: Pan-American Committee*, Shreveport, LA, USA. (March 27-29, 1990)
63. Adams, C., Randtke, S. J., Thurman, E. M., Hulse, R. A. (1990) "Atrazine and its Degradation Products in Soil and Ground Water, and the Effectiveness of Water-Treatment Processes for their Removal," *40th Annual University of Kansas Environmental Engineering Conference*, Lawrence, KS, USA. (February 7, 1990)
64. Adams, C., McKinney, R. E. (1989) "Anaerobic Trickling Filters: A New Treatment Potential," *44th Annual Purdue Industrial Waste Conference*, West Lafayette, IN, USA. (May 1989)
65. Randtke, S. J., Guinn, G. G., Adams, C., Baxter, T. E., Lane, D. D. (1989) "Chemical Artifact Formation on Oiled and Greased Impaction Surfaces," *1989 EPA/AWMA International Symposium on Measurement of Toxic and Related Air Pollutants*. (1989)
66. Adams, C., Rancourt, J., Morris, Lt. Robert K. (1987) "Results of the Development of Integral Covers for Space Solar Cells," *22nd Intersociety Energy Conversion Engineering Conference*. San Diego, CA, USA. (August, 1987)
67. Adams, C., Morris, R. (1987) "Development of Integral Covers for Solar Cells," *19th IEEE Photovoltaic Specialist Conference – 1987*, New Orleans, LA, USA. (May 4-8, 1987)

**Conference Proceedings with Full Paper (Poster presenter underlined)**

1. Shi, H., Adams, C., Ma, Y., and Timmons, T. (2009) "Occurrence Study of Halonitromethane in Missouri Drinking Water Systems," *Gordon Research Conference on Drinking Water Disinfection By-Products*, Mount Holyoke College, South Hadley, MA, USA. (August 9-14, 2009)
2. Auriol, M., Filali-Meknassi, Y., Adams, C. (2007) "Comparison Study between HRP and Laccase for the Oxidation of Steroid Estrogens in a Municipal Wastewater," *MICROPOL & ECOHAZARD 2007 - 5th IWA Specialised Conference on Assessment and Control of Micro-pollutants in Water*, DECHEMA-House, Frankfurt am Main, Germany. (June 17 – 20, 2007)
3. Auriol, M., Filali-Meknassi, Y., Adams, C. (2007) "Laccase-Catalyzed Removal of steroid estrogens from municipal wastewater," *MICROPOL & ECOHAZARD 2007 - 5th IWA Specialised Conference on Assessment and Control of Micro-pollutants in Water*, DECHEMA-House, Frankfurt am Main, Germany. (June 17–20, 2007)
4. Filali-Meknassi, Y., Auriol, M., Adams, C. (2007) "Steroid Estrogens Removal from Surface Water in Conventional Drinking Water Works Processes," *MICROPOL & ECOHAZARD 2007 - 5th IWA Specialised Conference on Assessment and Control of Micro-pollutants in Water*, DECHEMA-House, Frankfurt am Main, Germany. (June 17–20, 2007)
5. Auriol, M., Filali-Meknassi, Y., Adams, C., Tyagi, R.D. (2005) "HRP-Catalyzed Oxidation of Steroid Estrogens in Synthetic Water vs. Wastewater Effluent," *CAWQ/ACQE 20<sup>th</sup> Annual Conference*, University of Quebec, National Institute of Scientific Research, Quebec, Canada. (November 4, 2005)
6. Kurwadkar, S., Adams, C., Meyer, M., Kolpin, D. (2005) "Modeling Transport Of Sulfathiazole In Three Loamy Soils," *WEFTEC '05, Water Environment Federation 78th Annual Conference and Exposition*, Washington, D.C., USA. (October 29 – November 2, 2005)
7. Filali-Meknassi, Y., Auriol, M., Adams, C., Tyagi, R., Surampalli, Y. (2004) "Endocrine Disrupters Compounds in the Livestock Dejections and Slaughterhouses Effluent," *International Water Association Conference*, Marrakech, Morocco. (September, 2004)
8. Macauley, J., Adams, C., Surampalli, R., Mormile, M (2004). "Diversity of Tetracycline Resistance Among Bacterial Isolates from a Swine Lagoon," *104th General Meeting of the American Society for Microbiology*, New Orleans, LA, USA. (May 23-27, 2004)
9. Sasidhara Panicker, V., Henny, C., Surampalli, R., Adams, C., Mormile, M., Burken, J (2004) "Effect of Antimicrobial Agents on the Performance of High-rate Anaerobic Treatment of Swine Waste," *104th General Meeting of the American Society for Microbiology*, New Orleans, LA, USA. (May 23-27, 2004)
10. Kaempfer, H., Daigger, G. T., Adams, C. (2000) "Characterization of the Floc Micro-environment in Simultaneous Biological Nutrient Removal Systems," *Water Environment Federation 73<sup>th</sup> Annual Conference and Exposition (WEFTEC)*, Anaheim, CA, USA. (October 15, 2000)
11. Adams, C., Kitis, M (1997) "Economic Comparison of Ozone/Hydrogen Peroxide Versus Fenton-based Advanced Oxidation Processes," *Ozone World Congress*, Kyoto, Japan, 89-92. (October 26-31, 1997)

12. Adams, C., Grady, C. P. L. Jr., Cowan, R. L (1994) "Elimination of 1,4-Dioxane from Polyester Manufacturing Wastewater through Point-of-Generation Pretreatment," *The Third South Carolina Environmental Symposium*, Kiawah Island, SC, USA. (September, 1994)
13. Adams, C., Morris, Lt. R. K (1987) "Development of Integral Covers for Solar Cells," *Proceedings of the 19th IEEE Photovoltaic Specialists Conference*, Anaheim, CA, USA, 469-474. (May 1987)

#### **Conferences without Full Papers (e.g., Abstract only) (Presenter underlined)**

1. Randtke, S., Roberson, A., Adams, C., Peltier, E., Lane, R., Breault, Z., Carter, R. (2015) "Water Service Line Linings and Coatings: Recommendations for Stakeholders", *AWWA Water Quality Technology Conference & Exposition*, Salt Lake City, Utah, USA. (November 15-19, 2015) (to be presented).
2. Adams, C., Stanford, B., Arevalo, E. (2015) "Method and application of new AWWA cyanotoxin oxidation calculator for water utilities," *AWWA Water Quality Technology Conference & Exposition*, Salt Lake City, Utah, USA. (November 15-19, 2015) (to be presented)
3. Donovan, A., Adams, C., Shi, H., Ma, Y., Stephan, C., Eichholz, T., Timmons, T. (2015) "Rapid Tracking of Au, Ag, TiO<sub>2</sub>, ZnO, and CeO<sub>2</sub> Nanoparticles through Drinking Water Treatments by Single Particle ICP-MS," *AWWA Water Quality Technology Conference & Exposition*, Salt Lake City, Utah, USA. (November 15-19, 2015) (to be presented)
4. West, D., Wu, Q., Donovan, A., Shi, H., Jiang, H., Adams, C., Yang, J., Hua, B., Innis, E., Eichholz, T., Ma, Y. (2015) "Occurrence, Analysis and Control of Nitrosamines and their Precursors in Drinking Water " *AWWA Water Quality Technology Conference & Exposition*, Salt Lake City, Utah, USA. (November 15-19, 2015) (to be presented)
5. Ma, Y., Shi, H., Adams, C., West, D., Mu, R., Xue, R., Donovan, A., Dan, Y., Liu, K., Wu, Q., Cheng, X., Wang, C., Eichholz, T., Timmons, T. (2015) "Emerging Drinking Water Contaminants: What We Are Facing and What Can We Do?," 2015 Joint Conference of the Missouri Water Environment Association (MWEA) and the Missouri Section of the American Water Works Association (MO-AWWA), Osage Beach, MO, USA. (March 29-April 1, 2015)
6. West, D., Wu, Q., Donovan, A., Shi, H., Jiang, H., Adams, C., Yang, J., Hua, B., Innis, E., Eichholz, T., Ma, Y. (2015) "Occurrence and Control of n-Nitrosamines and Their Precursors in Drinking Water Systems," 2015 Joint Conference of the Missouri Water Environment Association (MWEA) and the Missouri Section of the American Water Works Association (MO-AWWA), Osage Beach, MO, USA. (March 29-April 1, 2015)
7. Donovan, A., Shi, H., Ma, Y., Adams, C., Stephen, C., Eichholz, T. (2015) "Detection of Nanoparticles through Real and Simulated Drinking Water Treatments by Single Particle ICP-MS," 2015 Joint Conference of the Missouri Water Environment Association (MWEA) and the Missouri Section of the American Water Works Association (MO-AWWA), Osage Beach, MO, USA. (March 29-April 1, 2015)
8. Adams, C., Roberson, A., Rosen, J., Bench, R. (2014) "Development of the American Water Works Association's Contaminant Candidate List 4 (CCL4) Recommendations," *American Water Works Association (AWWA) Water Quality Technology Conference (WQTC)*, New Orleans, LA, USA. (November 17, 2014)

9. Adams, C., Whelton, A., Rosen, J. (2014) "Health Effects for Chemicals in 2014 West Virginia Chemical Release: Crude MCHM Compounds, PPH and DiPPH," American Water Works Association (AWWA) Water Quality Technology Conference (WQTC), New Orleans, LA, USA. (November 19, 2014)
10. Rosen, J., Whelton, A., Bartrand, T., Clancy, J., McGuire, M., Suffet, M., Eaton, A., Patterson, J., Dourson, M., Nance, P., Adams, C. (2014) "Independent Assessment of Toxicology Literature on MCHM and PPH," American Water Works Association (AWWA) Water Quality Technology Conference (WQTC), New Orleans, LA, USA. (November 19, 2014)
11. Randtke, S., Peltier, E., Lane, R., Carter, R., Breault, Z., Adams, C., Roberson, J.A. (2014) "Evaluation of Water Service Line Lining and Coating Technologies," American Water Works Association Annual Conference and Exhibition (ACE), Boston, MA, USA. (June 8-12, 2014)
12. Lane, R., Adams, C., Randtke, S., Carter, R., Peltier, E., Roberson, A. (2014) "Kinetic Models for Hydrolysis and Oxidation of BADGE and Bisphenols in Water Distribution Systems," American Water Works Association *Annual Conference and Exhibition (ACE)*, Boston, MA, USA. (June 8-12, 2014)
13. Roberson, A., Rosen, J., Bench, R., Adams, C. (2014) "Alternative Contaminant Candidate List 4 (CCL4) Development and Analysis," *American Water Works Association Annual Conference and Exhibition (ACE)*, Boston, MA, USA. (June 8-12, 2014)
14. Jean, A., Boyer, H., Adams, C., Fakra, A., Medina, M., Meranville, F. (2014) "Simulation of the Thermal Behavior of a Wall from the Observation Condition: The Assimilation Codynrun Data for Validation of the Thermal Properties of a Material," 3rd Colloque International Francophone d'Énergétique et Mécanique, (CIFEM), Moroni (Comores). (in French) (May 5-7, 2014)
15. Shi, H., West, D., Mu, R., Wu, Q., Donovan, A., Xue, R., Dan, Y., Liu, K., Ma, Y., Adams, C., Eichholz, T., Timmons, T. (2014) "Water Quality Characterization at Each Drinking Water Treatment Step for High Ammonia Groundwater System," *2014 Joint Conference of the Missouri Water Environment Association (MWEA) and the Missouri Section of the American Water Works Association (MO-AWWA)*, Osage Beach, MO, USA. (March 30-April 2, 2014)
16. Ma, Y., West, D., Shi, H., Adams, C., Eichholz, T., Timmons, T. (2014) "Investigation of Perchlorate and Bromate Occurrence Levels in Missouri Drinking Waters System," *2014 Joint Conference of the Missouri Water Environment Association (MWEA) and the Missouri Section of the American Water Works Association (MO-AWWA)*, Osage Beach, MO, USA. (March 30-April 2, 2014)
17. Shi, H., West, D., Mu, R., Wu, Q., Donovan, A., Xue, R., Yongbo, D., Liu, K., Ma, Y., Adams, C., Eichholz, T. (2014) "Water Quality Characterization at Each Drinking Water Treatment Step for High Ammonia Groundwater," *247th ACS National Meeting*, Dallas, TX, March 16-20, 2014.
18. Adams, C., Randtke, S., Carter, R., Peltier, E., Breault, Z., Roberson, A. (2013) "Leaching and/or Degradation of Bisphenols, BADGE and BFDGE from Epoxy Coatings in Water Pipes," *American Water Works Association Water Quality Technology Conference (WQTC)*, Long Beach, CA, USA. (November, 2013)
19. Adams, C., Shi, H., Qiang, Z. (2013) "Effective Chlorine and Ozone Treatment of Salt Water and Seawater Aquaria: Disinfection Byproduct and Secondary Oxidant Formation and Control," *Aquaculture 2013*, Nashville, TN, USA. (February, 2013)

20. Adams, C., Guo, J., Robbins, E. (2013) "Simultaneous Disinfection and Arsenic and Other Heavy Metal Removal on Surface Modified Ceramic Filters," *EWRI 2013 Annual Conference*, Cincinnati, OH, USA. (May, 2013)
21. Lane, R., Carter, R., Randtke, S., Peltier, E., Breault, Z., Adams, C. (2013) "Leaching of BPA and Related Compounds from Epoxy Coatings," *American Water Works Association Annual Conference and Exhibition (ACE)*, Denver, CO, USA. (June 10, 2013)
22. Adams, C., Rendall, J., Medina, M., Adams, M., Eberhart, S., Divita, I. (2012) "Solar-Disinfection Composting Latrines Technology Development," *Environmental Security Conference: Academic and Military Perspectives*, University of Kansas, Lawrence, KS, USA. (April 23-24, 2012)
23. Wu, Q., Wang, C., Shi, H., Adams, C., Timmons, T., Ma, Y. (2012) "Occurrence and Removal of N-nitrosamines and Their Precursors in Missouri Water Treatment Systems Using UFLC-Tandem MS," *243rd ACS National Meeting*, San Diego, CA, USA. (March 25-29, 2012)
24. Adams, M., Adams, C., Rendall, J., Medina, M., Robbins, E., Eberhart, S., Williams, M. (2011) "Solar-Disinfection Composting Latrines for Developing Countries," *Engineers Without Borders Midwest Regional Conference*, Rolla, MO, USA. (Nov. 5, 2011)
25. Adams, C., Rendall, J., Medina, M., Jean, A., Adams, M., Robbins, E., Eberhart, S., Williams, M. "Development and Adoption of Solar-Disinfection Composting Latrines in Developing Nations," *Water Technologies for Emerging Regions Conference*, Norman, OK, USA. (October 24, 2011)
26. Ma, Y., Wang, C., Wu, Q., Shi, H., Adams, C., Timmons, T. (2011) "Oxidative and PAC Removal of Pharmaceuticals in Various Oxidation Systems in Drinking Water Treatment by using LC-MS/MS," *Missouri-American Water Works Association-Water Environment Association Conference*, Lake of Ozarks, MO, USA. (March 27-30, 2011)
27. Graham, J., Loftin, K., Adams, C., Randtke, S. (2011) "Cyanobacterial Blooms: Tastes, Odors and Toxins," *61<sup>st</sup> Annual Environmental Engineering Conference*, Lawrence, KS, USA. (February 2, 2011)
28. Cheng, X., Shi, H., Adams, C., Ma, Y. (2010) "Assessment of Metal Contamination Leaching from Recycling Plastic," *61<sup>st</sup> Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, Orlando, FL, USA. (February 28-March 5, 2010)
29. Pracht, L., Gentry, J., Adams, M., Robbins, R., Bornholdt, J., Adams, C., Luebbering, S. (2009) "Education of Composting Technology in Rural Bolivia," *Engineers Without Borders (EWB) Regional Conference*, Ames, IA, USA. (October 24, 2009)
30. Gentry, J., Shell, S., Adams, C. (2009) "Implementation of SODIS Water Disinfection Technology in Rural Bolivia: Direct-Community Training Versus Classroom Instruction," *International Water Technologies for Emerging Regions (WaTER) Conference*, Norman, OK, USA. (October 26-27, 2009)
31. Cheng, X., Shi, H., Ma, Y., Timmons, T., Adams, C. (2008) "Simultaneous Screening for Pesticide Degradation Byproducts in Drinking Water Treatment by LC/MS/MS," *57<sup>th</sup> ASMS Conference on Mass Spectrometry and Applied Topics*, Philadelphia, PA, USA. (May 31-June 4, 2009)
32. Cheng, X., Shi, H., Adams, C., Timmons, T., Ma, Y. (2008) "Investigation of Release and Removal of Cylindrospermopsin from *Cylindrospermopsis Raciborskii* during Disinfection



- Treatments using LC/MS/MS," *60<sup>th</sup> Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy*, Chicago, IL, USA. (March 8-13, 2010)
33. Shi, H., Ding, J., Adams, C., Wang, J., Witt, E. (2008) "Pesticide and Polychlorinated Biphenyl in Soil and Sediment Samples Collected from New Orleans Region following Hurricanes Katrina," *SETAC North America 29th Annual Meeting*, Tampa, FL, USA. (November 16-20, 2008)
  34. Shi, H., Adams, C. (2008) "Fast and Sensitive Detection of Trihalomethane in Water by Solid Phase Microextraction GC-MS," *236th ACS Fall National Meeting & Exposition*, Philadelphia, PA, USA. (August 17-21, 2008)
  35. Wang, C., Wang, T., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2008) "Comprehensive Investigation of Degradation Products of Molinate by Various Oxidation Systems Using High Performance HPLC-Ion Trap Mass Spectrometer and GC-MS (2180-3)," *Pittcon Conference and Expo 2008*, New Orleans, LA, USA. (March 5, 2008)
  36. Cheeti, A., Ludlow, D., Adams, C., Shi, H. (2007) "Impacts of Ozonation on the Surface and Adsorption Characteristics of Activated Carbon," *Joint Missouri American Water Works Association/Water Environment Federation Conference*, Osage Beach, MO, USA. (March 27, 2007)
  37. Ding, J., Shi, H., Adams, C. (2007) "Cyanotoxin (Algal Toxin) Treatment using Powdered Activated Carbon," *Joint Missouri American Water Works Association/Water Environment Federation Conference*, Osage Beach, MO, USA. (March 27, 2007)
  38. Cheeti, A.; Ludlow, D.; Adams, C. (2006) "Impacts of Ozonation on the Adsorption and Surface Characterization of the Powdered Activated Carbon," *American Institute of Chemical Engineers National Meeting*, San Francisco, CA, USA. (November 13, 2006)
  39. Qiang, Z., Adams, C., Macauley, J., Mormile, M. (2006) "Treatment of Antibiotics and Resistant Bacteria in Swine Wastewater," *Missouri Water Environment Association/American Water Works Association Annual Conference*, Lake of the Ozarks, MO, USA. (March 28, 2006)
  40. Filali-Meknassi, Y., Auriol, M., Adams, C. (2006) "Estrogen Removal in Drinking Water Treatment Processes," *Missouri Water Environment Association/American Water Works Association Annual Conference*, Lake of the Ozarks, MO, USA. (March 27, 2006)
  41. Chamberlain, E., Adams, C., Ma, Y., Wang, T., Lin, W., Shi, H. (2006) "AWWARF Project Update-Pesticide Degradates In Water Treatment: Oxidative Formation and Partitioning Parameter Estimation," *Missouri Water Environment Association/American Water Works Association Annual Conference*, Lake of the Ozarks, MO, USA. (March 27, 2006)
  42. Demirkol, O., Adams, C., Ziang, Z., Ercal, N. (2005) "Impact of Food Disinfection using Ozone and other Oxidants on the Beneficial Antioxidant Thiol Content in Fruits and Vegetables," *International Ozone Association 17<sup>th</sup> World Congress*, Strasbourg, France. (August 22, 2005)
  43. Chamberlain, E., Adams, C. "Oxidation of Sulfonamides and Macrolides with Free Chlorine and Monochloramine," *Missouri American Water Works Association Annual Conference*, Springfield, MO, USA. (April 7, 2005)
  44. Jiang, H., Adams, C. (2005) "Analysis, Occurrence and Control of Triazine Endocrine Disruptors in Drinking Water," *Missouri American Water Works Association Annual Conference*, Springfield, MO, USA. (April 7, 2005)

45. Kurwadkar, S., Adams, C., Meyer, M. and Kolpin, D. (2005) "Transport of veterinary antibiotics in three loamy soils," *Missouri Groundwater Association 2005 Annual Conference*, Columbia, MO, USA. (March 4, 2005)
46. Filali-Meknassi, Y. Auriol, M., Adams, C., Tyagi, R.D. (2004) "Natural and Synthetic Hormones Removal by Enzymatic Degradation," *2004 20<sup>th</sup> Canadian Association of Water Quality Eastern Canadian Symposium on Water Quality Research (20<sup>ème</sup> Congrès du Canada sur la Qualité de l'Eau)*, Ontario, Canada. (October 2004)
47. Qiang, Z., Adams, C. (2004) "Determination of Acid Dissociation Constants (pKa) for Antimicrobials," *4<sup>th</sup> International Conference on Pharmaceuticals and Endocrine Disrupting Chemicals in Water*, Minneapolis, MN, USA. (October 13-15, 2004)
48. Graziano, N., McGuire, M., Frey, M., Roberson, A., Adams, C., Jiang, H. (2004) "Immunoassay Method Impacts on Measuring Atrazine Occurrence in the United States," *American Water Works Association Annual Conference*, Orlando, FL, USA. (June 16, 2004)
49. Adams, C., Jiang, H., Frey, M., Graziano, N., Roberson, A. (2004) "Presence and Removal of Total Chloro-s-Triazines in Drinking Water Treatment Plants," *Missouri American Water Works Association Annual Conference*, Columbia, MO, USA. (April 14, 2004)
50. Adams, C., Jiang, H., Frey, M., Graziano, N., Roberson, A. (2004) "Occurrence, Treatment and Measurement of Total Chloro-s-Triazines in Drinking Water Treatment Plants," *54<sup>th</sup> Annual University of Kansas Environmental Engineering Conference*, Lawrence, KS, USA, 55-62. (February 4, 2004)
51. Faeth, A., Wronkiewicz, D., Adams, C., Mendoza, C., McBurnett, J., Wolf, S., Krizanich, G., Struttman, S., and Hemmann, R. (2004) "Heavy Metal Transport Processes in the Black River of Missouri's New Lead Belt," *GSA North Central Conference*, Denver, CO, USA. 36:3. (April 1, 2004)
52. Faeth, A., Wronkiewicz, D., Adams, C., Mendoza, C., McBurnett, J., Wolf, S. (2004) "Heavy Metal Transport Processes in the Black River of Missouri's New Lead Belt" *Missouri Groundwater Conference*, Columbia, MO, USA. (February 27, 2004)
53. Adams, C. (2003) "Treatability of Chloro-s-triazine Endocrine Disruptors in Drinking Water Treatment Plants," *Water Quality Technology Conference (American Water Works Association)*, Philadelphia, PA, USA. (November 4, 2003)
54. Wronkiewicz, D., McBurnett, J., Faeth, A., Wolf, S., Mendosa, C., Krizanich, G., Struttman, S., Hemmann, R., Adams, C. (2003) "Lead and Zinc Migration in the Big River System of Southeastern Missouri," *Society of Environmental Toxicology and Chemistry (SETAC) 2003 National Meeting*, Austin, TX, USA, 80. (November, 2003)
55. Sutherland, J., Adams, C., Kekobad, J. (2003) "MTBE and Alternative Fuel Oxygenates: A Pilot-scale Treatment Study," *Joint Missouri American Water Works Association/Water Environment Federation Conference*, Osage Beach, MO, USA. (March 25, 2003)
56. Qiang, Z., Adams, C., Kurwadkar, S. (2003) "Control of Antibiotics in Water Treatment Plants," *Joint Missouri American Water Works Association/Water Environment Federation*, Osage Beach, MO, USA. (March 25, 2003)
57. Meyer, M., Ferrell, G., Bumgarner, J., Cole, D., Hutchins, S., Krapac, I., Johnson, K., Adams, C., Verstraeten, I., Kolpin, D. (2003) "Occurrence of Antibiotics in Hog-Waste Lagoons From Confined Animal Feeding Operations From 1998-2002: Indicators of Antibiotic Usage Patterns," *3<sup>rd</sup> International Conference on Pharmaceuticals and*

- Endocrine Disrupting Compounds in Water* (National Groundwater Association), Minneapolis, MN, USA. (March, 2003)
58. Pierson, S., Adams, C. (2002) "Ozone/Peroxide Treatment of SOCs in High Alkalinity Waters," *International Ozone Association Pan-American Group Conference*, Raleigh-Durham, NC, USA. (May 21, 2002)
  59. Faeth, A., Adams, C., Wronkiewicz, D. (2002) "Studies on Heavy Metals in the Streams of Missouri's Lead Belts," *2002 Mid-America Environmental Engineering Conference*, Rolla, MO, USA. (October, 2002)
  60. Adams, C., Loftin, K., Meyer, M., Qiang, G., Wang, Y. (2002) "Occurrence and Control of the Major Classes of Antibiotics in Drinking Water Treatment Plants," *American Water Works Association 2002 Endocrine Disruptors & the Water Industry Symposium*, Cincinnati, OH, USA. (April 19, 2002)
  61. Lobo, P., Ludlow, D., Adams, C., Kekobad, J. (2002) "Effects of Grinding on the Surface Characteristics of Granular Activated Carbons used in Rapid Small Scale Column Tests," *2002 Missouri American Water Works Association Conference*, Lake of the Ozarks, MO, USA. (April 2-5, 2002)
  62. Sutherland, J., Adams, C., Kekobad, J. (2002) "Treatment of MTBE and Alternative Oxygenates in Groundwater: Results of a Pilot Study," *2002 Missouri American Water Works Association Conference*, Lake of the Ozarks, MO, USA. (April 2-5, 2002)
  63. Adams, C., Seitz, T., Levotch, S., Lane, J., Timmons, T. (2002) "Concentrations and Interpretations of THMs and HAAs in Missouri Drinking Water Distribution Systems," *2002 Missouri American Water Works Association Conference*, Lake of the Ozarks, MO, USA. (April 2-5, 2002)
  64. Adams, C., Beardsley, M. (2001) "Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems," *ASCE World Water and Environmental Resources Congress-2001*, Orlando, FL, USA. (May 23, 2001)
  65. Adams, C., Beardsley, M. (2001) "Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems," *Missouri Section American Water Works Association Annual Conference*, St. Louis, MO, USA. (April 18, 2001)
  66. Adams, C., Balakrishnan, M. (2001) "Bacterial Regrowth in Drinking Water Distribution Systems: A Stochastic Approach," *Missouri Section American Water Works Association Annual Conference*, St. Louis, MO, USA. (April 19, 2001)
  67. Beardsley, M., Adams, C. (2001) "Application of a Fickian-Based Leaching Model for Control of Vinyl Chloride in Water Distribution Systems," *World Water and Environmental Resources Congress (ASCE)*, Orlando, FL, USA. (May 20-24, 2001)
  68. Adams, C., Beardsley, M., Balakrishnan, M. (2000) "Water Quality Modeling in Water Distribution Systems: Vinyl Chloride and Biological Regrowth Control," *Missouri American Water Works Association Conference*, Columbia, MO, USA. (April 12, 2000)
  69. Sutherland, J., Panka, B., Burken, J., Adams, C. (2000) "Biodegradability Enhancement of Methyl-t-Butyl Ether using the H<sub>2</sub>O<sub>2</sub>/UV Advanced Oxidation Process," *American Institute of Chemical Engineers Spring Conference*, Atlanta, GA, USA. (March 8, 2000)
  70. Adams, C. (2000) "Enhanced Metal Recovery using Ozone and Advanced Oxidation," *American Institute of Chemical Engineers Spring Conference*, Atlanta, GA, USA. (March 9, 2000)

71. Adams, C., Beardsley, M. (2000) "Controlling Water Quality in Water Distribution Systems," *Missouri American Water Works Association*, Columbia, MO, USA. (April 12, 2000)
72. Sutherland, J., Panka, B., Burken, J., Adams, C. (1999) "Chemically Enhanced Biodegradation of MTBE," *Mid-America Environmental Engineering Conference*, Rolla, MO, USA. (October 23, 1999)
73. Wehmeyer, E., Adams, C. (1999) "Treatability of Cyanazine and s-Triazine Metabolites using Activated Carbon: Technical and Economic Analysis," *1999 Conference on Hazardous Waste Research*, St. Louis, MO, USA. (May 1999)
74. Sutherland, J., Panka, B., Burken, J.G., Adams, C.D. (1999) "Chemical- and Biological-Oxidation Pathways of MTBE and Its Oxidation Byproducts Using Combinations of H<sub>2</sub>O<sub>2</sub>, O<sub>3</sub>, and UV Under Oxygenated and Oxygen-limited Conditions," *Conference on Hazardous Waste Research*, St. Louis, MO, USA. (May 26, 1999)
75. Wehmeyer, E., Adams, C., Meyer, M. (1999) "Adsorption of Cyanazine, Atrazine and Metabolites on Activated Carbon in Synthetic and Natural Waters: Technical and Economic Analysis," *Missouri American Water Works Association Conference*, Kansas City, MO, USA. (March, 1999)
76. Gale, N., Wixson, B., Adams, C. (1999) "Using Lead Accumulations in Fish to Evaluate Remedial Work on Tailings Piles in the Old Lead Belt of Missouri, USA," *SEGH International Symposium on Environmental Geochemistry*, Seoul, S. Korea. (November 2-5, 1999)
77. Adams, C., Wehmeyer, E., Meyer, M. (1999) "Treatability of Cyanazine and s-Triazine Metabolites using Activated Carbon," *Missouri American Water Works Association Conference*, Columbia, MO, USA. (April 8, 1999)
78. Adams, C., Watson, T. (1997) "Control of s-Triazine Herbicide Metabolites using Activated Carbon: Isotherm Development and Economic Analysis," *Missouri American Water Works Association*, Columbia, MO, USA. (April 16, 1997)
79. Kitis, M., Adams, C., Daigger, G. (1996) "Biodegradability Enhancement of EO/PO Block Copolymers and Alkylphenol Ethoxylates using the H<sub>2</sub>O<sub>2</sub>/Ozone Advanced Oxidation Process: Laboratory Studies and Economic Analysis," *WEFTEC '96, Water Environment Federation 69th Annual Conference and Exposition*, Dallas, TX, USA. (October, 1996)
80. Maravelias, M., Adams, C. (1995) "Recovery of Cadmium from Synthetic Wastewaters Using Oxidative Pretreatment," *World Environmental Congress*, London, Ontario, Canada. (September, 1995)
81. Cozzens, R., Adams, C. (1994) "Effects of Ozonation and Advanced Oxidation Pretreatment on the Biodegradability of Model Aromatic Compounds," *1994 Summer AIChE National Meeting*, Denver, CO, USA. (August, 1994)
82. Spitzer, S., Adams, C. (1994) "Biodegradability Enhancement of Finish Oils using the Hydrogen Peroxide/Ozone Advanced Oxidation Process," *Proceedings from AOTs-1: The First International Conference on Advanced Oxidation Technologies for Water and Air Remediation*, London, Ontario, Canada. (June, 1994)
83. Adams, C., Secrist, N., Scanlan, P. (1993) "Combined Treatment Technologies: Effects of Advanced Oxidation Pretreatment on Biodegradability of 1,4-Dioxane and 2-Methyl-1,3-Dioxolane," *ACS Emerging Technologies in Hazardous Waste Management Conf.*, Atlanta, GA, USA, 485-488. (September 27-29, 1993)

84. Adams, C., Scanlan, P. (1993) "Oxidation of 1,4-Dioxane by Ozone, Ozone/Hydrogen Peroxide and Ozone/UV," *EPRI Symposium on Environmental Applications of Advanced Oxidation Technologies*, San Francisco, CA, USA. (February 22-24, 1993)
85. Adams, C., Cowan, R., Grady, C. P. L. (1992) "Removal of 1,4-Dioxane from Polyester Manufacturing Wastewater using Point-of-Generation Pretreatment," *1992 Joint Conference on Hazardous Waste Reduction*, Columbia, SC (October 20, 1992)

**Conferences without Full Manuscripts (Poster presentations) (Presenter underlined)**

1. Peltier, E., Breault, Z., Lane, R., Randtke, S., and Adams, C. (2015) "Reactivity of an Epoxy Coating with Free and Combined Chlorine in Drinking Water Service Lines," *249th National Meeting of the American Chemical Society*, Denver, CO, USA. (March 22–26, 2015)
2. Lane, R., Adams, C., Randtke, S., Peltier, E., Carter, R. (2014) "Leaching of BPA and Related Compounds from Epoxy Coatings into Drinking Water," *University of Kansas Environmental Engineering Conference*, Lawrence, KS, USA. (February, 2014)
3. Shi, H., Wu, Q., Ma, Y., Adams, C., Jiang, H., Eichholz, T. (2014) "Determination and Removal of N-Nitrosamine Precursors in Drinking Water System," *62nd American Society of Mass Spectrometry Conference*, Baltimore, MD, USA. (June, 2014)
4. Adams, C., Robbins, E., Guo, J. (2013) "Development of the Surface Modified Ceramic Filter (SMCF) for Arsenic Removal," *2013 Water and Health Conference: Where Science Meets Policy*, Chapel Hill, NC, USA. (October, 2013)
5. Adams, C., Robbins, E., Guo, J. (2013) "Surface Modified Ceramic Filters for Simultaneous Point-of-Use Disinfection and Arsenic Removal," *3rd International Water Association Development Congress and Exhibition*, Nairobi, Kenya. (October, 2013)
6. Lane, R., Adams, C., Randtke, S., Peltier, E., Carter, R. (2013) "Leaching of BPA and Related Compounds from Epoxy Coatings into Drinking Water," *64th University of Kansas Environmental Engineering Conference*, Lawrence, KS, USA. (April, 2013)
7. Adams, C., Shi, H., Qiang, Z., Reed, R. (2013) "Disinfection Byproduct and Secondary Oxidant Formation and Control during Chlorine and Ozone Disinfection of Salt and Sea Water Aquaria," *Association of Zoos and Aquariums (AZA) Annual Conference*, Kansas City, MO, USA. (September 7-12, 2013)
8. Adams, C., Chamberlain, E., Shi, H., Wang, T., Ma, Y., Fulmer, A. (2011) "Comprehensive Screening Study of Pesticide Degradation During Drinking Water Disinfection," *EUChemS International Conference on Chemistry and the Environment (ICCE2011 Zurich)*, Zurich, SU. (September 12, 2011)
9. Adams, C., Sturm, Y., Yang, C., Lane, R., Carter, R. "Biodegradation and Biosorption of Antibiotics and Pharmaceuticals as a Function of Sludge Residence Times in Activated Sludge," *EUChemS International Conference on Chemistry and the Environment (ICCE2011 Zurich)*, Zurich, SU. (September 12, 2011)
10. Su, T., Shu, S., Shi, H., Wang, J., Adams, C., Witt, E. (2009) "Toxic Trace Elements in Soil/Sediment in Post-Katrina Great New Orleans Region," *SETAC North America 30th Annual Meeting*, New Orleans, LA, USA. (November 19-23, 2009)

11. Gentry, J., Adams, C., Bornholdt, J., Pracht, L., Luebbering, S., Adams, M., Robbins, E. (2010) "Ecological Latrines in Azacilo, Bolivia," *60<sup>th</sup> Kansas University Environmental Engineering Conference*, Lawrence, KS, USA. (October 24, 2009)
12. Shi, H., Adams, C., Ma, Y., Timmons, T. (2009) "Occurrence Study of Halonitromethane in Missouri Drinking Water Systems," *Gordon Research Conference - Drinking Water Disinfection By-Products*, Mount Holyoke College, South Hadley, MA, USA. (August 9-14, 2009)
13. Gentry, J., Adams, C., Bornholdt, J., Pracht, L., Luebbering, S., Adams, M., Robbins, E. (2009) "Ecological Latrines in Azacilo, Bolivia," *Engineers Without Borders Regional Conference*, Ames, IA, USA. (October 24, 2009)
14. Shi, H., Shu, S., Su, T., Ding, J., Adams, C., Wang, J., Witt, C. (2008) "Fractionation of Toxic Trace Elements in Sediment and Soil Samples Collected, from Great New Orleans Region following Hurricanes Katrina," *SETAC North America 29th Annual Meeting*, Tampa, FL, USA. (November 16-20, 2008)
15. Su, T., Shu, S., Shi, H., Wang, J., Adams, C., Witt, E. (2008) "Toxic Trace Elements in Soil/Sediment in Post-Katrina Great New Orleans Region," *SETAC North America 29th Annual Meeting*, Tampa, FL, USA. (November 16-20, 2008)
16. Shi, H., Adams, C. (2008) "Fast and Sensitive Detection of Trihalomethane in Water by Solid Phase Microextraction GC-MS," *236<sup>th</sup> ACS National Meeting*, Poster # 78, Philadelphia, PA, USA. (August 17-21, 2008)
17. Wang, T., Wang, C., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2008) "Identification and Quantification of Oxidative Degradation Products of Aldicarb by Various Oxidation Systems Using HPLC-Ion Trap Mass Spectrometry (540-12P)," *Pittcon Conference and Expo 208*, New Orleans, LA, USA. (March 3, 2008)
18. Wang, T., Wang, C., Chamberlain, E., Shi, H., Adams, C., Ma, Y. (2008) "Determination of Oxidative Degradation Products of Dimethenamid Using High Performance HPLC-Ion Trap Mass Spectrometry and GC-MS (540-10P)," *Pittcon Conference and Expo 208*, New Orleans, LA, USA. (March 3, 2008)
19. Ercal, N., Adams, C., Demirkol, O. (2004) "Effects of Ozone Treatment on Biological Thiols of Various Foods," *Sigma Xi-Saint Louis University Chapter Technology Symposium*, Saint Louis, MO, USA. (November 9, 2004)
20. Auriol, M., Filali-Meknassi, Y., Adams, C., Surampalli, R. (2004) "Analytical Methodologies for Determination for Natural and Synthetic Sex Hormones using Solid-Phase Extraction followed by Liquid Chromatography-Mass Spectrometry," *2004 Canadian Association of Water Quality Eastern Canadian Symposium on Water Quality Research*, Ontario, Canada. (October 2004)
21. Panicker, V., Henny, C., Surampalli, R., Adams, C., Mormile, M., Burken, J. (2004) "Effect of Antimicrobial Agents on the Performance of High-rate Anaerobic Treatment of Swine Waste," *104<sup>th</sup> General Meeting of the American Society for Microbiology*, Washington, D.C., USA. (May, 2004)
22. Macaulley, J., Adams, C., Surampali, R., Mormile, M. (2004) "Diversity of Tetracycline Resistance Among Bacterial Isolates From a Swine Lagoon," *104<sup>th</sup> General Meeting of the American Society for Microbiology*, Washington, D.C., USA. (May, 2004)

23. Loftin, K., Henny, C., Mormile, M., Adams, C., Surampalli, R. (2003) "Effects of Veterinary Antibiotics on Anaerobic Metabolism in Swine Lagoons," *103<sup>rd</sup> General Meeting of the American Society for Microbiology*, Washington, D.C., USA. (May 18-22, 2003)
24. Faeth, A., Wronkiewicz, D., Adams, C., Mendoza, C., McBurnett, J., Wolf, S., Krizanich, G., Struttman, S. (2003) "Metal Speciation and Transport in the Black River of Missouri's New Lead Belt," *Society of Environmental Toxicology and Chemistry (SETAC) 2003 National Meeting*, Austin, TX, USA, 81. (November, 2003)
25. Sutherland, J., Adams, C., Panka, B., Burken, J., Sun, S. (2000) "H<sub>2</sub>O<sub>2</sub>/UV Oxidation of Methyl-t-Butyl Ether: Oxidation Byproducts and Pathways under Oxygen-Rich and Oxygen-Limited Conditions," *1<sup>st</sup> World Water Congress of the International Water Association (IWA)*, Paris, France. (July 3-7, 2000)
26. Sutherland, J., Panka, B., Burken, J., Adams, C. (2000) "Chemical and Biological Oxidation of MTBE Pathways under Variable Conditions," *Battelle International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Monterey, CA, USA. (May 21, 2000)
27. Adams, C., Spitzer, S. K. (1994) "Biodegradability Enhancement of Finish Oils using the Hydrogen Peroxide/Ozone Advanced Oxidation Process," *AOTs-1: The First International Conference on Advanced Oxidation Technologies for Water and Air Remediation*, London, Ontario, Canada. (June, 1994)
28. Adams, C., Secrist, N. D., Scanlan, P. A. (1993) "Elimination of 1,4-Dioxane from Polyester Fiber Manufacturing Wastewater through Point-of-Generation Pretreatment," *1993 Joint Conference on Hazardous Waste Reduction*, Greenville, SC, USA. (October 12, 1993)
29. Adams, C. (1990) "Degradation Products of Atrazine Resulting from Agricultural Applications," *Water and the Future of Kansas Conference*, Kansas State University, Manhattan, KS, USA. (March 7, 1990)

#### **Selected Other Scholarly Publications (Corresponding (lead) author underlined)**

1. Adams, C. (2015) "Tests for Fluoride Removal Technology using Surface-Modified Ceramic Filter," *Final Report to MacWater Corp.*
2. Cuppett, J., Randtke, S., Peltier, E., Adams, C., Roberson, A. (2015) "Evaluation of Lead Service Line Lining and Coating Technologies" *EPA Assistance Agreement Annual Report Summary for 1/3/2014 – 1/3/2015* (EPA Agreement Number: R834865)
3. Adams, C., Medina, M. (2014) "Development of Appropriate Safe Water and Sanitation Technology," *Report to the Department of Defense*.
4. Adams, C., Haji Eghrari, S. (2014) "Options for the Analysis of Trichloramine and Related Species in Sea and Salt Water Basins," *Report to industry*.
5. Adams, C., Sutherland, J. (2003) "Groundwater treatment methods for fuel oxygenates," *Lustline* (New England Interstate Water Pollution Control Commission, *A Report on Federal and State Programs to Control Leaking Underground Storage Tanks*) Bulletin 44, 10-13. (August 2003)
6. Adams, C., Beardsley, M. (2003) "Controlling Vinyl Chloride in Drinking Water Distribution Systems," *Technical Bulletin: Missouri Department of Natural Resources*.

7. Thurman, E. M., Meyer, M., Adams, C. (1991) "Analysis of Atrazine Metabolites by Enzyme-linked Immunosorbent Assay and Gas Chromatography/Mass Spectrometry," *U.S. Geological Survey Water Resources Investigation No. 91-4034*.
8. Adams, C. (1991) "Ozonation of Atrazine: A Kinetic Model and Byproduct Formation in Natural Waters," Ph.D. Dissertation, University of Kansas, Lawrence, KS, 1991.
9. Adams, C. (1988) "Anaerobic Trickling Filter: Microbial Adhesion and Initial Operations," M.S. Thesis, University of Kansas, Lawrence, KS, 1988.

### Other Presentations

1. "Navigating Clear Waters: Providing Sustainable Safe Drinking Water and Sanitation Across the Globe," *UMR Environmental Research Center Seminar Series*, Rolla, MO, USA. (April 6, 2007)
2. "UMR and ERC Perspectives and Research on Energy and Waste," Testimony presented to *Missouri Special Senate Committee on Fuel, Waste and the Environment* (Chair: Sen. John Cauthorn), Jefferson City, MO, USA. (March 30, 2006)
3. "Status of Fate, Effects and Control of Antibiotics Research (Project XP-99795901-0)," *US Environmental Protection Agency*, University of Missouri-Rolla, Rolla, MO, USA. (July 1, 2002)
4. "Environmental Technologies Study for Concentrated Animal Feed Operations (CAFO) (Project XP-99795901-0)," *US Environmental Protection Agency*, University of Missouri-Rolla, Rolla, MO, USA. (July 1, 2002)
5. "Metals Speciation and Transport in the Black River of Missouri's New Lead Belt," *Center for the Study of Metals in the Environment Science Advisory Committee Annual Meeting*, University of Delaware, Newark, DE, USA. (May 3-5, 2002)
6. "Environmental Technologies for Concentrated Animal Feed Operations (CAFOs)," *CAFO Project Steering Committee*, University of Missouri-Rolla, Rolla, MO, USA. (Co-Authors: J. Burken, M. Fitch, G. Morrison, X. Zhang) (November 16, 2001)
7. "Effects and Fate of Antibiotics in Anaerobic Lagoons," *CAFO Project Steering Committee*, University of Missouri-Rolla, Rolla, MO, USA. (November 16, 2001)
8. "Advanced Oxidation Technologies for the Pretreatment of 1,4-Dioxane," *1,4-Dioxane Project Steering Committee* (Members: Dow Chemical USA, Dupont, Eastman Chemical, Hoechst Celanese, Owens-Corning, Wellman Industries), Clemson, SC, USA. (April 15, 1994)
9. "Elimination of 1,4-Dioxane from Polyester Fiber Manufacturing Wastewater through Point-of-Generation Pretreatment: Additional Studies," *Hazardous Waste Manag. Research Fund Principal Investigators Meeting*, Columbia, SC, USA. (June 16, 1993)
10. "Formation of Biotic and Abiotic Degradation Products of Atrazine in the Vadose Zone: A Field Study," Seminar at Ciba-Geigy Corporation, Greensboro, NC, USA. (November 1989)



### Selected Technical Reports

1. Ma, Y., Adams, C., Shi, H. (2014) "Improving Water Quality of High Ammonia and High Bromide Source Water Facilities in Missouri," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
2. Deursch, R., Adams, C. (2014) "Optimization of Flow Rate with Fluoride Removal via Redart Clay Filters Coated with Aluminum Chloride and Aluminum Nitrate," *Report to MacWater*, Lenexa, KS.
3. Adams, C., Haji Eghrari, S. (2014) "Options for the Analysis of Trichloramine and Related Species in Sea and Salt Water Basins," *Report to SeaWorld Entertainment*, Orlando, FL, USA.
4. Ma, Y., Adams, C., Shi, H. (2013) "High Ammonia Water Characterization, Control/Removal of Nitrosamine Precursors and Perchlorate in Missouri Source and Drinking Water," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
5. Ma, Y., Adams, C., Shi, H. (2012) "Investigation of Occurrence, Degradation, and Control/Limitation of Perchlorate, Pharmaceuticals and Personal Care Products, and N-Nitrosamine Emerging Contaminants in Missouri Drinking Water Systems," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
6. Ma, Y., Adams, C., Shi, H. (2011) "Comprehensive Assessment of Degradation Byproducts of Pharmaceuticals and Personal Care Products; and The Formation, Occurrence, and Control of N-Nitrosamines in Drinking Water Treatment," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
7. Ma, Y., Adams, C., Shi, H. (2010) "Comprehensive Assessment of Degradation Byproducts of Pharmaceuticals and Personal Care Products, N-Nitrosamines, and Chromium in Drinking Water Treatment," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
8. Sinclair, C., van Beinum, W., Adams, C., Bevan, R., Levy, L., Parsons, S., Goslan, E., Baumann, G. (2010) "A Desk Study on Pesticide Metabolites, Degradation and Reaction Products to Inform the Inspectorate's Position on Monitoring Requirements," *Final Report for Drinking Water Inspector*, The Food and Environment Research Agency, Sand Hutton, York, UK.
9. Ma, Y., Adams, C., Shi, H. (2009) "Occurrence Study of Emerging Contaminants in Missouri Drinking Water Treatment System," *Final Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
10. Harding, A., Ryan, P.B., Adams, C., Ault, J., Best, E., Blanco, C., Coates, J., Di Giulio, R., Graham, J. (2007) "Review of the Office of Research and Development's Safe Pesticides/Safe Products (SP2) Research at the U.S. Environmental Protection Agency," *Review Report of the Board of Scientific Counselors (BOSC) Subcommittee on Safe Pesticides/Safe Products*, Washington, D.C., USA. (H. Drumm, EPA Designated Federal Officer)
11. Allen, H., Church, T., Di Toro, D., Ranville, J, Ross, P., Farley, K., Imhoff, P., Dentel, S., Sparks, D., Capitani, J., Wronkiewicz, D., Mendoza, C., Adams, C., and Meyer, J. (2006) "Center for the Study of Metals in the Environment Final Report," *Final Report to the U.S. Environmental Protection Agency*, Washington, D.C. by University Of Delaware in Cooperation with Colorado School Of Mines, Manhattan College, University Of Missouri – Rolla, and University Of Wyoming. (April 2, 2002 – May 31, 2006)

12. Luna, R., Chen, G., Adams, C., Hoffman, D., Summers, D., Wang, J., Rogers, D., Sevi, A., Watkins, C., Karadeniz, D., Witt, E., Shaver, D., and Spooner, J. (2006) "Reconnaissance Report of the Post-Katrina Hurricane Disaster," *NHMI-UMR-USGS File Report*.
13. Adams, C., Seitz, T., Levotch, S. (2003) "Analysis of 1997-2001 THM and HAA Concentration Trends in MDNR Disinfection Byproduct Database," *Final Report to Missouri Department of Natural Resources*, Jefferson City, MO, USA.
14. Reed, R., Adams, C. (2002) "The Chemistry of Ozonation of Artificial Aquaria Seawater," *Project Summary to Busch Entertainment*, St. Louis, MO, USA.
15. Adams, C., Sutherland, J., Kekobad (2002) "Comparative Treatment Study of MTBE and Alternative Fuel Oxygenates," *Joint Final Report to Missouri Department of Natural Resources and the Missouri Petroleum Storage Tank Insurance Fund*, Jefferson City, MO, USA.
16. Adams, C., Sutherland, J., Kekobad, J., Seitz, T., Levotch, S. (2002) "Cooperative Agreement: 1) Comparative Treatment of Fuel Oxygenates, and 2) Control of DBP and Vinyl Chloride in Distribution Systems," *Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
17. Loftin, K., Adams, C. (2001) "Analysis of Egyptian Water Samples by Ion Chromatography and Conductivity/TDS Probe", *ERC Report to Geotechnical Faculty*, University of Missouri-Rolla, Rolla, MO, USA.
18. Adams, C. (2001) "Final Report for NSF Young Investigator Award (6969011 (combines Award 9257625 (Clemson University) and Award 6969011 (University of Missouri-Rolla)),", *Report to the National Science Foundation*, Washington, D.C., USA.
19. Adams, C. (2001) "Analysis of Total THM and Total HAA Data for Water Distribution Systems in Missouri," *Report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
20. Adams, C. (2001) "Analysis of Total THM and HAA Data for Water Distribution Systems in Missouri," *Report to Missouri Department of Natural Resources*, Jefferson City, MO, USA.
21. Gale, N. D., Adams, C., Wixson, B., Huang, Y., Loftin, K. (2001) "Metal Analyses for Pb, Zn, Cu, Cd in Fish and Sediments Collected August 31-Sept 2, 2001 from Selected Sites in the Big River and Flat River Creek in Missouri's Old Lead Belt," *Final Report to the Doe Run Company*, Viburnum, MO, USA.
22. Adams, C., Beardsley M. (2000) "Modeling and Control of Vinyl Chloride in Drinking Water Distribution Systems," *Final report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
23. Adams, C., Balakrishnan M. (2000) "Effects of Water Quality Parameters on HPC, Total Coliform, and E. coli in Missouri Drinking Water Distribution Systems," *Final report to the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
24. Reed R., Adams, C. (2000) "Development of an Applied Ozonation Model for Aquaria," *Report to Busch Entertainment*, St. Louis, MO, USA.
25. Adams, C., D., Beardsley, M., Balakrishnan, M. (2000) "Assessment and Control of Vinyl Chloride and Bacterial Regrowth in Drinking Water Distribution Systems," *Year-End Report to Missouri Department of Natural Resources*, Jefferson City, MO, USA.

26. Gale, N. D., Adams, C., Wixson, B. (2000) "Metal Analyses for Pb, Zn, Cu, Cd in Fish and Sediments," *Final Report to the Doe Run Company*, Vibernum, MO, USA.
27. Adams, C. (1999) "Results of Leachate and Swine Effluent Analysis by HPLC/PDA," *Report to Missouri Division of Geology and Land Survey (DGLS-MDNR)*, Rolla, MO, USA.
28. Adams, C., Burken, J. (1999) "Coupled UV/H<sub>2</sub>O<sub>2</sub>-Biological Treatment of Fuel Oxygenates," *Final Report to the University of Missouri Research Board (R342416)*, Columbia, MO, USA.
29. Adams, C., Wehmeyer, E., Meyer, M. (1999) "Treatability of Cyanazine and Herbicide Metabolites using Activated Carbon: Technical and Economic Analysis," *Final Report to Missouri River Public Water Supply Association and the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
30. Adams, C. (1999) "Activated Sludge Bulking at Warrenton Wastewater Treatment Plant: Analysis of Chemical and Microbiological Data," *Final Report to MECO Engineering*, Jefferson City, MO, USA.
31. Hoskins, J., Adams, C. (1998) "Effects of Alum Dosage, pH, and Lignin Concentration on Charcoal Fines Removal and Recovery," *Final Report to MECO, Engineering*, Jefferson City, MO, USA.
32. Adams, C., Wehmeyer, E., Meyer, M. (1998) "Status Report – Treatability of Cyanazine and Herbicide Metabolites using Activated Carbon: Technical and Economic Analysis," *Final Report to Missouri Public Water Supply Association and the Missouri Department of Natural Resources*, Jefferson City, MO, USA.
33. Adams, C. (March 1998) "Control of Taste and Odor in Marshfield's Well No. 2," *Final Report to MECO Engineering*, Jefferson City, MO, USA.
34. Adams, C., Gale, N. (1998) "Toxicity Reduction Evaluation (TRE): *C. Dubia* Whole Effluent Toxicity Reduction using Enhanced Metal and Sulfate Removal," *Final Report to the Doe Run Company*, Vibernum MO, USA.
35. Adams, C., Lilly, D., Lawrence, A. (1998) "Development of a 'Finish Oil Component Biodegradability Database': With Laboratory Bioassays of Selected Components," *Final Report to the Hoechst Celanese Corporation*, Trevira, Charlotte, NC, USA.
36. Adams, C., Gale, N. (1997) "Evaluation of Treatability of PET Manufacturing Wastewater," *Final report to Montgomery Watson*, St. Rose, LA, USA.
37. Adams, C., Gale, N., Rueppel, M., Gubbi, G. (1996) "Causes and Control of Buick Facility Whole Effluent Toxicity," *Final report to The Doe Run Company*, Vibernum MO, USA.
38. Adams, C., and Gale, N. (1996) "Results of Shaker Table Bioassays and BOD<sub>10</sub> Analysis for Surfactants: Treatability of PET Manufacturing Wastewater," *Report to Montgomery Watson*, St. Rose, LA, USA.
39. Adams, C., and Kitis, M. (1996) "Biodegradability Enhancement of Biorefractory Surfactants: Laboratory Studies and Economic Modeling," *Final report to Hoechst Celanese Corporation*, Charlotte, NC, USA.
40. Cline, J. E., Sullivan, P., Fowler, R., Lovejoy, M., Collier, J., Adams, C. (1996) "Ozone/UV Treatment to Enhance Biodegradation of Surfactants in Industrial Wastewaters: A Pilot-Scale Study (Contract DE-AC05-84OR21400)," *Final Report to U.S. Department of Energy*, Washington, D.C., USA.

41. Adams, C., Kitis, M. (1995) "Specialty Industrial Products, Inc. Surfactant Biodegradability Assessment and Enhancement Using Advanced Oxidation Processes," *Final Report to Southeast Manufacturing Technology Center (SMTC)* (Project 3-30-xxxx-0919-61-5958), Clemson, SC, USA.
42. Adams, C., Cozzens, R. (1995) "Effects of Advanced Oxidation Pretreatment on the Biodegradability of Nitrocellulose and other Biorecalcitrant Synthetic Organic Chemicals," *Final Report to U.S. Army Construction Engineering Research Lab.* (Contract #: DACA88-94-M-0245), Champagne, IL, USA.
43. Adams, C., Grady, C. P. L. Jr., Cowan, M. (1994) "Effects of Anaerobic Pretreatment and Advanced Oxidation Processes on Biorefractory Surfactants in Fiber Finishing Wastewaters," *Final Report to Hoechst Celanese Corporation*, Charlotte, NC, USA.
44. Adams, C., Grady, C. P. L. Jr. (1992) "Removal of Magnesium Sulfate from Cellulose Acetate Process Wastewater: Recovery of Sulfur, Magnesium and Process Water," *Phase I Project Report to Hoechst Celanese Corporation*, Charlotte, NC, USA.
45. Adams, C., Randtke, S. (1991) "Occurrence and Removal of Atrazine Degradation Products in Kansas Water Supplies (Report of Year 1 Results. Ozonation of Atrazine: A Kinetic Model and Byproduct Formation in Natural Waters)," *Final Report to Kansas Water Resource Research Institute Contribution 290* (Proj. No. G1563-07), Topeka, KS, USA.
46. Randtke, S., Thurman, E. M., Adams, C. (1990) "Quantification of herbicide removal by ozonation and GAC adsorption," *Final Report to the Lincoln Water System*, Lincoln, NE, USA.

Authored 18 and co-authored 6 proprietary/confidential internal research and development reports at Optical Coating Laboratory, Inc. (1983-1987)

### Conferences Organized

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|--------------|---|
| 2014-present | Member, Water Quality Technology Conference (WQTC) 2015 Local Host Planning Committee   |
| 2012         | Member, Organizing Committee, <i>The 1<sup>st</sup> Environmental Security Conference</i> , University of Kansas, Lawrence, KS, USA.  |
| 2011         | Member, Organizing Committee, <i>University of Kansas Environmental Engineering Conference</i> , Lawrence, KS.  |
| 2010         | Member, Organizing Committee, <i>University of Kansas Environmental Engineering Conference</i> , Lawrence, KS.  |
| 2009         | Member, Organizing Committee, <i>University of Kansas Environmental Engineering Conference</i> , Lawrence, KS.  |
| 2010         | Member, International Program Committee, <i>The 6<sup>th</sup> International Conference on Sustainable Water Environment: Climate Change and Water Infrastructures</i> , University of Delaware, Newark, Delaware, USA. (July 29-31,2010) |
| 2007         | Member, Scientific Program Committee of <i>International Conference on IWA Chemical Industries 2008</i> , Research Center for Eco-environmental Sciences Chinese Academy of Sciences, Beijing, China.                                     |
| 2007         | Member, TSG Member of the Program Committee of <i>International Water Association 2008 World Water Congress</i> , Vienna, Austria.  |

- 2004 Member, International Scientific Committee of *Tenth International Conference on Advanced Oxidation Technologies for Water and Air Remediation (AOTs-10)*
- 2003 Member, International Scientific Committee of *Ninth International Conference on Advanced Oxidation Technologies for Water and Air Remediation (AOTs-9)*
- 2002 Chair, Conference Technical Program Committee for the *International Ozone Association 2002 Pan American Group Conference*.
- 2000 Member, International Advisory Committee of *Sixth International Conference on Advanced Oxidation Technologies for Water and Air Remediation (AOTs-6)* Conference, London, Ontario, Canada.
- 1999 Co-Organizer, Mid-America Environmental Engineering Conference (MAEEC), University of Missouri-Rolla, Rolla, MO.
- 1996 Co-Founder/Co-Organizer, Mid-America Environmental Engineering Conference (MAEEC), University of Missouri-Rolla, Rolla, MO.

### **Selected Technical Sessions Chaired**

- 2011 "Drinking Water Quality and Treatment, Including Groundwater Contamination," EUChEMS International Conference on Chemistry and the Environment (ICCE2011 Zurich), Zurich, SU. (September 12, 2011)
- 2011 "Session 1: Water Quality and Treatment," 61st *Annual Environmental Engineering Conference*, University of Kansas, Lawrence, KS, USA. (April 14, 2011)
- 2009 "Session 1: Water Quality, Treatment, and Distribution," 59th *Annual Environmental Engineering Conference*, University of Kansas, Lawrence, KS, USA. (February 4, 2009)
- 2003 "Mass Transfer and Chemical Reaction Session," *Ozone World Congress* (International Ozone Association), Las Vegas, NE, USA. (August 31-September 3, 2003)
- 2001 "Vinyl Chloride Occurrence and Control in Water Distribution System," *World Water and Environmental Resources Congress* (American Society of Civil Engineers), Orlando, FL, USA. (May 20-24, 2001)
- 2000 "Session 3A – MTBE Phytoremediation," *American Society of Civil Engineers Convergence 2000 Conference*, Kansas City, MO, USA. (July 25, 2000)
- 1999 *4th Annual Mid-America Environmental Engineering Conference*, University of Missouri-Rolla, Co-Organizer with Fitch, M., Rolla, MO, USA. (October, 1999)
- 1996 *1st Annual Mid-America Environmental Engineering Conference*, University of Missouri-Rolla, Co-Organizer with Fitch, M., Rolla, MO, USA. (October, 1996)
- 1995 "Session II," *Ozone for Drinking Water Treatment Conference* (International Ozone Association), Cambridge, MA, USA. (November 12-15, 1995)
- 1994 "Session II. Feed Gas Preparation," *International Ozone Association Pan American Group Conference*, Richmond, VA, USA. (September, 1994)

- 1993 "Session VI. Ozone Case Histories - Design Considerations," *11th World Ozone Congress Proceedings*, International Ozone Association, San Francisco, CA, USA. (August 29 - September 3, 1993)
- 1993 "Solid and Hazardous Waste," *Environmental Law and Technology: The Eleventh Carolina Regional Conference*, Greenville, SC, USA. (June 21-23, 1993)

### Short Courses/Workshops Taught

(See "Teaching" section below)

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## EXTERNALLY-SPONSORED RESEARCH GRANTS AND FUNDING

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### USU Grants (External)

- 2015-2016 "Hazen-Adams CyanoTOX Field Validation and Enhancement related to Chemical Kinetics, ELISA Kinetics and Lysing", American Water Works Association, Total Funds: \$55,000 (USU: \$10,000), PI: B. Stanford (Hazen and Sawyer), Co-PI: C. Adams, E. Wert. (*Pending*)
- 2015-2016 "FY 2016 Cooperative Agreement: Nanoparticle, Toxic Algae, and Pharmaceutical/Other Water Contaminant Control in Missouri Drinking Water Systems", Missouri Department of Natural Resources, Total Funds: \$161,416 (USU: \$6,500), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to USU from MS&T)
- 2014-2016 "Causes and Control of Disinfection Byproduct Formation in Marine Aquaria", SeaWorld Entertainment. \$57,963. PI: C. Adams.
- 2014-2015 "FY 2015 Cooperative Agreement: Emerging Water Contaminant Evaluation and Technology Development to Improve Missouri Drinking Water Quality", Missouri Department of Natural Resources, Total Funds: \$159,871 (USU: \$6,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to USU from MS&T)
- 2012-2015 "Subcontract: Evaluation of Lead Service Line Lining and Coating Technologies", Primary - EPA/Water Research Foundation, Total Funds: \$28,000, PI: C. Adams. (sub-contract to USU from KU (*see below*))
- 2014 "Health Effects for Chemicals in 2014 West Virginia Chemical Release: Crude MCHM Compounds, PPH and DiPPH," West Virginia Testing Assessment Project (WV TAP), \$11,925. PI: C. Adams.
- 2013-2014 "Alternative Contaminant Candidate List 4 (CCL4) Development and Analysis", American Water Works Assoc., \$35,000. PI: C. Adams.
- 2013-2014 "FY 2014 Cooperative Agreement: Improving Water Quality of High "Ammonia and High Bromide Source Water Facilities in Missouri", Missouri Department of Natural Resources, Total Funds: \$153,314 (USU: \$5,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to USU from MS&T)
- 2013-2014 "Development of Fluoride Removal Technology using Surface-Modified Ceramic Filter", MacWater Technology. \$12,493. PI: C. Adams.

**KU Grants**

- 2010-2015 “Evaluation of Lead Service Line Lining and Coating Technologies”, EPA/Water Research Foundation, Total Funds: \$550,000, PI: S. Randtke, Co-PIs: C. Adams, E. Peltier.
- 2010-2014 “FY10 Funding for University of Kansas Research and Educational Support for U.S. Army Programs and Initiatives at Fort Leavenworth, Kansas”, Dept. of Army, Total Funds: \$1,940,000. PI: Adrian Lewis; co-PIs: C. Adams, D. Anderson, E. Clowes; Investigator: M. Medina. (Adams’ Sanitation Thrust Total Funds: \$249,000)
- 2012-2013 “FY 2013 Cooperative Agreement: Characterization of High “Ammonia” Water in Water Treatment Systems”, Missouri Department of Natural Resources, Total Funds: \$100,000 (KU: \$20,000; USU: \$5,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to KU and USU from MS&T)
- 2011-2012 “FY 2012 Cooperative Agreement: Investigation of Occurrence, Degradation, and Control/Limitation of Perchlorate, Pharmaceuticals and Personal Care Products, and N-Nitrosamine Emerging Contaminants in Missouri Drinking Water Systems”, Missouri Department of Natural Resources, Total Funds: \$133,817 (KU: \$20,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to KU from MS&T)
- 2010-2011 “FY 2011 Cooperative Agreement: Comprehensive Assessment of Degradation Byproducts of Pharmaceuticals and Personal Care Products, N-Nitrosamines, and Chromium in Drinking Water Treatment”, Missouri Department of Natural Resources, Total Funds: \$115,584 (KU: \$20,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to KU from MS&T)
- 2009-2010 “FY 2010 Cooperative Agreement: Comprehensive Evaluation of Dose/Removal of Pharmaceuticals and Personal Care Products in Drinking Water Treatment”, Missouri Department of Natural Resources, Total Funds: \$114,458 (KU: \$20,000), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to KU from MS&T)
- 2008-2009 “A Desk Study on Pesticide Metabolites, Degradation and Reaction Products to Inform the Inspectorate’s Position on Monitoring Requirements (DWI 70/2/232),” Total funds to KU portion: \$15,000 (approx.), PI: Chris Sinclair (Central Science Lab, York, UK), Co-PI: C. Adams and others. (conducted through private contract)
- 2008-2009 “FY 2009 Cooperative Agreement: Occurrence and Full-Scale Removal of Emerging Contaminants in Drinking Water Treatment”, Missouri Department of Natural Resources, Total Funds: \$99,818 (KU: \$22,167), PI: Y. Ma (MS&T), Co-PI: C. Adams, H. Shi. (sub-contract to KU from MS&T)

**UMR Grants as Principal (Lead) Investigator**

- 2007-2008 “FY 2008 Cooperative Agreement: Control of Cyanobacterial (Algal) Toxins and Disinfection Byproducts in Missouri Drinking Water Treatment Plants”, Missouri Department of Natural Resources, Total Funds: \$96,225, PI: Adams (67%), Co-PI: H. Shi (33%).
- 2007-2008 “Disinfection Byproduct Formation in Salt Water and Seawater Basins: Analytical Methods, Lab and Onsite Testing, and Operational Approaches”, Busch Entertainment, Total Funds: \$89,968, PI: C. Adams (67%), Co-PI: H. Shi (33%).

- 2007-2008 "Development, Comparison and Interpretation of Health Effects/ Exposure Risk Indices for Drinking Water Contaminants", American Water Works Association/American Water Works Association Research Foundation, Total Funds: \$83,977, PI: C. Adams (100%), Sub-contract (co-PI: J. Rosen, A. Roberson).
- 2007-2008 "Intergovernmental Personnel Act", Department of Homeland Security, Total: \$91,266, PI: C. Adams (100%) (Educational grant).
- 2007-2008 "Methods Development and Application of LC/MS/MS Q-Trap for Trace Level Emerging Environmental Contaminants Analysis in Water," Applied Biosystems Corporation, Total Funds: \$171,000, PI: C. Adams (50%).
- 2006-2007 "FY 2007 Cooperative Agreement: CONTROL OF algal toxins and disinfection byproducts, and optimization of sorption in Missouri drinking water treatment plants," Missouri Department of Natural Resources, Total Funds: \$89,101, PI: C. Adams.
- 2006-2007 "Cooperative Agreement: Sediment Contamination in Post-Katrina New Orleans and the Louisiana Peninsula: Heavy Metals, PCBs And Pesticides", United States Geological Survey (Dept. of Interior), Total: \$85,000, PI: C. Adams (40%), Co-PIs: J. Wang (40%), H. Shi (20%).
- 2006-2007 "Intergovernmental Personnel Act", Department of Homeland Security, Total: \$94,158, PI: C. Adams (100%) (Educational grant).
- 2005-2006 "FY 2006 Cooperative Agreement: Occurrence and Control of Contaminants and Degradates in Drinking Water", Missouri Department of Natural Resources, Total Funds: \$89,000, PI: C. Adams (100%).
- 2005-2007 "Pesticide Degradates in Water Treatment: Oxidative Formation and Partitioning Parameter Estimation", American Water Works Association Research Foundation, Total Funds: \$149,680, PI: C. Adams (62.5%), Co-PI: Yinfa Ma (37.5%).
- 2005-2006 "Determination of the Causes and Control Methods for Eye Irritation Issues in Salt Water Aquaria (and Related Topics)", Busch Entertainment, Total Funds: \$99,538, PI: C. Adams (100%).
- 2004-2005 "Formation and Control of Pesticide Degradates, DBPs and Estrogenic Compounds in Drinking Water ", Missouri Department of Natural Resources, Total Funds: \$89,074, PI: C. Adams (100%).
- 2004-2005 "Seasonal Triazine Occurrence Monitoring Study-Cooperative Study with AWWARF". McGuire Environmental Consultants/AWWARF, Total Funds: \$55,000, PI: C. Adams (100%).
- 2003-2004 "Control of Antibiotics and Endocrine Disruptors in Missouri Drinking Water", Missouri Department of Natural Resources, Total Funds: \$99,362, PI: C. Adams (100%).
- 2003 "Column Studies on the Transport of Antibiotics through Sediments", United States Geological Survey, Total Funds: \$12,500, PI: C. Adams (100%).
- 2001-2004 "Concentrated Animal Feed Operation (CAFO) Environmental Technology Development (Project XP-99795901-0)", US Environmental Protection Agency, Total Funds: \$1,995,600, PI: C. Adams (27%), Co-PI: J. Burken (20%), M. Fitch (18%), M. Mormile (20%), G. Morrison (15%).



- 2002-2004 "American Water Works Association (AWWA) Phase Two Triazine Risk Management Issues: s-Triazines Endocrine Disruptors in Drinking Water", American Water Works Association/McGuire Environmental Consultants, Total Funds: \$81,000, PI: C. Adams (100%).
- 2002-2003 "Control of Antibiotics, Chloro-s-Triazines, and DBPs in Missouri Drinking Water", Missouri Department of Natural Resources, Total Funds: \$100,000, PI: C. Adams (100%).
- 2003-2004 "Center for Metals in the Environment-Year 2", University of Delaware (US Environmental Protection Agency), Total Funds: \$99,228, PI: C. Adams (30%), Co-PI: D. Wronkiewicz (40%), C. Mendoza (30%).
- 2002-2003 "Center for Metals in the Environment-Year 1", University of Delaware (US Environmental Protection Agency), Total Funds: \$42,000, PI: C. Adams (30%), Co-PI: D. Wronkiewicz (40%), C. Mendoza (30%).
- 2001-2002 "Cooperative Agreement: 1) Comparative Treatment of Fuel Oxygenates, and 2) Control of Vinyl Chloride and DBPs in Distribution Systems", Missouri Department of Natural Resources, Total Funds: \$75,000, PI: C. Adams (100%).
- 2000-2001 "Technical and Economic Evaluation of Alternative Technologies for Treating MTBE in Groundwater Sources: A Pilot Study", Missouri Petroleum Storage Tank Insurance Fund, Total Funds: \$36,750, PI: C. Adams (100%).
- 2000-2001 "Technology Development: a) Control of MTBE in Water Treatment, b) Modeling and Control of Vinyl Chloride in Water Distribution Systems, c) Modeling and Control of Regrowth in Water Distribution Systems", Missouri Department of Natural Resources, Total Funds: \$120,248, PI: C. Adams (100%).
- 2000 "Development of an Applied Ozonation Model for Aquaria Disinfection and Conversion of Carbon and Nitrogen Compounds", Busch Entertainment, Total Funds: \$20,000, PI: C. Adams (100%).
- 1999 "Assessment and Treatment of Water Contaminants in Drinking Water Supplies and Distribution Systems", Missouri Department of Natural Resources, Total Funds: \$74,625, PI: C. Adams (100%).
- 1999 "Development of Applied Water Treatment Technologies for Intensive Recycle Tilapia Aquaculture-Phase 1", Sunflower Aquaculture, LLC, Total Funds: \$3,000, PI: C. Adams (100%).
- 1998-2002 "Graduate Assistance in Areas of National Need (GAANN) Fellowship Program", Department of Education, Total Funds: \$304,388, PI: C. Adams: (50%), Co-PI: J. Burken (50%).
- 1998 "Analysis of Chemical and Microbiological Characteristics of Bulking Activated Sludge", MECO Engineering, Total Funds: \$5,832, PI: C. Adams (100%).
- 1998 "Development of Applied Environmental Treatment Technologies", MECO Engineering, Total Funds: \$2,193, PI: C. Adams (100%).
- 1997 "Coupled UV/H<sub>2</sub>O<sub>2</sub>-Biological Treatment of Fuel Oxygenates", UM Research Board, Total Funds: \$49,080, PI: C. Adams (50%), Co-PI: J. Burken (50%).
- 1997 "Treatability of Cyanazine and s-Triazine Metabolites using Activated Carbon: Technical and Economic Analysis", Missouri Department of Natural Resources

- and Missouri River Public Water Supply Association, Total Funds: \$40,000, PI: C. Adams (100%).
- 1997 "Aerobic Biodegradability Determination of Finish Oil Components via Oxygen Uptake Analysis", Hoechst Celanese Corporation, Total Funds: \$12,000, PI: C. Adams (100%).
- 1996 "Evaluation of Treatability of PET Manufacturing Wastewater", Montgomery Watson Corporation, Co-PI: N. Gale, Total Funds: \$9,861, PI: C. Adams (100%).
- 1995-1998 "NSF Young Investigator Award: Advanced Oxidation Processes for Water and Wastewater Treatment (BES-9696011)", National Science Foundation, Total Funds: \$162,700, PI: C. Adams (100%).
- 1997 "Whole Effluent Toxicity Reduction via Enhanced Metal and Sulfate Removal", Doe Run Company, Total Funds: \$37,374, PI: C. Adams (50%), Co-PI: N. Gale (50%).
- 1996 "Develop. of Finish Oil Component Biodegradability Database", Hoechst Celanese Corporation, Total Funds: \$39,958, PI: C. Adams (100%).
- 1996 "Determination of Causes of and Control Measures for Buick Facility Effluent Toxicity", Doe Run Company, Total Funds: \$46,612, PI: C. Adams (50%), Co-PI: N. Gale (50%).

#### **Clemson University Grants as Principal (Lead) Investigator**

- 1992-1995 "Advanced Oxidation Processes for Water and Wastewater Treatment (NSF Young Investigator Award (BCS-9257625)", National Science Foundation, Total Funds: \$149,800, PI: C. Adams (100%).
- 1994-1995 "SIP Surfactant Biodegradability Assessment and Enhancement using AOPs", Southeast Manufacturing Technology Center, Total Funds: \$9,824, PI: C. Adams (100%).
- 1993-1994 "Effects of Anaerobic Pretreatment and Advanced Oxidation Processes on Biorecalcitrant Finishing Oils in Fiber Finishing Wastewaters", Hoechst Celanese Corporation, Total Funds: \$59,732, PI: C. Adams (33%), Co-PI: C. Grady C. (33%), R. Cowan (33%).
- 1993-1994 "Effects of Advanced Oxidation Pretreatment on the Biodegradability of Nitrocellulose and other Biorecalcitrant Synthetic Organic Compounds", U.S. Army Construction Engineering Research Laboratories (CERL), Total Funds: \$12,500, PI: C. Adams (100%).
- 1992-1993 "Adsorption of Herbicide Metabolites in Drinking Water using Activated Carbon", Clemson University Research Grant, Total Funds: \$3,000, PI: C. Adams (100%).

#### **UMR Grants as Co-Principal Investigator**

- 2005 "Katrina Disaster Mitigation in New Orleans", U.S. Geological Survey, Total Funds: \$40,000, PI: R. Luna, Co-PI: J. Wang, R. Stephenson, G. Chen, D. Summers, C. Adams (9%).
- 2004-2005 "Center for Metals in the Environment-Year 3", University of Delaware (US Environmental Protection Agency), Total Funds: \$46,333, PI: D. Wronkiewicz (40%), co-PI: C. Adams (30%), C. Mendoza (30%).

- 2000 "Determination of Concentrations of Heavy Metals in Fish in the Big River and Flat River Creek of Missouri's Old Lead Belt: Continuation Study 2000", The Doe Run Company, Total Funds: \$61,000, PI: N. Gale, N., Co-PI: C. Adams (25%), B. Wixson, Y. Wern.
- 1999 "Determination of Concentrations of Heavy Metals in Fish in the Big River and Flat River Creek of Missouri's Old Lead Belt: Continuation Study 1999", The Doe Run Company, Total Funds: \$68,929, PI: N. Gale, Co-PI: C. Adams (33%), B. Wixson.
- 1998 "Determination of Concentrations of Heavy Metals in Fish in the Big River and Flat River Creek of Missouri's Old Lead Belt", The Doe Run Company, Total Funds: \$74,814, PI: N. Gale, Co-PI: C. Adams (33%), B. Wixson.

#### **UMR Equipment Grants as Principal (Lead) Investigator**

- 1995 "Oxygen Generator", AirSep Corporation, Total Funds: \$1,700, PI: Adams (100%).

#### **Clemson University Grants as Co-Principal Investigator**

- 1992-1994 "Elimination Of 1,4-Dioxane From Polyester Fiber Manufacturing Wastewater Through Point-Of-Generation Pretreatment", SCUREF, Hazardous Waste Management Research Fund, Total Funds: \$293,546, PI: C. P. Grady Jr., Co- PI: C. Adams, C. (33%), R. Cowan.
- 1991-1992 "Removal of Magnesium Sulfate from Cellulose Acetate Process Wastewater: Recovery of Sulfur, Magnesium and Process Water", Hoechst Celanese Corporation, Total Funds: \$10,000, PI: C. P. Grady Jr., co-PI: C. Adams (50%).

#### **Clemson University Equipment Grants as Principal (Lead) Investigator**

- 1994 "Microtox Toxicity Test System", Microbics Corporation, Total Funds: \$10,000, PI: C. Adams (50%), Co-PI: C. Grady (50%).
- 1993 "Camile 2000 Data Acquisition and Control System", Dow Chemical USA, Total Funds: \$9,500, C. Adams (100%).
- 1992 "Ozone generation system", Pure Water Corporation, Total Funds: \$4,000, PI: C. Adams (100%).

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### **Advising**

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#### **Research Assistant/Associate Professors/Visiting Scholars**

- 2011 Dr. Jing Guo. "Development of Novel Filtration Technology for Arsenic, Fluoride and other Environmental Contaminants," University of Kansas.
- 2010 Aurelien Jean. "Characterization of Thermal Materials for Solar Disinfection," University of Kansas. (co-advised by Dr. Mario Medina)
- 2009-2010 Dr. Fang Cheng. "Effects of SRT and redox potential on the removal of pharmaceuticals in suspended growth biological systems," University of Kansas.

- (Visiting from Chongqing University, Chongqing, China). (co-advised by Dr. Belinda Sturm)
- 2007 Dr. Gao Xu. "Persistent organic pollutants," Missouri S&T. (visiting from Chongqing University, Three Gorges Institute, Chongqing, China).
- 2007 Dr. Pamela Chelme-Ayala. "Ozonation in drinking water treatment," Missouri S&T. (Visiting Scholar from University of Alberta (Canada); Ph.D. earned from University of Alberta. Advisor at U. of Alberta: Dr. M. Gamal El-Din).
- 2002-2006 Dr. Zhimin (George) Qiang. "Antibiotic treatment and fundamentals," Missouri S&T. (currently with Chinese Academy of Science, Beijing, China).
- 2004-2006 Dr. Youssef Filali-Meknassi. "Estrogenic compounds," Missouri S&T. (currently with UNESCO).
- 2006 Dr. Padma Amarasinghe. "Removal of lead and cadmium from wastewater by adsorption onto coir pith," Missouri S&T. (co-hosted by Drs. D. Ludlow and J. Raper).

### Ph.D. Completed

- 2015 Lane, R. "Hydrolysis and Oxidation of Bisphenols, BADGE and BFDGE from Epoxies," University of Kansas.
- 2011 Wang, Chuan "Trace Analysis and Treatment of Pharmaceuticals and Personal Care Products and their Degradates with Various Oxidation Systems using Liquid Chromatography Tandem Mass Spectrometry," Missouri University of Science and Technology. (Co-Advisor) (Primary Advisor: Y. Ma)
- 2010 Shi, H. "Analysis, Formation, and Control of Disinfection Byproducts in Seawater," Missouri University of Science and Technology.
- 2010 Cheng, Xiaoliang "Analysis, Occurrence and Removal of Nitrosamines from Drinking Water," Missouri University of Science and Technology. (Co-Advisor) (Primary Advisor: Y. Ma)
- 2008 Chamberlain, E. "Pesticide Degradates in Water Treatment: Oxidative Screening and Partitioning Parameter Estimation," Missouri University of Science and Technology.
- 2008 Wang, Tongwen "Determination of Degradates of Diazinon, Fonofos, Alidicarb and Oxamyl by Ion-Trap LC/MS," Missouri University of Science and Technology. (Co-Advisor) (Primary Advisor: Y. Ma)
- 2007 Ariol, M. "Control of Estrogenic Compounds using a Novel Enzyme Reactor," (April 2007) (Visiting Scholar from University of Quebec; All research conducted at UMR; Ph.D. received from University of Quebec with co-advisor Dr. R. D. Tyagi).
- 2006 Jiang, H. "Occurrence and Control of s-Triazine Endocrine Disruptors in the Drinking Water," University of Missouri-Rolla.
- 2006 Loftin, K. "The Effects and Fate of Selected Veterinary Antibiotics in Two Missouri Anaerobic Swine Lagoons," University of Missouri-Rolla.
- 2005 Kurwadkar, S. "Modeling the Transport of Antibiotics through Sediments," University of Missouri-Rolla.

- 2003 Sutherland, J. "Comparative Pilot-Plant Study of the Treatment of Fuel Oxygenating Agents in Groundwater – Technical and Economic Evaluation," University of Missouri-Rolla.
- 2003 Stellar, H. "Simultaneous Biological Nutrient Removal in a Dispersed Growth System," University of Missouri-Rolla. (Co-Advisor: Dr. Glen Daigger, Vice-President of CH2MHill).
- 2002 Reed, R. "Development of an Applied Ozonation Model for Aquaria," Missouri University of Science and Technology, University of Missouri-Rolla.

### **Ph.D. in Progress**

Haji Eghrari, S. "Analysis and Formation of Halogenated Disinfection Byproducts during Ozonation and Chlorination of Brackish and Saline Waters," Utah State University. (Expected graduation: December 2016).

### **M.S. Completed**

- 2014 Bench, Ryan "Development of an Alternative Contaminant Candidate List 4 for the American Water Works Association," Utah State University. (M.E.)
- 2012 Rendall, Joe "Develop of Solar Disinfection Technology of Composting Latrines," University of Kansas.
- 2011 Robbins, E. "Development of the Surface Modified Ceramic Filter," University of Kansas.
- 2009 Winters, Alex "Determination of Eye-Irritation Potential of Disinfection Byproducts using HET-CAM Test," M.S. Environmental Engineering, Missouri University of Science and Technology.
- 2008 Ding, Jie "Release and Control of Cyanobacterial Toxins During Water Treatment," M.S. Environmental Engineering, Missouri University of Science and Technology.
- 2008 Marincelle, Michelle "Development of Tailored Activated Carbon Adsorbents," M.S. Environmental Engineering, Missouri University of Science and Technology.
- 2008 Lueders, Matthew "Development of a Human Health Risk Index for Drinking Water Contaminants," M.S. Environmental Engineering, Missouri University of Science and Technology.
- 2007 Ding, Jie "pH Effects on the Adsorption of Saxitoxin by Powdered Activated Carbon," M.S. Chemical Engineering, University of Missouri-Rolla.
- 2007 Mathew, F. "Comparison of Coconut Pithe, Rice Hulls, and Bamboo Stalk for Treatment of Cadmium in Metal-Plating Waste," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: D. Ludlow).
- 2006 Patel, Rohiniben "Determination of Chemical Rate Constants for Pharmaceuticals using Stopped Flow Spectrophotometry," M.S. Environmental Engineering, University of Missouri-Rolla.
- 2006 Cheeti, Arshita, "Cross Impacts of Simultaneous Ozonation and Powdered Activated Carbon Adsorption," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: D. Ludlow).
- 2005 Chamberlain, E. "Chemical oxidation of sulfonamide antibiotics with free and combined chlorine," M.S. Environmental Engineering, University of Missouri-Rolla.

- 2005 MaCauley, J. "Measurement of antibiotic resistance in wastewater," M.S. Biological Science, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: Dr. Melanie Mormile)
- 2004 Yu, L. "Development of Sorption Isotherms for Alternative Oxygenates on Granular Activated Carbons" M.S. Environmental Engineering, University of Missouri-Rolla.
- 2004 Faeth, A. "Transport and Speciation of Heavy Metals in the New Lead Belt of Missouri" M.S. Environmental Engineering, University of Missouri-Rolla (Co-Advisor: Dr. David Wronkiewicz, Department of Geology).
- 2004 Patni, A. "Characteristics of Ground Granular Activated Carbon for )Rapid Small Scale Column Tests," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: Dr. Douglas Ludlow)
- 2003 Yu, Liang. "Adsorption of MTBE and Alternative Fuel Oxygenates on Granular Activated Carbon," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: Dr. Douglas Ludlow)
- 2002 Ummethala, S. "Model Development and Validation for Effects of Inorganic Water Species on UV-Visible Absorbance" M.S. Environmental Engineering, University of Missouri-Rolla.
- 2002 Kekobad, J. "Optimization and Cost Analysis of Carbon Adsorption for Treatment of MTBE and Alternative Fuel Oxygenating Agents – A Pilot Study," M.S. Environmental Engineering, University of Missouri-Rolla.
- 2002 Lobo, P. "Effects of Grinding on GAC Properties," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: Dr. Douglas Ludlow)
- 2002 Jain, R. "Characterization of Powdered Activated Carbon using Gaseous- and Aqueous-Phase Indices," M.S. Chemical Engineering, University of Missouri-Rolla. (Co-Advisor) (Primary Advisor: Dr. Douglas Ludlow)
- 2000 Yong, W. "Removal of Pharmaceuticals in Conventional Drinking Water Treatment Processes," M.S. Environmental Engineering, University of Missouri-Rolla.
- 2000 Wehmeyer, E., "Treatability of Cyanazine and s-Triazine Metabolites using Activated Carbon: Technical and Economic Analysis," May, 2000. M.S. Environmental Engineering, University of Missouri-Rolla.
- 2000 Sutherland, J., "Development of a Recirculating Chemical/Biological Treatment of Methyl-tert-butyl ether (MTBE)," M.S. Environmental Engineering, University of Missouri-Rolla.
- 2000 Beardsley, M. "Modeling and Control of Vinyl Chloride in Water Distribution Systems," M.S. Environmental Engineering, University of Missouri-Rolla.
- 2000 Balakrishnan, M. "Effects of Water Quality Parameters on Growth of HPC, *E. coli*, and Total Coliform in Water Distribution Systems," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1998 Yerapotini, R., "Pretreatment of EDTA-Laden Boiler Cleaning Wastewater using UV/H<sub>2</sub>O<sub>2</sub>: Effect on Metal Recovery," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1998 Gorg, Steve, "Decolorization of Common Dyes using Ozone: Effect of Gas Phase Ozone Concentration and pH," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1998 Dani, S., "Whole Effluent Toxicity Reduction Via Enhanced Metal and Sulfate Removal," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1997 Lilly, J., "Determination of the Biodegradability of Surfactants and Software Development," M.S. Environmental Engineering, University of Missouri-Rolla.

- 1997 Kuzhikannil, J., "Biodegradability Enhancement of Toxic Cationic and Linear Secondary Alcohol Ethoxylate Surfactants," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1997 Chakravarty, C., "Ozonation Kinetics of EDTA-Metal Chelates," December 1997. M.S. Civil Engineering (Environmental emphasis) , University of Missouri-Rolla.
- 1997 Gubbi, G., "Causes and Control Measures for Battery Recycling Plant Effluent Toxicity," M.S. Environmental Engineering, University of Missouri-Rolla.
- 1996 Kitis, M., "Optimization of Biological and Ozonation or Fenton Oxidation Processes for the Mineralization of Biorefractory Organic Chemicals," M.S. Environmental Systems Engineering, Clemson University.
- 1995 Spitzer, S., "Treatment of Biorecalcitrant Finishing Oils using Advanced Oxidation Processes," M.E. Environmental Systems Engineering, Clemson University.
- 1995 Secrist, N. D., "Elimination of 1,4-Dioxane and 2-Methyl-1,3-Dioxolane from Polyester Fiber Manufacturing Wastewater and Ground Water using Advanced Oxidation Processes," M.E. Environmental Systems Engineering, Clemson University.
- 1995 Pelger, J., "Effects of System Parameters on Advanced Oxidative Scrubber Design and Operation," M.S. Environmental Systems Engineering, Clemson University.
- 1995 Maravelius, M., "Recovery of Complexed Heavy Metals using Oxidative Pretreatment and Ion Exchange," M.S. Environmental Systems Engineering, Clemson University.
- 1995 Lawson, R. B., "Advanced Oxidative Scrubbing for VOCs: Modeling and Process Development," M.S. Environmental Systems Engineering, Clemson University.
- 1995 Cozzens, R., "Effects of Advanced Oxidation Pretreatment on the Biodegradability of Nitrocellulose and other Biorecalcitrant Synthetic Organic Chemicals," M.E. Environmental Systems Engineering, Clemson University.
- 1995 Conner, T., "Effects of Primary Process Parameters on UV/Hydrogen Peroxide Treatment of Groundwater," M.S. Environmental Systems Engineering, Clemson University.
- 1994 Watson, T. L., "Development of Langmuir and Freundlich Adsorption Isotherms on GAC and PAC for the Primary Metabolites of Major Herbicides," M.E. Environmental Systems Engineering, Clemson University.
- 1994 Maner, R. "Computer Model Development of Industrial Wastewater Treatment Processes," (Special Project) M.S. Environmental Systems Engineering, Clemson University.
- 1994 Kanzelmeyer, T. "Demetalization of Premetalized Dyes by Chemical Oxidation and Ion Exchange or Precipitation Mechanisms," M.E. Environmental Systems Engineering, Clemson University.
- 1994 Castens, D. "Visual Aesthetic Impact of Textile Wastewater on Receiving Streams: Method Development," (Special Project) M.S. Environmental Systems Engineering, Clemson University.
- 1993 Scanlan, P. A. "Elimination of 1,4-Dioxane from Polyester Fiber Manufacturing Wastewater through Point-of-Generation Pretreatment," M.S. Environmental Systems Engineering, Clemson University.

**M.S. in Progress as Primary Advisor**

Schneider, Jimmy “Mechanistic Matching of Activated Carbons to Specific Adsorbates in Water Treatment,” Utah State University. (Expected graduation: December 2015)

**M.S. Non-thesis Advising**

2008-2009 Gentry, J., M.S. Environmental Health Engineering, University of Kansas.

2005-2006 Landreth, L. R., M.S. Environmental Engineering, University of Missouri-Rolla.

2005-2006 Baxter, S., M.S. Environmental Engineering, University of Missouri-Rolla.

2005-2006 Vaughn, J., M.S. Environmental Engineering, University of Missouri-Rolla.

2004-2005 Sullivan, M., M.S. Environmental Engineering, University of Missouri-Rolla.

2003-2004 Bailey, M., M.S. Environmental Engineering, University of Missouri-Rolla.

2003-2004 Held, D., M.S. Environmental Engineering, University of Missouri-Rolla.

2002-2003 O’Loughlin, K., M.S. Environmental Engineering, University of Missouri-Rolla.

2001-2002 Davis, S., M.S. Environmental Engineering, University of Missouri-Rolla.

2001-2002 Legreid, A., M.S. Environmental Engineering, University of Missouri-Rolla.

2001-2002 Schlapper, B., M.S. Environmental Engineering, University of Missouri-Rolla.

2001-2002 Levotch, S., M.S. Environmental Engineering, University of Missouri-Rolla (Conducted drinking water research project).

2001-2002 Seitz, T., M.S. Environmental Engineering, University of Missouri-Rolla.

2001-2002 Holmes, D., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Hahn, C., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Pommerenck, D., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Barry, K., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Emerson, R., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Acker, D., M.S. Environmental Engineering, University of Missouri-Rolla.

2000-2001 Wallace, J., M.S. Environmental Engineering, University of Missouri-Rolla.

1999-2000 Vail, T., M.S., Environmental Engineering, University of Missouri-Rolla.

1999-2000 Anderson, A., M.S. Environmental Engineering, University of Missouri-Rolla. (incomplete).

1999-2000 Hogeboom, C., M.S. Environmental Engineering, University of Missouri-Rolla.

1999-2000 McCormack, R., M.S. Environmental Engineering, University of Missouri-Rolla.

1998-1999 Rio Rito, J., M.S. Environmental Engineering, University of Missouri-Rolla.

1998-1999 Loutzenheiser, J., M.S. Environmental Engineering, University of Missouri-Rolla.

1998-1999 Beaver, R., M.S. Civil Engineering (Environmental emphasis), University of Missouri-Rolla.

1997-1998 Woodley, R., M.S. Environmental Engineering, University of Missouri-Rolla.



- 1997-1998 Brumback, B., M.S. Civil Engineering (Environmental emphasis), University of Missouri-Rolla.
- 1997-1998 Bennett, P., M.S. Environmental Engineering, University of Missouri-Rolla.
- 1996-1997 Wuestefeld, T., M.S. Environmental Engineering, University of Missouri-Rolla.
- 1996-1997 Rudolphi, E., M.S. Environmental Engineering, University of Missouri-Rolla.

#### **Doctoral Committee Memberships (other than as Advisor or co-Advisor)**

- 2014 Neeman, J. "Cyanotoxin Occurrence and Control," University of Kansas. (Advisor: Stephen Randtke)
- 2007 Spring, M., "Kinetics of Ozone/Terpene Reactions on Indoor Surfaces," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison)
- 2007 Hong, W. "Field and Laboratory Investigation of Ozone-Indoor Surface Reactions: Secondary Emissions Inventory and Implications for Indoor Air Quality," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison) (Defense date: October 2007)
- 2007 Wang, T. "The Leaching Behavior of Arsenic, Selenium and Other Trace Elements in Coal Fly Ash," University of Missouri-Rolla. (Advisor: Dr. Jianmin Wang)
- 2007 Gilbertson, A. "The Use of Root-Colonizing Recombinant Bacteria to Enhance Rhizosphere Degradation of Polychlorinated Biphenyls," University of Missouri-Rolla. (Advisor: Dr. Joel Burken)
- 2007 Krizanich, G. "Metal Distribution in Clearwater Lakes," University of Missouri-Rolla. (Advisor: Dr. David Wronkiewicz) (Expected: December 2007)
- 2006 Mihalcik, P. "Fate of genetically modified plant tissue in soil: What happens to the DNA," University of Missouri-Rolla. (Advisor: Dr. Mark Fitch)
- 2004 Ma, X. "Fate of Volatile Chlorinated Solvents in Phytoremediation Applications." University of Missouri-Rolla. (Advisor: Dr. Joel Burken)
- 2003 Song, Y. "Mechanisms of Lead and Zinc Removal from Lead Mine Drainage in Constructed Wetland," University of Missouri-Rolla. (Advisor: Dr. M. Fitch)

#### **M.S. Committee Memberships (other than as Advisor or co-Advisor)**

- 2014 Anderson, P. "Advanced Oxidation in SODIS Water Treatment," University of Kansas. (Advisor: Stephen Randtke)
- 2009 Bellassai, E. "Effects of EE2 on Microbial Diversity," University of Kansas. (Advisor: Dr. Belinda Sturm)
- 2007 Pandrangi, L. "Ozone Interactions with Human Hair: Ozone Uptake and Product Formation," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison)
- 2006 Ongwandee, M. "The Influence of Ammonia and Carbon Dioxide on the Sorption of Basic (Alkaline) Organic Pollutants onto Indoor Surfaces," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison)
- 2004 von Arb, M. "Microbial Population Dynamics in Anaerobic Treatment of Swine Waste," University of Missouri-Rolla. (Advisor: Dr. Joel Burken)

- 2003 Wang, J. "Struvite Precipitation for Phosphorous Removal from Animal Waste Streams," University of Missouri-Rolla. (Advisor: Dr. Joel Burken)
- 2003 Zhao, P. "Indoor Mass Transfer Coefficient Measurements of Ozone using Nitrite-Coated Filters," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison)
- 2003 Gilbertson, A. "Expression of Green Fluorescent Protein (gfp) in Recombinant Microbes to Investigate the Survival and Growth of Root-Colonizing organisms," University of Missouri-Rolla. (Advisor: Dr. Joel Burken)
- 2003 Wiseman, D. "Rapid Measurement of Mass Transfer Coefficients," University of Missouri-Rolla. (Advisor: Dr. Glenn Morrison)
- 2002 Triplett, J. "Field analyses of RDX and TCE in groundwater during a GCW pilot study," University of Missouri-Rolla. (Advisor: Dr. Curt Elmore)
- 1997 Kvetensky, J. "Methanotrophic Growth and Distribution by Phospholipid Fatty Acid Analysis," University of Missouri-Rolla. (Advisor: Dr. Mark Fitch)
- 1996 Ramey, D. "Pollution Prevention Self Assessment Tool for Small Businesses," University of Missouri-Rolla. (Advisors: Jerome Westphal and D.A. Sanders)

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## Teaching

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### Undergraduate only and Undergraduate Courses

#### *Utah State University*

CEE 5930 (UG) (3 hr) Environmental Engineering and Science in Developing Countries

Topics include: basic sanitation, sustainability, wastewater reuse, sanitation and water technologies, project planning and implementation, air pollution, deforestation, hazardous waste disposal, and the roles of various governmental and non-governmental organizations in addressing environmental issues.

#### *University of Kansas*

CE 797 (3 hr) Environmental Engineering and Science in Developing Countries

Topics include: basic sanitation, sustainability, wastewater reuse, sanitation and water technologies, project planning and implementation, air pollution, deforestation, hazardous waste disposal, and the roles of various governmental and non-governmental organizations in addressing environmental issues.

CE 477 (3 hr) Introduction to Environmental Engineering and Science.

Application of fundamental scientific principles to the protection of atmospheric, aquatic, and terrestrial environments through the use of pollution abatement processes, with consideration also given to economic, social, political, and legal aspects of pollution control

#### *University of Missouri-Rolla*

EnvE/CE/ArchE 301 (3 hr) Sustainability: Population, Energy, Water, and Materials

This course examines the concepts regarding the continued advancement of humankind while maintaining our ecological niche on earth. The course is targeted towards students in engineering, science, and non-science fields of study. Key topics include: population growth,

poverty, and impacts of development; energy consumption, sources, storage, conservation and policy; water quality and quantity; materials and buildings; and policy implications.

CE 261 (3 hr) Introduction to Environmental Science (Lecture/laboratory).

This course provides an introduction to fundamental chemical, physical, and biological principles in environmental engineering and science. Topics include environmental chemistry and microbiology, aquatic pollution and control, solid-waste management, air pollution and control, radiological health, and water and wastewater treatment systems.

CE 265 (3 hr) Water and Wastewater Engineering

A study of the quantity, treatment and distribution of water; and of the collection, treatment and disposal of wastewater. Topics include study of the fundamental principles, rational design considerations, and operational procedures of the physical, chemical and biological unit operations and processes employed in water and wastewater treatment.

CE/EnvE 263 (3 hr) Chemical Fundamentals of Environmental Engineering

Introduction to the key chemical and physical concepts integral to environmental systems and processes. This course provides a fundamental background in those chemical and environmental engineering principles that are common to all environmental engineering disciplines.

CE/EnvE 362 (3 hr) Public Health Engineering

This course provides fundamental aspects of public and environmental health. Topics include population dynamics and effects, chronic and communicable disease, principles of toxicology, radiological health, water supply protection, water treatment and disinfection, vectors and their control, air quality and public health administration.

CE/EnvE 380 (1 of 3 hr) Water Resources and Wastewater Engineering

This course provides key engineering principles and design concepts related to wastewater treatment and water resources. Course provides 1 of 3 total credit hours for officers in Ft. Leonard Wood graduate programs.

*Clemson University*

ESE 401/601 (3 hr) Introduction to Environmental Engineering and Science

This course covers introductory environmental engineering and science topics.

ESE 402/602 (3 hr) Water and Wastewater Treatment Systems

This course covers design and integration of operations in municipal and industrial water and wastewater treatment systems.

**Graduate Level Courses**

*Utah State University*

CEE 6640 (3 hr) Physical/Chemical Environmental Processes

Topics include: Regulations, coagulation, flocculation, sedimentation, filtration, membranes, adsorption and ion exchange, oxidation/reduction, precipitation, gas transfer.

CEE 5620 (3 hr) Aquatic Chemistry

Topics include: Chemical equilibrium, kinetics, acid-base chemistry, solubility and precipitation, complexation, oxidation/reduction, reactions at solid surface, computer modeling of chemical reactions.

CEE 6930 (3 hr) Environmental Engineering and Science in Developing Countries

Topics include: basic sanitation, sustainability, wastewater reuse, sanitation and water technologies, project planning and implementation, air pollution, deforestation, hazardous waste disposal, and the roles of various governmental and non-governmental organizations in addressing environmental issues.

*University of Missouri - Rolla*

CE/EnvE 460 (3 hr) Chemical Principles in Environmental Engineering Systems

Fundamental environmental chemistry and physicochemical processes in environmental engineering are presented. Topics include environmental organic chemistry; thermodynamics; acid/base reactions; complexation; chemical oxidation, kinetics, and reactor models; mass diffusion; interfacial mass transfer; gas laws; material balances; and particle dynamics.

CE/EnvE 462 (3 hr) Physicochemical Operations in Water and Wastewater Treatment Systems

Course covers principles and design aspects of physicochemical operations used in water and wastewater treatment. Topics include coagulation/flocculation/ clarification, softening, precipitation, gas absorption and stripping, chemical oxidation-reduction operations, membrane operations, filtration, and adsorption.

CE/EnvE 467 (3 hr) Environmental Chemistry

Course covers inorganic and organic principles and applications for environmental scientists and engineers.

CE/EnvE 401 (3 hr) Special Problems

Students investigated variety of special problems including: "Analysis of historic THM/HAA data in Missouri distribution systems" (T. Seitz); "Factors effecting THM/HAA formation in distribution systems" (S. Levotch); "Mn-catalyzed ozonation of synthetic organic chemicals" (R. Woodley); "Design and construction of carbon-based waste treatment system" (R. Emerson, D. Acker).

*Clemson University*

ESE 802 (3 hr) Environmental Engineering Principles

Fundamental principles required for understanding and modeling of environmental engineering phenomena are presented. Topics include material balances, advection-dispersion, interfacial mass transfer, gas laws, fluid statics, fluid dynamics, heat transfer, and ideal and non-ideal reactor kinetics for homogeneous and heterogeneous reactions.

ESE 803 (4 hr) Physicochemical Operations in Water and Wastewater Treatment Systems

Topics include chemical (e.g., coagulation, flocculation, softening, precipitation), oxidation (e.g., SOC removal, disinfection); membrane operations (e.g., reverse osmosis, ultrafiltration); mass transfer (e.g., packed and tray towers, adsorption, ion exchange); and momentum transfer (e.g., sedimentation, thickening, flotation).

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**University Service**


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**Utah State University**

2012-present Head, Department of Civil and Environmental Engineering  
 2015 Member, Faculty Search Committee

**University of Kansas**

2009-2012 Chair, Department of Civil, Environmental and Architectural Engineering  
 2010 Member, KU Office of Professional Military Graduate Programs Search Committee  
 2009-2010 Member, Chancellor's Research Engagement Task Force  
 2009-2010 Member, KU Faculty Senate Restricted Research Committee  
 2009 Member, KU Assoc. Vice-Provost for Research Search Committee  
 2009 Member, Kansas Geological Survey Internal Review Committee

**University of Missouri (System)**

2004-2005 Member, UMR Chancellor Search Committee  
 2002-2008 Member, Joint UMR/UMC Homeland Security Taskforce  
 2002-2008 Member, UM System Patent Committee

**University of Missouri-Rolla (Campus) (Selected)**

2006-2007 Member, UMR Review Committee for Curators Teaching Professor  
 1995-2008 Director, Environmental Research Center for Emerging Contaminants (ERC)  
 2002-2008 Member, UMR Grievance Committee.  
 2005-2007 Member, UMR Tenure Committee  
 1996-2008 Coordinator, United States Army Engineering School/UMR Environmental Engineering Graduate Program (MS Environmental Engineering/MS Civil Engineering (Environmental Emphasis))  
 2005-2006 Chair, UMR Provost Search Committee  
 2004 Co-Chair, Environmental Cluster  
 2004 Member, Biotechnology Cluster Executive Committee  
 2001-2004 Graduate Faculty Representative, UMR Curriculum Committee  
 2002-2005 Member, Task Force Curators' Professors, Distinguished Teaching Professors, and Named Chairs Committee  
 2001-2003 Civil Engineering Representative, UMR Academic Council  
 1998-2007 Member, UMR Culture and Arts Committee  
 2001-2002 Member, UMR Honors Committee

1995-1996 Member, UMR Environmental Engineering/Science Program Degree Development Committee

### **University of Missouri-Rolla (School of Engineering)**

2005-2006 Member, SOE Tenure and Promotion Committee (elected)

2004-2005 Member, SOE Tenure and Promotion Committee (elected)

1996-1998 Member, SOE Graduate Affairs Committee

### **University of Missouri-Rolla (Department of Civil, Architectural and Environmental Engineering)**

2006-2007 Member, Vernon and Marilee Jones Chair Search Committee

2002-2008 Technical Coordinator, Geoenvironmental Engineering Graduate Certificate Program offered by Department of CAEE at the Engineering Education Center, St. Louis, MO

2002-2008 Coordinator, Environmental Engineering Graduate Program

1996-2008 Chair (for selected years), CAEE Graduate Affairs Committee

1995-2008 Area Head, Environmental Engineering Area

2002-2003 Member, CAEE Faculty Search Committee

2002-2003 Chair, Environmental Engineering Faculty Search Committee

2001-2004 Chair, CAEE Graduate Affairs Committee

1999 Member, Civil Engineering Strategic Planning Committee

1998-1999 Chair, Environmental Engineering Faculty Search Committee

1997-1998 Chair, CAEE Graduate Affairs Committee

1996-1997 Member, Civil Engineering Long-Range Planning Committee

1996-1997 Chair, Environmental Engineering Faculty Search Committee

1995-1999 Chair, Environmental Engineering Program Curriculum Committee

1995-1996 Member, Civil Engineering Finance Committee

1995-1996 Chair, Environmental Engineering Faculty Search Committee

### **Clemson University (College of Engineering)**

1993-1995 Member, Curriculum Committee

1993-1995 Member, Engineering Analysis Program Committee

### **Clemson University (Department of Environmental Systems Engineering)**

1994-1995 Member, QA/QC Implementation and Oversight Committee

1994-1995 Member, Faculty Search Committee

1994-1995 Member, Department Head Search Committee  
1994-1995 Chair, Curriculum Committee  
1994-1995 Chair, Computer Committee  
1993-1994 Member, Faculty Search Committee  
1992-1995 Member, Advisory Committee  
1992-1994 Chair, QA/QC Implementation and Oversight Committee  
1992-1993 Member, Faculty Search Committee  
1992-1993 Member, Faculty Search Committee  
1992-1993 Member, Department Head Search Committee

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**Consulting**

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American Water Works Association, Washington, D.C.  
Busch Entertainment, St. Louis, MO  
CH2MHill, Atlanta, GA  
Environmental Engineering & Technology, Inc.  
Hazen and Sawyer, Raleigh, NC  
Hoechst Celanese Corporation, Charlotte, NC  
Hong Kong University of Science and Technology  
IndustrOzone Technologies, Punta Gorda, FL  
Lowry Landfill Trust, Denver, CO  
MECO Engineers, Jefferson City, MO  
Montgomery Watson, New Orleans, LA  
Parsons Engineering Science, Atlanta, GA  
Pierson Process Technology, Santa Clara, CA  
SeaWorld Entertainment, Orlando, CA  
Waste Management Inc., Denver, CO