DAVID L. SEDLAK

EDUCATION

University of Wisconsin, Madison, Wisconsin — Ph.D.
Water Chemistry — June 1992
Dissertation: Abiotic Oxidation of Polychlorinated Biphenyls (PCBs)

Cornell University, Ithaca, New York — B.S.
Environmental Science — June 1986

EXPERIENCE

October 1994-Present: **Malozemoff Chair Professor (2013-present), Professor (2004-present), Associate Professor (2000-2004) and Assistant Professor (1994-2000),** Department of Civil & Environmental Engineering, University of California, Berkeley
January 2010-March 2010: **Visiting Academic**, Advanced Water Management Centre, University of Queensland, Brisbane, Australia
July 2003-June 2004: **Visiting Associate Professor**, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
April 1992-June 1994: **Postdoctoral Fellow**, Swiss Federal Institute for Environmental Science and Technology, Dübendorf, Switzerland
July 1986-June 1988: **Staff Scientist**, ENVIRON Corporation, Princeton, New Jersey

RESEARCH INTERESTS

Fate of wastewater-derived chemical contaminants in conventional and advanced wastewater treatment plants, chemical fate during groundwater recharge and in engineered treatment wetlands, innovation in urban water systems.

AWARDS

Francqui Chair, Ghent University, 2015
Rydell Distinguished Visiting Professor, Gustavus Adolphus College, 2014
Athalie Richardson Irvine Clarke Prize for Excellence in Water Research, 2014
US National Academy of Engineering Gilbreth Lecturer, 2010
Fulbright Alumni Initiative Award, 2010
Fulbright Senior Scholar Award for Australia, 2003
Paul L. Busch Award for Innovation in Applied Water Quality Research, 2003
National Science Foundation CAREER Development Award, 1998
Hellman Family Fund Faculty Award, 1995
Graduate Student Award, ACS Division of Environmental Chemistry, 1991
Graduate Student Paper Award, ACS Division of Environmental Chemistry, 1990
Carl Ladd Scholarship, Cornell University, 1985
New York State Regents Scholarship, Cornell University, 1982-1986

PROFESSIONAL AFFILIATIONS AND SERVICE

Associate Editor, *Environmental Science & Technology*, 2009-2014
Associate Editor, *Water Research*, 2008-2014
Chair, Gordon Research Conference Environmental Sciences: Water, 2004 & 2012
Editor-in-Chief, *Environmental Science & Technology* 2015-

Member, Potable Reuse Expert Panel for California Department of Public Health, 2014-
Member, US EPA Science Advisory Board, Drinking Water Committee, 2002-2009
Member, US EPA Board of Scientific Counselors Drinking Water Subcommittee, 2005
Member, National Research Council Research Committee on Water Reuse, 2008-2011
Member, American Chemical Society, 1990-
Member, Association of Environmental Engineering Professors, 1995-
Review Panel Member, National Science Foundation (1998, 2002, 2003, 2006)
Review Panel Member, USEPA Ecosystem Research Division Peer Review, 2007

MAJOR UNIVERSITY SERVICE

Chair, CEE Strategic Planning Committee, 2014-
Co-Director, Berkeley Water Center, 2010-
Deputy Director, NSF Center on Reinventing Urban Water Infrastructure, 2010-
Executive Committee, UC Toxic Substances Teaching & Research Program, 2002-2009
Group Leader, Environmental Engineering Program, 2003-2006
Member, Committee on Undergraduate Prizes, 2003-2007
Member, Committee on Undergraduate Scholarships and Honors, 2000-2003
Organizing Committee, California Colloquium on Water, 2001-2009

COURSES TAUGHT (PARTIAL LIST)

CE 111: Introduction to Environmental Engineering (3 semester units)
CE 115: Water Chemistry (3 semester units)
CE 217: Environmental Chemical Kinetics (3 semester units)

RESEARCH SUPERVISION

Ph.D.

"Metal speciation in polluted waters and the role of EDTA," Doctoral research topic of William W. Bedsworth, 2000.

"Prevention of the formation of N-nitrosodimethylamine (NDMA) during wastewater chlorination," Doctoral research topic of William A. Mitch, 2003.

"Uptake of metal-EDTA complexes by *B. Juncea* implications for the free-ion activity model and phytoremediation design," Doctoral research topic of Laurel A. Schaider, 2003.

"The detection and fate of the estrogenic hormones 17β-estradiol and 17α-ethinyl estradiol in engineered treatment wetlands," Doctoral research topic of James L. Gray, 2003.

"The effect of iron addition on the net methylation of mercury in engineered and constructed wetlands," Doctoral research topic of Anna S. Mehrotra, 2003.

"The effect of ferric chloride addition on the speciation and removal of metals in municipal wastewater treatment plants," Doctoral research topic of A. Christianne Ridge, 2003.

"The fate of pharmaceutically active compounds in water reuse systems," Doctoral research topic of Karen E. Pinkston, 2003.

"Complexation of mercury(II) by reduced sulfur-containing ligands in municipal wastewater effluent and surface waters" Doctoral research topic of Helen Hsu-Kim, 2004.

"The fate of wastewater-derived organic nitrogen in the aquatic environment," Doctoral research topic of Elif Pehlivanoglu, 2004.

"The occurrence and environmental fate of steroid hormones with endocrine and pheromonal activity in fish," Doctoral research topic of Edward P. Kolodziej, 2004.

"The use of wastewater-derived chemical tracers to assess unintentional water reuse," Doctoral research topic of Lorien Fono, 2006.
"Fate of wastewater-derived contaminants in surface waters," Doctoral research topic of Mong Hoo Lim, 2008.
"Reactive oxidant generation by nanoparticulate zero-valent iron: contaminant oxidation and toxicity" Doctoral research topic of Christina Keenan, 2009.
"Control of mercury methylation in restored wetlands by addition of iron," Doctoral research topic of Patrick Ulrich, 2011.
"Low-molecular weight organic contaminants in reverse osmosis systems," Doctoral research topic of Eva Agus, 2011.
"Activation of hydrogen peroxide by iron-containing minerals and catalysts in circumneutral pH solutions: implications for ex situ and in situ treatment of contaminated waters and soils," Doctoral research topic of Anh L. Pham, 2012.
"Fate of endogenous steroid hormones in runoff from cattle feedlots," Doctoral research topic of D. Scott Mansell, 2012.
"Removal of organophosphate pesticides in wetlands," Doctoral research topic of Ekrem Karpuzcu, 2013.
"The occurrence and fate of precursors to perfluorinated acids in the aquatic environment," Doctoral research topic of Erika Houtz, 2014.
"Removal of wastewater-derived organic contaminants in an engineered periphyton system," Doctoral research topic of Justin Jasper, 2014.
"Heterogeneous oxidation of organic contaminants by in situ chemical oxidation with sodium persulfate," Doctoral research topic of Thomas Bruton, ongoing research.
"Removal of wastewater-derived trace organic contaminants in a vegetated treatment wetland," Doctoral research topic of Samantha Beardsley, ongoing research.
"Passive treatment of chemical contaminants in urban runoff," Doctoral research topic of Joseph Charbonnet, ongoing research.
"Mechanisms of chemical transformation reactions with persulfate," Doctoral research topic of Jean van Buren, ongoing research.
"Multi-criteria decision support for control of nutrients in San Francisco Bay," Doctoral research of Sasha Harris Lovett, ongoing research.
"Electrochemical activation of oxidants for treatment of chemical contaminants," Doctoral research topic of James Barazesh, ongoing research.
"Water quality improvement in a subsurface ecotone system," Doctoral research of Aidan Cecchetti, ongoing research.
"Fate of trace organic contaminants in direct potable water reuse systems." Doctoral research of Emily Marron, ongoing research.

Postdoctoral

"Speciation of nickel and copper in wastewater effluent and effluent-impacted surface waters," Postdoctoral research topic of Jonathan Phinney, 1995-1997.
"The effect of chelating agents on the speciation of copper in the aquatic environment," Postdoctoral research topic of Kenneth Weissmahr, 1996-1998.
"Detection of steroid hormones and pharmaceuticals in municipal wastewater effluent and recycled water," Postdoctoral research topic of Ching-Hua Huang, 1997-1999.
"Formation of NDMA during chloramination of surface waters and wastewater effluent," Postdoctoral research topic of Andreas Gerecke, 2002.

"Steroid hormones and endocrine-disrupting contaminants in agricultural runoff," Postdoctoral research topic of Edward Kolodziej, 2004-2006.

"Fate of steroid hormones and endocrine-disrupting contaminants in California's inland waters," Postdoctoral research topic of Jorge Loyo Rosales, 2006-2008.

"Formation and effects of oxidants produced by zero-valent iron nanoparticles," Postdoctoral research topic of Changha Lee, 2007-2009.

"Uptake of wastewater-derived organic nitrogen by algae," Postdoctoral research topic of Joonseon Jeong, 2009-2010.

"Heterogeneous activation of persulfate by minerals in the subsurface," Postdoctoral research topic of Haizhou Liu, 2010-2012.

"Removal of trace organic contaminants in engineered infiltration systems," Postdoctoral research topic of Janel Grebel, 2011-2013.

"Electrochemical treatment of chemical contaminants," Postdoctoral research topic of Thomas Hennebel. 2013-2015.

"Fate of low molecular organic contaminants in advanced wastewater treatment systems", Postdoctoral research of Florence Bonvin. 2014-present.

PEER-REVIEWED PUBLICATIONS

Harding-Marjanovic K.C., Houtz E.F., Yi S., Jennifer A. Field J.A., Sedlak D.L. and Alvarez-Cohen, L. (2015) Aerobic biotransformation of fluorotelomer thioether amido sulfonate (Lodyne) in AFFF-amended microcosms. *Environ. Sci. Technol.* 49: 7666-7674.

Harris-Lovett S.R., Binz C., Sedlak D.L., Kiparsky M. and Truffer B. (2015) Beyond user acceptance: a legitimacy framework for potable water reuse in California. *Environ. Sci. Technol.* 49: 7552-7561.

Barazesh J.M., Hennebel T., Jasper J.T. and Sedlak D.L. (2105) Modular advanced oxidation process enabled by cathodic hydrogen peroxide production. *Environ. Sci. Technol.* 49: 7391-7399.

Hansen M., Bjorklund E., Popovic O., Jensen L.S., Jacobsen C.S., Sedlak D.L. and Hailing-Sorensen B. (2015) Animal manure separation technologies diminish the environmental burden of steroid hormones. *Environ. Sci. Technol. Letters* 2: 133-137.

Qin, C., Liu, H., Liu, L., Smith, S., Sedlak, D.L. and Gu, A.Z. (2015) Bioavailability and characterization of dissolved organic nitrogen and dissolved organic phosphorus in wastewater effluents. *Science of the Total Environment* 511: 47-53.

McCurry D.L., Bear S.E., Bae J., Sedlak D.L., McCarty P.L. and Mitch W.A. (2014) Superior removal of disinfection byproduct precursors and pharmaceuticals from wastewater in a staged anaerobic fluidized membrane bioreactor compared to activated sludge. *Environ. Sci. Technol. Letters* 1: 459-464.

Hansen M., Poulsen R., Luong X., Sedlak D.L. and Hayes T. (2014) Liquid chromatography tandem mass spectrometry method using solid-phase extraction and bead-beating-assisted matrix solid-phase dispersion to quantify the fungicide tebuconazole in controlled frog exposure study: analysis of water and animal tissue. *Anal. Bioanal. Chem.* 406(29): 7677-7685.

Jasper J.T., Jones Z.L., Sharp, J.O. and Sedlak D.L. (2014) Nitrate removal in shallow, open-water treatment wetlands. *Environ. Sci. Technol* 48: 11512-11520.

Liu H.Z., Bruton T.A., Doyle F.M. and Sedlak D.L. (2014) In situ chemical oxidation of contaminated groundwater by persulfate: decomposition by Fe(III)- and Mn(IV)-containing oxides and aquifer materials. *Environ. Sci. Technol* 48: 10330-10336.

McGuire M.E., Schaefer C., Richards T., Backe W.J., Field J.A., Houtz E., Sedlak D.L., Guelfo J.L., Wunsch A. and Higgins C.P. (2014) Evidence of remediation-induced alteration of subsurface poly- and perfluoroalkyl substance distribution at a former firefighter training area. *Environ. Sci. Technol* 48: 6644-6652.

Jasper J.T., Jones Z.L., Sharp J.O. and Sedlak D.L. (2014) Biotransformation of trace organic contaminants in open-water unit process treatment wetlands. *Environ. Sci. Technol* 48: 5136-5144.

Radjenovic J., Flexer V., Donose B.C., Sedlak D.L. and Keller J. (2013) Removal of the X-ray contrast media diatrizoate by electrochemical reduction and oxidation. *Environ. Sci. Technol* 47: 13686-13694.

Jasper J.T. and Sedlak D.L. (2013) Phototransformation of wastewater-derived trace organic contaminants in open-water unit process treatment wetlands. *Environ. Sci. Technol* 47: 10781-10790.

Hering J.G., Waite T.D., Luthy R.G., Drewes J.E. and Sedlak D.L. (2013) A changing framework for urban water systems. *Environ. Sci. Technol* 47: 10721-10726.

Houtz E.F., Higgins C.P., Field J.A. and Sedlak D.L. (2013) Persistence of Perfluoroalkyl Acid Precursors in AFFF-Impacted Groundwater and Soil. *Environ. Sci. Technol.* 47(15): 8187-8195

Lawrence J.E., Skold M.E., Hussain F.A., Silverman D.R., Resh V.H., Sedlak D.L., Luthy R.G. and McCray J.E. (2013) Hyporheic zone in urban streams: a review and opportunities for enhancing water quality and improving aquatic habitat by active management. *Environ. Eng. Sci.* 30(8): 480-501.

Grebel J.E., Mohanty S.K., Torkelson A.A., Boehm A.B., Higgins C.P., Maxwell R.M., Nelson, K.L. and Sedlak D.L. (2013) Engineered infiltration systems for urban stormwater reclamation. *Environ. Eng. Sci.* 30(8): 437-454.

Jasper J.T., Nguyen M.T., Jones Z.L., Ismail N.S., Sedlak D.L., Sharp J.O., Luthy R.G., Horne A.J. and Nelson K.L. (2013) Unit process wetlands for removal of trace organic contaminants and pathogens from municipal wastewater effluents. *Environ. Eng. Sci.* 30(8): 421-436.

Kiparsky M., Sedlak D.L., Thompson B.H. and Truffer B. (2013) The innovation deficit in urban water: the need for an integrated perspective on institutions, organizations, and technology. *Environ. Eng. Sci.* 30(8): 395-408.

Lee H., Lee H.J., Sedlak D.L. and Lee C. (2103) pH-Dependent reactivity of oxidants formed by iron and copper-catalyzed decomposition of hydrogen peroxide. *Chemosphere* 92(6): 652-658.

Karpuzcu M.E., Sedlak D.L. and Stringfellow W.T. (2013) Biotransformation of chlorpyrifos in riparian wetlands in agricultural watersheds: Implications for wetland management. *J. Hazard Materials* 244: 111-120.

Pham A.L.T., Doyle F.M. and Sedlak D.L (2012) Kinetics and efficiency of H_2O_2 activation by iron-containing minerals and aquifer materials. *Water Research* 46: 6454-6462.

Agus E., Zhang L.F. and Sedlak D.L. (2012) A framework for identifying characteristic odor compounds in municipal wastewater effluent. *Water Research* 46(18): 5970-5980.

Pham A.L.T., Doyle F.M. and Sedlak D.L. (2012) Dissolution of mesoporous silica supports in aqueous solutions: Implications for mesoporous silica-based water treatment processes. *Applied Catalysis B: Environmental* 126: 258-264.

Houtz E.F. and Sedlak D.L. (2012) Oxidative conversion as a means of detecting precursors to perfluoroalkyl acids in urban runoff. *Environ. Sci. Technol* 46(17): 9342-9349.

Gui M.H., Smuleac V., Ormsbee L.E., Sedlak D.L. and Bhattacharyya D. (2012) Iron oxide nanoparticle synthesis in aqueous and membrane systems for oxidative degradation of trichloroethylene from water. *J. Nanoparticle Res.* 14(5): 861.

Webster J.P., Kover S.C., Bryson R.J., Harter T., Mansell D.S., Sedlak D.L. and Kolodziej E.P. (2012) Occurrence of trenbolone acetate metabolites in simulated confined animal feeding operation (CAFO). *Environ. Sci. Technol* 46(7): 3803-3810.

Chusaksri S., Sutthivaiyakit S., Sedlak D.L., Sutthivaiyakit, P. (2012) Reactions of phenylurea compounds with aqueous chlorine: Implications for herbicide transformation during drinking water disinfection. *J. Hazard Materials* 209: 484-491.

Pham A.L.T., Doyle F.M. and Sedlak D.L. (2012) Inhibitory effect of dissolved silica on H_2O_2 decomposition by Iron(III) and Manganese(IV) oxides: implications for H_2O_2-based in situ chemical oxidation. *Environ. Sci. Technol* 46(2): 1055-1062.

Liu H., Jeong, J., Gray H., Smith S. and Sedlak D.L. (2012) Algal uptake of hydrophobic and hydrophilic dissolved organic nitrogen in effluent from biological nutrient removal municipal wastewater treatment systems. *Environ. Sci. Technol* 46(2): 713-721.

Agus E., Lim M.H., Zhang L. and Sedlak D.L. (2011) Odorous compounds in municipal wastewater effluent and potable water reuse systems. *Environ. Sci. Technol* 45(21): 9347-9355.

Mansell D.S., Bryson R.J., Harter T., Webster J., Kolodziej E.P. and Sedlak D.L. (2011) Fate of endogenous steroid hormones in steer feedlots under simulated rainfall-induced runoff. *Environ. Sci. Technol* 45(20): 8811-8818.

Kim J.Y., Lee C., Love D.C., Sedlak D.L., Yoon J. and Nelson K.L. (2011) Inactivation of MS2 coliphage by ferrous ion and zero-valent iron nanoparticles. *Environ. Sci. Technol* 45(16): 6978-6984.

Dickenson E.R.V., Snyder S.A., Sedlak D.L. and Drewes J.E. (2011) Indicator compounds for assessment of wastewater effluent contributions to flow and water quality. *Water Research*, 45(3): 1199-1212.

Kim J.Y., Park H.J., Lee C., Nelson K.L., Sedlak D.L. and Yoon J. (2010) Inactivation of Escherichia coli by nanoparticulate zerovalent iron and ferrous iron. *Applied & Environ. Microbiology* 76(22): 7668-7670.

Litton R.M., Anh J.M., Sercu B., Holden P., Sedlak D.L. and Grant S.B. (2010) Evaluation of chemical, molecular, and traditional markers of fecal contamination in an effluent dominated stream. *Environ. Sci. Technol* 44(19): 7369-7375.

Ulrich P.D. and Sedlak D.L. (2010) Impact of iron amendment on net methylmercury export from tidal wetland microcosms. *Environ. Sci. Technol* 44(19): 7659-7665.

Kim J.Y., Lee C., Sedlak D.L., Yoon J., Nelson K.L. (2010) Inactivation of MS2 by Fenton's reagent. *Water Research*, 44(8): 2647-2653.

Agus E. and Sedlak D.L. (2010) Formation and fate of chlorination by-products in reverse osmosis desalination systems. *Water Research*, 44(5): 1616-1626.

Lavado R., Loyo-Rosales J.E., Floyd E., Kolodziej E.P., Snyder S.A., Sedlak, D.L. and Schlenk D. (2009) Site-specific profiles of estrogenic activity in agricultural areas of California's inland waters *Environ. Sci. Technol* 43(24): 9110-9116.

Pham A.L.T., Lee C., Doyle F.M. and Sedlak D.L. (2009) A silica-supported iron oxide catalyst capable of activating hydrogen peroxide at neutral pH. *Environ. Sci. Technol* 43(23): 8930-8935.

Lee C. and D. L. Sedlak (2009) A novel homogeneous Fenton-like system with Fe(III)-phosphotungstate for oxidation of organic compounds at neutral pH values. *J. Molec. Catal. A*, 311(1-2): 1-6.

Dickenson E.R.V., Drewes J.E., Sedlak D.L., Wert E.C. and Snyder S.A. (2009) Applying surrogates and indicators to assess removal efficiency of trace organic chemicals during chemical oxidation of wastewaters. *Environ. Sci. Technol* 43(16): 8930-8935.

Robrock K.R., Coelhan M., Sedlak D.L. and Alvarez-Cohen, L. (2009) Aerobic biotransformation of polybrominated diphenyl ethers (PBDEs) by bacterial isolates. *Environ. Sci. Technol* 43(15): 5705-5711.

Keenan C.R., Goth-Goldstein R., Lucas D. and Sedlak D.L. (2009) Oxidative stress induced by zero-valent iron nanoparticles and Fe(II) in human bronchial epithelial cells. *Environ. Sci. Technol* 43(12): 4555-4560.

Agus E., Voutchkov N. and Sedlak D.L. (2009) Disinfection byproducts and their potential impacts on the quality of water produced by desalination systems: a literature review. *Desalination*, 237: 214-237.

Lee, C. and D. L. Sedlak (2008) Enhanced formation of oxidants from bimetallic nickel-iron nanoparticles in the presence of oxygen. *Environ. Sci. Technol.* 42(22): 8528-8533.

Keenan C.R. and Sedlak D.L. (2008) Ligand-enhanced reactive oxidant generation by nanoparticulate zero-valent iron and oxygen. *Environ. Sci. Technol* 42(18): 6936-6941.

Pehlivanoglu-Mantas E. and Sedlak D.L. (2008) Measurement of dissolved organic nitrogen forms in wastewater effluents: concentrations, size distribution and NDMA formation potential. *Water Research*, 42(14): 3890-3898.

Lee C., Keenan C.R. and Sedlak D.L. (2008) Polyoxometalate-enhanced oxidation of organic compounds by nanoparticulate zero-valent iron and ferrous ion in the presence of oxygen. *Environ. Sci. Technol* 42(13): 4921-4926.

Lee C., Kim J.Y., Lee W.I., Nelson K.L., Yoon J. and Sedlak D.L. (2008) Bactericidal effect of zero-valent iron nanoparticles on *Escherichia coli*. *Environ. Sci. Technol* 42(13): 4927-4933.

Lim M.H., Snyder S.A. and Sedlak D.L. (2008) Use of biodegradable dissolved organic carbon (BDOC) to assess the potential for transformation of wastewater-derived contaminants in surface waters. *Water Research*, 42(12): 2943-2952.

Keenan C.R. and Sedlak D.L. (2008) Factors affecting the yield of oxidants from the reaction of nanoparticulate zero-valent iron and oxygen. *Environ. Sci. Technol* 42: 1262-1267.

Kolodziej E.P. and Sedlak D.L. (2007) Rangeland grazing as a source of steroid hormones to surface waters. *Environ. Sci. Technol* 41(10):3514-3520.

Fono L.J. and Sedlak D.L. (2007) A simple method for the measurement of organic iodine in wastewater and surface water. . *Water Research* 41(7):1580-1586.

Fono L.J., Kolodziej E.P. and Sedlak D.L. (2006) Attenuation of wastewater-derived contaminants in an effluent-dominated river. *Environ. Sci. Technol.* 40: 7257-7262.

Schaider L.A., Parker D.R. and Sedlak D.L. (2006) Uptake of EDTA-complexed Pb, Cd and Fe by solution- and sand-cultured Brassica juncea. *Plant& Soil* 286: 377-391.

Pehlivanoglu-Mantas E. and Sedlak D.L. (2006) Wastewater-derived dissolved organic nitrogen: Analytical methods, characterization, and effects-a review. *Critical Reviews in Environ. Sci. Technol.* 36(3):261-285.

Pehlivanoglu-Mantas E. and Sedlak D.L. (2006) The fate of wastewater-derived NDMA precursors in the aquatic environment. *Water Research* 40(6):1287-1293.

Pehlivanoglu-Mantas E., Hawley E.L., Deeb R.A. and Sedlak D.L. (2006) Formation of nitrosodimethylamine (NDMA) during chlorine disinfection of wastewater effluents prior to use in irrigation systems. *Water Research* 40(2): 341-347.

Gan J., Bondarenko S., Ernst F., Yang W., Ries S.B., Sedlak D.L. (2006) Leaching of N-nitrosodimethylamine (NDMA) in turfgrass soils during wastewater irrigation. *J. Environ. Qual*, 35(1):277-284.

Arienzo M., Gan J., Ernst F., Qin S., Bondarenko S., Sedlak D.L. (2006) Loss pathways of N-nitrosodimethylamine (NDMA) in turfgrass soils. *J. Environ. Qual*, 35(1):285-292.

Schlenk D., Sapozhnikova Y., Irwin M.A., Xie L.T., Hwang W., Reddy S., Brownawell B.J., Armstrong J., Kelly M., Montagne D.E., Kolodziej E.P., Sedlak D., Snyder S. (2005) In vivo bioassay-guided fractionation of marine sediment extracts from the Southern California Bight, USA, for estrogenic activity. *Environmental Toxicology and Chemistry*, 24(11): 2820-2826.

Fono L.J. and Sedlak D.L. (2005) Use of the chiral pharmaceutical propranolol to identify sewage discharges into surface waters. *Environ. Sci. Technol.* 39, 9244-9252.

Mitch W.A., Oelker G.L., Hawley E.L., Deeb R.A., Sedlak D.L. (2005) Minimization of NDMA formation during chlorine disinfection of municipal wastewater by application of pre-formed chloramines. *Environmental Engineering Science* 22, 882-890.

Feitz A.J., Joo S.H., Guan J., Sun Q., Sedlak D.L., Waite T.D. (2005) Oxidative transformation of contaminants using colloidal zero-valent iron. *J. Colloids and Surfaces A*, 265(1-3): 88-94.

Hsu-Kim H. and Sedlak D.L. (2005) Similarities between inorganic sulfide and the strong Hg(II)-complexing ligands in municipal wastewater effluent. *Environ. Sci. Technol* 39,4035-4041.

Mehrotra A.S. and Sedlak D.L. (2005) Decrease in net mercury methylation rates following iron amendment to anoxic wetland sediment slurries. *Environ. Sci. Technol.* 39, 2564-2570.

Gray J.L. and Sedlak D.L. (2005) The fate of estrogenic hormones in an engineered treatment wetland with dense macrophytes. *Water Environ. Res.,*77, 24-31.

Sedlak D.L., Deeb R.A., Hawley E.L., Mitch W.A., Durbin T.D., Mowbray S., Carr S. (2005) Sources and fate of nitrosodimethylamine and its precursors in municipal wastewater treatment plants. *Water Environ. Res.,* 77, 32-39.

Joo S.H., Feitz A.J., Sedlak D.L. and Waite T.D. (2005) Quantification of the oxidizing capacity of nanoparticulate zero-valent iron. *Environ. Sci. Technol.*, 39, 1263-1268.

Kolodziej E.P., Harter T. and Sedlak D.L. (2004) Dairy wastewater, aquaculture and spawning fish as sources of steroid hormones in the aquatic environment. *Environ. Sci. Technol.*, 38, 6377-6384.

Pehlivanoglu E., and Sedlak D.L. (2004) Bioavailability of wastewater-derived organic nitrogen to the alga *Selenastrum Capricornutum*. *Water Research*, 38(14-15): 3189-3196.

Pinkston K.E. and Sedlak D.L. (2004) Transformation of aromatic ether- and amine-containing pharmaceuticals during chlorine disinfection. *Environ. Sci. Technol.*, 38, 4019-4025.

Mitch W.A. and Sedlak D.L. (2004) Characterization and fate of NDMA precursors in municipal wastewater treatment plants. *Environ. Sci. Technol.*, 38, 1445-1454.

Ridge A.C. and Sedlak D.L. (2004) Effect of ferric chloride addition on the removal of Cu and Zn complexes with EDTA during municipal wastewater treatment. *Water Research*, 38, 921-934.

Kolodziej E.P., Gray J.L. and Sedlak D.L. (2003) Quantification of steroid hormones with pheromonal properties in municipal wastewater effluent. *Environmental Toxicology and Chemistry*. 22, 2622-2629.

Mitch W.A., Sharp J.O., Trussell R.R., Valentine R.L., Alvarez-Cohen L. and Sedlak D.L. (2003) *N*-Nitrosodimethylamine as a drinking water contaminant: A review. *Environmental Engineering Science* 20, 389-404.

Snyder S.A., Westerhoff P., Yoon Y. and Sedlak D.L. (2003) Pharmaceuticals, personal care products and endocrine disrupters in water: Implications for water treatment. *Environmental Engineering Science* 20, 449-469.

Mitch W.A., Gerecke A.C. and Sedlak D.L. (2003) A *N*-Nitrosodimethylamine (NDMA) precursor analysis for chlorination of water and wastewater. *Water Research* 37, 3733-3741.

Mehrotra A.S., Horne A.J. and Sedlak D.L. (2003) Inhibition of net mercury methylation by iron in *Desulfobulbus propionicus* cultures: implications for engineered wetlands. *Environ. Sci. Technol.* 37, 3018-3023.

Hsu H. and Sedlak D.L. (2003) Strong Hg(II) complexation in municipal wastewater effluent and surface waters. *Environ. Sci. Technol.* 37, 2743-2749.

Gerecke A.C. and Sedlak D.L. (2003) Precursors of *N*-Nitrosodimethylamine (NDMA) in natural waters. *Environ. Sci. Technol.* 37, 1331-1336.

Mitch W.A. and Sedlak D.L. (2002) Factors affecting the formation of NDMA during chlorination. *Environ. Sci. Technol.*, 36, 588-595.

Bedsworth W.W. and Sedlak D.L. (2001) Determination of metal complexes of ethylenediaminetetraacetate (EDTA) in the presence of organic matter by high performance liquid chromatography. *J. Chromatography A*, 905, 157-162.

Huang, C.H. and Sedlak, D.L. (2001) Analysis of estrogenic hormones in municipal wastewater effluent and surface water using ELISA and GC/MS/MS. *Environmental Toxicology and Chemistry*. 20, 133-139.

Sedlak D.L., Gray J.L. and Pinkston K.E. (2000) Understanding microcontaminants in recycled water. *Environ. Sci. Technol.* 34, 508A-515A.

Weissmahr K.W. and Sedlak D.L. (2000) Influence of metal complexation on the degradation of dithiocarbamate fungicides. *Environ. Toxicol. & Chem.* 19, 820-826.

Voelker B., Sedlak D.L. and Zafiriou O.C. (2000) Chemistry of superoxide radical in seawater: reactions with organic Cu complexes. *Environ. Sci Technol.* 34,1036-1042.

Abu-Saba K., Flegal A.R. and Sedlak D.L. (2000) Reduction of hexavalent chromium by copper in the presence of superoxide. *Marine Chemistry*. 69, 33-41.

Bedsworth W.W. and Sedlak D.L. (1999) Sources and environmental fate of strongly complexed nickel in estuarine waters: the role of ethylenediaminetetraacetate. *Environ. Sci. Technol.* 33(6): 926-931.

Zafirou O.C., Voelker B. and Sedlak D.L. (1998) Chemistry of superoxide radical in seawater: reactions with inorganic Cu complexes. *J. Phys. Chem. A* 102, 5693-5700.

Weissmahr K.W., Houghton C.L. and Sedlak D.L. (1998) Analysis of the dithiocarbamate fungicides Ziram, Maneb, Zineb and the flotation agent Ethylxanthogenate by ion-pair reversed phase HPLC. *Anal. Chem.* 70, 4800-4804.

Sedlak D.L., Phinney J.T. and Bedsworth W.W. (1997) Strongly complexed Cu and Ni in wastewaters and surface runoff. *Environ. Sci. Technol.* 31(10), 3010-3016.

Sedlak D.L. and Chan P.G. (1997) The reduction of Cr(VI) by Fe(II) in natural waters. *Geochimica et Cosmochimica Acta,* 61, 2185-2192.

Sedlak D.L., David M.M., Hoigné J., Colvile R.N., Seyffer E., Wiepercht W., Lind J. and Fuzzi S. (1997) The cloudwater chemistry of iron and copper at Great Dun Fell, U.K.. *Atmospheric Environment,* 31(16) 2515-2526.

Choularton T.W., Colvile R.N., Bower K.N., Sedlak D.L. and others (1997) The Great Dun Fell cloud experiment 1993: an overview. *Atmospheric Environment*, 31, 2393-2405.

Voelker, B. and Sedlak, D.L. (1995) Iron reduction by photoproduced superoxide in seawater. *Marine Chemistry* 50, 93-102.

Matthijsen J., Builtjesi P.J.H. and Sedlak D.L. (1995) Cloud model experiments on the effect of iron and copper on tropospheric ozone under marine and continental conditions. *Meteorology and Atmospheric Physics*, 57, 43-60.

Sedlak D.L. and Andren A.W. (1994) The effect of sorption on the oxidation of polychlorinated biphenyls (PCBs) by hydroxyl radical. *Water Res.* 28(5),1207-1215.

Sedlak D.L. and Hoigné J. (1994) The oxidation of S(IV) in atmospheric waters by photo-oxidants and iron in the presence of copper. *Environ. Sci. Technol.* 28(11), 1898-1906.

Sedlak D.L. and Hoigné J. (1993) The role of copper and oxalate in the redox cycling of iron in atmospheric waters. *Atmospheric Environment* 27A(14), 2173-2185.

Sedlak D.L., Dean K.E., Armstrong D.E. and Andren A.W. (1991) Interaction of quicklime with polychlorobiphenyl-contaminated solids. *Environ. Sci. Technol,* 25, 1936-1940.

Sedlak D.L. and Andren A.W. (1991) Aqueous-phase oxidation of polychlorinated biphenyls with hydroxyl radicals. *Environ. Sci. Technol.* 25(8), 1419-1427.

Sedlak D.L. and Andren A.W. (1991) Oxidation of chlorobenzene with Fenton´s reagent. *Environ. Sci. Technol.* 25(4), 777-782.

BOOKS AND BOOK CHAPTERS

Harris-Lovett S.R. and Sedlak D.L. (2105) The History of Water Reuse in California. In: *Sustainable Water—Challenges and Solutions from California*, Lassiter A. editor. University of California Press: Berkeley, CA.

Sedlak D.L. (2014) *Water 4.0: The Past, Present and Future of the World's Most Vital Resource*. Yale University Press: New Haven, CT. http://www.water4point0.com/

Remucal C.K. and Sedlak D.L. (2011) The Role of Iron Coordination in the Production of Reactive Oxidants from Ferrous Iron Oxidation by Oxygen and Hydrogen Peroxide. In: *Aquatic Redox Chemistry*, Tratnyek, P.G. et al. editors. American Chemical Society: Washington, DC.

Kümmerer K., Ericson J.F., Hannah R., Johnson A., Sedlak D.L., Weston J.J. (2005) Environmental fate and transport of human pharmaceuticals. In: *Human Pharmaceuticals: Assessing the Impacts on Aquatic Ecosystems*. R.T. Williams, Editor, SETAC Press. Pensacola, FL.

Sedlak D.L., Huang C.H. and Pinkston K.E. (2004) Strategies for selecting pharmaceuticals to assess attenuation during indirect potable water reuse. In: *Pharmaceuticals in the environment*. K. Kümmerer, ed. Springer Publishers, Berlin.

NON-REVIEWED PUBLICATIONS

Sedlak, D.L. and von Gunten, U. (2011) The chlorine dilemma. *Science* 331(6013), 42-43.

Sedlak D.L., Pinkston K.E., Gray J.L. and Kolodziej E.P. (2003) Approaches for quantifying the attenuation of wastewater-derived contaminants in the aquatic environment. *Chimia,* 57(9), 567-569.

Mitch W.A. and Sedlak D.L. (2002) *N*-Nitrosodimethylamine (NDMA): an emerging chlorine disinfection byproduct. *Water Science & Technology:Water Supply,* 2, 191-198.

Sedlak D.L. and Pinkston K.E. (2001) Factors affecting the concentrations of pharmaceuticals released to the aquatic environment. *Wat. Res. Update*, 120, 56-64.

Huang C.H., Renew J.E., Smeby K.L., Pinkston K. and Sedlak D.L. (2001) Assessment of potential antibiotic contaminants in water and preliminary occurrence analysis. *Wat. Res. Update*, 120, 30-40.

Sedlak D.L., Bedsworth W.W., Jenkins D., Kang S.J. and Murin J. (2000) Assessing methods of removing metals from wastewater: a review of data and methodologies. Final report to the Water Environment Research Foundation: Project 97-CTS-4.

Sedlak D.L. (1999) Pharmaceutically-active compounds in the aquatic environment and their relationship to water reuse. Proceedings of the 9th biennial symposium on artificial recharge of groundwater. Tempe, Arizona, June 10-12, 1999.

Sedlak D.L., Bedsworth W.W. and Jenkins D. (1998) The role of speciation in the removal of nickel by the San Jose/Santa Clara Water Pollution Control Plant and its fate in San Francisco Bay. Environmental Engineering Health Sciences Laboratory, report 98-01.

Sedlak D.L. and Bentley A. (1997) The role of photochemistry in the transport and transformation of arsenic. University of California Water Resources Center Technical Completion Report: UCAL-WRC-W-853.

Sedlak D.L. (1997) Analytical Techniques for determining metal speciation in polluted waters. 5th International Conference on the Transport, Fate and Effects of Silver in the Environment. Hamilton, Canada, September 4-6, 1997.

Voelker B.M., Zafiriou O.C. and Sedlak D.L. (1995) Metal redox cycling by photoproduced superoxide radical. 210th National Meeting of the American Chemical Society, Chicago, IL, August 21-26, 1995.

Sedlak D.L. (1995) The use of ionizing radiation to study reactions of hydroperoxyl and superoxide radicals in sunlit waters. 210th National Meeting of the American Chemical Society, Chicago, IL, August 21-26, 1995.

Sedlak D.L. and Hoigné J. (1995) Mechanisms of iron redox reactions in sunlit cloudwater. 210th National Meeting of the American Chemical Society, Chicago, IL, August 21-26, 1995.

Sedlak D.L. and Andren A.W. (1994) Photo-enhanced sorption of silver to bentonite. 2nd International Conference on the Transport, Fate and Effects of Silver in the Environment. Madison, WI, September 11-14, 1994.

Sedlak D.L. and Hoigné J. (1993) The use of γ-radiation to simulate the free radical chemistry of sunlit waters. 6th European Symposium on the Physico-Chemical Behavior of Atmospheric Pollutants. Varese, Italy, October 1993.

Hoigné J., Zuo Y., Sedlak D.L., von Piechowski M., Bühler R. (1992) The role of iron and copper species for reactions of photooxidants and photochemical reactions in atmpsheric waters. Joint CEC/EUROTRAC Workshop, Leuven Belgium, September 1992.

Sedlak D.L. and Andren A.W. (1992) Hydroxyl radical transformations of polychlorinated biphenyls in the presence of particles. 203rd National Meeting of the American Chemical Society, San Francsico, CA April 1992.

Sedlak D.L. and Andren A.W. (1990) Oxidation kinetics of chlorobenzene with Fenton's reagent: reaction pathway, intermediates and kinetics. 199th National Meeting of the American Chemical Society, Boston, MA, April 1990.

INVITED PRESENTATIONS (PARTIAL LIST)

"Blueprint for the Fourth Urban Water Revolution" Keynote Lecture. GE-NUS Visiting Scientist Lecture. Singapore. July 8, 2015.

"Blueprint for the Fourth Urban Water Revolution" Keynote Lecture. Watermatex 2015. Surfer's Paradise, Australia. June 16, 2015.

"2050: The Year We Completed our Urban Water Transformation" Keynote Lecture. Association of Bay Area Governments. Oakland, CA. April 23, 2015.

"Rethinking Wastewater: Water Reuse in the United States" Arab-American Frontiers of Engineering. Muscat, Oman. December 14, 2014.

"Water 4.0: The Inevitable Revolution in Urban Water and the Relevance of Trace Organic Contaminants" 2014 NIEHS Superfund Research Program. San Jose, CA . November 14, 2014.

"The Fourth Revolution: A View from the Other Side" Sagan National Colloquium. Ohio Wesleyan University, Delaware, OH. November 12, 2014.

"The Fourth Revolution in Urban Water Infrastructure: Opportunities, Challenges and the Need for Innovation" Keynote Lecture. The Second Annual Water Research Symposium at Kent State University. Kent, OH. October 31, 2014.

"California Dreaming: Natural Systems and Urban Water Infrastructure" IARU Sustainability Science Conference 2014. Copenhagen, Denmark, October 24, 2014.

"Water 4.0: An Answer to Urban Water Challenges of the 21st Century" Richard L. Valentine Distinguished Lecture in Civil and Environmental Engineering. University of Iowa, Iowa City, September 19, 2104.

"Ten Decades of Fostering Revolution: Safe Urban Water Courtesy of ACS" Keynote Lecture. Division of Environmental Chemistry, 248th National Meeting of the American Chemical Society. San Francisco, CA August 11, 2014.

"Getting it Right the Fourth Time: Urban Water in the 21st Century" Science Museum of Minnesota, St. Paul, MN. June 30, 2014.

"The Fourth Revolution in Urban Water: Options for Water Scarce Cities" University of Queensland, Brisbane, Australia. June 11, 2014.

"California's Drought: A Window of Opportunity for the Fourth Revolution in Urban Water" Keynote Lecture. Resources Roundtable: California in Drought. Berkeley Energy and Resources Consortium. Berkeley, CA. April 18, 2014.

"Trace Organic Contaminants and the Fourth Water Revolution" Keynote Lecture. 17th Annual Environmental Chemistry and Microbiology Student Symposium. Penn State University, State College, PA. March 28, 2014.

"Creating Robust Environmental Buffers to Support Potable Water Reuse" Department of Civil & Environmental Engineering, Duke University, Durham, NC. March 19, 2014.

"A Multiple Barrier Approach to Potable Water Reuse" Department of Civil & Environmental Engineering, University of Washington, Seattle, WA. January 20, 2014.

"Two Visions of the Fourth Revolution in Urban Water" Keynote Lecture. 2013 Clarke Prize Conference. Newport Beach, CA. November 15, 2013.

"The Fourth Revolution in Urban Water Systems" The John McClanahan Henske Distinguished Lecture in Chemical Engineering. Yale University. October 30, 2013.

"The Fourth Revolution in Urban Water Systems" The Clifford W. Randall Distinguished Lecture. Virginia Institute of Technology. September 27, 2013.

"Optimizing the Removal of Trace Organic Contaminants in Managed Natural Treatment Systems. Keynote Lecture. 14th EuCheMS International Conference on Chemistry and the Environment. Barcelona, Spain. June 26, 2013.

"Removal of Trace Organic Contaminants: A Critical Barrier to Deploying the Next Generation of Urban Water Infrastructure" Keynote Lecture. Micropol & Ecohazard 2013. Zürich, Switzerland. June 17, 2013.

"The Future of Urban Water Systems: Technological and Institutional Challenges" Presidential Symposium-Water: A Grand Challenge for Science and Society. ACS National Meeting. New Orleans, LA. April 9, 2013.

"Urban Water Technologies for the 21st Century" 50th Anniversary Celebration of the Water Chemistry Program. University of Wisconsin. Madison, WI. October 12, 2012.

"The Water Sustainable City" Sustainable Development for the 21st Century: The Role of the Modern University. UC Davis College of Engineering. Davis, CA. September 26, 2012.

"Introducing the Unit Process Wetland" Stanford University Environmental Science & Engineering Graduate Seminar. Stanford, CA. May 4, 2012.

"Heterogeneous Activation of Hydrogen Peroxide and Persulfate for Oxidative Treatment of Contaminants." Korea Institute of Science & Technology (KIST). February 20, 2012.

"Anticipating Emerging Contaminants: Lessons from the Recent Past" National Research Council Water Science and Technology Board and the Board on Chemical Sciences and Technology Workshop on Emerging Contaminants in Water. Washington, DC. April 13, 2011.

"The Past, Present and Future of Potable Water Reuse" Gloyna Lecture, Johns Hopkins University, Department of Environmental Engineering and Geography, Baltimore, MD. April 19, 2011.

"Closing the Loop on Urban Water Systems" Keynote Borchardt Lecture, The 2011 Borchardt Conference, Ann Arbor, MI. February 23, 2011.

"Watering the Megacities" National Academy of Engineering, 2011 National Meeting, University of Southern California, Los Angeles. February 10, 2011.

"Production of Hydroxyl Radicals by Iron-Conatining Fenton Catalysts at Circumneutral pH Values. 16th Advanced Oxidation Technologies Conference. San Diego, CA. November 16, 2010.

"Reinventing Urban Water Systems" Gilbreth Lecture, National Academy of Engineering Annual Meeting. Washington, D.C., October 3, 2010.

"Is Potable Water Reuse a Viable Solution to Urban Water Shortages?" Swiss Federal Institute for Environmental Science & Technology (Eawag). Dübendorf, Switzerland, April 30, 2010.

"Reinventing Urban Water Systems" 2010 Indo-American Frontiers of Engineering Symposium, Jaypee Palace Hotel, Agra, India March 10-13, 2010.

"Is Potable Water Reuse a Viable Solution to Urban Water Shortages?" Singapore Public Utilities Board. February 2, 2010.

"Short-Circuiting the Hydrologic Cycle to Meet Urban Water Needs" 2009 Nobel Conference: H_2O Uncertain Resource. Gustavus Adolphus College, St. Peter, MN. October 7, 2009.

"Oxidant Production from Iron Nanoparticles: Mechanisms, Contaminant Transformation and Impacts of Biological Systems" UC Santa Barbara, CA. May 18, 2009.

"Agricultural Sources of Endocrine-Disrupting Compounds (EDCs) and the Fate of EDCs in Surface Waters and Wetlands" AQWATEC Distinguished Lecturer, Colorado School of Mines. Golden, CO. March 26, 2009.

"Environmental Engineers Engineering the Environment" Urban Water Security Alliance, Brisbane Australia, January 12, 2009.

"Oxidant Production from Iron Nanoparticles: Mechanisms and Environmental Implications" Department of Civil and Environmental Engineering, Stanford University, November 7, 2009.

"Thinking Beyond the Box About the Challenges Posed by Emerging Contaminants" AEESP/WEF Scientist's Luncheon, WEFTEC 2008, Chicago, IL, October 20, 2009.

"Engineering Surface Waters to Minimize the Impacts of Steroid Hormones and Related Compounds" Department of Civil and Environmental Engineering, University of Texas, Austin, TX, October 9, 2008.

"The Oxidation of Organic Compounds with Nanoparticulate Iron" Invited speaker, 5th Annual IWA Leading Edge Technology Conference, Zürich, Switzerland, June 3, 2008.

"Turning Rust Into Gold: Harnessing the Oxidation of Iron to Improve Water Quality" Distinguished Faculty Lecturer, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA. April 15, 2008 and Environmental Engineering Seminar Series, UCLA, May 20, 2008.

"Will The Toxics We Pour Down the Drain Come Back and Bite Us?" University of California Research and Teaching Program Annual Meeting, Riverside, CA. April 12, 2008.

"Treatment and Treatability of Pharmaceuticals in Water Treatment Plants" Society of Toxicology Annual Meeting, Seattle, WA. March 18, 2008.

"Where Will the Golden State Find its Water in a Brown Future?" Discover Cal Faculty Lecture Series, Los Angeles, CA and San Diego, CA, November 27 and 28, 2007.

"Can We Transform Ourselves Out of the Risks Posed by Wastewater-Derived Contaminants?" Plenary Speaker, Society of Environmental Toxicology and Chemistry Annual Meeting, Milwaukee, WI, November 12, 2007.

"Wastewater-Derived Contaminants: A Challenge for the Predictive Tools Developed by Environmental Chemists." Department of Chemistry, University of South Carolina, Columbia, S.C., October 5, 2007.

"Sources, Fate and Treatment of Endocrine-Disrupting Compounds in Surface Waters" Bogazici Institute of Technology, Istanbul, Turkey. June 14, 2007.

"Fate of Wastewater-Derived Organic Contaminants in Engineered and Natural Systems" Pharmaceuticals and Personal Care Products in the Environment Symposium. California Department of Toxic Substance Control, Sacramento, CA. May 22, 2007.

"EDTA Complexes in Sewage and Their Use as Wastewater Tracers" Plenary Talk, Complexing Agents between Science, Industry, Authorities and Users. Ascona, Switzerland. March 13, 2007.

"Steroid Hormones and Endocrine Disruption in Agricultural Watersheds" Department of Energy, Environmental and Chemical Engineering, Washington University, St. Louis, MO. March 2, 2007.

"Sources, Fate and Potential Impacts of Steroid Hormones in the Aquatic Environment" Department of Chemical & Environmental Engineering, UC Riverside. September 29, 2006.

"Potential Human Health Risks Posed by Chemical Contaminants in Water From Reuse Projects" Workshop on Water Reuse, Physicians for Social Responsibility, Los Angeles. September 28, 2006

"Emerging Contaminants in San Francisco Bay" Keynote Presentation, San Francisco Estuary Institute 2006 Annual Meeting. Oakland, CA. September 12, 2006.

"Quantifying Sources and Attenuation of Wastewater-Derived Contaminants" UC Davis Department of Civil and Environmental Engineering. May 22, 2006.
"Chemical Contaminants in Water Produced by Desalination" AWWA Regional Meeting, San Francisco, CA. April 27, 2006.
"Quantifying Sources and Attenuation of Wastewater-Derived Contaminants" Environmental Toxicology Program, UC Santa Cruz. April 25, 2006.
"Oxygen activation by iron and its role in the abiotic transformation of organic compounds" 231st ACS National Meeting, Atlanta, GA. March 28, 2006.
"Characterization and Fate of rDON" WERF Workshop on Organic Nitrogen. Washington, DC. March 10, 2006.
"Wastewater-Derived Contaminants: Problems and Potential Solutions" National University of Singapore. January 19, 2006.
"Challenges and Opportunities Associated with Wastewater-derived contaminants" California Water Environment Association, Los Angeles, CA. January 12, 2006.
"Strategies for Assessing the Fate of Wastewater-Derived Chemical Contaminants" Pacifichem 2005 Congress, Honolulu, HI. December 15, 2005.
"Challenges and Opportunities Associated with Wastewater-derived contaminants" Department of Chemistry, University of Buffalo, NY. November 11, 2005.
"Oxidation of Organic Contaminants on Nanoparticulate Zero-Valent Iron" USEPA Workshop on Nanotechnology for Site Remediation, Washington, DC. October 20, 2005.
"The Significance of PhPCPs in US Drinking Water" American Water Works Association National Meeting, San Francisco, CA, June 15, 2005.
"NDMA Fate and Transport" WateReuse Association Research Conference, Orlando, FL, May 24, 2005.
"Tools for Tracking the Fate of Wastewater-Derived Contaminants in Effluent-Dominated Waters" Plenary address, Southern California Society for Environmental Toxicology and Chemistry, Los Angeles, CA, May 21, 2005.
"Technologies for Enhancing Water Supplies" Berkeley in Silicon Valley Symposium, Santa Clara, CA, May 7, 2005.
"Protecting human health and aquatic ecosystems from potential impacts of wastewater-derived Contaminants" Departmental seminar, University of Illinois, CAMPWS Program, Urbana, IL November 12, 2004 and Stanford University, Stanford, CA October 15, 2004.
"Androgen, estrogen and progestin hormones in the aquatic environment" Plenary lecture, SECOTOX 2004, Sogkla, Thailand, September 31, 2004.
"The use of propranolol enantiomers to discriminate between combined sewer overflows and wastewater effluent discharges" ACS National Meeting, Philadelphia, PA August 25, 2004.
"Understanding Microcontaminants in Recycled Water", Keynote presentation, OZ-AQUAREC Workshop IV, Detection, Fate and Removal of Trace Contaminants, Wollongong, Australia, February 13, 2004.
"The Fate of Wastewater-Derived Contaminants in Engineered and Natural Systems", Departmental Seminar, CSIRO, Adelaide, Australia, January 29, 2004.
"Quantification of NDMA Precursors in the Aquatic Environment", American Water Works Association 2003 National Meeting, Anaheim, CA, June 18, 2003.
"Wastewater-Derived Chemical Contaminants to Water Providers", American Water Works Association 2003 National Meeting, Anaheim, CA, June 18, 2003.

"Occurrence and Treatment of Endocrine Disrupters and Pharmaceuticals in Municipal Wastewater Effluent", San Gabriel Watermaster, Azusa, CA, May 29, 2003.
"The Fate of Wastewater-Derived Contaminants in Engineered Treatment Wetlands", Departmental Seminar, Department of Oceanography, Stony Brook University, Stony Brook, NY, May 2, 2003.
"Wastewater-Derived Chemical Contaminants to Water Providers", American Water Works Association California and Nevada Regional Meeting, Reno, NV, October 16, 2002.
"Wastewater-Derived Chemical Contaminants." Association of California Water Agencies Conference on Xenobiotics. Sacramento, CA, September 2002.
"N-Nitrosodimethylamine: The Unexpected Disinfection Byproduct." Gordon Research Conference, Environmental Sciences: Water. Plymouth, NH, June 2002.
"Emerging Contaminants: New Research Opportunities for Bioremediation Specialists." NIEHS Conference on Bioremediation, Monterey, CA. June 2002.
"Factors Controlling the formation of N-Nitrosodimethylamine (NDMA) during Chlorination." Water Reuse Foundations, 2001 Annual Research Conference. Monterey, CA.
"Factors Affecting the Fate of Pharmaceuticals in the Aquatic Environment." National Ground Water Association International Conference on Pharmaceuticals and Endocrine Disrupters. Minneapolis, MN, November 2001.
"Emerging Issues in Environmental Chemistry." Department of Environmental Toxicology and Chemistry, Oregon State University, Corvallis, OR. November 2001.
"Effluent-Derived Chemical Contaminants in Recycled Water." Department of Civil and Environmental Engineering, MIT, Boston, MA. November 2001.
"Endocrine Disrupters in Municipal Wastewater." Department of Environmental Engineering, National Autonomous University of Mexico (UNAM), Mexico City, Mexico. July 2001.
"Challenges Associated with Quantification of Trace Concentrations of Pharmaceutically-Active Compounds (PhACs) in a Complex Matrix." American Water Works Association Research Foundation Emerging Contaminants Conference, Chicago, IL. April 2001.
"The Fate and Transport of Hormones in the Aquatic Environment." Environmental Engineering Science seminar series, California Institute of Technology, Pasadena, CA. March 2001.
"Analytical Challenges Associated with Identification of Endocrine Disrupters in Water." American Water Works Association Special Symposium, Denver, CO. March 2001.
"Immunochemical Methods for Quantifying Hormones in Polluted Waters." Swiss Chemical Society Meeting, Basel, Switzerland. November 2000.
"The Environmental Chemistry of Water Reuse." Harvard University College of Engineering and Applied Sciences, May 1999.
"Pharmaceutically Active Compounds (PhACs) in the Aquatic Environment and their Relationship to Water Reuse." Plenary lecture, 9th Biennial Symposium on Artificial Recharge of Groundwater, Phoenix, AZ, June 1999.
"The Role of Speciation in the Removal of Cationic Metals by Wastewater Treatment Systems: A Short Course on Metal Removal in Wastewater Treatment Plants." Water Environment Research Foundation, Orlando, FL, October 98.
"Metals as Catalysts of Sunlight-Induced Reactions in Natural Waters." Geological Society of America, 1998 Annual Meeting, Toronto, Canada, October 1998.
"Analytical Techniques for Determining Metal Speciation in Polluted Waters." Plenary lecture, Fifth International Argentenum Conference, Hamilton, Ontario, Canada, September 1997.
"Thermodynamic Data and the Prediction of Metal Speciation in Polluted Waters." National Institute of Standards and Technology (NIST), Gaithersberg, MD, August 1998.

"The Treatment and Environmental Fate of Strongly Complexed Metals." Department of Civil and Environmental Engineering, UC Davis, November 1997 and Department of Civil Engineering, University of Nevada, Reno, February 1998.

"Superoxide radical (O_2^-) and the Photoredox Chemistry of Copper and Chromium." 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry, San Francisco, CA, November 1997.

"Analytical Techniques for Determining Metal Speciation in Polluted Waters." Plenary lecture, Fifth International Argentenum Conference, Hamilton, Ontario, Canada, September 1997.

"The Treatment and Environmental Fate of Strongly Complexed Metals". Department of Civil and Environmental Engineering, UC Davis, November 1997.

"Strongly Complexed Nickel and Copper Discharged by Anthropogenic Sources." Department of Civil Engineering, Stanford University, Stanford, CA. May 16, 1997.