

CURRICULUM VITAE

PETER R. JAFFE

William L. Knapp '47 Professor of Civil Engineering
Professor of Civil and Environmental Engineering
Associate Director for Research, Andlinger Center for Energy and the Environment
Princeton University

Department of Civil and Environmental Engineering
Princeton University
Princeton, N.J. 08544

Phone: (609) 258 4653
Fax: (609) 258 2799
e-mail: jaffe@princeton.edu

Education:

Vanderbilt University, Nashville, TN.

Ph.D. in Environmental and Water Resources Engineering, December 1981.

M.S. in Environmental and Water Resources Engineering, May 1980.

Universidad Simón Bolívar, Caracas, Venezuela.

B.S. in Chemical Engineering, December 1977.

Languages: Fluent in English, Spanish, and German.

Professional Interests:

Chemical, Physical, and Biological Fate of Conventional and Toxic Pollutants in Water Systems and Soils;
Water Quality Modeling; Water Pollution Control; Remediation of Contaminated Groundwater and Soils.

Employment Record:

- * Associate Director for Research, Andlinger Center for Energy and the Environment, 2013 – 2019.
- * Director of Graduate Studies, Department of Civil and Environmental Engineering, September 2009 – 2012, 2013 – 2014.
- * Chair, Department of Civil and Environmental Engineering, July 1999 to June 2005.
- * Professor, Department of Civil and Environmental Engineering, Princeton University, Princeton, N.J., since July 1996. Associate Professor, July 1991 to June 1996. Assistant Professor, February 1985 to June 1991.
- * Director, Environmental Engineering and Water Resources Program, Princeton University, Princeton, N.J., July 1993 to July 1997.
- * Profesor Agregado, Departamento de Procesos y Sistemas, Universidad Simón Bolívar, Caracas, Venezuela, September 1983 to January 1985.
- * Research Associate, Department of Civil Engineering, Princeton University, Princeton, N.J., January 1982 to July 1983.

Selected Professional Experiences and Services:

- * National Academies of Sciences, Engineering, and Medicine, Committee on “Alternatives for the Demilitarization of Conventional Munitions,” August 2017 - 2018.
- * Vanderbilt University, Department of Civil and Environmental Engineering Advisory Council, 2014 to present.
- * Member, NSF ReNEWIt (Stanford University’s ERC on Water Technology) review panel, 2014-present.
- * Imagine H2O Scientific Advisory Council Member, 2013 – present.
- * New Jersey Water Resources Research Institute Advisory Council, 2001-2014.
- * Advisory Board, Intl. Conf. Beneficial Use of Waste and Waste By-products, Albi, France, 2004; Patras Greece, 2008; Beijing, China, 2010; Porto, Portugal 2014; Rio, Brazil, 2014; Albi France 2016.
- * Rutgers University, Chair, Bioresource Engineering Advisory Board, 2001 to 2015.
- * University of Delaware, Department of Civil and Environmental Engineering Advisory Council, 2007 to 2012.
- * New Jersey Water Resources Research Institute Advisory Council, 2001 to 2013.
- * Member of the standing Technical Expert Panel of The Environment and Water Industry Development Council, Singapore, 2006-2008.
- * Duke University, NIH Superfund Center Advisory Committee, 2000 to 2008.
- * NYU, NIH Superfund Center Advisory Committee, 2002 to 2004.
- * US Department of Energy, Environmental Management Advisory Committee, 1999 to 2001.
- * Faculty Search Committee, CEE, Lehigh University, 2000.
- * NJ Future, Sustainable State Advisory Committee, 1999.
- * AEESP, Latin America International Committee, 1996-1999.

- * NIH Superfund Committee, 1994.
- * International Soil Science Society, Committee for the Symposium on Management of Contaminated Soils, 1994.
- * AGU Groundwater Committee, 1992-1994.
- * NRC, Committee on Pyrethroids and Ecological Risk Assessment, 1989-1990.
- * ASCE – Board of Directors, NJ Section – Central Branch, 1989–1990.
- * NJ Department of Environmental Protection, Member “Oil and Grease Task Force Meetings,” 1982.
- * Associate Editor / Editorial Board Member: Waste and Biomass Valorization, 2009 to present; Journal of Environmental Engineering, 2006 to 2012; Ingeniería Hidráulica en Mexico, 1996 - ; Water Resources Research, 1993 to 1997.

Selected Consultantships:

American Petroleum Institute 1986; U.S. Department of Justice; Environ Corporation, 1990; N.Y. State, Department of Law, 1989 to 1991; Schlumberger Technology Corporation, 1992; US Navy 1986-1987; McKin Superfund Site Trustees, 1993 to 1999; PPG Industries, 2005; Tyson, 2008; International Paper, 2008; Bechtel Corporation, 2009; ExxonMobile, 2012; HKF Technology 2015 – present.

Honors and Appointments :

- * Excellent International Cooperation Project Award, “Application of Feammox Process in Wastewater Treatment,” awarded by the Guangzhou Association of Industrial Environmental Protection, 2017.
- * Elected Fellow of the American Geophysical Union, 2012. *For fundamental, quantitative work on biogeochemical reaction and transport phenomena in soils and sediments.*
- * Appointed as Board Certified Environmental Engineering Member (BCEEM) of the American Academy of Environmental Engineers (AAEE) by Eminence, November 2008.
- * Visiting Researcher Ecole Nationale Supérieure des Techniques Industrielles et des Mines d’Albi-Carmaux, France, May/June 2006.
- * University of Auckland Foundation visitor, July 2000.
- * Excellence in Teaching Award, Princeton University Undergraduate Engineering Council, 1998.
- * Senior Research Scholar (Part-time Associate), International Institute for Applied Systems Analysis, Vienna, Austria, June 1 to August 31, 1994 to 1996.
- * AT&T Industrial Ecology Fellow, 1993-1995.
- * Fellowship from the American Academy of Arts and Sciences to visit the International Institute for Applied Systems Analysis, Vienna, Austria, November 1991.

University Responsibilities (Princeton University):

Other University Affiliations:

Associated Faculty, Department of Geology and Geophysical Sciences.
 Associated Faculty, Princeton Environmental Institute (PEI).
 Associated Faculty, Andlinger Center for Energy and the Environment (ACEE).
 Associated Faculty, Princeton Institute for the Science and Technology of Materials (PRISM).

University Committees (partial list):

Committee on Conference and Faculty Appeal (CCFA), 2015-present.
 Elected Member of the Faculty Advisory Committee on Appointments and Advancements, 2012-2013
 Geological Engineering Committee, 1985 to -.
 Engineering Biology Committee, 1993 to present.
 Environmental Engineering and Water Resources Program Committee, 1985 to present.
 Faculty Committee on the Graduate School, Policy Subcommittee, AY 2009/2010
 Faculty Committee on the Graduate School, 2009 to 2011.
 Architecture and Engineering Committee, 2000 to 2005.
 Radiation Safety Committee, 1990 to 1999.
 Princeton Materials Institute Curriculum Committee, 1994 to 1996.
 Princeton Environmental Institute Executive Committee, 1994 to 1996.
 Princeton Environmental Institute Search Committee, 1995 to 1997.
 Princeton Environmental Institute Curriculum Committee, 1995 to 1997.
 Elected Member of the Committee on Course of Study, 1988 to 1990.

Other Responsibilities:

Faculty Advisor, Engineers Without Borders, 2008 to present.
Director of Graduate Studies, 2009 to 2011.
Freshmen Advisor, 1987 to 1995, 2006 to 2010.
Department Right to Know Coordinator, ~1990 to 2001.
Department Chemical Safety Officer, 1990 to 2001.
Acting Director Water Resources Program, 1989/90.

Courses Taught:

CEE 303, Environmental Studies; Spring semesters 1987 to 1993.
CEE 308, Environmental Engineering Laboratory; Spring semesters since 1997.
CEE 471, Introduction to Water Pollution Technology; Fall semesters since 1985.
CEE 472, Fundamentals of Water Quality Analysis; Spring 1985, 1986.
CEE 584, Environmental Chemistry; alternate Spring semesters since 1988.
CEE 590, Water Quality Modeling and Analysis; Fall 1985, alternate Spring semesters since 1987.

Ph.D. Dissertations Supervised:

- * Patrick J. Witkowski, "Modeling Sorptive Interactions During Transport of a Persistent Organic Contaminant: Aroclor 1242," 1990.
- * Stewart W. Taylor, "Transport of Substrate and Biomass in Porous Media with Application to In-situ Bioremediation of Organic Contaminants in Groundwater," 1990.
- * Paul T. Imhoff, "Dissolution of a Non-Aqueous Phase Liquid in Saturated Porous Media," 1992.
- * James A. Smith, "Sorption of Nonionic Organic Compounds to Organoclays from Water," 1992.
- * H. Jean Cho, "The Volatilization of Organic Compounds in Unsaturated porous Media during Infiltration," 1992.
- * David M. Tuck, "Immiscible Displacement of Residual Tetrachloroethylene from Saturated and Unsaturated Porous Media," 1992.
- * Jae Woo Park, "Engineering Applications of Organo-Oxides for Decontamination of Water and Soil," 1994.
- * Naresh Singhal, "Anaerobic Dehalogenation of TCE in Continuous Flow Systems," 1995.
- * Cecilia L. MacLeod, "Mercury in the New Jersey Coastal Plain," 1995.
- * Saumyen Guha, "Surfactant Enhanced Bioremediation: Bioavailability of Hydrophobic Organic Compounds Partitioned into the Micellar Phase of Nonionic Surfactants," 1995.
- * Jonathan C. Johnson, "Mass Transfer in Porous Media: The Effect of Surfactants on the Mass Transfer Rate Coefficient," 1998.
- * Sherwood L. Smith, "Modeling the Transport of Trace Metals in Water-Saturated Soils and Sediments as Affected by the Biodegradation of Organic Substrates via Various Terminal Electron Acceptors," 1998.
- * Pete L. Kallin, "Modeling the Fate and Transport of Trace Metal Contaminants in Natural and Constructed Surface-Flow Wetlands," 1999.
- * Joseph R. Stencel, "Trace Metals in Water from crude Oil: Surfactant and Humic Acid Enhanced Partitioning," 1999.
- * Derick G. Brown, "Effects of Nonionic Surfactants on Bacterial Transport Through Porous Media," 2000.
- * Hyun-su Kim, "Dynamics of Aerobic and Denitrifying Bacterial Strains During the Biodegradation of Toluene in a Porous Medium: Experimental Quantification and Mathematical Simulation," 2004.
- * Jung-Hyun Choi, "The Effect of Plants on the Dynamics of Sulfur Species and Zinc in Wetland Sediments," 2004.
- * Shangping Xu, "An Investigation on the Effects of Herbaceous Plants on the Biogeochemistry of Wetland Sediments," 2005.
- * Junu Shrestha, "Effects of Anthropogenic Disturbances on the Iron and Nitrogen Cycles in Riparian Wetland Soils," 2007.
- * Luke H. MacDonald, "Microbiological and Plant-Driven Redox Systems in Groundwater and Links Between Water, Health, and Policy," 2010.
- * Bernice R. Rosenzweig, "Stormwater Detention Ponds and the Nitrogen Cycle in Urban Watersheds," 2010.
- * Jeffrey S. Paull, "Influence of Hydrophytic Vegetation on Biogeochemical Processes Within Contaminated Wetland Systems," 2012.
- * Matthew C. Reid, "Physical-Chemical Dynamics of Trace Gases in Wetland Soils: Implications for the Water Quality and Carbon Sequestration Functions of Wetlands," 2014.

- * Hagar ElBishlawi, “Immobilization of Inorganic Species by Reactive Porous Media: Control of Trace Metals in a Constructed Urban Marsh and Fluoride Removal Via Novel Calcite-hydroxyapatite,” 2014.
- * Minjin Lee, “Interactions Between Nitrogen and Hydrological Cycles: Implications for River Nitrogen Responses to Climate and Land Use with the Model LM3-TAN,” 2015.
- * David S. Pal, “Simultaneous Measurement of Hydrogen and Methane: Investigating the Inhibition of Methanogenesis in Wetland Sediments,” 2016.
- * Zheyun Zhang, “Effects of Nutrients and Redox Transitions on Arsenic Dynamics in Wetlands, and Microbially Mediated Pyrrhotite Formation,” 2016.
- * Melany P. Ruiz-Urigüen, “Anaerobic Ammonium Removal by Feammox Bacteria in Electrode Based Systems and Microbial Performance in a Nitric Oxide Denitrification Bioreactor,” 2019.

Professional Affiliations:

American Geophysical Union, American Geochemical Society, American Society for Microbiology, American Academy of Environmental Engineers and Scientists, American Society of Civil Engineers, Water Environment Federation, Federal Water Quality Association.

Patents/Provisional Applications:

- * “Methods and Compositions for Nitrogen Removal Using Feammox Microorganisms,” Patent No. US 10,479,712 B2, Nov. 19, 2019 (with S. Huang).
- * “Biodegradation of Fluorochemicals,” U.S. Provisional Application No. 62/792,971, January 16, 2019, (with S. Huang).
- * “Biodegradation of Fluorochemicals,” U.S. Provisional Application No. 62/737,255, Sept. 27, 2018, (with S. Huang).
- * “Methods and Compositions for Nitrogen Removal Using Feammox Microorganisms,” Patent No. US 2018/0029909 A1, Feb. 1, 2018 (with S. Huang).
- * “Feammox Activity in Bioelectrochemical Reactors” U.S. Provisional Application No. 62/737,255, Sept. 27, 2018.
- * “Oxidant Enhanced Feammox Activity,” International Application No.: PCT/US2018/052710, September 25, 2018 (with S. Huang).
- * “Use of Elemental Sulfur to Stimulate Feammox Activity,” U.S. Provisional Patent Application 62565480, 2017 (with S. Huang).
- * “Methods and Compositions for Nitrogen Removal Using Feammox Microorganisms,” Patent No. US 9,815,732 B2, Nov. 14, 2017 (with S. Huang).
- * “Methods and Compositions for Nitrogen Removal Using Feammox Microorganisms,” Patent No. US 9,815,723, Nov. 14, 2017 (with S. Huang).
- * “Nanoparticulate apatite-coated-calcite/limestone filter materials for removing contaminants from contaminated water,” U.S. Patent Application 14/695,220, 2015 (with S. Myneni).
- * “Metal Reduction and Degradation of Organic Contaminants via Feammox,” U.S. Provisional Patent Application 62058453, 2014 (with S. Huang and E. Gilson).
- * “A Newly Identified Microorganism Affecting Nitrogen Cycle: Ammonium Oxidation Under Iron Reducing Conditions,” U.S. Provisional Patent Application #61/821,488, 2013 (with S. Huang).
- * “Semi-permanent Dialysis Samplers for Long Term Sediment Environmental Monitoring,” U.S. Provisional Patent Application No. 61/483,347, 2011 (with J. Vocaturo, L. McDonald, J. Paull).
- * “Extraction of Non-Ionic Organic Pollutants,” U.S. Patent # 5458437, 1995 (with J. Park).

I. Refereed Publications

i. Journals:

- Huang, S, and P.R. Jaffé, “Oxidation of Ammonium by Feammox *Acidimicrobiaceae* sp. A6 via a Novel Feammox Oxygenase,” in preparation.
- Huang, S, and P.R. Jaffé, “Draft Genome Sequencing and Comparative Analysis of Feammox *Acidimicrobiaceae* sp. A6, a Novel *Acidimicrobiaceae* Member,” in preparation.
- Zazo, J., P. García-Muñoz, G. Pliego, J. Silveira, P. Jaffe, J. Casas, “Selective reduction of nitrate to N₂ using ilmenite as a low-cost photo-catalyst”, submitted.
- Wagner, R. O., S. Hsu, J.N. Kick, S. Bisogno, C. Heubner, S. Iyer, S. Overbey, P. Jaffe, “An Interdisciplinary Approach to the Sustainability of a Gravity-Fed Water System in the Peruvian Andes,” *International Journal for Service Learning in Engineering*, 2019, Vol. 14, No.3, <https://doi.org/10.24908/ijse.v14i3.13182>.
- Huang, S., Z. Zheng, Q. Wei, I. Han, and P.R. Jaffé, “Performance of sulfur-based autotrophic denitrification and denitrifiers for wastewater treatment under acidic conditions,” *Bioresource Technology*, 2019, Vol. 295 <https://doi.org/10.1016/j.biortech.2019.122176>.
- Huang, S., and P.R. Jaffé, “Defluorination of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) by *Acidimicrobium* sp. strain A6,” *Environmental Science and Technology*, 2019, Vol. 53, No 19, pp 11410-11419, <http://dx.doi.org/10.1021/acs.est.9b04047>.
- Ruiz, M., D. Steingart, and P.R. Jaffé, “Oxidation of Ammonium by Feammox *Acidimicrobiaceae* sp. A6 in Microbial Electrolysis Cells,” *Environmental Science: Water Research & Technology*, 2019, Vol. 5, pp. 1582 – 1592, <https://doi.org/10.1039/c9ew00366e>.
- Razaviaran, V., J.A. Zazo, J.A. Casas, P.R. Jaffé, “Coupled Fenton-denitrification process for the removal of organic matter and total nitrogen from coking plant wastewater,” *Chemosphere*, 2019, Vol. 224, pp. 653-675, <https://doi.org/10.1016/j.chemosphere.2019.02.178>.
- Ge, J., S. Huang, I. Han, and P.R. Jaffé, “Degradation of Tetra- and Trichloethylene under Iron Reducing Conditions by Feammox *Acidimicrobiaceae* sp. A6,” *Environmental Pollution*, 2019, Vol. 247, pp. 248-255, <https://doi.org/10.1016/j.envpol.2019.01.066>.
- Shuai, W., and P.R. Jaffé, “Anaerobic Ammonium Oxidation Coupled to Iron Reduction in Constructed Wetland Mesocosms,” *Science of the Total Environment*, Vol. 648, pp. 984-992, 2019, <https://doi.org/10.1016/j.scitotenv.2018.08.189>.
- Razaviarani, V., M. Ruiz-Urigüen, P.R. Jaffé, “Denitrification of Nitric Oxide using Hollow Fiber Membrane Bioreactor; Effect of Nitrate and Nitric Oxide Loadings on the Reactor Performance and Microbiology,” *Waste and Biomass Valorization*, 2019, Vol. 10, pp. 1989–2000. <https://doi.org/10.1007/s12649-018-0223-z>.
- Bilgin, A., and P.R. Jaffé, “Precipitation of Copper(II) in a Two-Stage Continuous Treatment System Using Sulfate Reducing Bacteria,” *Waste and Biomass Valorization*, 2019, Vol. 19, pp. 2907-2914, <http://link.springer.com/article/10.1007/s12649-018-0329-3>.
- Ruiz, M., W. Shuai, and P.R. Jaffé, “Electrode Colonization by the Feammox Bacterium *Acidimicrobiaceae* sp. Strain A6,” *Applied and Environmental Microbiology*, 2018, Volume 84, Issue 24 e02029-18, doi: [10.1128/AEM.02029-18](https://doi.org/10.1128/AEM.02029-18).
- Lee, M., C. Jung, E. Shevliakova, S. Malyshev, P.C.D. Milly, H. Han, S. Kim, K. Kim, and P.R. Jaffé, “Control of Nitrogen Exports from River Basins to the Coastal Ocean: Evaluation of Basin Management Strategies for Reducing Coastal Hypoxia,” *Journal of Geophysical Research: Biogeosciences*, 2018, <https://doi.org/10.1029/2018JG004436>.
- Huang, S., C. Chen, and P.R. Jaffé, “Seasonal Distribution of Nitrifiers and Denitrifiers in Urban River Sediments Affected by Agricultural Activities,” *Science of the Total Environment*, Vol. 642, 2018, pp. 1282–1291, <https://doi.org/10.1016/j.scitotenv.2018.06.116>.
- Huang, S., and P.R. Jaffé, “Isolation and Characterization of an Ammonium-Oxidizing Iron Reducer: *Acidimicrobiaceae* sp. A6,” *PLOS ONE*, Vol. 13, No. 4, 2018, e0194007, <https://doi.org/10.1371/journal.pone.0194007>.
- Pal, D.S., R. Tripathee, M.C. Reid, K.V.R. Schäfer, and P.R. Jaffé, “Simultaneous Measurements of Dissolved CH₄ and H₂ in Wetland Soils,” *Environmental Monitoring and Assessment*, 2018, 190: 176. <https://doi.org/10.1007/s10661-018-6552-3>.
- Zhang, Z., H.S. Moon, S. Myneni, and P.R. Jaffé, “Phosphate Enhanced Abiotic and Biotic Arsenic Mobilization in the Wetland Rhizosphere,” *Chemosphere*, Vol. 187, 2017, pp. 130-139, <https://doi.org/10.1016/j.chemosphere.2017.08.096>.

- Kaplan, D.I., S.W. Buettner, D. Li, S. Huang, P.G. Koster van Groos, P.R. Jaffé, and J.C. Seaman, "In situ Porewater Uranium Concentrations in a Contaminated Wetland: Effect of Season and Sediment Depth," *Applied Geochemistry*, Vol. 85, Part B, 2017, pp. 128-136, <http://dx.doi.org/10.1016/j.apgeochem.2016.11.017>.
- Zhang, Z., H.S. Moon, S.B. Myneni, and P.R. Jaffé, "Effect of Dissimilatory Iron and Sulfate Reduction on Arsenic Dynamics in the Wetland Rhizosphere and its Bioaccumulation in Plants," *Journal of Hazardous Materials*, 2017, Vol. 321, pp. 382-389, [doi: 10.1016/j.jhazmat.2016.06.022](https://doi.org/10.1016/j.jhazmat.2016.06.022).
- Koster van Groos, P.G., D.I. Kaplan, H. Chang, J.C. Seaman, D. Li, A.D. Peacock, K.G. Scheckel, and P.R. Jaffé, "Uranium Fate in Wetland Mesocosms: Effects of Plants at two Iron Loadings with Different pH Values," *Chemosphere*, 2016, Vol. 163, pp. 116-124, [doi: 10.1016/j.chemosphere.2016.08.012](https://doi.org/10.1016/j.chemosphere.2016.08.012).
- Lee, M., E. Shevliakova, S. Malyshev, P. C. D. Milly, and P.R. Jaffé, "Climate Variability and Extremes Interacting with Nitrogen Storage Amplify Eutrophication Risk," *Geophysical Research Letters*, 2016, Vol. 43, Issue 14, pp. 7520-7528, [doi: 10.1002/2016GL069254/full](https://doi.org/10.1002/2016GL069254/full).
- Kaplan, D.I., R. Kukkadapu, J. Seaman, B. Arey, A. Dohnalkova, S. Buttner, D. Li, T. Varga, K.G. Scheckel, P.R. Jaffe, "Iron Mineralogy and Uranium-Binding Environment in the Rhizosphere of a Wetland Soil," *Science of the Total Environment*, 2016, Vol. 569-570, pp. 53-64, [doi: 10.1016/j.scitotenv.2016.06.120](https://doi.org/10.1016/j.scitotenv.2016.06.120).
- Pennino, M., R. McDonald, and P.R. Jaffe, "Watershed-Scale Impacts of Stormwater Green Infrastructure on Hydrology, Nutrient Fluxes, and Combined Sewer Overflows in the Mid-Atlantic Region," *Science of the Total Environment*, 2016, Vol. 565, pp. 1044-1053, [doi: 10.1016/j.scitotenv.2016.05.101](https://doi.org/10.1016/j.scitotenv.2016.05.101).
- Huang, S., C. Chen, X. Peng, and P.R. Jaffé, "Environmental Factors Affecting the Presence of *Acidimicrobiaceae* and Ammonium Removal under Iron-reducing Conditions in Soil Environments," *Soil Biology and Biochemistry*, 2016, Vol. 98, pp. 148-158, [doi: 10.1016/j.soilbio.2016.04.012](https://doi.org/10.1016/j.soilbio.2016.04.012).
- Kaplan, D.I., C. Xu, S. Huang, Y. Lin, N. Tolić, K.M. Roscioli-Johnson, P.H. Santschi, and P.R. Jaffé, "Unique Organic Matter and Microbial Properties in the Rhizosphere of a Wetland Soil," *Environmental Science and Technology*, 2016, 50, 4169-4177, [doi: 10.1021/acs.est.5b05165](https://doi.org/10.1021/acs.est.5b05165).
- Pal, D., P.R. Jaffé, "Modeling the Inhibition of Dissolved H₂ on Propionate Fermentation and Methanogenesis in Wetland Sediments," *Ecological Modelling*, Vol. 322, 2016, pp. 115-123, [doi: 10.1016/j.ecolmodel.2015.11.005](https://doi.org/10.1016/j.ecolmodel.2015.11.005).
- Gilson, E.R., S. Huang, and P.R. Jaffé, "Biological Reduction of Uranium by *Acidimicrobiaceae* bacterium A6," *Biodegradation*, 2015, Volume 26, Issue 6, pp. 475-482, [doi: 10.1007/s10532-015-9749-y](https://doi.org/10.1007/s10532-015-9749-y).
- Gilson, E., S. Huang, P. Koster van Groos, K. Scheckel, O. Qafoku, A. Peacock, D. Kaplan, P. Jaffe, "Uranium Redistribution due to Water Table Fluctuations in Sandy Wetland Mesocosms," *Environmental Science and Technology*, 2015, 49 (20), pp. 12214-12222, [doi: 10.1021/acs.est.5b02957](https://doi.org/10.1021/acs.est.5b02957).
- Reid, M.C., D.S. Pal, and P.R. Jaffé, "Dissolved Gas Dynamics in Wetland Soils: In situ Measurements and Modeling of Root-Mediated Gas Exchange and Transport to the Surface," *Water Resources Research*, 2015, Vol. 51, No. 9, pp. 7343-7357, [doi: 10.1002/2014WR016803](https://doi.org/10.1002/2014WR016803).
- Li, D., D. Kaplan, H. Chang, J. Seaman, P. Jaffe, P. Koster van Groos, K. Scheckel, C. Segre, N. Chen, D.T. Jiang, M. Newville, A. Lanzirrotti, "Spectroscopic Evidence of Uranium Immobilization in Acidic Wetlands by Natural Organic Matter and Plant Roots," *Environmental Science and Technology*, 2015, 49 (5), pp. 2823-2832, [doi: 10.1021/es505369g](https://doi.org/10.1021/es505369g).
- ElBishlawi, H., and P.R. Jaffé, "Characterization of Dissolved Organic Matter from a Restored Urban Marsh and its Role in the Mobilization of Trace Metals," *Chemosphere*, 2015, 127, pp. 144-151. [doi: 10.1016/j.chemosphere.2014.12.080](https://doi.org/10.1016/j.chemosphere.2014.12.080).
- Huang, S. and P.R. Jaffé, "Characterization of Incubation Experiments and Development of an Enrichment Culture Capable of Ammonium Oxidation under Iron-Reducing Conditions," *Biogeosciences*, 2015, 12, 769-779, [doi: 10.5194/bg-12-769-2015](https://doi.org/10.5194/bg-12-769-2015).
- Chang, H., S. Buettner, J. Seaman, P.R. Jaffé, P. Koster van Groos, D. Li, A. Peacock, K., Scheckel, D. Kaplan, "Uranium Immobilization in an Iron-rich Rhizosphere of a Native Wetland Plant from the Savannah River Site under Reducing Conditions," *Environmental Science and Technology*, 2014, 48 (16), pp. 9270-9278. [doi: 10.1021/es5015136](https://doi.org/10.1021/es5015136).
- Pal, D.S., M.C. Reid, and P.R. Jaffé, "Impact of Hurricane Sandy on CH₄ Released from Vegetated and Unvegetated Wetland Microsites," *Environmental Science and Technology Letters*, 1, 2014, pp. 372-375, [doi: 10.1021/ez5002215](https://doi.org/10.1021/ez5002215).
- Huang, S., and P.R. Jaffé, "Identification of an *Actinobacteria* Species Capable to Oxidize Ammonium under Iron Reducing Conditions," *Biogeosciences Discussions*, 11, 12295-12321, [doi: 10.5194/bgd-11-12295-2014](https://doi.org/10.5194/bgd-11-12295-2014), 2014.
- Lee, M., S. Malyshev, E. Shevliakova, P. C. D. Milly, and P.R. Jaffé, "Capturing Interactions between Nitrogen and Hydrological Cycles under Historical Climate and Land Use: Susquehanna Watershed Analysis with the GFDL

- Land Model LM3-TAN,” *Biogeosciences*, 11, 2014, 5809-5826, [doi: 10.5194/bg-11-5809-2014](https://doi.org/10.5194/bg-11-5809-2014) (also *Biogeosciences Discussions*, 11, 5669-5710, doi:10.5194/bgd-11-5669-2014, 2014).
- Xiang, A., S. Zhou, B.E. Koel, P.R. Jaffé, “Transport of Poly(Acrylic Acid) Coated 2-Line Ferrihydrite Nanoparticles in Saturated Aquifer Sediments for Environmental Remediation,” *Journal of Nanoparticle Research*, Vol .16, 2014, 2294, [doi: 10.1007/s11051-014-2294-5](https://doi.org/10.1007/s11051-014-2294-5).
- Abbassi, R., A.K. Yadav, S. Huang, and P.R. Jaffé, “Laboratory Study of Nitrification, Denitrification and Anammox Processes in Membrane Bioreactors Considering Periodic Aeration,” *Journal of Environmental Management*, Vol. 142, 2014, pp. 53-59, [doi: 10.1016/j.jenvman.2014.03.013](https://doi.org/10.1016/j.jenvman.2014.03.013).
- Li, D., H.S. Chang, J.C. Seaman, P.R. Jaffe, P. Koster van Groos, D.T. Jiang, N. Chen, K.G. Scheckel and D.I. Kaplan, “Retention and Chemical Speciation of Uranium in a Wetland on the Savannah River Site,” *Journal of Environmental Radioactivity*, 131 (2014) pp. 40-46, [doi: 10.1016/j.jenvrad.2013.10.017](https://doi.org/10.1016/j.jenvrad.2013.10.017).
- Reid, M.C., R. Tripathee, K.V.R. Schäfer, and P. R. Jaffé, “Tidal Marsh Methane Dynamics: Difference in Seasonal Lags in Emissions Driven by Storage in Vegetated vs. Unvegetated Sediments,” *Journal of Geophysical Research – Biogeoscience*, Vol. 118, No. 4, Dec. 2013, pp. 1802-1813, [doi: 10.1002/2013JG002438](https://doi.org/10.1002/2013JG002438).
- Abbassi, R., A.K. Yadav, N. Kumar, S. Huang, P.R. Jaffé, “Modeling and Optimization of Dye Removal using “Green” Clay Supported Iron Nanoparticles,” *Ecological Engineering*, Vol. 61(A), December 2013, pp. 366-370, [doi: 10.1016/j.ecoleng.2013.09.040](https://doi.org/10.1016/j.ecoleng.2013.09.040).
- ElBishlawi, H., J.Y. Shin, and P.R. Jaffe, “Trace Metal Immobilization in Sediments of a Newly Constructed and an Established Tidal Brackish Marsh,” *Ecological Engineering*, Vol. 58, Sep. 2013, pp. 133–141 [doi: 10.1016/j.ecoleng.2013.06.018](https://doi.org/10.1016/j.ecoleng.2013.06.018).
- Xiang, A., W. Yan, B.E. Koel, P.R Jaffé, “Poly(Acrylic Acid) Coating Induced 2-Line Ferrihydrite Nanoparticle Transport in Saturated Porous Media,” *Journal of Nanoparticle Research*, 2013, 5:1705, [doi: 10.1007/s11051-013-1705-3](https://doi.org/10.1007/s11051-013-1705-3).
- Dar, S., H. Tan, A. Peacock, P. Jaffe, L. N’Guessan, K. Williams, and S. Strycharz-Glaven, “Spatial Distribution of *Geobacteraceae* and Sulfate Reducing Bacteria During In Situ Bioremediation of Uranium Contaminated Groundwater,” *Remediation Journal*, 2013, Vol. 23, No. 2, 31- 49, [doi: 10.1002/rem](https://doi.org/10.1002/rem).
- Reid, M.C. and P.R. Jaffé, “A Push-Pull Test to Measure Root Uptake and Volatilization of Chemicals from Wetland Soils,” *Environmental Science and Technology*, Vol. 47, No. 7, 2013, pp. 3190–3198, [doi: 10.1021/es304748r](https://doi.org/10.1021/es304748r).
- MacDonald, L.H., J.S. Paull, and P.R. Jaffé, “Enhanced Semi-permanent Dialysis Samplers for Long Term Environmental Monitoring in Saturated Sediments,” *Environmental Monitoring and Assessment*, Vol. 185, No. 5, 2013, pp. 3613-3624, [doi: 10.1007/s10661-012-2813-8](https://doi.org/10.1007/s10661-012-2813-8).
- Wood, E.F., J.K. Roundy, T.J. Troy, R. van Beek, M. Bierkens, E. Blyth, A. de Roo, P. Döll, M. Ek, J. Famiglietti, D. Gochis, N. van de Giesen, P. Houser, P. Jaffé, S. Kollet, B. Lehner, Dennis P. Lettenmaier, C. Peters-Lidard, M. Sivapalan, J. Sheffield, A. Wade, P. Whitehead. Reply to comment by Keith J. Beven and Hannah L. Cloke on “Hyperresolution global land surface modeling: Meeting a grand challenge for monitoring Earth’s terrestrial water,” *Water Resources Research*, Vol. 48, W01802, 3 PP., 2012, [doi: 10.1029/2011WR011202](https://doi.org/10.1029/2011WR011202).
- Reid, M.C. and P.R. Jaffé, “Gas-phase and Transpiration-driven Mechanisms for Volatilization through Wetland Macrophytes,” *Environmental Science and Technology*, 2012, 46 (10), pp. 5344–5352, [doi: 10.1021/es203297a](https://doi.org/10.1021/es203297a).
- Barlett, M., H.S. Moon, A.D. Peacock, D.B. Hedrick, K.H. Williams, P.E. Long, D. Lovley, and P.R. Jaffé, “Uranium Reduction and Microbial Community Development in Response to Stimulation with Different Electron Donors” *Biodegradation*, Vol. 23, No 4, 2012, pp. 535-546, [doi: 10.1007/s10532-011-9531-8](https://doi.org/10.1007/s10532-011-9531-8).
- MacDonald, L.H., G. Pathak, B. Singer, P.R. Jaffé, “An Integrated Approach to Address Endemic Fluorosis in Jharkhand, India,” *Journal of Water Resource and Protection*, Vol. 03, No. 07, 2011, pp. 457-472, [doi: 10.4236/jwarp.2011.37056](https://doi.org/10.4236/jwarp.2011.37056).
- Wood, E.F., J.K. Roundy, T.J.Troy, R. van Beek, M. Bierkens, E. Blyth, A. de Roo, P. Döll, M. Ek, J. Famiglietti, D. Gochis, N. van de Giesen, P. Houser, P. Jaffé, S. Kollet, B. Lehner, Dennis P. Lettenmaier, C. Peters-Lidard, M. Sivapalan, J. Sheffield, A. Wade, P. Whitehead, “Hyper-Resolution Global Land Surface Modeling: Meeting a Grand Challenge for Monitoring Earth’s Terrestrial Water,” *Water Resources Research*, Vol. 47, W05301, 2011, [doi: 10.1029/2010WR010090](https://doi.org/10.1029/2010WR010090).
- Shrestha, J., Clement, J.C., Ehrenfeld, J.G., Jaffé, P.R., “Effects of Vegetation Removal and Urea Application on Iron and Nitrogen Redox Chemistry in Riparian Forested Soils,” *Water, Air, & Soil Pollution*, Vol. 220, 2011, pp. 213–223, [doi: 10.1007/s11270-011-0748-2](https://doi.org/10.1007/s11270-011-0748-2).
- Rosenzweig, B.R., J.A. Smith, M.L. Baeck, and P.R. Jaffé, “Monitoring Nitrogen Loading and Retention in an Urban Stormwater Detention Pond,” *Journal of Environmental Quality*, 2011, Vol. 40, pp. 598-609, [doi: 10.2134/jeq2010.0300](https://doi.org/10.2134/jeq2010.0300).

- MacDonald, L.H., H.S. Moon, and P.R. Jaffé, "The Role of Biomass, Aqueous Ferrous Iron, and Electron Shuttles in Microbially Mediated Ferrihydrite Reduction," *Water Research*, Vol. 45, No 3, 2011, pp. 1049-1062, [doi: 10.1016/j.watres.2010.10.017](https://doi.org/10.1016/j.watres.2010.10.017).
- N'Guessan, A.L., H.S. Moon, A.D. Peacock, H. Tan, M. Sinha, P.E. Long, and P.R. Jaffé, "Post-Biostimulation Microbial Community Structure Changes that Control the Chemical Reoxidation of Reduced Uranium," *FEMS Microbiology Ecology*, Vol. 74, 2010, pp. 184–195, [doi: 10.1111/j.1574-6941.2010.00933.x](https://doi.org/10.1111/j.1574-6941.2010.00933.x).
- Moon, H.S., L. McGuiness, R.K. Kukkadapu, A.D. Peacock, J. Komlos, L.J. Kerkhof, P.E. Long, P.R. Jaffé, "Microbial Reduction of Uranium under Iron- and Sulfate-reducing Conditions: Effect of Amended Goethite on Microbial Community Composition and Dynamics," *Water Research*, Vol. 44, 2010, pp. 4015-4028, [doi: 10.1016/j.watres.2010.05.003](https://doi.org/10.1016/j.watres.2010.05.003).
- Shrestha, J., J.R. Rich, J.G. Ehrenfeld, and P.R. Jaffé, "Oxidation of Ammonium to Nitrite under Iron Reducing Conditions in Wetland Soils; Laboratory, Field Demonstrations and Push Pull Rate Determination," *Soil Science*, Vol. 174, No. 3, 2009, pp. 156-164, [doi: 10.1097/SS.0b013e3181988fbf](https://doi.org/10.1097/SS.0b013e3181988fbf).
- Bassein, E. and P. R. Jaffé, "Measuring *In Situ* Reaction Rate Constants in Wetland Sediments," *Environmental Monitoring and Assessment*, Vol. 159, 2009, pp. 51-62, [doi: 10.1007/s10661-008-0612-z](https://doi.org/10.1007/s10661-008-0612-z).
- Song, B., E. Chyun, P.R. Jaffé, and B.B. Ward, "Molecular Methods to Detect and Monitor Dissimilatory Arsenate Respiring Bacteria (DARB) in Sediments," *FEMS Microbiology Ecology*, Vol. 68, 2009, pp. 108–117, [doi: 10.1111/j.1574-6941.2009.00657.x](https://doi.org/10.1111/j.1574-6941.2009.00657.x).
- Moon, H.S., Komlos, J., and P.R. Jaffé, "Biogenic U(IV) Oxidation by Dissolved Oxygen and Nitrate in Sediment after Prolonged U(VI)/Fe(III)/SO₄²⁻ Reduction," *Journal of Contaminant Hydrology*, Vol. 105, 2009, pp. 18–27, [doi: 10.1016/j.jconhyd.2008.10.014](https://doi.org/10.1016/j.jconhyd.2008.10.014).
- Komlos, J., H.S. Moon, and P.R. Jaffé, "Effect of Sulfate on the Simultaneous Bioreduction of Iron and Uranium," *Journal of Environmental Quality*, Vol. 37, 2008, pp. 2058-2062, [doi: 10.2134/jeq2007.0665](https://doi.org/10.2134/jeq2007.0665).
- Komlos, J., A. Peacock, R.K. Kukkadapu, and P.R. Jaffé, "Long-Term Dynamics of Uranium Reduction/Reoxidation under Low Sulfate Conditions," *Geochim Cosmochim Acta*, 72, 2008, pp. 3603–3615, [doi: 10.1016/j.gca.2008.05.040](https://doi.org/10.1016/j.gca.2008.05.040).
- Rosenzweig, B.R., H.S. Moon, J.A. Smith, M.L. Baeck, and P.R. Jaffé, "Variation in the Instream Dissolved Inorganic Nitrogen Response between and within Rainstorm Events in an Urban Watershed," *Journal of Environmental Science and Health, Part A. Toxic/Hazardous Substances and Environmental Engineering*, Vol. 43, No. 11, 2008, pp. 1223-1233, [doi: 10.1080/10934520802225190](https://doi.org/10.1080/10934520802225190).
- Zazo, J.A., J.S. Paull, and P.R. Jaffé, "Influence of Plants on the Reduction of Hexavalent Chromium in Wetland Sediments," *Environmental Pollution*, March 2008, 156, 2008, pp. 29-35, [doi: 10.1016/j.envpol.2008.01.006](https://doi.org/10.1016/j.envpol.2008.01.006).
- Komlos, J., B. Mishra, A. Lanzirrotti, S.C.B. Myneni, and P.R. Jaffé, "Real Time Speciation of Uranium during Active Bioremediation and U(IV) Reoxidation," *J. of Environmental Engineering*, ASCE, Vol. 134, No. 2., 2008, pp. 78-86, [doi: 10.1061/\(ASCE\)0733-9372\(2008\)134:2\(78\)](https://doi.org/10.1061/(ASCE)0733-9372(2008)134:2(78)).
- Kim, H.S. and P.R. Jaffé, "Degradation of Toluene by a Mixed Population of Archetypal Aerobes, Microaerophiles, and Denitrifiers: Laboratory Sand Column Experiment and Multispecies Biofilm Model Formulation," *Biotechnology and Bioengineering*, 2008, Vol. 99, No. 2, pp. 290-301, [doi: 10.1002/bit.21574](https://doi.org/10.1002/bit.21574).
- Singhal, N., P.R. Jaffé, W. Maier, and E.H. Jho, "The Opposing Effects of Bacterial Activity and Gas Production on Anaerobic TCE Degradation in One-dimensional Soil Columns," *Chemosphere*, Volume 69, No. 11, 2007, pp. 1790-179, [doi: 10.1016/j.chemosphere.2007.05.049](https://doi.org/10.1016/j.chemosphere.2007.05.049).
- Moon, H.S., Komlos, J., and P.R. Jaffé, "Uranium Reoxidation in Previously Bioreduced Sediment by Dissolved Oxygen and Nitrate," *Environmental Science and Technology*, Vol. 41, No. 13, 2007, pp. 4587-4592, [doi: 10.1021/es063063b](https://doi.org/10.1021/es063063b).
- Komlos, J., R. Kukkadapu, J.M. Zachara, and P.R. Jaffé, "Biostimulation of Iron Reduction and Subsequent Oxidation of Sediment Containing Fe-silicates and Fe-oxides: Effect of Redox Cycling on Fe(III) Bioreduction," *Water Research*, Vol. 41, 2007, pp. 2996-3004, [doi: 10.1016/j.watres.2007.03.019](https://doi.org/10.1016/j.watres.2007.03.019).
- Xu, S., P.R. Jaffé, and D.L. Mauzerall, "A Process-Based Model for Methane Emission from Flooded Rice Paddy Systems," *Ecological Modelling*, Vol. 205, 2007, pp. 475-491, [doi: 10.1016/j.ecolmodel.2007.03.014](https://doi.org/10.1016/j.ecolmodel.2007.03.014).
- Yabusaki, S.B., Y. Fang, P.E. Long, C.T. Resch, A.D. Peacock, J. Komlos, P.R. Jaffé, S.J. Morrison, R.D. Dayvault, D.C. White, R.T. Anderson, "Uranium Removal from Groundwater via *In Situ* Biostimulation: Field-Scale Modeling of Transport and Biological Processes," *Journal of Contaminant Hydrology*, Vol. 93, 2007, pp. 216-235, [doi: 10.1016/j.jconhyd.2007.02.005](https://doi.org/10.1016/j.jconhyd.2007.02.005).
- Kim, H.S. and P.R. Jaffé, "Spatial Distribution and Physiological State of Bacteria in a Sand Column Experiment during the Biodegradation of Toluene," *Water Research*, Vol. 41, 2007, pp. 2089-2100, [doi: 10.1016/j.watres.2007.02.018](https://doi.org/10.1016/j.watres.2007.02.018).

- Choi, J.H., S.S. Park, and P.R. Jaffé, "Simulating the Dynamics of Sulfur Species and Zinc in Wetland Sediments," *Ecological Modelling*, Vol 199, 2006, pp. 315-323, [doi: 10.1016/j.ecolmodel.2006.05.009](https://doi.org/10.1016/j.ecolmodel.2006.05.009).
- Brown, D.G., and P.R. Jaffé, "Effects of Nonionic Surfactants on the Cell Surface Hydrophobicity and Apparent Hamaker Constant of a *Sphingomonas* sp.," *Environmental Science and Technology*, Vol. 40, No. 1, 2006, pp. 195-201, [doi: 10.1021/es051183y](https://doi.org/10.1021/es051183y).
- Xu, S. and P.R. Jaffé, "Effect of Plants on the Removal of Hexavalent Chromium in Wetland Sediments," *Journal of Environmental Quality*, Vol. 35, No.1, 2006, pp. 334-341, [doi: 10.2134/jeq2005.0181](https://doi.org/10.2134/jeq2005.0181).
- Choi, J.H., S.S. Park, and P.R. Jaffé, "The Effect of Emerging Macrophytes on the Dynamics of Sulfur Species and Trace Metals in Wetland Sediments," *Environmental Pollution*, Vol. 140, No. 2, 2006, pp. 286-293, [doi: 10.1016/j.envpol.2005.07.009](https://doi.org/10.1016/j.envpol.2005.07.009).
- Clément, J.C., J. Shrestha, J.G. Ehrenfeld, and P.R. Jaffé, "Ammonium Oxidation Coupled to Dissimilatory Iron Reduction under Anaerobic Conditions in Wetland Soils," *Soil Biology and Biochemistry*, Vol. 37, No. 12, 2005, pp. 2323-2328, [doi: 10.1016/j.soilbio.2005.03.027](https://doi.org/10.1016/j.soilbio.2005.03.027).
- Altevogt, A.S., and P.R. Jaffé, "Modeling the Effects of Gas-Phase CO₂ Intrusion on the Biogeochemistry of Variably Saturated Soils," *Water Resources Research*, Vol. 41, No. 9, 2005, [doi: 10.1029/2004WR003819](https://doi.org/10.1029/2004WR003819).
- Brown, D.G., J. Komlos, and P.R. Jaffé, "Simultaneous Utilization of Acetate and Hydrogen by *Geobacter sulfurreducens* and Implications for Use of Hydrogen as an Indicator of Redox Conditions," *Environmental Science and Technology*, Vol. 39, No. 9, 2005, pp. 3069-3076, [doi: 10.1021/es048613p](https://doi.org/10.1021/es048613p).
- Xu, S., A.C. Leri, S.C.B. Myneni, and P.R. Jaffé, "Uptake of Bromide by two Wetland Plants (*Typha latifolia* L. and *Phragmites australis* (Cav.) Trin. ex Steud)," *Environmental Science and Technology*, Vol. 38, No. 21, 2004, pp. 5642-5648, [doi: 10.1021/es049568o](https://doi.org/10.1021/es049568o).
- Komlos, J. and P.R. Jaffé, "Effect of Iron Bioavailability on Dissolved Hydrogen Concentrations during Microbial Iron Reduction," *Biodegradation*, Vol. 15, 2004, pp. 315-325, [doi: 10.1023/B:BIOD.0000042187.31072.60](https://doi.org/10.1023/B:BIOD.0000042187.31072.60).
- Wang, S., and P.R. Jaffé, "Dissolution of Trace Metals in Potable Aquifers due to CO₂ Releases from Deep Formations," *Energy Conversion and Management*, Vol. 45, No. 18-19, 2004, pp. 2833-2848, [doi: 10.1016/j.enconman.2004.01.002](https://doi.org/10.1016/j.enconman.2004.01.002).
- Kim, H.S., P.R. Jaffé and L.Y. Young, "Simulating Biodegradation of Toluene in Sand-Column Experiments at the Macroscopic and Pore-level Scale for Aerobic and Denitrifying Conditions," *Advances in Water Research*, Vol. 27, 2004, pp. 335-348, [doi: 10.1016/j.advwatres.2004.02.012](https://doi.org/10.1016/j.advwatres.2004.02.012).
- Wang, S., P.R. Jaffé, G. Li, S.W. Wang, and H.A. Rabitz, "Simulating Bioremediation of Uranium-Contaminated Aquifers; Uncertainty Assessments of Model Parameters," *J. of Contaminant Hydrology*, Vol. 64, No 3-4, 2003, pp. 283-307, [doi: 10.1016/S0169-7722\(02\)00230-9](https://doi.org/10.1016/S0169-7722(02)00230-9).
- Li, G., S.W. Wang, H. Rabitz, S. Wang, and P. Jaffé "Global Uncertainty Assessments by High Dimensional Model Representations (HDMR)," *Chemical Engineering Science*, Vol. 57, 2002, pp. 4445-4460, [doi: 10.1016/S0009-2509\(02\)00417-7](https://doi.org/10.1016/S0009-2509(02)00417-7).
- Brown, D.G., J.R. Stencel, and P.R. Jaffé, "Effects of Porous Media Preparation on Bacteria Transport Through Porous Media," *Water Research*, Vol. 36, 2002, pp. 105-114, [doi: 10.1016/S0043-1354\(01\)00208-1](https://doi.org/10.1016/S0043-1354(01)00208-1).
- Brown, D.G., and P.R. Jaffé, "Effects of Nonionic Surfactants on Bacterial Transport Through Porous Media," *Environmental Science and Technology*, Vol. 35, No. 19, 2001, pp. 3877-3883, [doi: 10.1021/es010577w](https://doi.org/10.1021/es010577w).
- Brown, D.G., and P.R. Jaffé, "Effects of Nonionic Surfactants on the UV/Visible Absorption of Bacterial Cells," *Biotechnology and Bioengineering*, Vol. 74, No 6, 2001, pp. 476-482, [doi: 10.1002/bit.1138](https://doi.org/10.1002/bit.1138).
- Brown, D.G., and P.R. Jaffé, "Spectrophotometric Assay of POE Nonionic Surfactants and its Application to Surfactant Sorption Isotherms," *Environmental Science and Technology*, Vol 35, No 10, 2001, pp. 2022-2025, [doi: 10.1021/es001807u](https://doi.org/10.1021/es001807u).
- Marshall, J.D., B.W. Shimada, P.R. Jaffé, "Effect of Temporal Variability in Infiltration on Contaminant Transport in the Unsaturated Zone," *Journal of Contaminant Hydrology*, Vol. 46, 2000, pp. 151-161, [doi: 10.1016/S0169-7722\(00\)00112-1](https://doi.org/10.1016/S0169-7722(00)00112-1).
- Cantu, R., J.R. Stencel, R. Czernuszewicz, P.R. Jaffé, and T.D. Lash, "Surfactant Enhanced Partitioning of Nickel and Vanadium Dexophylloerythroporphyrins from Crude Oil into Water and Their Analysis Using Surface-Enhanced Resonance Raman Spectroscopy," *Environmental Science and Technology*, Vol. 34, No. 1, 2000, pp. 192-198, [doi: 10.1021/es990213s](https://doi.org/10.1021/es990213s).
- Guha, S., C.A. Peters, and P.R. Jaffé, "Multi-Substrate Biodegradation Kinetics of Naphtalene, Phenanthrene and Pyrene Mixtures," *Biotechnology and Bioengineering*, Vol. 65, No. 5, 1999, pp. 491-499, [doi: 10.1002/\(SICI\)1097-0290\(19991205\)65:5<491::AID-BIT1>3.0.CO;2-H](https://doi.org/10.1002/(SICI)1097-0290(19991205)65:5<491::AID-BIT1>3.0.CO;2-H).
- Brown, D.G., S. Guha, and P.R. Jaffé, "Surfactant-Enhanced Biodegradation of a PAH in Soil Slurry Reactors," *Bioremediation Journal*, Vol. 3, 1999, pp. 269-283, [doi: 10.1080/10889869991219361](https://doi.org/10.1080/10889869991219361).

- Park, S.S., and P.R. Jaffé, "A Numerical Model to Estimate Sediment Oxygen Levels and Demand," *Journal of Environmental Quality*, Vol. 28, 1999, pp. 1219-1226, [doi: 10.2134/jeq1999.00472425002800040024x](https://doi.org/10.2134/jeq1999.00472425002800040024x).
- Johnson, J.C., S.Sun, and P.R. Jaffé, "Surfactant Enhanced PCE Dissolution in Porous Media; The Effect on Mass Transfer Rate Coefficients," *Environmental Science and Technology*, Vol. 33, No. 8, 1999, pp. 1286-1292, [doi: 10.1021/es980908d](https://doi.org/10.1021/es980908d).
- Smith, S.L., and P.R. Jaffé, "Modeling the Transport and Reaction of Trace Metals in Water-Saturated Soils and Sediments," *Water Resources Research*, Vol. 34, No. 11, 1998, pp. 3135-3147, [doi: 10.1029/98WR02227](https://doi.org/10.1029/98WR02227).
- Guha, S., P.R. Jaffé, and C.A. Peters, "Bioavailability of Mixtures of PAHs Partitioned into the Micellar Phase of a Non-ionic Surfactant," *Environmental Science and Technology*, Vol. 32, No. 15, 1998, pp. 2317-2324, [DOI: 10.1021/es971093w](https://doi.org/10.1021/es971093w).
- Tuck, D.M., B.R. Bierck, and P.R. Jaffé, "Synchrotron Radiation Measurement of Multiphase Fluid Saturation in Porous Media: Experimental Technique and Error Analysis," *J. of Contaminant Hydrology*, Vol. 31, No. 3-4, 1998, pp. 21-45, [doi: 10.1016/S0169-7722\(97\)00064-8](https://doi.org/10.1016/S0169-7722(97)00064-8).
- Guha, S., P.R. Jaffé, and C.A. Peters, "Solubilization of PAH Mixtures by a Non-Ionic Surfactant," *Environmental Science and Technology*, Vol. 32, No. 7, 1998, pp. 930-935, [doi: 10.1021/es970695c](https://doi.org/10.1021/es970695c).
- Sun, S., and P.R. Jaffé, "Sorption of Phenanthrene from Water onto Alumina Coated with Dianionic Surfactants," *Environmental Science and Technology*, Vol. 30, No. 10, 1996, pp. 2906-2913, [doi: 10.1021/es950768x](https://doi.org/10.1021/es950768x).
- Guha, S., and P.R. Jaffé, "Determination of Monod Kinetic Coefficients for Volatile Hydrophobic Organic Compounds," *Biotechnology and Bioengineering*, Vol. 50, No. 6, 1996, pp. 693-699, [doi: 10.1002/\(SICI\)1097-0290\(19960620\)50:6<693::AID-BIT10>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1097-0290(19960620)50:6<693::AID-BIT10>3.0.CO;2-G).
- MacLeod, C.L., M.D. Borcsik, P.R. and Jaffé, "Effect of Infiltrating Solutions on the Desorption of Mercury from Aquifer Sediments," *Environmental Technology*, Vol 17, No. 5, 1996, pp. 465-475, [doi: 10.1080/09593331708616408](https://doi.org/10.1080/09593331708616408).
- Park, S.S., and P.R. Jaffé, "Development of a Redox Potential Model for the Assessment of Postdepositional Heavy Metal Mobility," *Ecological Modelling*, Vol.91, No. 1-3, 1996, pp. 169-181, [doi: 10.1016/0304-3800\(95\)00188-3](https://doi.org/10.1016/0304-3800(95)00188-3).
- Guha, S., and P.R. Jaffé, "Bioavailability of Hydrophobic Compounds Partitioned into the Micellar Phase of Nonionic Surfactants," *Environmental Science and Technology*, Vol. 30, No. 4, 1996, pp. 1382-1391, [doi: 10.1021/es950694p](https://doi.org/10.1021/es950694p).
- Guha, S., and P.R. Jaffé, "Biodegradation Kinetics of Phenanthrene Partitioned into the Micellar-Phase of Non-ionic Surfactants," *Environmental Science and Technology*, Vol. 30, No. 2, 1996, pp. 605-611, [doi: 10.1021/es950385z](https://doi.org/10.1021/es950385z).
- Park, J.W., and P.R. Jaffé, "Phenanthrene Removal from Soil-Slurries with Surfactant-Treated Oxides," *J. of Environmental Engineering*, ASCE, Vol. 121, 1995, pp.430-437, [doi: 10.1061/\(ASCE\)0733-9372\(1995\)121:6\(430\)](https://doi.org/10.1061/(ASCE)0733-9372(1995)121:6(430)).
- Imhoff, P.T., and P.R. Jaffé, "Effect of Liquid Distribution on Gas-Water Phase Mass Transfer in Unsaturated Sand During Infiltration," *Journal of Contaminant Hydrology*, Vol. 16, 1994, pp. 359-380, [doi: 10.1016/0169-7722\(94\)90044-2](https://doi.org/10.1016/0169-7722(94)90044-2).
- Smith, J.A., and P.R. Jaffé, "Benzene Transport through Landfill Liners Containing Organophilic Bentonite," *J. of Environmental Engineering*, ASCE, Vol. 120, No. 6, November/December 1994, pp. 1559-1577, [doi: 10.1061/\(ASCE\)0733-9372\(1994\)120:6\(1559\)](https://doi.org/10.1061/(ASCE)0733-9372(1994)120:6(1559)).
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "An Experimental Study of Complete Dissolution of a Nonaqueous Phase Liquid in Saturated Porous Media." *Water Resources Research*, Vol. 30, No. 2, 1994, pp. 307-320, [DOI: 10.1029/93WR02675](https://doi.org/10.1029/93WR02675).
- Smith J.A., and P.R. Jaffé, "Adsorptive Selectivity of Organic-Cation-Modified Bentonite for Nonionic Organic Contaminants," *Water, Air, and Soil Pollution*, Vol. 72, 1994, pp. 205-211, [doi: 10.1007/BF01257125](https://doi.org/10.1007/BF01257125).
- Park, J.W., and P.R. Jaffé, "Partitioning of Three Non-ionic Organic Compounds Between Adsorbed Surfactants, Micelles, and Water," *Environmental Science and Technology*, Vol. 27, No.12, 1993, pp. 2559-2565, [doi: 10.1021/es00048a038](https://doi.org/10.1021/es00048a038).
- Stigliani, W.M., A. Anderberg, and P.R. Jaffé, "Industrial Metabolism and Long-Term Risk from Accumulated Chemicals in the Rhine Basin," *Industry and Environment*, UNEP, July-September 1993, [link](#).
- Cho, J.H., and P.R. Jaffé, "Simulating the Volatilization of Solvents in Unsaturated Soils during Laboratory and Field Infiltration Experiments," *Water Resources Research*, Vol. 29, No. 10, 1993, pp. 3329-3342, [doi: 10.1029/93WR01414](https://doi.org/10.1029/93WR01414).
- Stigliani, W.M., P.R. Jaffé, and S. Anderberg, "Heavy Metal Pollution in the Rhine Basin," *Environmental Science and Technology*, Vol. 27, No. 5, May 1993, pp. 786-792, [doi: 10.1021/es00042a001](https://doi.org/10.1021/es00042a001).

- Jaffé, P.R., and S.W. Taylor, "Reply on Biofilm Growth and the Related Changes in the Physical Properties of a Porous Medium: Experimental Investigation," *Water Resources Research*, Vol. 28, No.5, May 1992, pp. 1483-1484, [doi: 10.1029/92WR00245](https://doi.org/10.1029/92WR00245).
- Smith, J.A., H.J. Cho, P.R. Jaffé, C.L. MacLeod, and S.A. Koehnlein, "Sampling Unsaturated-Zone Water for Trichloroethylene at Picatinny Arsenal, New Jersey," *J. of Environmental Quality*, Vol. 21, April 1992, pp. 264-271, [doi: 10.2134/jeq1992.00472425002100020018x](https://doi.org/10.2134/jeq1992.00472425002100020018x).
- Smith, J.A., and P.R. Jaffé, "Comparison of Tetrachloromethane Sorption to an Alkylammonium-clay and an Alkyldiammonium-clay," *Environmental Science and Technology*, Vol. 25, No. 12, December 1991, pp. 2054-2058, [doi: 10.1021/es00024a010](https://doi.org/10.1021/es00024a010).
- Taylor, S.W., and P.R. Jaffé, "Enhanced In-Situ Biodegradation and Aquifer Permeability Reduction," *J. of Environmental Engineering*, ASCE, Vol. 117, No. 1, January 1991, pp. 25-46 [doi: 10.1061/\(ASCE\)0733-9372\(1991\)117:1\(25\)](https://doi.org/10.1061/(ASCE)0733-9372(1991)117:1(25)).
- Baek, N.H., P.R. Jaffé, and N. Singhal, "Simulating the Degradation of TCE Under Methanogenesis," *J. of Environmental Science and Health. Part A, Environmental Science and Engineering*, Vol. 25, No. 8, December 1990, pp. 987-1005, [doi: 10.1080/10934529009375612](https://doi.org/10.1080/10934529009375612).
- Cho, J.H., and P.R. Jaffé, "The Volatilization of Organic Compounds in Unsaturated Porous Media During Infiltration," *Journal of Contaminant Hydrology*, Vol. 6, No. 4, December 1990, pp. 387-410, [doi: 10.1016/0169-7722\(90\)90036-G](https://doi.org/10.1016/0169-7722(90)90036-G).
- Taylor, S.W., and P.R. Jaffé, "Biofilm Growth and the Related Changes in Physical Properties of a Porous Media. 1.- Experimental Investigation," *Water Resources Research*, Vol. 26, No. 9, September 1990, pp. 2153-2159, [doi: 10.1029/WR026i009p02153](https://doi.org/10.1029/WR026i009p02153).
- Taylor, S.W., P.C.D. Milly, and P.R. Jaffé, "Biofilm Growth and the Related Changes in Physical Properties of a Porous Media. 2.- Permeability," *Water Resources Research*, Vol. 26, No. 9, September 1990, pp. 2161-2169, [doi: 10.1029/WR026i009p02161](https://doi.org/10.1029/WR026i009p02161).
- Taylor, S.W., and P.R. Jaffé, "Biofilm Growth and the Related Changes in Physical Properties of a Porous Media. 3.- Dispersivity," *Water Resources Research*, Vol. 26, No. 9, September 1990, pp. 2171-2180, [doi: 10.1029/WR026i009p02171](https://doi.org/10.1029/WR026i009p02171).
- Taylor, S.W., and P.R. Jaffé, "Substrate and Biomass Transport in a Porous Medium," *Water Resources Research*, Vol. 26, No. 9, September 1990, pp. 2181-2194, [doi: 10.1029/WR026i009p02181](https://doi.org/10.1029/WR026i009p02181).
- Smith, J.A., P.R. Jaffé, and C.T. Chiou, "Effect of Ten Quaternary Ammonium Cations on Tetrachloromethane Sorption to Clay From Water," *Environmental Science and Technology*, Vol. 24, No. 8., August 1990, pp. 1167-1179, [doi: 10.1021/es00078a003](https://doi.org/10.1021/es00078a003).
- Baek, N.H., and P.R. Jaffé, "The Degradation of Trichloroethylene in Mixed Methanogenic Cultures," *J. of Environmental Quality*, Vol. 18, October 1989, pp. 515-518, [doi: 10.2134/jeq1989.00472425001800040022x](https://doi.org/10.2134/jeq1989.00472425001800040022x).
- Jaffé, P.R., C. Paniconi, and E.F. Wood, "Model Calibration Based on the Naturally Occurring Random Fluctuations of an Environmental System," *J. of Environmental Engineering*, ASCE, Vol. 144, No. 5, October 1988, pp. 1136-1145.
- Witkowski, P.J., P.R. Jaffé, and R.A. Ferrara, "Sorption and Desorption Dynamics of Aroclor 1242 to Natural Sediments," *J. of Contaminant Hydrology*, No. 2, 1988, pp. 249-269, [doi: 10.1016/0169-7722\(88\)90025-3](https://doi.org/10.1016/0169-7722(88)90025-3).
- Jaffé, P.R., "Tropical Eutrophic Lake Modeling and Parameter Discrimination," *Water Resources Bulletin*, Vol. 24, No. 3, June 1988, pp. 585-592, [doi: 10.1111/j.1752-1688.1988.tb00909.x](https://doi.org/10.1111/j.1752-1688.1988.tb00909.x).
- Jaffé, P.R., "Modeling Sorbing Chemicals; Considering the Nonsingular Adsorption/Desorption Isotherm," *J. of Environmental Science and Health. Part A, Environmental Science and Engineering*, Vol. 21, No. 1, February 1986, pp. 55-69, [doi: 10.1080/10934528609375275](https://doi.org/10.1080/10934528609375275).
- Jaffé, P.R., and R.A. Ferrara, "Modeling Sediment and Water-Column Interactions for Hydrophobic Pollutants; Parameter Discrimination and Model Response to Input Uncertainty," *Water Research*, Vol. 18, No. 9, September 1984, pp. 1169-1174, [doi: 10.1016/0043-1354\(84\)90234-3](https://doi.org/10.1016/0043-1354(84)90234-3).
- Jaffé, P.R., and F.L. Parker, "Uncertainty Analysis of a First Order Decay Model," *J. of Environmental Engineering*, ASCE, Vol. 110, No. 1, February 1984, pp. 131-140, [doi: 10.1061/\(ASCE\)0733-9372\(1984\)110:1\(131\)](https://doi.org/10.1061/(ASCE)0733-9372(1984)110:1(131)).
- Jaffé, P.R., and R.A. Ferrara, "Desorption Kinetics in Modeling Toxic Chemicals," *J. of Environmental Engineering*, ASCE, Vol. 109, No. 4, August 1983, pp. 859-867, [doi: 10.1061/\(ASCE\)0733-9372\(1983\)109:4\(859\)](https://doi.org/10.1061/(ASCE)0733-9372(1983)109:4(859)).
- Eckenfelder, W.W., and P.R. Jaffé, "Effluent Quality Control in the Activated Sludge Process Using Oxygen Uptake Rate," *Environ. Technology Letters*, Vol. 3, 1982, pp. 441-448, [doi: 10.1080/09593338209384148](https://doi.org/10.1080/09593338209384148).
- Jaffé, P.R., F.L. Parker, and D.J. Wilson, "Distribution of Toxic Substances in Rivers," *J. of the Environmental Engineering Division*, ASCE, Vol. 108, No. EE4, August 1982, pp. 639-649.

ii. Reports

Kimmel, T.A., D.M. Medville, J.A. Bradbury, G. Charnley, H.L., Clack, D.L. Grubbe, R.A. Haffenden, P.R. Jaffe, R.S. Magee, J.P. Pastorick, S.P. Tuler, W.J. Walsh, L.J. Washington, "Alternatives for the Demilitarization of Conventional Munitions," Report of the National Academies of Sciences, Engineering, and Medicine, The National Academies Press, Washington, DC, 2018.

iii. Conference Proceedings and Book Chapters:

Huang, S., C. Chen, R. Abbassi, and P.R. Jaffe, "Laboratory study of nitrification, denitrification and anammox processes in non-granular and granular sludge bioreactors considering low dissolved oxygen conditions," IWA Biofilms: Granular Sludge Conference, Delft, March 18-21, 2018.

Choi, J.H., S.S. Park, and P.R. Jaffé, "Effect of Wetland Plants on the Dynamics of Sulfur Species and Trace Metals in the sediments," Proceedings of the 2004 Environmental Engineering Conference held Chonbuk University, Korea Nov. 4-6, pp. 400-405, 2004.

Altevogt A.S., and P.R. Jaffé "Modeling the Effects of Gas-Phase CO₂ Intrusion on the Biogeochemistry of Variably Saturated Soils," Computational Methods in Water Resources 2004 International Conference, Chapel Hill, North Carolina, June 13-17, 2004.

Jaffé, P.R., S. Wang, Potential Effect of CO₂ Releases from Deep Reservoirs on the Quality of Fresh-Water Aquifers," in Greenhouse Gas Control Technologies, Vol. II, J. Gale and Y. Kaya (eds.), Proceedings of the 6th International Conference on Greenhouse Gas Control Technologies, Pergamon, 2003, pp. 1657-1660.

Jaffé, P.R., S. Wang, P.L. Kallin, and S.L. Smith, "The Dynamics of Arsenic in Saturated Porous Media: Fate and Transport Modeling for Deep-Water Sediments, Wetland Sediments, and Groundwater Environments," Water Rock Interactions, Ore deposits, and Environmental Geochemistry: A Tribute to David Crerar, R Hellman and S.A. Wood.Eds. The Geochemical Society, Special Publication No 7, 2001, pp. 379-397.

Kim, H., and P.R. Jaffé, "Simulating the Biodegradation of Toluene at the Macroscopic and Pore-Level Scale for Aerobic and Nitrate Reducing Conditions," in Proceedings of the 220th National Meeting of the American Chemical Society Division of Environmental Chemistry, Vol. 40 No. 2, Aug. 2000, pp. 363-365.

Islam, J., N. Singhal, and P. Jaffé, "Modelling Biogeochemical Interactions in Soils under Leaking Landfills," in Contaminated Site Remediation: Challenges Posed by Urban and Industrial Contaminants," Proceedings of the 1999 Contaminated Site Remediation Conference, 21-25 March, Fremantle, Western Australia, Johnston, C.D. (ed.), 433-440.

Johnson, J.C., Jaffé, P.R. "Mass Transfer Rate Coefficients in Porous Media: Surfactant Enhanced Dissolution," in Proceedings of the 1998 symposium on environmental models and experiments envisioning tomorrow, Eds. C.V. Chrysikopoulos, T. Harmon, J. Bear, University of California-Irvine, 1998, 125-136.

Stencel, J.R. and P.R. Jaffé, "Trace Metal Analysis using Ion Chromatography in Water Partitioned from Crude-Oil Spills," First International Conference on Oil and Hydrocarbon Spills, Modelling, Analysis and Control, Southampton, UK, July 29-31, 1998, Computational Mechanics Publications, Editors, R.Garcia Martinez and C.A. Brebbia, pp. 223-230 (ISBN 183125261).

Jaffé, P.R. and S.W. Taylor, "An Assessment for the Potential of Plugging and its Mitigation During Insitu Bioremediation," Chapter 8, in Biological Treatment of Hazardous Waste, G. Lewandowski and L. DeFilippi (eds.), J. Wiley, 1998, pp. 215-235.

Singhal, N., P.R. Jaffé, and W. Maier, "Modelling the Anaerobic Degradation of Volatile Chemicals in Porous Media," in Proceedings of CHEMECA 97 - The 25th Australian and New Zealand Chemical Engineers' Conference and Exhibition, 29 September - 1 October 1997.

Brown, D.G., S. Guha, and P.R. Jaffé, "Modeling Biodegradation of phenanthrene in the presence of Non-ionic surfactant," Fourth International In Situ and On-Site Bioremediation Symposium, April 1997, New Orleans, 4(2), pp. 581-586.

Guha, S., P.R. Jaffé, and C.A. Peters, "Biodegradation of a PAH Mixture in the Presence of Triton X100," Fourth International In Situ and On-Site Bioremediation Symposium, April 1997, New Orleans, 4(2), p. 557.

Sun, S., S. Guha, D.G. Brown, and P.R. Jaffé, "The Effect of a Surfactant's Hydrophilic Chain Length on the Surfactant-Enhanced Mass Transfer Between an Organic and an Aqueous Phase," Extended Abstracts of the Conference on Emerging Technologies for Hazardous Waste Management VIII, ACS, Birmingham, September 1996, pp. 406-409.

Park, S.S., and P.R. Jaffé, "Simulation of the Early Diagenetic Processes for the Remobilization of Trace Pollutants in Benthic Sediments," Proc. of the 6th International Conference on the Conservation and Management of Lakes - Kasumigaura, Vol. 2, pp. 1064-1067, October 1995, University of Jukuba, Japan.

- Singhal, N., P.R. Jaffé, and W.J. Maier, "Anaerobic Dehalogenation of TCE in Continuous Flow Systems," in Proc. of the Conference on Emerging Technologies for Hazardous Waste Management VII, ACS, Atlanta, September 1995, pp 1187-1190.
- Bierck, B.R., D.M. Tuck, H. Sayed, P. Imhoff, and P.R. Jaffé, "Downward, Gravity Driven Mobilization of Tetrachloroethylene in a Porous Medium Treated with Surfactant Solution," Proc. of the Water Environmental Federation Conference on Innovative Solutions for Contaminated Site Management, Miami, FL., pp. 267-278, March 1994.
- Cho, H.J., J.A. Smith, P.R. Jaffé, "Simulating Trichloroethylene Volatilization in the Vadose Zone during a Field Infiltration Experiment at Picatinny Arsenal, New Jersey," U.S. Geological Survey Toxic Substances Hydrology Program -- Proc. of the Technical Meeting, Colorado Springs, CO, September 1993, Morganwalp, D.W., and Aronson, D.A., eds., U.S.G.S. Water-Resources Investigation Report 94-4015, Tallahassee, FL, 1996, pp. 315-320.
- Stigliani, W. M., P. R. Jaffé, and S. Anderberg, "Metals Loading of the Environment: Cadmium in the Rhine Basin," in *Industrial Ecology and Global Change*, R. Socolow, C. Anderws, F. Berkhout, V. Thomas (Eds.), Cambridge University Press, 1994, pp 287-296.
- Park, J.W., and P.R. Jaffé, "Removal of Nonionic Organic Pollutants from Water by Sorption to Organo-Oxides," in *Emerging Technologies for Hazardous Waste Management IV*, D.W. Tedder and F.G. Pohland (Eds.), ACS Symposium Series 554, 1994, pp. 171-183.
- Stigliani, W. M., P. R. Jaffé, "Industrial Metabolism and River Basin Studies: A New Approach for the Analysis of Chemical Pollution," IIASA, Laxenburg, Austria, 1993, research report No. 93-6.
- Jaffé, P.R. and S.W. Taylor, "Biomass Manipulation to Control Pore Clogging in Aquifers," in *Manipulation of Groundwater Colloids for Environmental Restoration*, Manteo, 1993, J.F. McCarthy and F.J. Wobber (Eds.), Lewis Publishers, pp. 111-114.
- Smith, J.A., P.M. Franklin, and P.R. Jaffé, "Hydraulic Conductivity of Landfill Liners Containing Benzyltriethylammonium-Bentonite," Proc. of the 1992 ASCE National Conference on Environmental Engineering, Baltimore, July 1992, pp. 186-191.
- Guarnaccia, J.F., P.T. Imhoff, B.C. Missildine, M. Oostrom, M.A. Celia, J.H. Dane, P.R. Jaffé, and G.F. Pinder, "Multiphase Chemical Transport in Porous Media," U.S. EPA Environmental Research Brief, EPA/600/S-92/002, March 1992.
- Park, J.-W., and P.R. Jaffé, "Development of a Sorbent for Removal of Nonionic Pollutants from Water," Proc. of the 1991 ASCE National Conference on Environmental Engineering, Nevada, July 1991, P. Krenkel (Ed.), ASCE, N.Y., pp. 248-253.
- Cho, H.J., P.R. Jaffé, and J.A. Smith, "The Design of a Field Experiment to Study the Dynamics of Trichloroethylene Vapors in the Unsaturated Zone during an Infiltration Event," U.S. Geological Survey Toxic Substances Hydrology Program, Proc. of the Technical Meeting, Monte Rey, CA, March 11-15, 1991, U.S.G.S. Water-Resources Investigation Report 91-4034, pp. 721-725.
- Smith, J.A., H.J. Cho, P.R. Jaffé, C.R. McDonald, and S.A. Koehnlein, "Sampling and Analysis of Unsaturated-Zone Water for Trichloroethylene: A Comparison of Four Methods," U.S. Geological Survey Toxic Substances Hydrology Program -- Proc. of the Technical Meeting, Monte Rey, CA, March 11-15, 1991, U.S.G.S. Water-Resources Investigation Report 91-4034, pp. 708-712.
- Smith, J.A., D.M. Tuck, P.R. Jaffé, and R.T. Mueller, "Effect of Surfactants on the Mobility of Nonpolar Organic Contaminants in Porous Media," in *Organic Substances and Sediments in Water*, R.A. Baker (Ed.), Lewis Publishers, Inc., 1991, pp. 201-230.
- Cho, H.J., and P.R. Jaffé, "Volatilization in Porous Media during Infiltration," Proc. of the the 1990 ASCE National Conference on Environmental Engineering, Washington, July 1990, C.R. O'Melia (Ed.), ASCE, N.Y., pp. 463-470.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "Dissolution of Organic Liquids in Groundwater," Proc. of the 1990 ASCE National Conference on Environmental Engineering, Washington, July 1990, C.R. O'Melia (Ed.), ASCE, N.Y., pp. 290-297.
- Tuck, D.M., P.R. Jaffé, D.A. Crerar, and R.T. Mueller, "Enhancing Recovery of Immobile Residual Non-Wetting Hydrocarbons from the Unsaturated Zone Using Surfactant Solutions," Proc. of the Conference on Petroleum Hydrocarbons and Organic Chemicals in Ground Water, NWWA, Houston, TX, November 1988, pp. 457-478.
- Cho, H.J., and P.R. Jaffé, "The Effect of Rainfall on Volatilization Rates in Soils," Proc. of the International Conference and Workshop on Validation of Flow and Transport Models for the Unsaturated Zone, P.J. Wierenga and D. Bachlet (Eds.), Ruidoso, New Mexico, May 1988, pp. 26-32.

- Baek, N.H., and P.R. Jaffé, "Anaerobic Mineralization of Trichloroethylene," Proc. of the International Conference on Physicochemical and Biological Detoxification of Hazardous Wastes, Y.C. Wu (Ed.), Atlantic City, May 1988, pp.772-782.
- Jaffé, P.R., and D.M. Tuck, "Theoretical Study of Partitioning of Organic Solutes in Soil," Proc. of the Ground Water Geochemistry Conference, Denver, February 1988, NWWA, pp. 429-444.
- Witkowski, P.J., and P.R. Jaffé, "Kinetic and Equilibrium Formulations in Modeling Hydrophobic Organic Chemicals in Surface and Ground Waters," in *Systems Analysis in Water Quality Management*, M.B. Beck (Ed.), Pergamon Press, June 1987, pp. 333-338.
- Jaffé, P.R., and R.A. Ferrara, "The Sediment-Water Interface in Modeling Pesticides in Sedimentation Ponds," Proc. of the Storm and Water Quality Model Users Group Meeting, January 27-28, 1983, T.O. Barnwell (Ed.), EPA 600/9-83-015, September 1983, pp. 53-64.
- Parker, F.L., and P.R. Jaffé, "Hazardous Waste Monitoring in Surface Waters," Proc. of the National Conference on Risk and Decision Analysis for Hazardous Waste Disposal, Baltimore, August 1981, pp. 120-126.
- Jaffé, P.R., F.L. Parker, and D.J. Wilson, "The Fate of Toxic Substances in Rivers," Proc. of the ASCE Environmental Engineering Conference, Atlanta, July 1981, pp. 181-188.

II. Non-Refereed Publications

i. Technical Reports, Book Chapters, Articles:

- Jaffé, P.R., "On the Increasing Complexity in Experimental Contaminant Hydrology Research," AGU Hydrology Section Newsletter, pp.14-17, November 2012.
- MacDonald, L. H., G. Pathak, B. Singer, and P.R. Jaffé, "Fluoride Removal from Drinking Water in Jharkhand, India, Community Networks to Sustain Removal in the Long-term, and Baseline Health Impact Measurements," Sustainable and Safe Drinking Water in Developing and Developed Countries: Where Science Meets Policy, Univ. of North Carolina, November 5-6, 2008.
- MacDonald, L. H., B. Singer, M. Oppenheimer, and P.R. Jaffé, "Putting some Teeth in the International Health Regulations," Sustainable and Safe Drinking Water in Developing and Developed Countries: Where Science Meets Policy, Univ. of North Carolina, November 5-6, 2008.
- Guha, S., C.A. Peters, and P.R. Jaffé, "Biodegradation Kinetics of Mixtures of Naphthalene, Phenanthrene and Pyrene," 1998, report WR-98-02, Princeton University.
- Guha, S., K. Jahan, P.R. Jaffé, W. J. Maier, E. Tam, L. Thai, "Surfactant-Enhanced Insitu Biodegradation of Strongly Sorbing Organic Substrates in Soil Environments," December 1994, report # WR-94-01, Princeton University.
- Bierck, B.R., P.R. Jaffé, and T.S. Steenhuis, "Dynamic Non-Destructive Evaluation of NAPL Behavior During In Situ Removal From Soil," Final Project Report NE HSRC, NJIT, March 1994.
- Stigliani, W.M., and P. R. Jaffé "Industrial Metabolism and River Basin Studies: A New Approach for the Analysis of Chemical Pollution," 1993, IIASA Paper, RR-83-6.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "An Experimental Study of the Dissolution of Trichloroethylene in Saturated Porous Media," 1992, report # WR-92-1, Princeton University.
- Stigliani, W.M., and P.R. Jaffé, "Industrial Metabolism: A New Approach for Analysis of Chemical Pollution and Its Potential Applications," 1992, IIASA Paper, WP-92-6.
- Jaffé, P.R., D.M. Tuck, and J. Zou, "Solvent Recovery in Soils Using Surfactants; Part II," prepared for the N.J. Department of Environmental Protection, May 1991, report # 91-WR-1, Princeton University.
- Jaffé, P.R., and S.W. Taylor, "Design of Aquifer Bioremediation," prepared for EPA Northeast Hazardous Substance Research Center, March 1990, report # 90-WR-1, Princeton University.
- Jaffé, P.R., D.M. Tuck, J.D. Hohmann, D.A. Crerar, and M.P. Borcsik, "Investigation of Residual Solvent Recovery in Soils Using Surfactants," prepared for the N.J. Department of Environmental Protection, March 1989, report # 89-WR-1, Princeton University.
- Jaffé, P.R., and H.J. Cho, "A Characterization of the Behavior of Toxic and Hazardous Substances in Unsaturated Soil Systems," prepared for the NSF/Industry/University Cooperative Center for Research in Hazardous and Toxic Substances, 1988, rep. # 88-WR-4, Princeton University.
- Imhoff, P.T., G.F. Pinder, P.R. Jaffé, and J.F. Guarnaccia, "Well Location Strategies for Ground Water Contaminant Plume Delineation," prepared for the NSF/Industry/University Cooperative Center for Research in Hazardous and Toxic Substances, 1988, rep. # 88-WR-3, Princeton University.

- Jaffé, P.R., S.W. Taylor, N.H. Baek, P.C.D. Milly, and A.C. Marinucci, "Biodegradation of Trichloroethylene and Biomanipulation of Aquifers," prepared for the U.S. Geological Survey, September 1988, report # 88-WR-2, Princeton University.
- Jaffé, P.R., "Dinámica de Nutrientes en el Lago de Valencia; Desarrollo de un Modelo Preliminar," Prepared for the Research Division of the Venezuelan Department of the Environment and Natural Resources, March 1985.
- Jaffé, P.R., "The Fate of Toxic Substances in Rivers," Ph.D. Dissertation, Vanderbilt University, December 1981.
- Jaffé, P.R., "Effluent Quality Control in the Activated Sludge Process Using Oxygen Uptake Rate," M.S. Thesis, Vanderbilt University, Department of Environmental and Water Resources Engineering, May 1980.

ii. Conference Presentations with Abstracts:

- Sherman, A., and P.R. Jaffé, "The Effects of Hurricane Flooding on Ammonium Oxidation in Agricultural Riparian Zones," presented at the 2019 AGU Fall Meeting, San Francisco, December 2019.
- Jaffé, P.R. and S. Huang, "Defluorination of PFAS via Ammonium Oxidation under Iron Reducing Conditions," plenary talk, 16th International Symposium on Persistent Toxic Substances (ISPTS), October 25 to 27, 2019.
- Jaffé, P.R. and S. Huang, "Defluorination of PFAS by *Acidimicrobiaceae* sp. A6 during Feammox Incubations, invited talk, ACS National Meeting San Diego, August 2019
- Jaffé, P.R. and S. Huang, "Defluorination of PFAS and their Precursors via the Feammox Process," presented at the 2019 AEESP Research and Education Conference at ASU, May 14–16, 2019.
- Jaffé, P.R. and S. Huang, "Defluorination of PFAS via Feammox," presented at the NJWEA/AEES Workshop, Atlantic City, May 6, 2019.
- Jaffé, P.R. and S. Huang, "Defluorination of PFAS via Ammonium Oxidation under Iron Reducing Conditions," platform talk, 2019 RemTEC Summit, Denver, CO, February 26-28, 2019.
- Ruiz-Urigüen, M., W. Shuai, and P.R. Jaffe, "Electrode-colonizing Feammox Bacteria *Acidimicrobiaceae* sp. A6," Paper No. B23H-1890, presented at the 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.
- Sherman, A., and P.R. Jaffé, "Ammonium Oxidation and Selenium Reduction via Feammox in Neuse River Riparian Sediments," Paper No. B53K-2325, presented at the 2018 Fall Meeting, AGU, Washington, D.C., 10-14 Dec.
- Ge, J., S. Huang, P.R. Jaffé, "Biodegradation of selected aromatic organic compounds by the Feammox process," presented at the 2018 International Conference on the "Challenges in Environmental Science and Engineering" (CSE-2018), Thailand, Nov. 4-8, Bangkok, 2018.
- Kaplan, D.I., D. Li, S. Huang, P.R. Jaffé, J.C. Seaman, C. Xu, P.H. Santschi, A.C. Dohnalkova, N. Tolic, Ravi Kukkadapu, "Impact of the Unique Mineralogy and Organic Matter Composition of the Rhizosphere on Uranium immobilization," presented at the Clay Mineral Society Annual Meeting, Urbana-Champaign, IL, 11-14 June, 2018.
- Ruiz-Urigüen, D. Steingart, and P.R. Jaffé, "Electrodes as Terminal Electron Acceptors in Anaerobic Ammonium Oxidation," [Final paper number, B11A-1660] presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Sherman, A., and P.R. Jaffé, "Bioreduction of Selenium Oxyanions via the Feammox Process," [Final paper number, B23D-2104] presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Weitao Shuai, Peter R. Jaffé, "Enhancing the Process of Anaerobic Ammonium Oxidation Coupled to Iron Reduction in Constructed Wetland Mesocosms with Supplement of Ferric Iron Hydroxides [Final paper number, B23D-2087] presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Bilgin, A., and P.R. Jaffé, "Copper (II) Removal In Anaerobic Continuous Column Reactor System By Using Sulfate Reducing Bacteria. Hydroxides," [Final paper number, H54E-01] presented at 2017 Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Jaffé, P.R., "Soil Remediation," Key Note, 10th World Congress of Chemical Engineering, Barcelona, Spain, October 1-5, 2017.
- Jaffé, P., J. Ge, E. Gilson, S. Huang, M. Ruiz, A. Sherman, W. Shuai, "Bioremediation of Selected Organic and Inorganic Pollutants During Ammonium Oxidation Under Iron Reduction," 10th World Congress of Chemical Engineering, Barcelona, Spain, October 1-5, 2017.
- Jaffé, P.R., J. Ge, E. Gilson, S. Huang, M. Ruiz, A. Sherman, W. Shuai, "Exploring Novel Bioremediation Applications Based on the Feammox Process," platform talk, RemTEC Summit, Denver, March 2017.
- Lee, M., E. Shevliakova, S. Malyshev, P. C. D. Milly, P.R. Jaffé⁴, and C.A. Stock: "Increased climate variability and extremes amplify risks of coastal hypoxia worldwide: Implications of enhanced basin memory effects on river dissolved nitrogen in the GFDL Earth system modeling framework," Extreme Climate Event Impacts on Aquatic Biogeochemical Cycles and Fluxes, AGU Chapman Conference, San Juan, Puerto Rico, January 2017.

- Reid M.C., and P.R. Jaffé, “Characterizing Gas Transport in Wetland Soils with Dissolved Gas Tracer Techniques,” 2016 Fall Meeting Program, San Francisco.
- Zhang, Z., H.S. Moon, S. Myneni, and P.R. Jaffe, “Effect of phosphate, iron and sulfate reduction on arsenic dynamics and bioaccumulation in constructed wetlands,” 2016 Fall Meeting Program, San Francisco.
- Michael Pennino, M., R. McDonald, and P. Jaffe, “Watershed Scale Impacts of Stormwater Green Infrastructure on Hydrology, Nitrogen Fluxes, and Combined Sewer Overflows in the Baltimore, MD and Washington, DC area,” 2016 Fall Meeting Program, San Francisco.
- Kaplan, D. I., J.C. Seaman, C. Xu, S. Huang, D. Li, R. Kukkadapu, P. Santschi, P., and P. Jaffe, “Organic and Mineralogical Properties of the Rhizosphere that Promote Uranium Binding in Wetland Soils,” ASA, CSSA & SSSA International Annual Meeting, 2016, American Society of Agronomy, Phoenix, AZ.
- Kaplan, D., Xu C, P. Santschi, D. Li, J. Seaman, P. Jaffe, “Seasonal Changes in Uranium Porewater Chemistry in a Contaminated Wetland,” 26th Goldschmidt Conference, Yokohama, Japan, June 26-July 1, 2016.
- Jaffé, P.R. and V. Razaviarani, “Denitrification of Nitric Oxide from Off-Gas Coking Plant Using Hollow Fiber Membrane,” 6th International Conference on Engineering for Waste and Biomass Valorization -May 23–26, 2016 – Albi, France.
- Lee, M., E. Shevliakova, S. Malyshev, P. C. D. Milly, P.R. Jaffé, and C.A. Stock, “Climatic Variability and Extremes, Interacting with Nitrogen Storage, Amplify Risks of Coastal Eutrophication,” 2016 Ocean Sciences Meeting, New Orleans.
- Pennino, M., P. Jaffe, R. McDonald, “Watershed Scale Impacts of Stormwater Green Infrastructure on Hydrology and Nutrient Fluxes in the Mid-Atlantic Region,” AGU 2015 Fall Meeting Program, San Francisco.
- Ruiz Urigüen, M., P. Jaffe, Microbial Anaerobic Ammonium Oxidation Under Iron Reducing Conditions, Alternative Electron Acceptors,” AGU 2015 Fall Meeting Program, San Francisco.
- Schafer, K., P. Jaffe, T. Morin, G. Bohrer, “Greenhouse Gas Balance in a Restored and Natural Wetland,” AGU 2015 Fall Meeting Program, San Francisco.
- Zhang, Z., H.S. Moon, S. Myneni, P. Jaffe, “Effect of dissimilatory iron and sulfate reduction on arsenic dynamics in the wetland rhizosphere and its bioaccumulation in plants,” AGU 2015 Fall Meeting Program, San Francisco.
- Huang, S., and P.R. Jaffé, “Influence of Environmental Factors on Feammox Activity in Soil Environments,” AGU 2015 Fall Meeting Program, San Francisco.
- Gilson E., S. Huang, P.G. Koster van Groos, K. Scheckel, A.D. Peacock, D.I. Kaplan and P.R. Jaffé, “Fate of Uranium in Wetlands: Impact of Drought followed by Re-flooding,” 2015 Environmental System Science (ESS) Principal Investigators (PI) Meeting.
- Pal, D.S. and P.R. Jaffé, “Modeling the Interaction of H₂ on Root Exudate Degradation and Methanogenesis in Wetlands,” EGU General Assembly, 2015, Vienna, Austria.
- Huang, S., M. Ruiz-Urigüen, and P.R. Jaffé, “Ammonium Oxidation Under Iron Reducing Conditions: Environmental Factors Characterization and Process Optimization,” EGU General Assembly, 2015, Vienna, Austria.
- Zhang, Z., H.S. Moon, S. Myneni, P.R. Jaffé, “Effect of Dissimilatory Iron and Sulfate Reduction on Arsenic Dynamics in the Wetland Rhizosphere and its Bioaccumulation in Plants,” EGU General Assembly, 2015, Vienna, Austria.
- Schäfer, KVR, H.J. Renninger, D.S. Pal, and P.R. Jaffé, “Scaling greenhouse gas fluxes in a natural and restored wetland from microsites to ecosystem level,” EGU General Assembly, 2015, Vienna, Austria.
- Huang, S., M. Ruiz-Urigüen, P.R. Jaffe, “Environmental Factors Affecting Ammonium Oxidation Under Iron Reducing Conditions,” AGU 2014 Fall Meeting Program, San Francisco.
- Gilson, E., S. Huang, P. Kostervan Groos, K. Scheckel, A. Peacock, D. Kaplan, P. Jaffe, “Fate of Uranium in Wetlands: Impact of Drought Followed by Re-flooding,” AGU 2014 Fall Meeting Program, San Francisco.
- Pal, D., and P. Jaffe, “Modeling the Interaction of H₂ on root Exudate Degradation and Methanogenesis in Wetland Sediments,” AGU 2014 Fall Meeting Program, San Francisco.
- Schaefer, K., P. Jaffe, G. Bohrer, “Greenhouse Gas Fluxes in a Natural and Restored Wetland Before and After Hurricane Sandy,” AGU 2014 Fall Meeting Program, San Francisco.
- Jaffé, P.R., “Iron as an Electron Acceptor for Biogeochemical Transformations of Pollutants in Groundwater, Soils, and Engineered Systems,” Plenary Lecture on Environmental Engineering, 13th Mediterranean Congress of Chemical Engineering, Barcelona, Spain, 30 September to 3 October 2014.
- Chang, H., S.W. Buettner, J.C. Seaman, P.R. Jaffe, P.G. Koster van Groos, D. Li, A.D. Peacock, K. Scheckel, and D.I. Kaplan, “Critical Role of a Wetland Plant on Uranium Biogeochemistry in an Iron-Rich Reducing Condition,” 24th V.M. Goldschmidt Conference, Sacramento, CA, June 2014.

- ElBishlawi, H., Z. Xu, S. Myneni, P.R. Jaffé, “Fluoride Adsorption Using Novel Hydroxyapatite-coated Calcite: Synthesis, Modeling, and Simulation Studies”, NJ Water Environment Association Annual Conference, Atlantic City, NJ, May 2014.
- Pal, D. and P. Jaffe, “Measuring Subsurface H₂ Concentrations with Peepers to Predict H₂/CH₄ Dependency in Tidal Wetland Sediments,” NJ Water Environment Association Annual Conference, Atlantic City, NJ, May 2014.
- Jaffé, P.R., P.G. Koster van Groos, D. Li, H.S. Chang, J.C. Seaman, D.I. Kaplan, A.D. Peacock, and K. Scheckel, “Uranium Immobilization in Wetland Soils,” EGU General Assembly, 2014, Vienna, Austria.
- Huang, S., M. Ruiz-Urigüen, P.R. Jaffé, “Studies on a Novel *Actinobacteria* Species Capable of Oxidizing Ammonium under Iron Reduction Conditions,” EGU General Assembly, 2014, Vienna, Austria.
- Lee, M., S. Malyshev, E. Shevliakova, P.R. Jaffe, “Perturbations to the River Nitrogen Cycling from the Historical Land Use and Climate Changes: the Susquehanna River Case Study with GFDL Land Model LM3-N,” AGU 2013 Fall Meeting Program, San Francisco.
- Chang, H., S.W. Buettner, J. C. Seaman, P.R. Jaffe, P.G. Koster van Groos, D. Li, A.D. Peacock, K. Scheckel, and D.I. Kaplan, “Uranium biogeochemistry in an iron-rich rhizosphere of a native wetland plant under reducing conditions,” ASA, CSSA, & SSSA International Annual Meetings. Tampa, FL Nov 3 – 6, 2013.
- Reid, M.C., D.S. Pal, and P.R. Jaffe, “Gas Exchange in the Wetland Rhizosphere: Quantifying Spatial and Temporal Variability at Field Scales with Dissolved Gas Tracer Experiments,” AGU Chapman Conference on Soil-mediated Drivers of Coupled Biogeochemical and Hydrological Processes Across Scales, Tucson, Arizona, October 2013.
- Pal, D.S., R. Tripathee, K.V.R. Schäfer, and P.R. Jaffé: “Determining relationships between dissolved Hydrogen and Methane porewater concentrations and static chamber flux measurements in vegetated wetland soils,” AGU Chapman Conference on Soil-mediated Drivers of Coupled Biogeochemical and Hydrological Processes Across Scales, Tucson, Arizona, October 2013.
- Abbassi, R., A. Kumar Yadav, S. Huang, P. Jaffe, H. Littleton, Y. Liu, “Energy and Chemical Efficient Nitrogen Removal with Mixed of Anammox and Low DO Sludge from MBR Plant using Membrane Bio-reactors,” WEFTEC, October 2013, Chicago II.
- Huang, S., and P.R. Jaffe, “A newly identified microorganism affecting the N cycle: Ammonium oxidation in iron reducing soils,” 23rd V.M. Goldschmidt Conference, August 2013, Florence, Italy. *Mineralogical Magazine*, 77(5) 1339.
- Jaffé, P.R., “Iron as an electron acceptor for biogeochemical transformations of pollutants in groundwater and at the groundwater-surface water interface,” International Symposium on Ecohydrology and Groundwater Sustainability: Integrative approaches to mass exchange in groundwater-surface water interfaces, July 22-26, 2013, Seoul, Korea.
- Koster van Groos, P.G., D.I. Kaplan, H.S. Chang, A.D. Peacock, J.C. Seaman, and P.R. Jaffe, “Investigating uranium attenuation through wetland mesocosms,” International Conference on the Biogeochemistry of Trace Metals, June 16 – 20, 2013, Athens, GA.
- Li, D., D. I. Kaplan, J. C. Seaman, H. S. Chang, P. Koster van Groos, and P. Jaffe. 2013, “Sorption and chemical speciation of uranium onto SRS wetland sediments,” International Conference on the Biogeochemistry of Trace Metals, June 16 – 20, 2013, Athens, GA.
- Jaffe, P.R., P.G. Koster van Groos, D.I. Kaplan, H.S. Chang, A.D. Peacock, J.C. Seaman, and K.G. Scheckel, “Uranium Transport across Ground Water Surface Water Interfaces: Effect of Wetland Plants on the Sediment Biogeochemistry,” Joint DOE-TES/DOE-SBR PI Meeting, May 14-15, 2013.
- Jaffe, P.R., H. Tan, A. Peacock, K. Williams, Y. Wu, and P. Long, “Evolution of Methanogenesis during Biostimulation of Alluvial Sediments,” Joint DOE-TES/DOE-SBR PI Meeting, May 14-15, 2013.
- Reid, M.C., and P.R. Jaffe, “In-situ Measurements of Dissolved Gas Dynamics and Root Uptake in the Wetland Rhizosphere,” Geophysical Research Abstracts Vol. 15, EGU 2013-2449, 2013 EGU General Assembly Vienna, Austria, 07 – 12 April, 2013.
- Reid, M.C., R. Tripathee, D. Pal, K.V. Schafer, P.R. Jaffe, “Tidal Influences on Belowground Methane Dynamics in a Mesohaline Coastal Marsh,” AGU 2012 Fall Meeting Program, San Francisco.
- Tripathee, R., M.C. Reid, P.R. Jaffe, K.V. Schafer, “Methane Emission from a Restored Wetland at New Jersey Meadowlands, North East USA,” AGU 2012 Fall Meeting Program, San Francisco.
- Jaffe, P.R., A. Xiang, B.E. Koel, “Transport in Porous Media of Poly(Acrylic Acid) Coated Ferrihydrite Nanoparticles,” AGU 2012 Fall Meeting Program, San Francisco.
- ElBishlawi, H., P. Jaffe, J.Y. Shin, “Trace metal immobilization in tidal brackish marshes: Comparing newly constructed and naturally established sediments,” 4th International Ecosummit, Ecological Sustainability, Restoring the planets Ecosystem Services, Columbus, OH, Sept 30 – Oct.5, 2012.

- Reid, M.C., P.R. Jaffe, "Pathways for volatilization from the wetland rhizosphere," 4th International Ecosummit, Ecological Sustainability, Restoring the planets Ecosystem Services, Columbus, OH, Sept 30 – Oct.5, 2012.
- Schafer, K.V.R., G. Bohrer, M. Reid, R. Tripathee, P. Jaffe, "Temporal and spatial dynamics of methane fluxes in a temperate urban wetland," 4th International Ecosummit, Ecological Sustainability, Restoring the planets Ecosystem Services, Columbus, OH, Sept 30 – Oct.5, 2012.
- Reid, M.C., K.V.R. Schafer, R. Tripathee, P.R. Jaffe, "Linking porewater dynamics and atmospheric fluxes of methane in a tidal estuarine marsh," 4th International Ecosummit, Ecological Sustainability, Restoring the planets Ecosystem Services, Columbus, OH, Sept 30 – Oct.5, 2012.
- Xiang, A., B.E. Koel, P.R. Jaffe "Polymer Coating for Improved Delivery of Iron Oxide Nanoparticles in Ground Water," American Chemical Society National Meeting, Philadelphia, PA, August 2012.
- Tribout, C., P. Jaffe, A. Nzihou, B. Husson, "Assessment of Heavy Metals Release from Secondary Road Materials Using Percolation Test," 4th international Conference on Engineering for Waste and Biomas Valorisation, Sept. 10-13, 2012, Porto, Portugal.
- Jaffe, P.R., M. Barlett, L. Kerkhoff, P.E. Long, D. Lovley, L., McGuinness, H.S S. Moon., H. Tan, K.H. Williams, "Electron Donor Utilization During the Bioreduction of Uranium," 22nd V.M. Goldschmidt Conference, June 2012, Mont Real, Canada.
- Schäfer, K.V.R., R. Tripathee, W. Alcivar, G. Bohrer, P. Jaffe, M. Reid, "Methane Fluxes in Temperate Urban Wetlands," NSF CBET Grantees Conference, June 6 - 8, 2012, Baltimore, MD.
- Lee, M., S. Malyshev, E. Shevliakova, P. Jaffe, "Adapting a Dynamic Land Model, LM3V, to Simulate Nitrogen Exports and Transformations in the Susquehanna River," Chesapeake Modeling Symposium 2012, May 21, 22, Annapolis MD.
- Jaffe, P.R., P. Koster van Groos, D.I. Kaplan, A.D. Peacock, K. Scheckel, H.S. Chang, "Fate of Uranium During Transport Across the Groundwater–Surface Water Interface," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. April 2012.
- Long P., K. Williams, J. Banfield, K. Wrighton, K. Handley, J. Bargar, D. Lovley, M. Lipton, Mike Wilkins, S. Yabusaki, C. Murray, R. Hettich, N. VerBerkmoes, J. Davis, P. Fox, B. Luef, L. Comolli, S. Fakra, P. Jaffe, "Manipulating Uranium Desorption and Redox Status in an Alluvial Aquifer: Overview of *In Situ* Electron Donor and Bicarbonate Amendment," Experiments at the Rifle, Colorado IFRC," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. April 2012.
- Jaffe, P., H. Tan, L. Kerkhof, L. McGuinness, A. Peacock, K. Williams, P. Long, "Impact of Biostimulation on Permeability and C-13 Stable Isotope Probing of Biostimulation Experiments to Identify Acetate Utilizers," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. April 2012.
- Jaffe, P.R., H. Tan, H.S. Moon, L.J. Kerkhof, L.R. McGuinness, A.D. Peacock, R. Kukkadapu, M. Barlett, P. E. Long, "The effect of iron, sulfate, and electron donors on the activity of *Geobacter sp.* during the bioreduction of U(VI)," Uranium biogeochemistry: transformations and applications, International Workshop, March 11-16, 2012, Monte Verita, Ascona Switzerland.
- Lee, M., P.R. Jaffé, E. Shevliakova, S. Malyshev, "Simulation and Evaluation of the Nitrogen Cycle in the Dynamic Land Model LM3V: The Nitrogen budget of the Susquehanna River Watershed," AGU 2011 Fall Meeting Program.
- Reid, M.C., P.R. Jaffé, "A Push-Pull Test to Measure Volatilization Fluxes of Organic Pollutants without Flux Chambers," AGU 2011 Fall Meeting Program.
- Long, P.E., K.H. Williams, J. A. Davis; J.F. Banfield, J. Bargar, D.R. Lovley, K. Hatfield; M. J. Wilkins; S. Yabusaki, C.J. Murray, P.R. Jaffé, "Rifle IFRC Science Team Progress Toward Understanding of Coupled Microbiology, Biogeochemistry, and Hydrogeology Controls on Subsurface Mobility of Uranium" (*Invited*), AGU 2011 Fall Meeting Program.
- Jaffé, P.R., H. Tan, L. Kerkhof, L. McGuinness, A. Peacock, P. E. Long, "C-13 Stable Isotope Probing of Biostimulation Experiments to Identify Acetate Utilizers," AGU 2011 Fall Meeting Program.
- Jaffé, P.R., H. Tan, L.J. Kerkhof, L.R. McGuinness, A.D. Peacock, L. N'Guessan, M. Sinha, R. Kukkadapu, Philip E. Long, "Tracking the activity of *Geobacter sp.* during biostimulation to reduce U(VI) and the post biostimulation biogeochemical dynamics that affect U(IV) stability," International Society for Environmental Biogeochemistry, Istanbul Technical University, Turkey, September 27 to 30, 2011.
- Rosenzweig, BR, Nolfo, C, Smith, JA, Baeck, ML and Jaffé PR, "Variation in nitrogen loading and retention in two urban stormwater detention ponds," Philadelphia Low Impact Development Symposium. 5th National Low Impact Development Conference, Philadelphia, PA, Sept. 26-28, 2011.
- Nolfo, C., Rosenzweig, B., and P. Jaffé, "A Study of Denitrification Hot Spots in a Stormwater Detention Pond," Philadelphia Low Impact Development Symposium. 5th National Low Impact Development Conference, Philadelphia, PA, Sept. 26-28, 2011.

- Reid, M.C. and Jaffé, P.R., "Measurement and Modeling of Volatilization through Wetland Macrophytes," Joint Meeting of the Society of Wetland Scientists," Wetland Biogeochemistry Symposium, and Wetpol. Prague, Czech Republic, July 2011.
- O'Donoghue, B. and P.R. Jaffé, "A New Method of Synthesizing Hydroxyapatite for Cost-Effective Removal of Fluoride From Drinking Water in Developing Countries," AWWA 2011 Annual Conference & Exposition, Washington, D.C., June 2011.
- Jaffé, P., H. Tan, L. Kerkhof, L. McGuinness, A. Peacock, K. Williams, M. Sinha, P. Long, "Post-Biostimulation Field Experiment and C-13 Stable Isotope Probing of Column Experiments to Identify Acetate Utilizers," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. April 2011.
- Long, P.E., J. Banfield, J. Bargar, R. Bush, D. Chandler, J. Davis, *LBNL*; R. Dayvault, P. Fox, *LBNL*; K. Handley, K. Hatfield, R. Hettich, *ORNL*; S.S. Hubbard, *LBNL*; P. Jaffé, L. Kerkhof, R. Kukkadapu, M. Lipton, D. Lovley, C. Murray, A. Peacock, F. Spane, N. VeBerkmoes, M. Wilkins, K.H. Williams, K. Wrighton, S. Yabusaki "Biogeochemical Dynamics Controlling Uranium Mobility and Bioremediation in Contaminated Aquifers: Overview of Results from the Integrated Field-Scale Subsurface Research Challenge Site at Rifle, CO," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. April 2011.
- Nolfo C., Rosenzweig B.R., Jaffé P.R., "A study of denitrification hot spots in an urban stormwater detention pond," Engineering Sustainability 2011: Innovation and the Triple Bottom Line; 2011 April 12; Pittsburgh, PA.
- Rosenzweig B.R., Nolfo C., Jaffé P.R., "Variation in nitrogen loading and retention in two urban stormwater detention ponds," Engineering Sustainability 2011: Innovation and the Triple Bottom Line; 2011 April 11; Pittsburgh, PA.
- Nolfo C., Rosenzweig B.R., Jaffé P.R., "A study of denitrification hot spots in an urban stormwater detention pond," International Symposium on Sustainability Science: The Emerging Paradigm and the Urban Environment; 2010 Oct 26; Montclair, NJ.
- Rosenzweig B.R., Nolfo C., Smith J.A., Baeck M.L., Jaffé P.R., "Variation in nitrogen loading and retention in two urban stormwater detention ponds," International Symposium on Sustainability Science: The Emerging Paradigm and the Urban Environment; 2010 Oct 26; Montclair, NJ.
- Reid, M.C., D.T. Ho, P.R. Jaffé, "Diurnal Cycles of Trace Gas Transfer through Wetland Vegetation," AGU 2010 Fall Meeting Program.
- Jaffé, P.R., H. Tan, H.S. Moon, A.L. N'Guessan, A.D. Peacock, M. Sinha, K.H. Williams, P.E. Long, "Post-Biostimulation Biogenic U(IV) Stability and Microbial Community Structure that Affects its Dynamics," AGU 2010 Fall Meeting Program.
- Jaffé, P.R., H.S. Moon, A.L. N'Guessan, and A.D. Peacock, "Post-Biostimulation Biogenic U(IV) Reoxidation and Microbial Community Structure That Affects Its Stability," Remediation of Chlorinated and Recalcitrant Compounds Seventh International Conference, Monterey, California, May 24–27, 2010.
- Kukkadapu R.K., J.P. McKinley, N.P. Qafoku, H.S. Moon, P. Jaffé, K.H. Williams, P.E. Long, "Reductive Biotransformation of Fe in Rifle Alluvial Sediments: Implications of *In Situ* Bioremediation and Long-Term Behavior of Uranium(VI)," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. March 2010.
- Jaffé, P.R., L.J. Kerkhof, R. Kukkadapu, P.E. Long, L. McGuinness, H.S. Moon, A.L. N'Guessan, A.D. Peacock, M. Sinha, "Factors Controlling Microbial Dynamics During Biostimulation and Post-Biostimulation and Their Effect on U(IV) Stability," DOE Subsurface Biogeochemical Research Meeting. Washington, D.C. March 2010.
- Long P., J. Banfield, D. Chandler, J. Davis, R. Dayvault, P. Fox, R. Hettich, S. Hubbard, P. Jaffé, L. Kerkhof, R. Kukkadapu, M. Lipton, D. Lovley, A. Peacock, F. Spance, N. VerBerkmoes, M. Wilkins, K.H. Williams, S. Yabusaki, "Uranium Redox Status in an Alluvial Aquifer During Biostimulated and Non-Biostimulated Reducing Conditions: Results from the Integrated Field-Scale Subsurface Research Challenge Site at Rifle, Colorado," DOE Subsurface Biogeochemical Research Workshop. Washington, D.C. March 2010.
- Rosenzweig, B., P. R. Jaffé, "Continuous Monitoring of Nitrogen Retention in an Urban Stormwater Detention Pond," AGU 2009 Fall Meeting, Abstract No. B11A-0468, *Eos Trans., AGU*, 90(52).
- Moon, H.; McGuinness, L.; Kukkadapu, R. K.; Peacock, A.; Komlos, J.; Kerkhof, L.; Long, P. E.; Jaffé, P. R. "Effect of 57Fe-goethite Amendment on Microbial Community Composition and Dynamics During the Transition from Iron to Sulfate Reduction," AGU 2009 Fall Meeting, Abstract No. H31B-0787, *Eos Trans., AGU*, 90(52).
- Jaffé, P.R., L.H. MacDonald, J. Paull, "Monitoring and Evaluation of Plant and Hydrological Controls on Arsenic Transport Across the Water Sediment Interface," AGU 2009 Fall Meeting, Abstract No. H23H-02, *Eos Trans. AGU*, 90(52).

- Jaffé, P.R., "Recent Developments in Aquifer Biostimulation: Interactions Between Microbiology and Geochemistry," Workshop of Cleaning Technologies for Sustainable Use of Water in Industry, September 24-25, 2009, Universidad Autónoma de Madrid, Madrid, Spain.
- McGuinness, L., H.S. Moon, P. Jaffé, P. Long, L. Kerkhof, "Profiling Microbial Populations in Sediment Column Experiments during Iron, Uranium, and Sulfate Reduction," American Society for Microbiology 109th General Meeting, Philadelphia, May 2009.
- Long, P., K. Williams, J. Banfield, R. Bush, K. Campbell, D. Chandler, J. Davis, R. Dayvault, A. Englert, Y. Fang, P. Fox, R. Hettich, D. Holmes, S. Hubbard, P. Jaffé, L. Kerkhoff, R. Kukkadapu, L. Li, M. Lipton, D. Lovley, S. Morris, S. Morrison, D. Newcomer, L. N'Guessan, A. Peacock, S. Hyun, N. Quafoku, C. Resch, F. Spane, C. Stefel, N. VerBerkmoes, M. Wilkens, S. Yabusaki, P. Yelton, "*In Situ* Bioreduction of Uranium in an Alluvial Aquifer: Overview of Results from the Integrated Field-Scale Subsurface Research Challenge Site (IFC) at Rifle, Colorado," AGU 2008 Fall Meeting, Abstract No. H53E-1116.
- Jaffé, P.R., L. Kerkhoff, J. Komlos, R.K. Kukkadapu, P.E. Long, L. McGuinness, and H.S. Moon, "The Effect of Iron and Sulfate Levels on the Transition from Iron to Sulfate Reduction during Biostimulation," AGU 2008 Fall Meeting, Abstract No. B13E-05
- MacDonald, L.H., L.R. Durrant, and P.R. Jaffé, "Influence of Iron Reducing Bacteria on Phosphate and Arsenate Release and Sequestration Onto Iron Oxides," AGU 2008 Fall Meeting, Abstract No. B11B-0350.
- MacDonald, L.H., H.S. Moon, and P.R. Jaffé, "Surface Saturation Effects in Solid Phase Bacterial Iron Reducing Kinetics," ACS National Meeting, Philadelphia, PA, August 2008.
- Jaffé, P., H. ElBishlawi, L. Kerkhoff, R. Kukkadapu, P. Long, L. McGuinness, H.S. Moon, A. Peacock, M. Wilkins, and K. Williams "Microbial, Geochemical, and Physical Responses to Biostimulation for U(VI) Reduction in Soil Columns," 2008 Goldschmidt Conference Vancouver, Canada, July 2008, Goldschmidt Conference Abstracts p. A421.
- Kukkadapu, R.K., H. ElBishlawi, P.R. Jaffé, J. Komlos, P.E. Long, H.S. Moon, and K.H. Williams. "Geochemical dynamics in a column biostimulation experiment during the transition from iron to sulfate reduction", Spring 2008 ACS National Meeting & Exposition 2008.4.6-4.10 New Orleans, LA USA (abstract paper in CD:GEOC 064).
- MacDonald, L.H., H.S. Moon, and P.R. Jaffé, "Kinetics of Microbially Mediated Iron Reduction: The Role of Biomass, Ferrous Inhibition, and Electron Shuttles," AGU 2007 Fall Meeting, Abstract No. B33A-085.
- Shrestha, J., and P.R. Jaffé, "Nitrite Production from Ammonium in Riparian Wetland Soils and Determination of Rates of Consumption of Nitrite and Ammonium in-situ," AGU 2007 Fall Meeting, Abstract No. B31A-0073.
- Zazo J. A., J. S. Paull, and P. R. Jaffé, "Effect of Wetland Plants on the Reduction of Hexavalent Chromium in Sediments," AGU 2007 Fall Meeting, Abstract No. B12A-08.
- Jaffé, P.R., H. ElBishlawi, R. Hettich, L. Kerkhof, J. Komlos, R.K. Kukkadapu, M.S. Lipton, P.E. Long, L. McGuinness, H.S. Moon, A.D. Peacock, N. VerBerkmoes, K.H. Williams "Evolution of the Microbial Community Structure and Iron Reduction Rate in a Column Biostimulation Experiment During the Transition From Iron to Sulfate Reduction," AGU 2007 Fall Meeting, Abstract No. B33A-0855.
- Long, P. E., J. Banfield, R. Bush, K. Campbell, D.P. Chandler, J.A. Davis, R. Dayvault, J. Druhan, H. Elifantz, A. Englert, R.L. Hettich, D. Holmes, S. Hubbard, J. Icenhower, P.R. Jaffé, L.J. Kerkhof, R.K. Kukkadapu, E. Leshner, M. Lipton, D. Lovley, S. Morris, S. Morrison, P. Mouser, D. Newcomer, L. N'Guessan, A. Peacock, N. Qafoku, C.T. Resch, F. Spane, B. Spaulding, C. Steefel, N. Verberkmoes, M. Wilkins, K H Williams, S. B. Yabusaki, "The Integrated Field-Scale Subsurface Research Challenge Site (IFC) at Rifle, Colorado: Preliminary Results on Microbiological, Geochemical and Hydrologic Processes Controlling Iron Reduction and Uranium Mobility," AGU 2007 Fall Meeting, Abstract No. B24D-04.
- Rosenzweig B.R., P.R. Jaffé, "Nitrogen Cycling in Stormwater Detention Ponds," presented at the 4th International Nitrogen Conference, Costa do Sauipe - Bahia -Brazil, October 1-5, 2007.
- Komlos, J., R.K. Kukkadapu, J.M. Zachara, and P.R. Jaffé, "Re-oxidation of uranium precipitated during long-term iron/uranium reducing conditions," In Preprints of Extended Abstracts, The 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006, pp. 730-734.
- MacDonald, L.H., and P.R. Jaffé, "Kinetics of iron oxide reduction by *Geobacter sulfurreducens*," In Preprints of Extended Abstracts, The 232nd ACS National Meeting, San Francisco, CA, September 10-14, 2006.
- Song B, Jaffé PR, Ward BB, "Molecular detection and quantification of arsenate reducers in estuarine sediments," Abstracts of Papers of the American Chemical Society 231: - 405-ANYL March 26, 2006.
- Komlos, J., P.R. Jaffé, K.R. Kukkadapu, and J.M. Zachara, "Quantification of Iron Reduction in Microbially Reduced Sediments," American Geophysical Union Fall Meeting, San Francisco, December 2005, abstract No. B23B-1052.

- Jaffé, P.R., J. Choi, and S. Xu, "Biogeochemical Gradients in Wetland Sediments and their Effect on the Fate Trace Metals," American Geophysical Union Fall Meeting, San Francisco, December 2005, abstract No. B24B-08.
- Shresta, J., J.R. Rich, and P.R. Jaffé, "Ammonium Oxidation by Ferric Compounds in Continuous-Flow Microcosms and Verification Using Batch Experiments with $^{15}\text{N-NH}_4$ Tracer," American Geophysical Union Fall Meeting, San Francisco, December 2005, abstract No. B51A-0189.
- Rosenzweig, B.R., and P.R. Jaffé, "The Role of Stormwater Detention Ponds in Nitrogen Cycling in Urban Watersheds," American Geophysical Union Fall Meeting, San Francisco, December 2005, abstract No. B43C-0294.
- Jaffé, P.R., and J.H. Choi, "The effect of plants on the dynamics of sulfur species and trace metals in wetland sediments," Book of Abstracts, 1st International Conference on Engineering for Waste Treatment, Beneficial Use of Waste and by-Products, May 17-19, 2005, Ecole des Mines d'Albi-Carmaux, Albi, France, p. 117.
- Mackle, B., and P. R. Jaffé, "Natural attenuation of chlorinated aliphatic hydrocarbons in tidal discharge wetland sediments," pp. 1031-1036, In Preprints of Extended Abstracts, 228th ACS National Meeting, Philadelphia, PA, August 22-26, 2004.
- Jaffé, P.R., "The Effect of Plants on the Dynamics of Heavy Metals in Wetland Sediments," invited paper for the workshop on Biogeochemical Controls on the Mobility and Bioavailability of Metals in Soils and Groundwater, Monte Verita, Switzerland, March 2003.
- Jaffé, P.R. and H.S. Kim, "Simulating the biodegradation of toluene in sediments for aerobic and denitrifying conditions," SETAC 23rd Annual Meeting November 12-16, 2002, Salt Lake City, Utah.
- Xu, S. and P.R. Jaffé, "The effect of plants on the dynamics of heavy metals in wetland sediment," 18th Annual International Conference on Contaminated Soils, Sediments and Water, October 21-24, University of Massachusetts, Amherst, MA.
- Jaffé, P.R., and S. Wang, "Potential effect of CO_2 releases from deep reservoirs on the quality of fresh-water aquifers," 6th International Conference on Greenhouse Gas Technologies, Kyoto, Japan, October 2002.
- Xu, S. and P.R. Jaffé, "Dynamics of heavy metals in wetland sediments: effects of plants," 34th Mid-Atlantic Industrial and Hazardous Waste Conference, Rutgers University, New Brunswick, NJ September 20-21, 2002.
- Komlos J., P.R. Jaffé, and D. Brown, "Hydrogen as an Indicator to Assess Biological Activity During Bioremediation Under Dual Electron Donor Conditions," Proceedings of the 34th Mid-Atlantic Industrial and Hazardous Waste Conference, Sept. 20-21, 2002, Rutgers University, New Brunswick, NJ, p 134.
- Tucker, R.K., G.S. Hawkins, P.R. Jaffé, K.K. Pflugh, B.B. Johnson, "Integrating Models of Citizens Perceptions, Metal Contaminants, and Wetlands Restoration in an Urbanizing Watershed," presented at the American Water Resources Association Annual Conference, Nov. 4, 2002, Philadelphia, PA.
- Mackle, B. and P.R. Jaffé, "Biodegradation of chlorinated aliphatic hydrocarbons in tidal discharge wetlands sediments," Proceedings of the 34th Mid-Atlantic Industrial and Hazardous Waste Conference, Rutgers University, New Brunswick, NJ September 20-21, 2002.
- Kim, H.S. and P.R. Jaffé, "Simulating the biodegradation of toluene under aerobic and denitrifying conditions," Proceedings of the 34th Mid-Atlantic Industrial and Hazardous Waste Conference, Rutgers University, New Brunswick, NJ September 20-21, 2002.
- Jaffé, P.R., and S. Xu, "Trace-metal dynamics in wetland sediments; Laboratory measurements and numerical simulations," Abstracts of the 12th Annual V.M. Goldschmidt Conference, Davos, Switzerland, *Geochimica et Cosmochimica Acta*, Vol. 66, No. 15A p. A361.
- Jaffé, P.R., J. Komlos, J., D.G. Brown, and D.R. Lovley, "Hydrogen as an Indicator to Assess Biological Activity During Trace-Metal Bioremediation," American Geophysical Union Spring Meeting, Washington DC, May 2002.
- Y.M. Na, S. S. Park, J.H. Choi, and P. R. Jaffé, "Sediment Remediation Using a Pellet of Ocher with Calcium Nitrate," 9th International Symposium on the Interactions between Sediments and Water, Banff, Canada, May 5-10, 2002.
- Brown, D.G., and P.R. Jaffé, "Effects of Nonionic Surfactants on Bacterial Transport Through Porous Media," American Geophysical Union Fall Meeting, San Francisco, December 2001.
- Jaffé P.R., S. Xu, H.J. Choi, "Biogeochemical Dynamics of Trace Metals in Wetland Sediments; Field, Laboratory and Numerical Simulation Studies," 17th Annual Conference on Contaminated Soils, Sediments and Water, Amherst, MA, October 22-24, 2001.
- Jaffé P.R., H.J. Choi, and S. Xu, "Biogeochemical Dynamics of Trace Metals in Wetland Sediments; Simulations and Measurements," Seventh Symposium of Biogeochemistry of Wetlands, Durham, NC, June 17-20, 2001.

- Wang S., P.R. Jaffé, M.A. Celia, S.C. Myneni, C.A. Peters, and J.H. Prevost, "Effect of CO₂ Releases from Deep Reservoirs on the Quality of Fresh-Water Aquifers," AAPG Annual Convention, Denver, CO, June 3-6, 2001.
- Brown, D.G., and P.R. Jaffé, "Hydrogen as an Indicator to Assess Biological Activity During Trace-Metal Bioremediation," American Geophysical Union Spring Meeting, Boston, MA., May 29 June 2, 2001.
- Tucker R.K., Hawkins G.S., Altomari C., Jaffé P.R., Pflugh K.K., Johnson B, "Indicators of Wetland Function," New Jersey Center for Environmental Indicators Annual Meeting, New Brunswick, NJ, May 17, 2001.
- Jaffé, P.R., H.J. Choi, S. Xu, and P.L. Kallin, "Simulating and monitoring the biogeochemical dynamics of trace-metal in wetland Sediments," SETAC 21st Annual Meeting November 12-16, 2000 Nashville, Tennessee.
- Jaffé, P.R., and S. Wang, "Simulating Bioremediation of Uranium Contaminated Aquifers," American Geophysical Union Spring Meeting, Washington, DC, EOS, Transactions, AGU, Vol. 81, No.19, P. 243, 2000
- Wang, S., and P.R. Jaffé, "Modeling the Bioremediation of Trace Metals/Radionuclides by using Hydrogen as a Master Variable," American Geophysical Union Fall Meeting, San Francisco, December 1999. EOS, Transactions, AGU Vol. 80, No. 46, p. F89, 1999.
- Park, S.S., and P.R. Jaffé, "A Numerical Model to Estimate Sediment Oxygen Levels and Demand," Annual Meeting of Korean Association of Environmental Engineer, Kwangju, Korea, 5-6 November 1999.
- Park, S.S., and P.R. Jaffé, "A Numerical Model of Sediment Oxygen Level and Demand Based on Vertical Profiles of Oxidic and Suboxic Diagenesis," 8th International Symposium on the Interactions between Sediments and Water, September 13-17, 1999, Beijing, China
- Jaffé, P.R., S. Wang, and H.A. Rabitz, "Simulating Bioremediation of Uranium Contaminated Aquifers; an Evaluation of Model Robustness," International Symposium on Subsurface Microbiology, Vail, August 1999.
- Brown, D.G., J.R. Stencel, and P.R. Jaffé, "Operational Regimes for Surfactant-Enhanced PAH Biodegradation" International Symposium on Subsurface Microbiology, Vail, August 1999.
- Brown, D.G., J.R. Stencel, and P.R. Jaffé, "Bacterial Transport in Sand Column Experiments: Effects of Media Preparation," International Symposium on Subsurface Microbiology, Vail, August, 1999.
- Jaffé, P.R., "The Effect of Surfactants on Mass-Transfer Processes During the Dissolution and Biodegradation of Hydrocarbons in Groundwater Systems" American Geophysical Union Fall Meeting, San Francisco, December 1998.
- Brown, D.G. and P.R. Jaffé, "Effects of surfactants on bacterial transport through a porous media." Presented to the 5th International In Situ and On-Site Bioremediation Symposium, San Diego, April 19-22, 1999.
- Jaffé, P.R., P.L. Kallin, and S.L. Smith, "Modeling Trace Metal Dynamics in Wetland Sediments: The Effect of the Rhizosphere on the Sediment Redox Profile," Goldschmidt Conference 1998, Mineralogical Magazine, Vol. 62A, pp. 699-700.
- Kallin, P. L., S.L. Smith, P.R. Jaffé, "Modeling Trace-Metal Dynamics in Wetland Sediments," Presented at the 5th Intl. Symposium on the Biogeochemistry of Wetlands, London September 1997.
- Guha, S., C.A. Peters, and P.R. Jaffé, "Bioavailability of a PAH Mixture Solubilized in the Triton X100 Micelles," ACS Symposium on Emerging Technologies in Hazardous Waste Management IX, D.W. Tedder, Ed., September 1997.
- Johnson, J.C., S. Sun, and P.R. Jaffé, "Effect of Surfactants on the Mass Transfer Rate Coefficient in Porous Media," ACS Symposium on Emerging Technologies in Hazardous Waste Management IX, D.W. Tedder, Ed., September 1997, p. 238.
- Shimada, B.W., and P.R. Jaffé, "Scaling Behavior of Soil and Crop Cadmium Concentrations in Agricultural Soils of Central Europe," American Geophysical Union Spring Meeting, Baltimore, June 1997.
- Tuck, D.M., G. Flach, P.R. Jaffé, S. Sun, J. Johnson, "Gravity Mobilization of DNAPLs in Response to Interfacial Tension Reduction," CHESS User's Meeting, June 1996, Cornell University.
- Sun, S., S. Guha, D.G. Brown, and P.R. Jaffé, "The Effect of a Surfactant's Hydrophilic Chain Length on the Surfactant-Enhanced Mass Transfer Between an Organic and an Aqueous Phase," presented at the ACS, I&EC Division Symposium, September 1996, Birmingham, AL.
- Smith, L.S., and P.R. Jaffé, 1996, "Modeling the Transport of Contaminant Metals in Sediments in the Presence of Biodegradation of Organic Compounds by Bacteria Utilizing Various Terminal Electron Acceptors," 1996 American Geophysical Union Spring Meeting, Baltimore, May 1996, EOS, Vol. 77, No. 17, p. 135.
- Marshall, J.D., B.W. Shimada, and P.R. Jaffé, "Effect of Temporal Variability in Infiltration on Contaminant Transport in the Unsaturated Zone," American Geophysical Union Spring Meeting, Baltimore, May 1996, EOS, Vol. 77, No. 17, p. 134.
- Shimada, B.W., and P.R. Jaffé, "Heavy Metals in Agricultural Soils of Central Europe: Comparison of Model Output and Field Measurements," American Geophysical Union Spring Meeting, Baltimore, May 1996, EOS, Vol. 77, No. 17, p. 96.

- Park, S.S., B.K. Park, M.E. Borsuk and P.R. Jaffé, "Simulation of Vertical Eh Profiles for the Bioavailability of Heavy Metals in Freshwater Sediments," Annual Conference, Korean Society of Environmental Engineers, May 1995, Incheon, South Korea.
- Park, S.S., and P.R. Jaffé, "Numerical Modeling of Redox Potential for the Postdepositional Fates of Toxic Trace Pollutants in Benthic Sediments," Annual Conference, Korean Society of Environmental Engineers, May 1995, Incheon, South Korea.
- Shimada, B.W., J. Singh, P.R. Jaffé, "Distribution of Heavy Metals in Agricultural Soils and Products of the Black Triangle," 1995 American Geophysical Union Spring Meeting, Baltimore, May 1995, EOS, Vol. 76, No. 17, p. 145.
- Jaffé, P.R., S. Guha, and D. Brown, "Enhancing the Bioavailability of Low-Solubility Hydrocarbons Using Surfactants Above Their Critical Micelle Concentration," Abstract book of Tri-Service Workshop on Bioavailability of Organic Contaminants in Soils and Sediments, April 1995, Monterey, CA., p. 30.
- Jaffé, P.R., B.W. Shimada, "Accumulation of Heavy Metals in Soils of the Black Triangle," AAAS Meeting, February 1995, Atlanta.
- Jaffé, P.R., B.W. Shimada, and W.M. Stigliani, "Deposition and Fate of Heavy Metals in Agricultural Soils in the Black Triangle: Sampling Plan," 1994 American Geophysical Union Fall Meeting, San Francisco, December 1994, EOS, Vol. 75, No. 44, p. 233.
- Jaffé, P.R., and W.M. Stigliani, "Perspective on Cadmium Contamination in the Rhine Basin and the Black Triangle," Proc. of the International Society of Soil Science/UTEC Meeting, October 1994, Vienna, S. Bretschneider and K. Mühleder (Eds.), pp. 80-81.
- Jaffé, P.R., and S. Guha, "Biodegradation of Phenanthrene in the Presence of a Micellar Phase," ACS, Industrial and Engineering Chemistry Division Special Symposium: Emerging Technologies for Hazardous Waste Management, Atlanta, September 1994, D.W. Tedder (Ed.), Vol. 1, p. 459.
- Park, J.W., and P.R. Jaffé, "Development of a Soil-Slurry Washing Technology Using Adsorbed Surfactant Aggregates," 1994 American Chemical Society Meeting, March 1994, San Diego.
- Guha, S., and P.R. Jaffé, "Biodegradation of Phenanthrene in the Presence of Nonionic Surfactants," 1994 American Chemical Society Meeting, March 1994, San Diego.
- Tuck, D.M., and P.R. Jaffé, "Enhanced Displacement of Tetrachloroethylene from Unsaturated Sediments by Surfactant Solutions," 1994 American Chemical Society Meeting, March 1994, San Diego.
- Cho, H.J., P.R. Jaffé, and J.A. Smith, "Trichloroethylene Transport in Unsaturated Porous Media During Infiltration," 1992 American Geophysical Union Fall Meeting, San Francisco, December 1992, EOS, Vol. 73, No. 43, p.233.
- Park, J.W., and P.R. Jaffé, "Removal of Nonionic Organic Pollutants from Water by Sorption to Organo-Oxides," ACS, Industrial and Engineering Chemistry Division Special Symposium: Emerging Technologies for Hazardous Waste Management, D.W. Tedder (Ed.), Atlanta, September 1992, pp. 620-623.
- Smith, J.A. and P.R. Jaffé, "Benzene Transport Through Compacted Porous Media Containing Wyoming Bentonite and Two Types of Organophilic Bentonite," 1992 American Geophysical Union Spring Meeting, Montreal, May 1992, EOS, Vol. 73, No. 14, p. 115.
- Smith, J.A. and P.R. Jaffé, "Contaminant Transport Through Landfill Liners Containing Organophilic Bentonite," 1992 American Chemical Soc. Meeting, San Francisco, April 1992, Preprinted Extended Abstract, pp 936-937.
- Tuck, D.M., J. Zou, and P.R. Jaffé, "Effects of Grain Size Distribution on Immiscible Vertical Displacement of a Residual NAPL in Unsaturated Porous Media," 1991 GSA Meeting, San Diego.
- Jaffé, P.R. and H.J. Cho, "Mass-Transfer Limitations during Volatilization of Organic Solvents from Soils," 1991 American Geophysical Union Spring Meeting, Baltimore, May 1991, EOS, Vol. 72, No. 17, p. 119.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "Dissolution of Trichloroethylene at Residual Saturation in Groundwater," 1991 American Geophysical Union Spring Meeting, Baltimore, May 1991, EOS, Vol. 72, No. 17, p. 119.
- Jaffé, P.R. and S.W. Taylor, "Biomass Manipulation to Control Pore Clogging in Aquifers," presented at the Manteo Meeting on Concepts in Manipulation of Groundwater Colloids for Environmental Restoration, Manteo, October 1990.
- Cho, H.J., and P.R. Jaffé, "The Volatilization Rate Constant for Organic Compounds in Unsaturated Porous Media during Infiltration," presented at the Second International Symposium on Gas Transfer at Water Surfaces, Minneapolis, September 1990, Dept. of the Army, Misc. Paper EL-90-13, pp. 151-153.
- Jaffé, P.R., J.A. Smith, and J.W. Park, "Interaction Between Organic Pollutants, Sediments, and Synthetic Sorbents; An Application Towards Remediation," presented at the 5th International Symposium on The Interactions Between Sediment and Water, Uppsala, Sweden, August 1990, abstract published with program.

- Singhal, N., P.R. Jaffé, and W. Maier, "Effect of Carbon Source on the Biodegradation of Trichloroethylene by Mixed Cultures of Methanogens and Fermenters," Proc. of the 1990 ASCE National Conference on Environmental Engineering, Washington, July 1990, C.R. O'Melia (Ed.), ASCE, N.Y., pp. 915-916.
- Cho, H.J., and P.R. Jaffé, "The Volatilization of Organic Compounds in Unsaturated Porous Media during Infiltration," presented at the 1990 ASCE National Conference on Environmental Engineering, Washington, July 1990.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "Dissolution of Separate Phase Chlorinated Hydrocarbons at Residual Saturation in Groundwater," presented at the 1990 ASCE National Conference on Environmental Engineering, Washington, July 1990.
- Jaffé, P.R., and S.W. Taylor, "Transport of Biomass and Growth Substrate in a Porous Medium," 1990 at the American Geophysical Union Spring Meeting, Baltimore, May 1990, EOS, Vol. 71, No. 17, p. 502.
- Cho, H.J., and P.R. Jaffé, "A Column Study of Volatilization in Unsaturated Porous Media During Infiltration," 1990 American Geophysical Union Spring Meeting, Baltimore, May 1990, EOS, Vol. 71, No. 17, p. 500.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "Dissolution of Trichloroethylene at Residual Saturation in Groundwater," 1990 American Geophysical Union Spring Meeting, Baltimore, May 1990, EOS, Vol. 71, No. 17, p. 498.
- Tuck, D.M., P.R. Jaffé, D.A. Crerar, and R.T. Mueller, "Mobilizing Residual Saturations of Separate Phase Organic Liquids in Unsaturated Sediments with Surfactant Solutions," presented at the Division of Environmental Chemistry, ACS, Boston, April 1990, abstract published with program.
- Smith, J.A., P.R. Jaffé, C.T. Chiou, and W.R. Go, "Effect of Quaternary Ammonium Cations on Contaminant Sorption to Clay," presented at the Division of Environmental Chemistry, ACS, Boston, April 1990, abstract published with program.
- Aquifers; A Feasibility Study," presented at the National Symposium on Water Quality, Orlando, November 1989, USGS Open-File Report 89-409, p. 42.
- Smith, J.A., P.R. Jaffé, and C.T. Chiou, "Effect of Surface-Active Agents on the Sorption of Carbon Tetrachloride to Soil and Clay from Water," presented at the 1989 Annual Meeting of the Association of Engineering Geologists, Vail, October 1989, abstract published with program.
- Cho, H.J., and P.R. Jaffé, "An Examination of Modeling Strategies for Gas-Aqueous Phase Partitioning of Trichloroethylene in Unsaturated Soils during Infiltration," presented at the International Symposium on Processes Governing the Movement and Fate of Contaminants in the Subsurface Environment, Stanford, July 1989, abstract published with program.
- Imhoff, P.T., P.R. Jaffé, and G.F. Pinder, "Experimental Investigation of the Dissolution Dynamics of Chlorinated Hydrocarbons in Porous Media," presented at the International Symposium on Processes Governing the Movement and Fate of Contaminants in the Subsurface Environment, Stanford, July 1989, abstract published with program.
- Jaffé, P.R., and N.H. Baek, "Estimating Concentrations of Trichloroethylene and its Intermediates in Methanogenic Aquifers," presented at the International Symposium on Processes Governing the Movement and Fate of Contaminants in the Subsurface Environment, Stanford, July 1989, abstract published with program.
- Tuck, D.M., P.R. Jaffé, and C.A. Crerar, "Immiscible Fluid Flow in Saturated and Unsaturated Porous Media: A Conceptual Approach Based on Thermodynamics," 1988 American Geophysical Union Fall Meeting, San Francisco, December 1988, EOS, Vol. 69, No. 44, p. 1205.
- Taylor, S.W., and P.R. Jaffé, "Constitutive Equations for Biofilm Affected Ground Water Flow and Solute Transport Parameters," 1988 American Geophysical Union Fall Meeting, San Francisco, December 1988, EOS, Vol. 69, No. 44, p. 1200.
- Jaffé, P.R., and N.H. Baek, "Predicting the Rate of Anaerobic TCE Degradation and Formation of Daughter Products Based on the Methane Production," 1988 American Geophysical Union Fall Meeting, San Francisco, December 1988, EOS, Vol. 69, No. 44, p. 1200.
- Cho, H.J., and P.R. Jaffé, "An Examination of Gas-Water Partitioning of Trichloroethylene in Unsaturated Soils During Rain Infiltration," 1988 American Geophysical Union Fall Meeting, San Francisco, December 1988, EOS, Vol. 69, No. 44, p. 1222.
- Jaffé, P.R., and H.J. Cho, "Volatilization of Trichloroethylene from Soils as a Function of the Infiltration Rate; Laboratory and Numerical Simulation," Groundwater Contamination Symposium of the Hudson Delaware Chapter of the Society of Environmental Toxicology and Chemistry, New Brunswick, May 1988, abstract published with program.
- Imhoff, P., J.F. Guarnaccia, P.R. Jaffé, and G.F. Pinder, "Selection of Optimal Sample Well Locations to Define the Boundary of a Contaminant Plume," 1987 American Geophysical Union Spring Meeting, Baltimore, May 1987, EOS, Vol. 68, No. 16, p. 312.

- Milly, P.C.D., S.W. Taylor, and P.R. Jaffé, "Reduction of Permeability by a Biofilm", Chapman Conference on Microbial Processes in the Transport, Fate, and In-Situ Treatment of Subsurface Contaminants, Snowbird, Utah, October 1986, abstract published with program.
- Jaffé, P.R., "Uncertainty Analysis on a Dynamic Lake Model Calibrated on a Limited Data Record," 1985 American Geophysical Union Fall Meeting, San Francisco, December 1985, EOS, Vol. 66, No. 46, p. 908.
- Jaffé, P.R., A. Lopez, and J. Tannous, "Histéresis en la Adsorción de Pesticidas en Sedimentos: Efectos Sobre el Tiempo de Vida Media en Lagos," ASOVAC Annual Convention, Cumaná, Venezuela, November 1984, abstract published with program.
- Jaffé, P.R., "Modelaje de Nutrientes en Lagos Tropicales; Calibración de Modelo Mediante la Generación de la Matriz de Covarianzas," ASOVAC Annual Convention, Cumaná, Venezuela, November 1984, abstract published with program.
- Jaffé, P.R., and R.A. Ferrara, "Sensitivity Analysis for Pesticide Modeling in Sedimentation Ponds Using a Latin Hypercube Sample," 1983 American Geophysical Union Spring Meeting, Baltimore, June 1983, EOS, Vol. 64, No. 18, p. 220.
- Ferrara, R.A., and P.R. Jaffé, "Adsorption/Desorption of Organic Chemicals; Implications for Persistence in Natural Water Systems," ASCE 1983 Spring Convention, Philadelphia, May 1983, abstract published with program.
- Jaffé, P.R., F.L. Parker, and D.J. Wilson, "Sampling of Hazardous Wastes at the Hollywood Dump Site," Tennessee Academy of Science Meeting, Clarksville, November 1981, abstract published with program.

iii. Book Reviews:

- * "*River Water Quality Monitoring*," by Larry W. Canter, *Advances in Water Resources*, Vol. 10, June 1987.
- * "*An Introduction to Water Quality Modelling*," by A. James, *Advances in Water Resources*, Vol. 9, June 1986.
- * "*Water Quality and its Control*," by James C. Lamb, *Advances in Water Resources*, Vol. 9, June 1986.
- * "*Biotechnology and Wastewater Treatment*," by C.F. Forster, *Advances in Water Resources*, Vol. 9, June 1986.

iv. Other

- Consultant on a series of children books on water: *Making Water Clean; Saving Water; Sources of Water; The Water Cycle; Water and the Weather; What is Water*, by Rebecca Olen, Capstone Press, 2004.
- "Novel Slurry Washing for Hydrophobic Organics," EPA bulletin *Tech Trends*, EPA-642-N-96-004, No. 24, September 1996.
- "A Solution to Bioremediation's Soil Plugging," EPA Ground Water Currents, EPA-542-N-95-006, September 1995, Issue No. 13.