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California Institute of Technology
Environmental Science & Engineering (138-78)
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EDUCATION

Massachusetts Institute of Technology/ Woods Hole Oceanographic Institution Joint Program,
Cambridge, MA, Ph.D. in Oceanography, May 1988.

Harvard University, Cambridge, MA, A.M. in Chemistry, January 1981.

Cornell University, Ithaca, NY, A.B. in Chemistry, June 1979.

PROFESSIONAL EXPERIENCE

California Institute of Technology, Environmental Science & Engineering Department, (2002 to present) Professor, (1996-2002) Associate Professor; (2003 to present) Executive Officer, Keck Laboratories for Bioengineering, Environmental Science & Engineering, and Materials Science.

University of California, Los Angeles, Civil and Environmental Engineering Department, (1997-1999) Adjunct Professor, (1995-1996) Associate Professor, (1991-1995) Assistant Professor.

Institute for Water Resources and Water Pollution Control (EAWAG), Duebendorf, Switzerland, Chemistry Department, (1988-1991) Research Fellow.

Massachusetts Institute of Technology, Cambridge, MA, Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics, Department of Civil Engineering, (1982-1988) Research and Teaching Assistant.

Harvard University, Cambridge, MA, Chemistry Department, (1979-1981) Research and Teaching Assistant.

Cornell University, Ithaca, NY, Chemistry Department, (1978-1979) Teaching Assistant.

Mobil Oil Research and Development Corporation, Princeton, NJ, (Summer 1978) Summer Research Intern

RESEARCH INTERESTS

Biogeochemical cycling of trace metals and metalloids: microbial redox cycling; field studies of metal redox cycling, mobilization, and sequestration

Mineral weathering and reactions at mineral surfaces: mechanisms and kinetics of dissolution and precipitation reactions; macroscopic, spectroscopic, and modeling studies of sorption processes

Water treatment processes for removal of inorganic contaminants: role of sorption in contaminant removal; design of novel sorbents

PUBLICATIONS

Papers in Professional Journals

Campbell, K.M., Malasarn, D., Saltikov, C.W., Newman, D.K., and Hering, J.G. "Simultaneous Microbial Reduction of Iron(III) and Arsenic(V) in Suspensions of Hydrated Ferric Oxide", *Environ. Sci. Technol.*, submitted.

- Ferguson, M.A. and Hering, J.G. (2006) "TiO₂-photocatalyzed As(III) oxidation in a fixed-bed, flow-through reactor", *Environ. Sci. Technol.*, 40: 4261-4267.
- Dixit, S. and Hering, J.G. (2006) "Sorption of Fe(II) and As(III) on goethite in single- and dual-sorbate systems", *Chemical Geology*, 228: 6-15.
- Reisinger, H.J., Burris, D.R., and Hering, J.G. (2005) "Remediating subsurface arsenic contamination with monitored natural attenuation", *Environ. Sci. Technol.*, 39: 458A-464A.
- Ferguson, M.A., Fernandez, D.P., and Hering, J.G., "Lowering the detection limit for arsenic: Outlook for a new PQL", *J. Amer. Water Works Assoc.*, submitted.
- Salmassi, T.M., Walker, J.J., Newman, D.K., Leadbetter, J.R., Pace, N.R. and Hering J.G. (2006) "Community and Cultivation Analysis of Arsenite Oxidizing Biofilms at Hot Creek", *Env. Microbiol.*, 8: 50-59. online publication date: 25-Jul-2005, doi: 10.1111/j.1462-2920.2005.00862.x.
- Lee, G. and Hering, J.G. (2005) "Oxidative dissolution of chromium hydroxide at pH 9 and 2 and its inhibition at pH 2 by the reaction product Cr(VI)", *Environ. Sci. Technol.*, 39: 4921-4928.
- Ferguson, M.A., Hoffmann, M.R., and Hering, J.G. (2005) "TiO₂-photocatalyzed As(III) oxidation in aqueous suspensions: Reaction kinetics and effects of adsorption", *Environ. Sci. Technol.*, 39: 1880-1886.
- Malasarn, D., Saltikov, C.W., Campbell, K.M., Santini, J.M., Hering, J.G. and Newman, D.K. (2004) "*arrA* is a reliable marker for As(V)-respiration", *Science*, 306: 455.
- Giammar, D.E. and Hering, J.G. (2004) "Influence of Dissolved Sodium and Cesium on Uranyl Oxide Hydrate Solubility", *Environ. Sci. Technol.* 38: 171-179
- Stephens, J.C. and Hering, J.G., (2004) "Factors Affecting the Dissolution Kinetics of Volcanic Ash Soils: Dependencies on pH, CO₂, and Oxalate", *Appl. Geochem.* 19: 1217-1222.
- Dixit, S. and Hering, J.G. (2003) "Comparison of Arsenic(V) and Arsenic(III) Sorption onto Iron Oxides: Implications for Arsenic Mobility", *Environ. Sci. Technol.*, 37: 4182-4189.
- Lee, G. and Hering, J.G. (2003) "Removal of Chromium(VI) from Drinking Water by Redox-Assisted Coagulation with Iron(II)", *J. Water Supply: Res. Technol. – AQUA*, 52: 319-332.
- Giammar, D.E. and Hering, J.G. (2002) Equilibrium and Kinetic Aspects of Sordyite Dissolution and Secondary Phase Precipitation in Aqueous Suspension, *Geochim. Cosmochim. Acta*, 66: 3235-3245.
- Kneebone, P.E., O'Day, P.A., Jones, N., and Hering, J.G. (2002) "Deposition and Fate of Arsenic in Iron- and Arsenic-Enriched Reservoir Sediments", *Environ. Sci. Technol.*, 36: 381-386.
- Stephens, J.C. and Hering, J.G. (2002) "Comparative Characterization of Volcanic Ash Soils Exposed to Decade-Long Elevated Carbon Dioxide Concentrations at Mammoth Mountain, California", *Chem. Geol.*, 186: 301-313.
- Salmassi, T.M., Venkateswaren, K., Satomi, M., Nealson, K.H., Newman, D.K., and Hering, J.G. (2002) "Oxidation of Arsenite by *Agrobacterium albertimagni*, AOL15, sp. nov., Isolated from Hot Creek, California", *Geomicrobiol. J.*, 19: 53-66.
- Giammar, D.E. and Hering, J.G. (2001) "Time Scales for Sorption-Desorption and surface Precipitation of Uranyl on Goethite", *Environ. Sci. Technol.*, 35: 3332-3337.
- Kneebone, P.E. and Hering, J.G., (2000) "The Behavior of Arsenic and Other Redox-Sensitive Elements in Crowley Lake, CA, a Reservoir in the Los Angeles Aqueduct System", *Environ. Sci. Technol.*, 34: 4307-4312.
- Chiu, V.C. and Hering, J.G. (2000) "Arsenic adsorption and Oxidation at Manganite (γ -MnOOH) surfaces: Part 1. Method for Simultaneous Determination of Adsorbed and Dissolved Arsenic Species", *Environ. Sci. Technol.*, 34: 2029-2034.
- Hering, J.G. and Chiu, V.C. (2000) "Arsenic Occurrence and Speciation in a Municipal Groundwater-Based Supply System", *J. Environ. Eng. ASCE*, 126: 471-474.

- Piatina, T.B. and Hering, J.G. (2000) "Direct Quantification of Metal-Organic Interactions by Size-Exclusion Chromatography (SEC) and Inductively Coupled Plasma Mass Spectrometry (ICP-MS)", *J. Environ. Qual.*, 29: 1839-1845.
- Min, J.H. and Hering, J.G. (1999) "Removal of Selenite and Chromate using Fe(III)-Doped Alginate Gels", *Water Environ. Research*, 71: 169-175.
- Kraemer, S.M., Chiu, V.Q., and Hering, J.G. (1998) "Influence of pH and competitive adsorption on the kinetics of ligand-promoted dissolution of aluminum oxide", *Environ. Sci. Technol.*, 32: 2876-2882.
- Min, J.H. and Hering J.G. (1998) "Arsenate, Selenite, and Chromate Sorption by Fe(III)-Doped Alginate Gels" *Adv. Environ. Res.*, 2: 207-217.
- Wilkie, J.A. and Hering, J.G. (1998) "Rapid Oxidation of Geothermal Arsenic(III) in Streamwaters of the Eastern Sierra Nevada", *Environ. Sci. Technol.*, 32: 657-662.
- Baron, D. and Hering, J.G. (1998) "Analysis of Metal-EDTA Complexes by Electrospray Mass Spectrometry" *J. Environ. Qual.*, 27: 844-850.
- Min, J.H. and Hering, J.G. (1998) "Arsenate Sorption by Fe(III)-Doped Alginate Gels" *Water Research*, 32: 1544-1552.
- Kraemer, S.M. and Hering, J.G. (1997) "Influence of Solution Saturation State on the Kinetics of Ligand-Controlled Dissolution of Oxide Phases", *Geochim. Cosmochim. Acta*, 61: 2855-2866.
- Hering, J.G., Chen, P.Y., Wilkie, J.A., and Elimelech, M. (1997) "Arsenic Removal from Drinking Water During Coagulation", *J. Environ. Eng., ASCE*, 123: 800-807.
- Waypa, J.A., Elimelech, M., and Hering, J.G. (1997) "Arsenic Removal by Reverse Osmosis and Nanofiltration Membranes", *J. Amer. Water Works Assoc.*, 89(10): 102-114.
- Hering, J.G., Chen, P.Y., Wilkie, J.A., Elimelech, M., and Liang, S. (1996) "Arsenic Removal by Ferric Chloride", *J. Amer. Water Works Assoc.*, 88(4): 155-167.
- Wilkie, J.A. and Hering, J.G., (1996) "Adsorption of Arsenic onto Hydrous Ferric Oxide: Effects of Adsorbate-Adsorbent Ratios and Co-occurring Solutes", *Colloids Surf. A*, 107: 97-124.
- Hering, J.G., (1996) "Risk Assessment for Arsenic in Drinking Water: Limits to Achievable Risk Levels", *J. Hazard. Mat.*, 45: 175-184.
- Hering, J.G. and Kraemer, S. (1994) "Kinetics of Complexation Reactions at Surfaces and in Solution: Implications for Enhanced Radionuclide Migration", *Radiochimica Acta*, 66/67: 63-71.
- Ching, H.-W., M. Elimelech, and J.G. Hering (1994) "Dynamics of Coagulation of Clay Particles with Aluminum Sulfate" *J. Environ. Eng.*, 120: 169-189.
- Benoit, P., J.G. Hering, and W. Stumm (1993) "A comparative study of the adsorption of organic ligands on aluminum oxide by titration calorimetry", *Appl. Geochem.*, 8: 127-139.
- Xyla, A.G., B. Sulzberger, G.W. Luther, III, J.G. Hering, P. van Cappellen, and W. Stumm (1992) "Reductive Dissolution of Manganese (III,IV) (hydr)oxides: the Effect of pH and Light", *Langmuir*, 8: 95-103.
- Hering, J.G. and W. Stumm (1991) "Fluorescence Spectroscopic Evidence for Surface Complex Formation at the Mineral-Water Interface: Elucidation of the Mechanism of Ligand-Promoted Dissolution", *Langmuir*, 7: 1567-70.
- Sulzberger, B., J.L. Schnoor, R. Giovanoli, J.G. Hering, and J.Zobrist (1990) "Biogeochemistry of iron in an acidic lake" *Aquatic Sciences*, 52: 56-74.
- Hering, J.G. and F.M.M. Morel, (1990) "The Kinetics of Trace Metal Complexation: Ligand-Exchange Reactions" *Environ. Sci. Technol.* 24: 242-52.
- Hering, J.G. and F.M.M. Morel (1989) "Slow coordination reactions in seawater" *Geochim. Cosmochim. Acta* 53: 611-8.

- Price, N.M., G.I.Harrison, J.G. Hering, R.J. Hudson, P.M.V. Nirel, B. Palenik, F.M.M. Morel (1988/1989) "Preparation and Chemistry of the Artificial Algal Culture Medium Aquil" *Biol. Oceanogr.* 6: 443-461.
- Hering, J.G. and F.M.M. Morel (1988) "Kinetics of Trace Metal Complexation: Role of Alkaline-Earth Metals" *Environ. Sci. Technol.* 22: 1469-78.
- Hering, J.G. and F.M.M. Morel (1988) "Humic Acid Complexation of Calcium and Copper" *Environ. Sci. Technol.* 22:1234-7.
- Hering, J.G., W.G. Sunda, R.L. Ferguson, and F.M.M. Morel (1987) "A Field Comparison of Two Methods for the Determination of Copper Complexation: Bacterial Bioassay and Fixed-Potential Amperometry" *Mar. Chem.* 20: 299-312.
- Boyle, E.A., D.F. Reid, S.S. Husted, and J. Hering (1984) "Trace metals and radium in the Gulf of Mexico: an evaluation of river and continental shelf sources" *Earth Planet. Sci. Lett.* 69: 69-87.

Books and Chapters in Books

- Hering, J.G. and Dixit, S. (2005) "Contrasting Sorption Behavior of Arsenic(III) and Arsenic(V) in Suspensions of Iron and Aluminum Oxyhydroxides", in *Advances in Arsenic Research*, ed. P.A. O'Day, D. Vlassopoulos, X. Meng, and L.G. Benning, ACS Symposium Series v. 915, American Chemical Society, Washington, DC, pp.8-24.
- Hering, J.G., Dixit, S., Campbell, K., and O'Day, P. (2004) "Arsenic mobilization from contaminated sediments: a full-scale experiment in progress", *Water-Rock Interaction: Proceedings of the 11th International Symposium on Water-Rock Interactions*, Ed. R.B. Wanty and R.R. Seal, A.A. Balkema, Leiden, The Netherlands, pp. 39-44.
- Hering, J.G. and Kneebone, P.E. (2001) "Biogeochemical Controls on Arsenic Occurrence and Mobility In Water Supplies", in *Environmental Chemistry of Arsenic*, ed. W. Frankenberger, Marcel Dekker, pp. 155-181.
- Hering, J.G. and S. Kraemer (1998) "Environmental Chemistry of Trace Metals", in *Perspectives in Environmental Chemistry*, ed. D. Macalady, Oxford Univ. Press, pp.57-74.
- Hering, J.G., Chen, P.Y., and Wilkie, J.A. (1997) "Arsenic Removal from Drinking Water by Coagulation: The Role of Adsorption and Effects of Source Water Composition", in *Arsenic: Exposure and Health Effects*, ed. C.O. Abernathy, R.L. Calderon, and W.R. Campbell, Chapman and Hall, pp. 369-381.
- Hering, J.G. (1995) "The effects of organic-surface interactions on geochemical processes at the mineral-water interface", in *Advances in Aquatic Chemistry*, ed. C.P Huang, C.R. O'Melia, and J.J. Morgan, *ACS Advances in Chem. Ser.*, 244, 95-110, American Chemical Society, Wash., DC.
- Hering, J.G., (1995) "Implications of Complexation, Sorption, and Dissolution Kinetics for Metal Transport in Soils" in *Metal Speciation and Contamination of Soils*, ed. H.E. Allen, C.P. Huang, G.W. Bailey, A.R. Bowers, Lewis: Chelsea, MI, 59-86.
- Morel, F.M.M. and J.G.Hering (1993) *Principles and Applications of Aquatic Chemistry*, Wiley-Interscience, New York, 588 pp.
- Hering, J.G. and W. Stumm (1990) "Oxidative and reductive dissolution of minerals" in *Reviews in Mineralogy (vol. 23): Mineral-Water Interface Geochemistry*, ed. M. Hochella and A. White (Mineralog. Soc. Am.: Wash.) pp. 427-465.
- Hering, J.G. and F.M.M. Morel (1990) "The Kinetics of Trace Metal Complexation: Implications for Metal Reactivity in Natural Waters" in *Aquatic Chemical Kinetics*, ed. W. Stumm (Wiley-Interscience: New York) pp. 145-171.

Other Publications

- Anderson, P.A., Blum, J., Brantley, S.L., Chadwick, O., Chorover, J., Derry, L.A., Drever, J.I., Hering, J.G., Kirchner, J.W., Kump, L.R., Richter, D., and White, A.F. (2004) "Proposed initiative would study Earth's weathering engine", *EOS Transactions*, 85(28): 1+.
- Hering, J.G. (1997) "Chinatown Revisited: Arsenic and the Los Angeles Water Supply", *Engineering and Science*, vol. LX, No. 3, Calif. Inst. of Technol, Pasadena, CA, pp. 34-40.

Technical Reports

- Min, J.H., Boulos, L., Brown, J.C., Cornwell, D.A., LeGoullec, Y., Coppola, E.N., Baxley, J.S., Rine, J.A., Hering, J.G., and Vural, N. (2005) "Innovative Alternatives to Minimize Arsenic, Perchlorate, and Nitrate Residuals", Amer. Water Works Assoc. Res. Fndn. Report 91054F, Denver, CO.
- Hering, J.G. and Harmon, T.C. (2004) "Geochemical Controls on Chromium Occurrence, Speciation, and Treatability", Amer. Water Works Assoc. Res. Fndn. Report 91043F, Denver, CO.
- Hering, J.G. and Elimelech, M. (1996) "Arsenic Removal by Enhanced Coagulation and Membrane Processes", Amer. Water Works Assoc. Res. Fndn. Report 90706, Denver, CO.

Papers in Conference Proceedings

- Lee, G., Stewart, L., Gadtke, A. and Hering, J. (2002) "Hollywood, Health Goals, and Hexavalent Chromium: Cr(VI) Occurrence and Treatment in Southern California Groundwater", Proceedings of the American Water Works Association Inorganic Contaminants Workshop, San Diego, CA, Feb. 3-5.
- Steinberg, L.J. and Hering, J.G. (2001) "Variations in Arsenic Concentrations within a Groundwater Distribution System", Proceedings of the World Water and Environmental Resources Conference, ASCE, Orlando, FL, May 20-24.
- Min, J.H. and Hering, J.G., "Arsenate, Selenite, and Chromate Sorption by Fe(III)-Doped Alginate Gels", Proceedings of the 1997 Annual Meeting of the American Institute of Chemical Engineering, Los Angeles, CA, Nov. 16-21, 1997.
- Hering, J.G. and Chiu, V.P. "Arsenic Occurrence and Speciation in Groundwater, Hanford, CA: Implications for Health Effects and Treatment Options", Proceedings of the 1997 Canadian Society of Civil Engineers-American Society of Civil Engineers Environmental Engineering Conference, Edmonton, Alberta, Canada, July 23-25, 1997.
- Hering, J.G. "Arsenic Speciation in Environmental Systems: Consequences for Biogeochemistry, Toxicology, and Treatment", Proceedings of the Royal Australian Chemical Institute, 13th Symposium on Analytical Chemistry and 4th Environmental Chemistry Conference, Darwin, Australia, July 9-14, 1995.
- Hering, J.G. and Chen, P.Y., "The Effect of Source Water Composition on Arsenic Removal by Enhanced Coagulation", Proceedings of the National Meeting of the American Water Works Association, Anaheim, June 18-22, 1995, pp.C941-C951.
- Hering, J.G. and Elimelech, M., "International Perspectives on Arsenic in Groundwater: Problems and Treatment Strategies", Proceedings of the National Meeting of the American Water Works Association, Anaheim, June 18-22, 1995, pp. C1-C6.
- Hering, J.G. (1994) "Arsenic Removal by Coagulation Treatment: Current Models and Research Needs", Proceedings of the National Meeting of the American Water Works Association, New York, June 19-24, 1994.
- Hering, J.G. and Chen, P.Y. (1993) "Removal of inorganic contaminants from industrial wastewaters: Effects of pH and competing ions on adsorption and precipitation", Proceedings of the 66th Annual Conference and Exposition, Water Environment Federation, AC93-040-006.

PATENTS AND INVENTION DISCLOSURES

Hering, J.G. and Min, J.H., Calcium-Iron(III)-Doped Alginate Gel Beads for Sorption of Arsenate and Selenate, U.S. Patent No. 6,203,709 (issued 3/20/2001).

AWARDS, PROFESSIONAL AFFILIATIONS, AND ACTIVITIES

- 2005** Member, Visiting Committee for the U.S. Dept. of Energy Environmental Molecular Sciences Laboratory, Richland, WA, May 17-19.
- 2005** Invited participant, EPA/NIEHS Workshop on Assessment and Disposal of Arsenic-Bearing Solid Residuals, Washington, DC, February 26-March 1.
- 2004** Invited participant, National Science Foundation/U.S. Department of Energy workshop on Water: Challenges at the Intersection of Human and Natural Systems, Richland, WA, September 16-17.
- 2004** Invited speaker, National Science Foundation workshop on Advancing the Quality of Water, Chapel Hill, NC, March 10-12 .
- 2004-to present** Associate Editor, *Environmental Science and Technology*
- 2003** Invited participant, National Science Foundation workshop on Weathering System Science, Baltimore, MD, October 19-21.
- 2003** Member, Visiting Committee for the Swiss Federal Institute for Environmental Science and Technology (EAWAG), Swiss Federal Institute of Technology, Zurich, Switzerland, September 28 - October 3.
- 2003** Co-organizer of an international workshop on “Biogeochemical Controls on the Mobility and Bioavailability of Metals in Soils and Groundwater”, Swiss Federal Institute of Technology, Ascona, Switzerland, March 2-7.
- 2002** Invited speaker, National Academy of Sciences, “Challenges for the Chemical Sciences in the 21st Century: Workshop on the Environment”, Irvine, CA, November 19-19,2002
- 2002-2003** Panel member, National Science Foundation, Hydrology Panel
- 2001** Invited participant, National Science Foundation workshop on Collaborative Large-Scale Engineering Assessment Network for Environmental Research, Stanford, CA, December 4-5.
- 2001-2003** Aldo Leopold Leadership Fellow
- 2000-2003** Editorial Advisory Board Member, *Environmental Science and Technology*
- 2000** Co-organizer of symposium on “Chemical Speciation and Reactivity in Water Chemistry and Water technology: A Symposium in Honor of James J. Morgan”, Environmental Chemistry Division, American Chemical Society 220th National Meeting, Washington, DC, August 20-25.
- 2000** Consultant, U.S. Environmental Protection Agency, Science Advisory Board, Drinking Water Committee.
- 2000** Panel member, National Science Foundation, Graduate Fellowship Panel, Arlington, VA, February 17-20.
- 1999** Co-organizer of symposium on “Interfacial and Colloidal Phenomena in Aquatic Environments”, Environmental Chemistry Division, American Chemical Society 217th National Meeting, Anaheim, CA, March 21-25.
- 1999** Panel member, National Science Foundation, Graduate Fellowship Panel, Arlington, VA, February 5-7.
- 1998** Guest Editor, *Environmental Science and Technology*.
- 1998** Co-organizer of symposium on “Research and Education Challenges in Environmental Chemistry”, Environmental Chemistry Division, American Chemical Society 216th National Meeting, Boston, MA, August 23-27.

- 1997** Invited participant in the National Academy of Sciences “Ninth Annual Symposium on Frontiers of Science,” Irvine, CA, November 6-8.
- 1997** Invited session chair at National Science Foundation Workshop on “Research Needs for Coastal Pollution in Urban Areas”, Milwaukee, WI, October 16-17.
- 1997** Invited participant at the Sandia National Laboratories workshop on “Natural Attenuation of Metals and Radionuclides,” Albuquerque, NM, June 18-20.
- 1997** Co-organizer of symposium on “Redox Reactions in Natural and Engineered Aqueous Systems”, Environmental Chemistry Division, American Chemical Society 213th National Meeting, San Francisco, CA, April 13-17.
- 1997** Panel member, National Science Foundation, Minority Graduate Fellowship Panel, Washington, DC, February 12-14.
- 1997** Panel member, U.S. Environmental Protection Agency Ad Hoc Subcommittee on Arsenic Research, Board of Scientific Counselors, Washington, DC, January 22-23.
- 1996** Invited participant in the National Academy of Engineering “Second Annual Symposium on Frontiers in Engineering,” Irvine, CA, September 19-21.
- 1996** Invited speaker at the American Water Works Association Research Foundation Technology Transfer Conference, Costa Mesa, CA, August 1-2.
- 1995** NSF Presidential Faculty Fellows Award
- 1995** Co-organizer of symposium on "Colloidal and Interfacial Phenomena in Aquatic Environments", Environmental Chemistry Division, American Chemical Society 209th National Meeting, Anaheim, CA, April 2-6.
- 1994** UCLA Faculty Career Development Award
- 1994** Invited speaker at the Gordon Research Conference on Environmental Sciences - Water, New Hampton, NH, June 20-24.
- 1994** Invited participant in the National Science Foundation Workshop on "Environmental Geochemistry and Biogeochemistry", Airlie, VA, May 18-21.
- 1994** Co-organizer of symposium on "Physical-Chemical Processes Controlling Contaminant Mobility in Aquatic Environments", Environmental Chemistry Division, American Chemical Society 207th National Meeting, San Diego, CA, March 13-17.
- 1994** Invited participant in the National Academy of Engineering workshop on "Academic Engineering Research in a Changing World: Issues, Problems, and Solutions", Irvine, CA, Feb. 18-20.
- 1993** *Who's Who in the World*, 11th ed.
- 1992** National Science Foundation Young Investigator Award.
- 1992** Invited discussion leader at the Gordon Research Conference on Environmental Sciences - Water, New Hampton, NH, June 15-19.
- 1990** Poster Session Chair, European Research Conference on Particles in Natural Waters and in Water Technology, Il Ciocco, Italy, Sept. 3-7.
- 1988** Student Research Award from the ACS Division of Environmental Chemistry for the paper "Slow Coordination Reactions in Aquatic Systems".
- 1975-1979** National Merit Scholar, Cornell University.
- Member:** American Association for the Advancement of Science, American Chemical Society, American Geophysical Union, American Society of Civil Engineers, American Society of Limnology and Oceanography, American Water Works Association, Association of Environmental Engineering and Science Professors, The Oceanography Society, Sigma Xi

Reviewer: *Environmental Science and Technology, Geochimica et Cosmochimica Acta, Deep-Sea Research, Journal of Environmental Engineering ASCE, Colloids and Surfaces, Journal of Physical Chemistry, Journal of the American Water Works Association, Nature, Separation Science and Technology, Water Environment Research*, U.S. National Science Foundation, U.S. Department of Energy, U.S. Department of Defense, U.S. Environmental Protection Agency, ACS/Petroleum Research Fund, Swiss National Science Foundation

Consulting: Kleinfelder (2005), Metcalf & Eddy (2004), Center for Law in the Public Interest (2004), Los Angeles Regional Water Quality Control Board (2004), Carollo Engineers (2002-2004), HDR Engineering (2001), Lahontan Regional Water Quality Control Board (2001), Southern California Coastal Water Research Project (2000-2001), Environmental Protection Agency Science Advisory Board (2000), Lord, Bissell & Brook (2000), Law Office of Irwin Stevenson (1999), TetraTech (1999), Pillsbury, Madison, and Sutro (1996), LaFollett, Johnson, de Haas, Fesler and Ames (1996), Zeneca (1995-1996)