

RESUME Ronald W. Falta, Jr.

PERSONAL DATA

Professor
Department of Environmental Engineering and Earth Science
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EDUCATION

Ph.D., Mineral Engineering, 1990, *University of California, Berkeley*
MS., Civil Engineering, 1984, *Auburn University*
BS., Civil Engineering, 1982, *Auburn University*

PROFESSIONAL EXPERIENCE

Clemson University, 1999- , Professor of Environmental Engineering and Earth Sciences
1995-1999 Associate Professor of Geology and Environmental Systems Engineering
1992-1995, Assistant Professor of Geology and Environmental Systems Engineering
Lawrence Berkeley National Laboratory, 1990-1991, Post Doctoral Researcher, Earth Sciences Division

HONORS AND AWARDS

2020	National Ground Water Association John Hem Award
2020	Honor Award for University Research, American Academy of Environmental Engineers & Scientists
2020	Clemson University Research, Scholarship and Artistic Achievement Award
1987	Second place award for the best paper of 1986 in the Journal <i>Ground Water</i>
1984	University of California Jane Lewis Fellowship
1981	Chi Epsilon Civil Engineering Honorary Society
1981	Tau Beta Pi Engineering Honorary Society

CONSULTING EXPERIENCE

Orica Australia Pty Ltd, Matraville, NSW, Australia (2024). Participate in Botany Groundwater Strategy Review Workshop and Community Forum.

U.S. Department of Energy through Battelle Savannah River Alliance, LLC, Aiken, SC (2024-present). Mathematical analysis of drying of high-performance cement formulations to determine intrinsic permeability.

King & Spalding LLP, Atlanta, GA (2023-2024) Testifying expert witness in a civil action involving groundwater contamination by chlorinated solvents.

National Aeronautics and Space Administration, through Navarro Research & Engineering, Inc., NASA White Sands Test Facility, NM (2023). Participate in White Sands Test Facility Summit, Las Cruces, NM.

U.S. Department of Energy through Savannah River Nuclear Solutions, LLC, Aiken, SC (2019-present). Technical assistance support for the Hanford, WA Cumulative Impact Evaluation groundwater modeling project.

Synterra Corp., Greenville, SC (2014-present). Expert support and development of groundwater flow and transport models for simulating closure and remediation at 14 coal ash basin sites in North Carolina, and one in South Carolina.

U.S. Department of Energy through the Four Rivers Nuclear Partnership, Kevil, KY (2022-2024). Subject matter expert assisting with updating a groundwater flow and transport model of a trichloroethylene plume at the Paducah Gaseous Diffusion Plant.

Jacobs/CH2M HILL Inc., Englewood, CO (2021-2022). Technical assistance related to modeling the transport of dissolved trichloroethylene in a fractured sandstone in southern California.

U.S. Department of Energy through Navarro Research & Engineering, Oak Ridge, TN (2021). Participate in peer review of Additional Panels Performance Assessment for the Department of Energy Waste Isolation Pilot Plant (WIPP) in New Mexico.

U.S. Department of Energy through Navarro Research & Engineering, Oak Ridge, TN (2020). Participate on expert review panel related to uranium mill tailings sites in the western US.

Hunton Andrews Kurth LLP, Charlotte, NC, (2019). Litigation support related to coal ash basin closure and remediation in North Carolina.

Duke Energy Business Services, Charlotte, NC, (2019). Litigation support related to coal ash basin contamination of groundwater in North Carolina.

U.S. Department of Energy through Navarro Research & Engineering, Grand Junction, CO (2018). Participate in groundwater modeling and geochemistry group modeling summit related to uranium mill tailings sites.

Electric Power Research Institute, Charlotte, NC (2017). Teach workshop on groundwater modeling for coal ash basin sites.

Regenesis, San Clemente, CA (2016). Groundwater modeling support.

Navarro Research and Engineering, Inc., Oak Ridge, TN (2016). Design of a thermal remediation system for site remediation.

Honeywell International, Inc., Morris Plains, NJ, (2016). Analysis of thermal remediation designs for site remediation.

ERM-West, Inc., Pasadena, CA, (2013-2015). Design and analysis of a steam injection treatability study for the DOE Paducah Gaseous Diffusion Plant, KY.

Kestrel Horizons, LLC, Greenville, SC (2014). Expert review of monitoring plans at the Pinewood Hazardous waste landfill.

ERM-UK, Ltd., Manchester, England (2014). Numerical modeling of a thermal remediation project.

Best Best & Krieger, Walnut Creek, CA, (2013-2015). Expert review of groundwater modeling efforts for the Rialto Colton Basin, CA.

Aiken Bridges Florence, SC (2012-2013). Expert for plaintiffs in a suit related to groundwater contamination by chlorinated solvents in South Carolina, John H. Nance, and JDS Development of Myrtle Beach, Inc. vs AVX Corporation, State of South Carolina Civil Action No.: 2008-CP-26-0436.

Kelaheer, Connell & Connor, P.C., Surfside Beach, SC, (2011-2013). Expert for plaintiffs in a class action suit related to groundwater contamination by chlorinated solvents in South Carolina, Clint A. Chestnut, et al. v. AVX Corporation, State of South Carolina, Civil Action No.: 2007-CP-26-7459.

LATA Kentucky, Kevil, KY, (2012-2013). Numerical modeling of thermal remediation of chlorinated solvents at the DOE Paducah Gaseous Diffusion Plant, KY.

ERM-Southeast Raleigh, NC, (2011-2012). Numerical modeling of thermal remediation projects at sites contaminated with chlorinated solvents and fuels.

Best Best & Krieger, Walnut Creek, CA, (2011-2012). Expert for plaintiffs in a suit related to groundwater contamination by perchlorate in California, City of Colton v. APE-West, et al., United States District Court Case Nos. ED CV 09-01864 PSG (SSx); CV 09-6630 PSG (SSx), CV 09-06632 PSG (SSx), CV 09-07501 PSG (SSx), CV 09-07508 PSG (SSx), and CV 10-00824 PSG (SSx).

Stratus Consulting, Boulder, CO (2004-2010) Expert for the United States in a lawsuit involving hydrocarbon contamination of a Department of Defense facility in Philadelphia, PA, U.S. vs. Sunoco, Inc., et al., Civil Action Number 05-6336; 90-11-3-07721.

Motley Rice LLC, Mt. Pleasant SC, (2006-2010) Expert for plaintiffs in case involving groundwater contamination by chlorinated solvents in Florida, Laura A.

- Ward et al., vs. Lockheed Martin Corporation, Florida Civil Action No. 2005-CA-4707.
- GSI Environmental, Inc.*, Houston, TX (2009-2010) Develop and teach engineering short courses on REMChlor (funded by US DOE)
- S.M. Stoller Corp.*, Grand Junction, CO, (2008) Assist in multiphase flow model testing for natural gas recovery.
- Santarella and Eckert, LLC*, Littleton, CO, and *Richard Wern Lawyers*, North Charleston, SC, (2007-2008) Expert for defense in a civil case involving damages from limestone quarrying and mine dewatering in South Carolina, Giant Cement Company v. Margaret Ann P. Westbury, State of South Carolina Case No. 2006-CP-18-0506.
- Vandeventer Black, LLP*, Norfolk, VA, (2005-2006) Expert support for dispute between petroleum terminal company and oil company in South Carolina
- Nuclear Regulatory Commission*, Rockville, MD, (2004-2006), Assist in development of a strategy for groundwater sampling at nuclear sites; teach workshops.
- Speights and Runyan*, Hampton, SC, (2004), Expert support in case involving leaking underground storage tanks in Alabama.
- Daniel B. Stephens and Associates*, Albuquerque, NM, (2004) Numerical modeling of vadose zone chemical transport.
- Motley Rice LLC*, Mt. Pleasant, SC, (2001-2004) Expert support in a case involving groundwater contamination by chlorinated solvents in South Carolina.
- Speights and Runyan*, Hampton, SC, (2001-2003) Expert for plaintiffs in a class action lawsuit related to leaking underground tanks at gasoline stations in South Carolina, Mary Louise Fairey, et al. v The Exxon Corporation, et al., State of South Carolina Civil Action No. 94-CP-38-118.
- Conestoga-Rovers and Associates*, Waterloo, Ontario, Canada, (2003) Analysis of multiphase flow and transport simulations at a Superfund site in Arizona
- Environmental Protection Agency*, Washington, DC, (2001-2003) Participation in an expert panel report on DNAPL remediation.
- Ness, Motley, Loadholt, Richardson, and Poole (now Richardson, Patrick, Westbrook and Brickman)*, Mt. Pleasant, SC, (2001-2002) Expert for plaintiffs in a class action lawsuit involving impacts resulting from dewatering of a limestone quarry in South Carolina, Moses Brown et al. vs Martin-Marietta Materials, Inc, United States District Court, District of South Carolina, Civil Action No. 2:00-0793-18.
- The Technical Research Center of Finland (VTT)*, Espoo, Finland, (2002) Short Course Organizer and Instructor, Subsurface Multiphase Fluid Flow and Remediation Modeling,

Idaho National Engineering and Environmental Laboratory, Idaho Falls, ID, (2002), Numerical model development for simulating gas flow in the vadose zone due to barometric pressure fluctuations.

The Proctor and Gamble Company, Cincinnati, OH, (2001-2002) Numerical model development and analysis of nonisothermal, compositional multiphase flow processes; presentation of a short course.

Purdue University, West Lafayette, IN, (2001) Numerical simulations of DNAPL source zone remediation.

Harding Lawson Associates, Denver, CO, (1998-1999) Simulation of multiphase flow contaminant transport in the vadose zone.

Dames and Moore, Santa Ana, CA, (1997-2000) Simulation of multiphase flow contaminant transport in the vadose zone.

Camp Dresser and McKee, Charlotte, NC, (1996-1997) Evaluation of groundwater resources in the Florence, SC area.

Hydrogeologic, Inc., Herndon, VA, (1992-1993), Development and verification of numerical models for compositional multiphase contaminant transport under nonisothermal conditions.

Paul A. Witherspoon, Inc., Berkeley, CA, (1991). Numerical modeling of a seasonal natural gas storage project in Illinois.

Erler and Kalinowski, Inc., San Mateo, CA, (1990-1991). Analysis of vadose zone chemical transport at a site in California.

Paul A. Witherspoon, Inc., Berkeley, CA, (1987-1991). Consultant for litigation support in connection with groundwater pollution problems at the Rocky Mountain Arsenal in Colorado, the Royal Hardage Superfund Site in Oklahoma, the McColl Superfund Site in California, the Stringfellow Superfund Site in California, and a site in Montana.

Civil Engineering Department, University of California, Berkeley, Berkeley, CA, (1986). Development of a procedure for optimizing the design of air stripping systems for the removal of organic compounds from contaminated groundwater.

SPONSORED RESEARCH

2022-2026 High Temperature Subsurface Borehole Thermal Energy Storage, Environmental Security Technology Certification Program ESTCP EW-22-7272, Principal Investigator (60%), \$1,993,686.

2022-2026 Development of a Practical Modeling Platform for Assessing Saltwater Intrusion Impacts Under Future Sea-Level Change Scenarios, Naval Facilities Engineering Command, Engineering and Expeditionary Warfare Center through the Strategic Environmental Research and Development Program SERDP , Principal Investigator (100%), \$842,175.

2023-2024	Can the REMChlor-MD Model be Used to Evaluate Passive and Active PFAS Remediation Alternatives? GSI Environmental, Inc., funded by the U.S. Air Force. Principal Investigator (100%), \$49,609.
2020-2023	Thermal In-Situ Sustainable Remediation (TISR) to Enhance Biotic and Abiotic Reactions and Accelerate Remediation Timeframes, Arcadis, through the Environmental Security Technology Certification Program ESTCP ER20-B2-5028, Principal Investigator (100%), \$361,924.
2019-2023	Incorporating Matrix Diffusion in the New MODFLOW Flow and Transport Model for Unstructured Grids, Environmental Security Technology Certification Program ESTCP ER19-5028, Principal Investigator (100%), \$857,213.
2019-2020	Evaluation of Hydraulic Source Isolation at the Barra Mansa Site and the Area P DuPont Camacari Site; Sponsored by DuPont, Principal Investigator (100%), \$158,327.
2015-2019	Estimating Mobile-Immobile Mass Transfer Parameters using Direct Push Tools, Solutions-IES through the Strategic Environmental Research and Development Program SERDP 15 ER01-015, Principal Investigator (100%), \$266,034.
2014-2018	A Practical Approach for Modeling Matrix Diffusion Effects in REMChlor, Environmental Security Technology Certification Program, ESTCP ER-201426, Principal Investigator (100%), \$724,300.
2017-2018	Inhibitory and Synergistic Effects in Mixtures of Contaminants, and Evaluation of Hydraulic Source Isolation at the Area P DuPont Camacari Site; Sponsored by DuPont, Co-Investigator (50%), \$143,976.
2016-2018	Evaluating Thermal Heating with Elemental Mercury; Sponsored by Savannah River National Laboratory, Principal Investigator (100%), \$63,656.
2014-2017	Radionuclide Waste Disposal: Development of Multi-Scale Experimental and Modeling Capabilities, US Department of Energy, Co-Investigator, (5%), \$5,250,000
2010-2016	Subsurface Thermal Energy Storage for Improved Heating and Air Conditioning Efficiency, Environmental Security Testing and Certification Program, ESTCP SI-1013, Principal Investigator (60%), \$991,018
2009-2014	Understanding and Managing Risks Posed by Brines Containing Dissolved Carbon Dioxide, US Environmental Protection Agency Science to Achieve Results (STAR) program, Principal Investigator (67%), \$891,342.
2010-2011	Incorporating Aerobic Processes into Remedies for Large Chlorinated Solvent Plumes, SCUREF from Savannah River National Laboratory through ESTCP, Principal Investigator (100%), \$80,120.

2007-2011	Contaminant Mass Transfer During Boiling in Fractured Geologic Media, Strategic Environmental Research and Development Program, SERDP ER-1553, Principal Investigator (50%), \$541,000.
2007-2010	Decision & Management Tools for DNAPL Sites: Optimization of Chlorinated Solvent Source and Plume Remediation Considering Uncertainty, Environmental Security Testing and Certification Program, ESTCP ER-0704, Principal Investigator (100%), \$572,000.
2003-2006	Impacts of DNAPL Source Zone Treatment: Modeling Assessment of the Benefits of Partial Source Removal, United States Environmental Protection Agency, Principal Investigator (100%), \$353,910.
2002-2006	Fracture Dissolution of Carbonate Rocks: An Innovative Process for Gas Storage, United States Department of Energy, National Energy Technology Laboratory, Co-Investigator (25%), \$713,060.
2004	Department of Energy Monitored Natural Attenuation MNA/EPR Alternative Project: Review of RFI Packages, Westinghouse Savannah River Company, Principal Investigator, \$7,973.
2002	Assessment of Air Sparging/Soil Vapor Extraction Operation at A-Area Burning/Rubble Pits and Rubble Pit (ABRP) Operable Unit, Westinghouse Savannah River Company, Principal Investigator, \$35,143.
2001	Application of Dual Media Concepts to Contaminant Migration in Heterogeneous Aquifers, Westinghouse Savannah River Company, Co-Investigator, \$54,831.
2000-2001	Three-Dimensional Simulation of Multi-Phase Flow and Transport Processes for Evaluation of Soil Vapor Extraction Units 782-3M, -4M, and -7M, Westinghouse Savannah River Company, Principal Investigator, \$101,565.
2000-2001	Numerical Modeling of Free-Phase TCE/PCE Emplacement and Transport in the M-Area Basin and Evaluation of Thermal Remediation Technologies, Westinghouse Savannah River Company, Principal Investigator, \$61,671.
2000	DNAPL Characterization Program: Determining the Feasibility of DNAPL Remediation in the A/M Area Using Density Balanced Mobilization Techniques Westinghouse Savannah River Company, Principal Investigator, \$21,224.
1998-2002	Quantitative Methods for Reservoir Characterization and Improved Recovery: Application to Heavy Oil Sands, United States Department of Energy, Co-Investigator, \$588,707.
1998-2000	Book Describing the Current State of Science for the Vadose Zone, Westinghouse Savannah River Company, Principal Investigator, \$49,698.
1998	Cosolvent Flooding Technology Development (I), Westinghouse Savannah River Company, Principal Investigator, \$19,947.

- 1998 DNAPL Characterization Program: DNAPL Transport Modeling (II), Westinghouse Savannah River Company, Principal Investigator, \$13,812.
- 1997-2002 Field Evaluation of DNAPL Remediation by Cosolvent Mobilization, United States Environmental Protection Agency, Principal Investigator, \$518,036.
- 1997-1998 Field-Scale Model for Air Sparging Performance Assessment and Design, United States Department of Energy through a subcontract with Michigan Technological University, Principal Investigator, \$75,083.
- 1997-1998 DNAPL Characterization Program: DNAPL Transport Modeling (I), Westinghouse Savannah River Company, Principal Investigator, \$55,387.
- 1997 Technical Support of DNAPL Characterization Program (II), Westinghouse Savannah River Company, Principal Investigator, \$44,850.
- 1995-1996 Technical Support of DNAPL Characterization Program (I), Westinghouse Savannah River Company, Principal Investigator, \$216,731.
- 1994-1997 Field Evaluation of Cosolvent-Enhanced In-Situ Remediation, United States Environmental Protection Agency, Principal Investigator, \$406,004.
- 1993-1994 Development and Evaluation of Remediation Alternatives for Subsurface NAPL Contamination, Westinghouse Savannah River Company, Principal Investigator, \$253,519.
- 1992-1993 Remediation of Hydrocarbon Contaminated Groundwaters by Alcohol Flooding, South Carolina Universities Research and Educational Foundation Hazardous Waste Management Research Fund, Co-Investigator, \$115,000.
- 1992 Savannah River Site Integrated Demonstration Project Analysis and Evaluation Technical Support, Lawrence Berkeley Laboratory, University of California, Principal Investigator, \$37,214.

PUBLICATIONS

Books and Monographs

Looney, B.B., and R.W. Falta, editors, 2000, Vadose Zone Science and Technology Solutions, Battelle Press, Columbus, OH, 1540 p.

Refereed Journal Publications

Wang, H., R. Yu, R. Darlington Iery, L.C. Murdoch, R.W. Falta, and D.L. Freedman, 2025, Use of carbon-14 trichloroethene to determine rate constants in rock core microcosms, submitted to the *Journal of Contaminant Hydrology*.

Pham, K. T., K. M. Walton, S. Chapman, B. Parker, and R.W. Falta, 2025, Simulating matrix diffusion in discrete fracture networks using semi-analytic and dual-porosity models, submitted to *Water Resources Research*.

- Stockwell, E.B., D.T. Adamson, J.D. Gamlin, P.R. Kulkarni, R.W. Falta, and C.J. Newell, 2025, Modelling per- and polyfluoroalkyl substance precursor transformation in groundwater at a well-characterized site, submitted to *Groundwater Monitoring and Remediation*.
- Daniel, T.J., J. Richendrfer, R. Falta, L. Murdoch, H. Lin, and C.J.G. Darnault, 2023, Numerical modeling of groundwater flow and nitrate transport in karst and wastewater irrigated agricultural and forest landscapes, PA, USA, *Agrosystems, Geosciences & Environment*, Vol. 6, No. 4, p. e20427.
- Ornelles, A.D., R.W. Falta, and C.E. Divine, 2023, A design tool for solar thermal remediation using borehole heat exchangers, *Groundwater* Vol. 61, No. 2, p. 245-254.
- Daniel, T.J., J. Richendrfer, R. Falta, L. Murdoch, H. Lin, and C.J.G. Darnault, 2023, Hydrogeologic and geomorphic processes in a karst landscape and seasonably-cold climate: Linking spatial distribution and morphometric dynamics of closed depressions to bedrock fractures in a wastewater spray irrigated agricultural and forest system located at the site of the Living Filter in Central Pennsylvania, United States, *Agricultural Water Management*, Vol. 279, p. 108170..
- Pham, K., and R.W. Falta, 2022, Use of semi-analytical and dual-porosity models for simulating matrix diffusion in systems with parallel fractures, *Advances in Water Resources*, V. 164, 104202.
- Farhat, S.K., C.J. Newell, S.A. Lee, B.B. Looney, and R.W. Falta, 2022, Impact of matrix diffusion on the migration of groundwater plumes for Perfluoroalkyl acids (PFAAs) and other non-degradable compounds, *Journal of Contaminant Hydrology*, 247, 103987.
- Yu, R., L. Murdoch, R. Falta, R. Andrachek, A. Pierce, B. Parker, J. Cherry, and D. Freedman, 2020, Chlorinated ethene degradation rate coefficients simulated with intact sandstone core microcosms, *Environmental Science & Technology*, 54, 24, 15829-15839.
- Farhat, S.K., D.T. Adamson, A. Gavaskar, S.W. Lee, R.W. Falta, and C.J. Newell, 2020, Impact of vertical discretization in numerical modeling of matrix diffusion in contaminated groundwater, *Groundwater Monitoring & Remediation*, 40, 2, 52-54.
- Barajas-Rodriguez, F.J., L.C. Murdoch, R.W. Falta, and D.L. Freedman, 2019, Simulation of in situ biodegradation of 1,4-dioxane under metabolic and cometabolic conditions, *Journal of Contaminant Hydrology*, V. 223, 103464.
- Muskus, N., and R.W. Falta, 2018, Semi-analytical method for matrix diffusion in heterogeneous and fractured systems with parent-daughter reactions, *Journal of Contaminant Hydrology*, V. 218, p. 94-109.
- Falta, R.W., and W. Wang, 2017, A semi-analytical method for simulating matrix diffusion in numerical transport models, *Journal of Contaminant Hydrology*, V. 197, p. 39-49.

- Hall, R., L. Murdoch, R. Falta, B. Looney, and B. Riha, 2016, Evaluation of liquid aerosol transport through porous media, *Journal of Contaminant Hydrology*, 190, p. 15-28.
- Chen, F., R.W. Falta, and L.C. Murdoch, 2015, Numerical analysis of thermal remediation in 3-D field-scale fractured geologic media, *Groundwater*, Vol. 53, No. 4, July-August, 2015 (pages 572-587).
- Murdoch, L.C., S. Xie, R.W. Falta, and C. Ruprecht, 2015, Effects of increased upward flux of dissolved salts caused by CO₂ storage or other factors, *Journal of Hydrology*, Volume 527, August, 2015, p. 776-787.
- Hodges, R.A., C. Cooper, and R. Falta, 2015, Modeling of flow and transport induced by production of hydrofracture-stimulated gas wells near the Rulison nuclear test, *Transport in Porous Media*, Vol. 108, No. 1, p. 23-42.
- Ruprecht, C.M., R. Falta, L.C. Murdoch, R. Pini, and S.M. Benson, 2014, Hysteretic trapping and relative permeability of CO₂ in sandstone at reservoir conditions, *International Journal of Greenhouse Gas Control*, 27(2014) 15-27.
- Liu, X., L.C. Murdoch, R.W. Falta, and T. Tan, 2014, Experimental characterization of CVOC removal from fractured clay during boiling, *International Journal of Heat and Mass Transfer*, vol. 70, p. 764-778.
- Falta, R.W., L. Zuo, and S.M. Benson, 2013, Migration of exsolved CO₂ following depressurization of saturated brines, *Greenhouse Gas Science and Technology*, 3:1-13 DOI: 10.1002/ghg.1379, 2013.
- Liu, X., T. Tan, R.W. Falta, and L.C. Murdoch, 2013, Experimental method for characterizing CVOC removal from fractured clays during boiling, *Journal of Contaminant Hydrology*, V. 152, p. 44-59.
- Zuo, L., C. Zhang, R.W. Falta, and S.M. Benson, 2013, Micromodel investigations of CO₂ exsolution from carbonated water in sedimentary rocks, *Advances in Water Resources*, vol. 53, p. 188-197.
- Yu, R., H.S. Peethambaram, R.W. Falta., M.F. Verce, J.K. Henderson, C.E. Bagwell, R.L. Brigmon, and D.L. Freedman. 2013. Kinetics of 1,2-Dichloroethane and 1,2-Dibromoethane Biodegradation in Anaerobic Enrichment Cultures. *Appl. Environ. Microbiol.*, 79(4), 1359-1367 (2013). doi: 10.1128/AEM.02163-12
- Chen, F., R.W. Falta, and L.C. Murdoch, 2012, Numerical Analysis of Contaminant Removal from Fractured Rock by Boiling, *Journal of Contaminant Hydrology* 134-135, p. 12-21.
- Liang, H., R.W. Falta, J.K. Henderson, and S. Shoemaker, 2012, Probabilistic Simulation of Source and Plume Remediation for a Site Contaminated by Trichloroethylene, *Ground Water Monitoring and Remediation* Vol. 32, No. 1, p. 131-141.

- Chen, F., D.L. Freedman, R.W. Falta, and L.C. Murdoch, 2012, Henry's Law Constants of Chlorinated Solvents at Elevated Temperatures, *Chemosphere*, Vol. 86, No. 2, p. 156-165.
- Zuo, L., S. Krevor, R.W. Falta, and S.M. Benson, 2012, An Experimental Study of CO₂ Exsolution and Relative Permeability Measurements during CO₂ Saturated Water Depressurization, *Transport in Porous Media*, Vol. 91, Issue 2, p. 459-478.
- McCray, J.E., G.R. Tick, J.W. Jawitz, M.L. Brusseau, J.S. Gierke, M.L. Brusseau, R.W. Falta, R. Knox, D. Sabatini, M.D. Annable, J. Harwell, and A.L. Wood, 2011, Remediation of NAPL Source-Zones: Lessons Learned from Field Studies at Hill and Dover AFB, *Ground Water* Vol. 49, No. 5, p. 727-744.
- Chen, F., X. Liu, R.W. Falta, and L.C. Murdoch, 2010, Experimental Demonstration of Contaminant Removal from Fractured Rock by Boiling, *Environmental Science and Technology* 44, 6437-6442.
- Baston, D.P., R.W. Falta, and B.H. Kueper, 2010, Numerical Modeling of Thermal Conductive Heating in Fractured Bedrock, *Ground Water* 48(6), 836-843.
- Henderson, J.K., R.W. Falta, and D.L. Freedman, 2009, Simulation of the Effect of Remediation on EDB and 1,2-DCA Plumes at Sites Contaminated by Leaded Gasoline, *Journal of Contaminant Hydrology*, Vol. 108, 29-45.
- Falta, R.W., 2008, Methodology for Comparing Source and Plume Remediation Alternatives, *Ground Water*, Vol. 46, No. 2, 272-285.
- Parker, J.C., and R.W. Falta, 2008, Comparison of Alternative Upscaled Model Formulations for Simulating DNAPL Source Dissolution and Biodecay, *Advances in Water Resources*, Vol. 31, 1325-1332.
- Henderson, J.K., D. Freedman, R.W. Falta, T. Kuder, and J.T. Wilson, 2008, Anaerobic Biodegradation of Ethylene Dibromide and 1,2-Dichloroethane in the Presence of Fuel Hydrocarbons, *Environmental Science and Technology*, Vol. 42, No. 3, 864-870.
- Hodges, R.A., and R.W. Falta, 2008, Vertical Confinement of Injected Steam in the Vadose Zone Using Cold Air Injection, *Vadose Zone Journal*, Vol. 7, No. 2, 732-740.
- VanAntwerp, D., R.W. Falta, and J.S. Gierke, 2008, Numerical Simulation of Field Scale Contaminant Mass Transfer During Air Sparging, *Vadose Zone Journal*, Vol. 7, No. 1, 294-304.
- Liang, H., and R.W. Falta, 2008, Modeling Field-Scale Cosolvent Flooding for DNAPL Source Zone Remediation, *Journal of Contaminant Hydrology* Vol. 96, 1-16.
- Basu, N.B., P.S.C. Rao, R.W. Falta, M.D. Annable, J.W. Jawitz, and K. Hatfield, 2008, Temporal Evolution of DNAPL Source and Contaminant Flux Distribution: Impacts of Source Mass Depletion, *Journal of Contaminant Hydrology*, Vol. 95, 93-109.

- Falta, R.W., N. Bulsara, J.K. Henderson, and R.A. Mayer, 2005, Leaded-Gasoline Additives Still Contaminate Groundwater, *Environmental Science and Technology*, Vol. 39, No. 18.
- Falta, R.W., P.S.C. Rao, and N. Basu, 2005, Assessing the Impacts of Partial Mass Depletion in DNAPL Source Zones: I. Analytical Modeling of Source Strength Functions and Plume Response, *Journal of Contaminant Hydrology*, Vol. 78, 259-280.
- Falta, R.W., N. Basu, and P.S.C. Rao, 2005, Assessing the Impacts of Partial Mass Depletion in DNAPL Source Zones: II. Coupling Source Strength Functions to Plume Evolution, *Journal of Contaminant Hydrology*, Vol. 79, 45-66.
- Falta, R.W., 2004, The Potential for Groundwater Contamination by the Gasoline Lead Scavengers Ethylene Dibromide and 1,2-Dichloroethane, *Ground Water Monitoring and Remediation* Vol. 24, No. 3, p. 76-87.
- Hodges, R.A., R. Falta, and L. Stewart, 2004, Controlling steam flood migration using air injection wells, *Environmental Geosciences*, Vol. 11, No. 4, p. 221-238.
- Falta, R.W., 2003, Modeling Subgridblock Scale DNAPL Pool Dissolution using a Dual Domain Approach, *Water Resources Research*, Vol. 39, No. 12, SBH 18-1-8.
- Ochs, S.O., R.A. Hodges, R.W. Falta, T.F. Kmetz, J.J. Kuper, N.N. Brown, and D.L. Parkinson, 2003, Predicted Heating Patterns During Steam Flooding of Coastal Plain Sediments at the Savannah River Site, *Environmental and Engineering Geoscience*, Vol. 9, No. 1, 51-69.
- Rossabi, J., and R.W. Falta, 2002, Analytical Solution for Subsurface Gas Flow to a Vadose Zone Well Induced by Barometric Pressure Fluctuations, *Ground Water* Vol. 40, No. 1, January.
- Roeder, E., and R.W. Falta, 2001, Modeling Unstable Alcohol Flooding of DNAPL-Contaminated Columns, *Advances in Water Resources*, 24 (7), pp. 803-819.
- Roeder, E., R.W. Falta, C.M. Lee, and J.T. Coates, 2001, DNAPL to LNAPL Transitions During Horizontal Cosolvent Flooding, *Ground Water Monitoring and Remediation*, Winter.
- Ladaa, T. I.; C.M. Lee; J.T. Coates; and R.W. Falta, 2001, Cosolvent Effects of Alcohols on the Henry's Law Constant and Aqueous Solubility of Tetrachloroethylene (PCE). *Chemosphere*, 44(5):1137-1143.
- Falta, R.W., 2000, Numerical Modeling of Kinetic Interphase Mass Transfer During Air Sparging Using a Dual-Media Approach,, *Water Resources Research*, Vol. 36, No 12, December.
- Falta, R.W., C.M. Lee, S.E. Brame, E. Roeder, J.T. Coates, and C. Wright, 1999, Field Test of High Molecular Weight Alcohol Flushing for Subsurface NAPL Remediation, *Water Resources Research*, Vol. 35, No. 7, July.
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Castle, J.W., D.A. Bruce, R.W. Falta, and L.C. Murdoch, Manufactured Caverns in Carbonate Rock, US Patent 7,156,579 B2, January 2, 2007.

PROFESSIONAL ACTIVITIES

- 2019 Web-based seminar for the SERDP/ESTCP program, “REMChlor-MD Groundwater Transport and Remediation Model for Sites with Matrix Diffusion, presented to more than 500 people on February 7, 2019, <https://serdp-estcp.org/Tools-and-Training/Webinar-Series/02-07-2019>
- 2018 Session chair and Panelist, *The International Conference on Remediation of Chlorinated and Recalcitrant Compounds Conference*, Palm Springs, CA.
- 2016 Web-based seminar for the SERDP/ESTCP program, “Long Term Monitoring Issues at Chlorinated Solvent Sites”, presented to more than 1000 people on April 21, <https://www.serdp-estcp.org/Tools-and-Training/Webinar-Series/04-21-2016>
- 2012 Web-based short course instructor, "Practical Models to Support Remediation Strategy Decision Making", EPA Office of Superfund Remediation and Technology Innovation, http://www.clu-in.org/conf/tio/gwmodel5_110712/
- 2011 Short course instructor, “Thermal Treatment Technologies, Lessons Learned”, *SERDP/ESTCP Partners in Environmental Technology Technical Symposium & Workshop*, Washington, DC
- 2011 Short course instructor, “Practical Models Supporting Remediation of Chlorinated Solvents Training Course”, Seattle, WA
- 2011 Short course instructor, “Practical Models Supporting Remediation of Chlorinated Solvents Training Course”, Atlanta, GA
- 2010 Short course instructor, “Practical Models Supporting Remediation of Chlorinated Solvents Training Course”, Kansas City, MO
- 2010 Session chair, *The International Conference on Remediation of Chlorinated and Recalcitrant Compounds Conference*, Monterey, CA
- 2010 Short course instructor, “Practical Models Supporting Remediation of Chlorinated Solvents Training Course”, *The International Conference on Remediation of Chlorinated and Recalcitrant Compounds Conference*, Monterey, CA
- 2010 Invited speaker, *Savannah River National Laboratory Special Director’s Seminar*, Aiken, SC
- 2010 Short course instructor “Practical Models Supporting Remediation of Chlorinated Solvents Training Course”, Aiken, SC
- 2009 Short course instructor, “Tools for Management of Chlorinated Solvent-Contaminated Sites”, *SERDP/ESTCP Partners in Environmental Technology Technical Symposium & Workshop*, Washington, DC
- 2009 Invited speaker, *Workshop on Strategies for Site Remediation and Diagnostics, Langan Engineering and Environmental Services*, East Brunswick, NJ.
- 2009 Short course instructor, *US EPA 19th Annual National Association of Remedial Project Managers Training Conference*, Atlanta, GA
- 2008 Invited speaker, *Groundwater Resources Association of California, Emerging Contaminants 2008*, San Jose, CA
- 2008 Short course instructor, *US Environmental Protection Agency*, Amherst, MA

2008 Invited speaker, *20th Annual National Tanks Conference and Expo*, US EPA, Atlanta, GA

2008 Invited speaker, *Southeastern In Situ Soil and Groundwater Remediation Conference*, Raleigh, NC

2008 Invited speaker, *Beazer East* environmental management meeting, Las Vegas, NV

2007 Keynote speaker, *Groundwater Quality 2007: Securing Groundwater Quality in Urban Environments*, Fremantle, Australia

2007 Invited speaker, *New England Interstate Water Pollution Control Commission* workshop, Atlanta, GA

2007 Short course instructor, *US Environmental Protection Agency*, Crystal City, VA.

2006 Invited speaker, *North Carolina Association of Groundwater Professionals*, Southern Pines, NC

2006 Short course instructor (twice), *Nuclear Regulatory Commission*, Rockville, MD

2006 Invited speaker, *Auburn University*, Auburn, AL

2005 Invited speaker, *Purdue University*, West Lafayette, IN

2005 Invited speaker, *The Fletcher Group*, Greenville, SC

2005 Invited speaker, *US Environmental Protection Agency*, Office of Solid Waste and Emergency Response / Office of Research and Development, Arlington, VA

2005 Invited speaker, *US Environmental Protection Agency*, Region 4 UST States Managers Meeting, Clemson, SC

2005 Invited speaker, *Tennessee Department of Environmental Control*, Nashville, TN

2004 Invited speaker, *US Environmental Protection Agency*, Region 3 States Leaking Underground Storage Tanks Technical Conference, Rocky Gap, MD.

2004 Member, Board of Examiners for Ph.D. thesis at the *Indian Institute of Technology*

2004 Session Chair, *US Department of Energy Office of Science* Conference on Numerical Modeling in the Geosciences, Gaithersburg, MD

2004 Invited speaker, *University of Oklahoma*, Norman, OK

2004 Invited speaker, *Santa Clara Valley Water District*, San Jose, CA

2003 Invited speaker, *South Carolina Department of Health and Environmental Control*, Columbia, SC

2003 Invited speaker, *US Environmental Protection Agency*, Region 4, Atlanta, GA

2003 Invited speaker, *Nuclear Regulatory Commission*, Rockville, MD

2003 Panelist and invited speaker, *Department of Energy* Workshop on Reactive Transport Modeling, Carmel Valley, CA

2002 Short Course Instructor, Contaminant Transport and Remediation, *Technical University of Delft*, Netherlands

2002 Co-Chair, Contaminant Fate and Transport working group, Strategic Planning Workshop for the new *Department of Energy Division of Environmental Remediation Sciences, Office of Science*, Washington, DC

2002 MS thesis examiner, *University of Newcastle*, Australia

2002 Workshop speaker, *Petroleum Technology Transfer Council* Workshop on Methods of Reservoir Characterization with Application to Heavy Oil Sands, Bakersfield, CA

2002 External Ph.D. Dissertation Committee Member, *University of South Carolina*

2001 Visiting Research Scholar, Department of Geological Engineering and Sciences, *Michigan Technological University*, Houghton, MI (while on sabbatical Fall, 2001)

2001 Short Course Organizer and Instructor, Multiphase Heat and Mass Transfer Simulation, *The Proctor and Gamble Company*, Mathematical Simulation Group, Cincinnati, OH

2001 Short Course Instructor, Subsurface Multiphase Fluid Flow and Remediation Modeling, *Colorado School of Mines*, Golden, CO

2001-2006 Member, *Department of Energy, Office of Basic Energy Sciences* Earth Sciences Council

2001 Invited Speaker and Panelist, *Environmental Protection Agency* Workshop on Hazardous Waste Source Remediation, Dallas, TX

2001 Invited Speaker, *Department of Energy Savannah River Site*

2001 Invited Speaker, *North Carolina Association of Engineering Geologists*, Raleigh, NC

2000 Press Conference with the United States Under Secretary of Energy, Washington, DC

2000 Short Course Instructor, Contaminant Source Zone Remediation, Taipei, Taiwan

2000 Short Course Instructor, Multiphase Flow Modeling, *Universitaet Braunschweig*, Germany

2000 Invited Speaker, *Purdue University*, West Lafayette, IN

2000 MS thesis advisor, *Universitaet Stuttgart*, Germany

1999 Co-Chair of *Department of Energy* Workshop on Remediation of Contaminants in the Vadose Zone, Seattle, WA

1999 Short Course Instructor, Subsurface Multiphase Fluid Flow and Remediation Modeling, *Colorado School of Mines*, Golden, CO

1999 Invited Speaker, *Colorado School of Mines*, Golden, CO

1998 Co-Chair of *Department of Energy* Workshop on Vadose Zone Characterization at Lawrence Berkeley National Laboratory, Berkeley, CA

1998 Invited Speaker, *Department of Energy Savannah River Site*

1998 Co-Chair of *Department of Energy* Workshop on Numerical Simulation of Fluid Flow and Chemical Transport in the Vadose Zone, Las Vegas, NV

1998 External Dissertation Committee Member, *Universitaet Stuttgart*, Germany

1998 Invited Speaker, *Lawrence Berkeley National Laboratory*, Berkeley, CA

- 1997 Visiting Scientist, Institut fur Wasserbau, Lehrstuhl fur Hydraulik und Grundwasser, *Universitaet Stuttgart*, Stuttgart, Germany, September-October.
- 1997 Invited Speaker, *Universitaet Tubingen*, Germany
- 1997 Invited Speaker, *Universitaet Braunschweig*, Germany
- 1997 Invited Speaker, *Ruhr Universitaet*, Germany;
- 1997 Invited Speaker, the *University of Strasburg*, France
- 1997 Invited Speaker; *Swiss Federal Institute of Technology*, Zurich, Switzerland
- 1997 Invited Speaker, *Environmental Protection Agency R.S. Kerr Laboratory*, Ada, OK
- 1997 Invited Speaker, *South Carolina University Research and Education Foundation* Advisory Board
- 1997 External Ph.D. Dissertation Committee Member, *Queens University*, Canada
- 1996 External Dissertation Committee Member, *Michigan Technological University*, Houghton, MI
- 1995 Session Chair, *American Chemical Society*, Emerging Technologies in Hazardous Waste Management VII Symposium, Atlanta, GA
- 1995 Invited Speaker, *Lawrence Berkeley National Laboratory*, Berkeley, CA
- 1995 Engineering Short Course Instructor, Hazardous Waste Remediation *Charleston Naval Shipyard*
- 1995 Invited Speaker, *Central Savannah River Geological Society*
- 1994 Engineering Short Course Instructor, Hazardous Waste Remediation, *Charleston Naval Shipyard*
- 1994 Invited Speaker, *Michigan Technological University*, Houghton, MI
- 1993 Invited Speaker, *Lawrence Berkeley National Laboratory*, Berkeley, CA
- 1993 Invited Speaker, *University of South Carolina*
- 1993-1996 Member of the *South Carolina Water Resources Research Institute* Review Committee
- 1992 Invited Speaker, *Department of Energy Savannah River Site*

OTHER PUBLICATIONS

Conference Proceedings

- Falta, R.W., L. Zuo, and S.M. Benson, 2012, Migration of exsolved CO₂ following depressurization of saturated brines, *Proceedings, TOUGH Symposium 2012*, Lawrence Berkeley National Laboratory, Berkeley, CA, September 17-19, 2012.
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- Falta, R.W., and K. Pham, 2019, REMChlor-MD, ER WIKI,
https://www.enviro.wiki/index.php?title=REMChlor_-_MD

- Falta, R.W., 2017, Source Zone Modeling, ER WIKI, http://www.environmentalrestoration.wiki/index.php?title=Source_Zone_Modeling
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- Castle, J.W., D.A. Bruce, R.W. Falta, and L.C. Murdoch, 2004, United States Provisional Patent for Storage Cavities in Carbonate Rock
- Abriola, L.M., J. Cherry, G. Destouni, R. Falta, D. Major, J. Mercer, C. Newell, T. Sale, S. Shoemaker, R. Siegrist, G. Teutsch, and K. Udell, 2003, The DNAPL Cleanup Challenge: Source Removal or Long Term Management? M.C. Kavanaugh and P.S.C. Rao, editors, *United States Environmental Protection Agency*, Washington, DC, EPA/600/R-03/143.
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PRESENTATIONS (National and International Meetings)

- 2024 Falta, R., L. Murdoch, J. Horvath, J. Grant, M. Heyer, and C. Hammock, High Temperature Subsurface Borehole Thermal Energy Storage, poster presented at the *2024 SERDP ESTCP Symposium*, Washington DC, December 2024.
- 2024 Patterson, C., R. Falta, S. Panday, M. Bakker, and A. Lemon, Development of a Practical Modeling Platform for Assessing Saltwater Intrusion Impacts Under Future Sea-Level Change Scenarios, poster presented at the *2024 SERDP ESTCP Symposium*, Washington DC, December 2024.
- 2024 Divine, C., R. Falta, J. Munholland, S. Justica-Leone, J. Aspinall, E. Zardouzian, D. Freedman, and M. Becker , Thermal In Situ Sustainable Remediation (TISR) to Enhance Biotic and Abiotic Reactions and Accelerate Remediation, poster presented at the *2024 SERDP ESTCP Symposium*, Washington DC, December 2024.
- 2024 Newell, C., S. Panday, R. Falta, P. Kulkarni, H. Hort, C. Werth, and G. Carey, Two PFAS Remediation Models for Understanding and Managing PFAS in the Saturated Zone, poster presented at the *2024 SERDP ESTCP Symposium*, Washington DC, December 2024.
- 2024 Bakker, M., S. Panday, R. Falta, A. Lemon, C. Langevin, J. Hughes, and C. Patterson, Towards a Reduced-Order Formulation for Seawater Intrusion in MODFLOW 6, presented at the MODFLOW and More 2024 Conference, Princeton, NJ, June 2024.
- 2023 Falta, R., L. Murdoch, K. Bicknell, J. Horvath, J. McDaniel, and C. Hammock, High Temperature Subsurface Borehole Thermal Energy Storage, poster presented at the *2023 SERDP ESTCP Symposium*, Arlington, VA, November 2023.
- 2023 Falta, R., S. Panday, and A. Lemon, Incorporating Matrix Diffusion in the MODFLOW Transport Models for Unstructured Grids, poster presented at the *2023 SERDP ESTCP Symposium*, Arlington, VA, November 2023.
- 2023 Patterson, C., R. Falta, S. Panday, M. Bakker, and A. Lemon, Development of a Practical Modeling Platform for Assessing Saltwater Intrusion Impacts Under Future Sea-Level Change Scenarios, poster presented at the *2023 SERDP ESTCP Symposium*, Arlington, VA, November 2023.
- 2023 Falta, R.W., Simulation of High Temperature Subsurface Thermal Energy Storage Using Closed-Loop Borehole Heat Exchangers, presented at the *TOUGH Symposium 2023* at the Lawrence Berkeley National Laboratory, Berkeley, CA, September 2023.

- 2022 Falta, R.W., S. Panday, A. Lemon, and S. Farhat, MDT Matrix Diffusion Package for MODFLOW-6 and MODFLOW-USG Transport, presented at the MODFLOW and More 2022 Conference, Princeton, NJ, June 2022.
- 2022 Pham, K., and R.W. Falta, Using a Semi-Analytical Method to Simulate Matrix Diffusion in Random Discrete Fracture Systems, presented at the MODFLOW and More 2022 Conference, Princeton, NJ, June 2022.
- 2021 Falta, R.W., Advances and Challenges in Groundwater Contaminant Transport Modeling, invited presentation, *2021 SERDP ESTCP Symposium* (virtual), November 2021.
- 2019 Falta, R.W., Thermal Remediation Behavior in High and Low Permeability Systems, Keynote presentation presented at the *REMTEC Remediation Technology Summit*, February 26-28, 2019, Denver, CO, <https://www.remtecsummit.com/keynote-speakers/ronald-falta>
- 2018 Falta, R.W., Using the Vinsome and Westerveld Method for Modeling Matrix Diffusion in Numerical Transport Simulations, presented at the *2018 TOUGH Symposium* at the Lawrence Berkeley National Lab, Berkeley, CA, October 8-10, 2018.
- 2018 Falta, R.W., N. Muskus, C. Newell, and S. Farhat, REMChlor-MD: A Screening Level Remediation Simulation Model that Considers Matrix Diffusion, presented at the *Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Palm Springs, CA, April 8-12, 2018.
- 2018 Farhat, S., C. Newell, and R. Falta, Matrix Diffusion Modeling – Handling Heterogeneity, poster presented at the *Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Palm Springs, CA, April 8-12, 2018.
- 2017 Falta, R.W., N. Muskus, C. Newell, S. Farhat, and K. Lynch, A Practical Approach of Modeling Matrix Diffusion Effects in REMChlor, poster presented at the 2017 SERDP ESTCP Symposium, Washington, DC, November 27-30, 2017.
- 2017 Falta, R.W., A Semi-Analytical Method for Modeling Matrix Diffusion in Fractured and Heterogeneous Systems, presented at the REMTEC Remediation Technology Summit, March 7-9, 2017, Denver, CO
- 2016 Falta, R.W., C.J. Newell, and S.K. Farhat, Development of a practical approach for modeling matrix diffusion effects in groundwater models, presented at the *Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Palm Springs, CA, May 22-26, 2016.
- 2016 Powers, T., J. Seaton, K. Davis, R. Flynn, J. Dablow, A. Roberts, and R. Falta, "Pilot Testing and 3-D Simulations to Evaluate Steam-Front Migration in a High-Permeability Aquifer", Presented at the *Tenth International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, Palm Springs, CA, May 22-26, 2016

- 2015 Falta, R.W., A semi-analytic approach for modeling matrix diffusion effects in TOUGH2 and other groundwater transport models, presented at the *2015 TOUGH Symposium*, Berkeley, CA, September 28-30.
- 2014 Falta, R.W., A practical approach for modeling matrix diffusion effects in REMChlor, invited presentation, *Chlorinated Solvents in Groundwater Technical Exchange Meeting*, Arlington, Va, December 10-12, 2014.
- 2014 Falta, R.W., Thermal remediation of fractured rocks and clays, invited presentation, *Fourth Biennial Southeastern In Situ Soil and Groundwater Remediation Conference*, Raleigh, NC, March 4, 2014.
- 2013 Falta, R.W., Challenges in modeling long term behavior at contaminated sites, invited presentation, *SERDP and ESTCP Workshop on Long Term Management of Contaminated Groundwater Sites*, Arlington, VA, August 13, 2013.
- 2013 Falta, R.W., Legal liability for hydraulic fracturing, (with Eugene Tanaka), invited presentation, *County Counsel's Association of California, Land Use Spring 2013 Conference*, Shell Beach, CA, May 2-3, 2013
- 2013 Falta, R.W., Thermal remediation of fractured rocks and clays, invited presentation, *Advances in Thermal Remediation Conference 2013*, Austin, TX, January 3-4, 2013
- 2012 Falta, R.W., Plume response to source remediation: setting reasonable expectations, presented at the *Eighth International Conference, Remediation of Chlorinated and Recalcitrant Compounds*, May 21-24, Monterey, CA
- 2012 Falta, R.W., L. Murdoch, F. Chen, and X. Liu, Thermal remediation of fractured rock systems, presented at the *Eighth International Conference, Remediation of Chlorinated and Recalcitrant Compounds*, May 21-24, Monterey, CA
- 2012 Falta, R.W., A.B.N. Ahsanuzzaman, M.B. Stacy, R.C. Earle, and J.T. Wilson, REMFuel: Remediation Evaluation Model for Fuel Hydrocarbons, presentation and poster presented at the 23rd National Tanks Conference and Expo, St. Louis, MO, March 19-21.
- 2011 Looney, B.B, M.H. Lee, R.W. Falta, and C. Yeager, Incorporating Aerobic Processes into Remedies for Large Chlorinated Solvent Plumes, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, Nov. 29-Dec. 1, 2011, Washington, DC
- 2011 Falta, R.W., F.J. Molz, C. Newell. and G. Tinkler, Subsurface Thermal Energy Storage for Improved Heating and Air Conditioning Efficiency, talk presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, Nov. 29-Dec. 1, 2011, Washington, DC
- 2011 Falta, R.W., F.J. Molz, and C. Newell, Subsurface Thermal Energy Storage for Improved Heating and Air Conditioning Efficiency, poster presented at *The*

Partners in Environmental Technology Technical Symposium & Workshop,
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- 2011 Ruprecht, C., R.W. Falta, and L.C. Murdoch, Sweep Comparison Between Supercritical and Dissolved CO₂ injection, poster presented at the Tenth Annual Carbon Capture & Sequestration Conference, Pittsburgh, PA, May 2-5, 2011
- 2011 Patterson, C., and R.W. Falta, A New Model for the Trapping of Carbon Dioxide During Geologic Carbon Sequestration, poster presented at the Tenth Annual Carbon Capture & Sequestration Conference, Pittsburgh, PA, May 2-5, 2011
- 2011 Ellison, K.M., R.W. Falta, and L.C. Murdoch, Risks Posed to Drinking Water Aquifers Due to Leakage of Dissolved CO₂ in Improperly Abandoned Wellbores, poster presented at the Tenth Annual Carbon Capture & Sequestration Conference, Pittsburgh, PA, May 2-5, 2011
- 2010 Falta, R.W., L.C. Murdoch, F. Chen, and X. Liu, Contaminant Mass Transfer from Fractured Geologic Media during Boiling, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, Nov. 30-Dec. 2, 2010, Washington, DC.
- 2010 Falta, R.W., J.-C. Perrin, and S.M. Benson, Fate and Transport of Dissolved CO₂, presented at the *Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, May 24-27, Monterey, CA.
- 2010 Falta, R.W., L.C. Murdoch, F. Chen, and X. Liu, Thermal Remediation of Fractured Rocks, presented at the *Seventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, May 24-27, Monterey, CA.
- 2009 Falta, R.W., C. Newell, S. Farhat, S. Rao, N. Basu, and H. Liang, Probabilistic Simulation Model for Remediation of Chlorinated Solvent Sites, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, December 1-3, 2009, Washington, DC.
- 2009 Falta, R.W., L.C. Murdoch, F. Chen, and X. Liu, Contaminant Mass Transfer During Boiling in Fractured Geologic Media, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, December 1-3, 2009, Washington, DC.
- 2009 Falta, R.W., and G. Chambers, Tough2 Simulation of Cavern Creation Using Acid Dissolution of Limestone, *TOUGH Symposium 2009*, September 14-16, Berkeley, CA
- 2009 Falta, R.W., L. Murdoch, X. Liu, and F. Chen, Thermal Remediation of Fractured Rocks, invited presentation, *REMTEC09 Remediation Technology Summit*, March 2-5, Atlanta, GA.
- 2008 Falta, R.W., L. Murdoch, F. Chen, and X. Liu, Induced Boiling in Fractured Rocks, invited talk, *The Partners in Environmental Technology Technical*

- Symposium & Workshop*, SERDP/ESTCP, December 2-4, 2008, Washington, DC.
- 2008 Falta, R., L. Murdoch, F. Chen, and X. Liu, Contaminant Mass Transfer During Boiling in Fractured Geologic Media, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, December 2-4, 2008, Washington, DC.
 - 2008 Falta, R., H. Liang, C. Newell, and P. Rao, Decision and Management Tools for DNAPL Sites: Optimization of Chlorinated Solvent Source and Plume Remediation Considering Uncertainty, poster presented at *The Partners in Environmental Technology Technical Symposium & Workshop*, SERDP/ESTCP, December 2-4, 2008, Washington, DC
 - 2007 Falta, R.W., Mass Conserving Decision Model for Coupled Source and Plume Remediation, Invited Keynote Address, *GQ07: Securing Groundwater Quality in Urban and Industrial Environments Conference* held in Fremantle, Australia, December 2-7, 2007.
 - 2007 Falta, R.W., EDB and 1,2-DCA from Leaded Gasoline May Dominate Health Risk at Underground Storage Tanks Sites, poster presented at the *GQ07: Securing Groundwater Quality in Urban and Industrial Environments Conference* held in Fremantle, Australia, December 2-7, 2007.
 - 2006 VanAntwerp, D., and R.W. Falta, Modeling Kinetic Interphase Mass Transfer During Field Scale Air Sparging Operations with a Dual Domain Approach, presented at the *TOUGH Symposium 2006*, May 15-17, Berkeley, CA.
 - 2006 Falta, R.W., REMChlor – Remediation Evaluation Model for Chlorinated Solvent Sites, poster presented at the *18th Annual National Tanks Conference*, U.S. Environmental Protection Agency, March 20-22, Memphis, TN.
 - 2005 Falta, R.W., Assessing the Benefit of Radiological Source Remediation Efforts in Terms of Groundwater Plume Attenuation, poster presented at the *50th Annual Meeting of the Health Physics Society, American Conference of Radiological Safety*, July 10-14, 2005, Spokane, WA.
 - 2005 Falta, R.W., EDB and DCA from Leaded Gasoline, invited talk presented at the *17th Annual UST/LUST National Conference*, U.S. EPA Office of Underground Storage Tanks, March 13-16, Seattle, WA
 - 2005 Falta, R.W., The Relationship Between Partial DNAPL Source Zone Remediation and Groundwater Plume Attenuation, presented at the *6th Environmental Technology Symposium and Workshop*, U.S. Army Environmental Center, March 14-16, Portland, OR.
 - 2005 Falta, R.W., Impact of DNAPL Source Remediation on Dissolved Plumes, invited talk presented at the *2005 Theis Conference*, National Ground Water Association, January 14-17, Sedona, AZ.
 - 2004 Falta, R.W., Undetected groundwater contamination at underground storage tank sites by the gasoline lead scavengers ethylene dibromide and 1,2-

- dichloroethane, presented at the *Spring, 2004 Meeting of the American Geophysical Union*, abstract in *Eos. Trans. AGU*, 85(17), May 17-21, Montreal, Canada
- 2004 Falta, R.W., The relationship between partial contaminant source zone remediation and groundwater plume attenuation, presented at the *Spring, 2004 Meeting of the American Geophysical Union*, abstract in *Eos. Trans. AGU*, 85(17), May 17-21, Montreal, Canada
- 2004 Falta, R.W., The potential for widespread groundwater contamination at UST sites by the gasoline lead scavengers ethylene dibromide and 1,2-dichloroethane, invited presentation given at the *16th Annual UST/LUST National Conference*, United States Environmental Protection Agency, March 1-3, New Orleans, LA
- 2004 Falta, R.W., P.S.C. Rao, N. Basu, A.L. Wood, C. Enfield, M. Annabel, J. Jawitz, and M. Goltz, Analytical assessment of partial DNAPL source zone remediation on natural attenuation of the groundwater plume, presented at the *2004 Partners in Environmental Technology Technical Symposium and Workshop*, Nov. 30-Dec. 2, Washington, DC
- 2004 McCray, J.E., W. Downs, R.W. Falta, and L.T. Housley, Contaminant vapor transport in the vadose zone: influences of barometric pressure, diffusion, and density driven flow, presented at *Congress XXXIII of the International Association of Hydrogeologists*, October 11-15, 2004, Zacatecas City, Mexico
- 2004 Wood, A.L., M.D. Annable, J.W. Jawitz, C.G. Enfield, R.W. Falta, M.N. Goltz, and P.S.C. Rao, Impact of DNAPL source treatment on contaminant mass flux, presented at the *Fourth International Conference on Remediation of Chlorinated and Recalcitrant Compounds*, May, 2004, Monterey, CA
- 2004 Castle, J.W., D.A. Bruce, S.E. Brame, R.W. Falta, L.C. Murdoch, and D.A. Brooks, A New Method for Creating Gas Storage Caverns: Design and Feasibility of Using Acid to Dissolve Carbonate Rock -- *American Association of Petroleum Geologists, Program and Abstracts, 33rd Eastern Section Meeting*, October 2004, p. 69
- 2004 Brame, S.E., J.W. Castle, D.A. Bruce, R.W. Falta, L.C. Murdoch, and D.A. Brooks, Regional Assessment of Carbonate Formations in the Appalachian Basin Using GIS: Application to Creating Gas Storage Caverns by Dissolution of Carbonate Rock, *American Association of Petroleum Geologists, Program and Abstracts, 33rd Eastern Section Meeting*, October 2004, p. 64
- 2003 Hall, R.J., L.C. Murdoch, and R.W. Falta, Effects of Sand-Filled Hydraulic Fractures During Air Sparging, presented at the *Fall, 2003 Meeting of the American Geophysical Union*, San Francisco, CA.
- 2003 Myers, J.L., C.M. Lee, and R.W. Falta, Density Modification of an Industrial Chlorinated Solvent DNAPL by a Cosolvent Flooding Solution, presented at the *225th National American Chemical Society Meeting*, New Orleans, LA.

- 2003 Castle, J.W., F.J. Molz, C.L. Dinwiddie, S. Lu, R.W. Falta, and S.E. Brame, Application of the Fractal/Facies Concept to Predicting Sedimentologically Controlled Permeability Variation for Reservoir Modeling, presented at the *American Association of Petroleum Geologists Annual Convention*, May 11-14, 2003, Salt Lake City, UT.
- 2002 Falta, R.W., What Can We do About Modeling Heterogeneities That Occur at the Subgridblock Scale?, invited presentation given at the *Society for Sedimentary Geology SEPM/IAS Research Conference on Aquifer Heterogeneity and Environmental Implications of Ancient and Modern Coastal Plain Depositional Environments*, Charleston, SC, March 24-27.
- 2002 Fawumi, O.K., S.E. Brame, J.W. Castle, F.J. Molz, R.W. Falta, and C.J. Lorinovich, Reservoir Simulation Using Fractal-Based Petrophysical Models of Heavy Oil Sands in West Coaling Field, California, presented at the *American Association of Petroleum Geologists Annual Meeting*, March 10-13, 2002, Houston, TX
- 2001 Falta, R.W., Modeling Kinetic Interphase Mass Transfer During Air Sparging, presented at the *MODFLOW 2001 Conference, International Ground Water Modeling Center*, Colorado School of Mines, Golden, CO, September 11-14.
- 2001 Myers, J.L., C.M. Lee, and R.W. Falta, The Behavior of an Industrial Chlorinated Solvent DNAPL in the Presence of an Alcohol Cosolvent, presented at the *Fall 2001 Meeting of the American Geophysical Union*, San Francisco, CA
- 2001 Myers, J.L., C.M. Lee, and R.W. Falta, Density Modification of a Chlorinated Solvent DNAPL by a Saltwater-Propanol Cosolvent Flooding Solution, *221st American Chemical Society National Meeting*, San Diego, CA
- 2000 Falta, R.W., Issues and Difficulties Related to Multiphase Flow and Chemical Transport Modeling at the Field Scale, invited presentation given at the *Hydrogeology Symposium I: Modeling Aquifer Heterogeneity*, Columbia, SC, January 20-21.
- 2000 Falta, R.W., Modeling Kinetic Interphase Mass Transfer of Contaminants during Air Sparging With a Dual-Contiuum Approach, presented at the *Fifth International Symposium and Exhibition on Environmental Contamination in Central and Eastern Europe*, Prague, Czech Republic, September 12-14.
- 1999 Falta, R.W., C.M. Lee, E. Roeder, S.E. Brame, and H. Schweninger, Mobilization and Removal of Separate Phase Chlorinated Solvents as LNAPLs Using Neutrally Buoyant Alcohol Flooding Solutions, invited presentation given at the 1999 Spring Meeting of the *American Geophysical Union*, Boston, Mass., June 1-4.
- 1999 Falta, R.W., E. Roeder, C. Lee, S. Brame, H. Schweninger, J. Coates, T Ladaa, J. Meyers, J. Martin, J. Pace, and D. Micolet, Coupled Chemical Transport and Fluid Flow During Alcohol Flooding for DNAPL Remediation, presented at the *International Symposium on Dynamics of Fluids in Fractured Rocks*, Berkeley, Ca, February 10-12.

- 1999 Falta, R.W., Cosolvent Flooding for NAPL Remediation, invited presentation given at the *US EPA Conference on Abiotic In-Situ Technologies for Groundwater Remediation*, Dallas, TX, August 31-Sept. 2.
- 1999 Falta, R.W., Design of Multicomponent Cosolvent Flooding Solutions for NAPL Remediation, invited presentation given at the *Annual Meeting of the Geological Society of America*, Denver, CO, October 25-29.
- 1999 Rossabi, J., and R.W. Falta, Using Two Barometric Pumping Based Flow Regimes to Characterize the Location of Subsurface DNAPL, presented at the Spring 1999 Meeting of the *American Geophysical Union*, Baltimore, MD.
- 1997 Falta, R.W., S.E. Brame, C.M. Lee, and J.T. Coates, A Field Test of LNAPL Remediation by Tert-Butanol Injection, abstract in *American Chemical Society Preprints of Papers Presented at the 213th ACS National Meeting, San Francisco, Ca., April 13-17, 1997, Vol. 37, No. 1.*, p. 227.
- 1997 S.L. Meyers, C.L. Wright, C.M. Lee, J.T. Coates, and R.W. Falta, Effect of Cosolvent Flooding on Partitioning Tracer Behavior, abstract in *American Chemical Society Preprints of Papers Presented at the 213th ACS National Meeting, San Francisco, Ca., April 13-17, 1997, Vol. 37, No. 1.*, p. 249.
- 1997 Falta, R.W., S.E. Brame, and E. Roeder, The Application of Density Controlled Flooding Solutions for Remediation, presented at the *1997 Annual Meeting of the Geological Society of America, Salt Lake City, Utah, October 20-27.*
- 1997 Falta, R.W., C.M. Lee, and S.E. Brame, A Field Test of NAPL Remediation by Alcohol Flooding, invited paper, *Fifth Chemical Congress of North America*, Cancun, Mexico, November 11-15.
- 1996 Haskell, P.A., J.T. Coates, C.M. Lee, and R.W. Falta, The use of Surrogate Compounds to Monitor NAPL Removal from a Contaminated Soil During a Cosolvent Flood, presented at *211th ACS National Meeting*, New Orleans, LA, March 24-28, paper in *Preprints of Papers, American Chemical Society*, p. 231-233.
- 1996 Falta, R.W. A Field Test of In-Situ NAPL Removal by Cosolvent Flooding, presented at the *1996 American Association of Petroleum Geologists Annual Convention*, San Diego, CA, May 20-25.
- 1996 Brame, S.E., R.W. Falta, and E. Roeder, "The Effect of Heterogeneities on the Remediation of LNAPLS Using Cosolvent Flooding at Hill AFB, Utah", presented at the *1996 Annual Meeting of the Geological Society of America* in Denver, Colorado, October 28-31, abstract in *Abstracts with Programs*.
- 1996 Roeder, E., C.L. Wright, S.A. Finsterle, S.E. Brame, R.W. Falta, and C.M. Lee, "Inversion of a 3-Dimensional Tracer Test", presented at the *1996 Annual Meeting of the Geological Society of America* in Denver, Colorado, October 28-31, abstract in *Abstracts with Programs*.

- 1995 Falta, R.W., Using Phase Behavior to Understand and Design Cosolvent Floods, Invited talk, presented at the *1995 Theis Conference, National Groundwater Association*, September 15-18.
- 1995 Falta, R.W., C.M. Lee, and S.M. Benson, A Field Test of NAPL Mobilization and Removal by Cosolvent Injection, presented at the *American Chemical Society, I&EC Division Emerging Technologies in Hazardous Waste Management VII Symposium* in Atlanta, Ga, September 17-20, extended abstract in Book of Abstracts.
- 1995 Roeder, E., S.E. Brame, and R.W. Falta, Numerical Simulation of Field Scale Cosolvent Flooding for LNAPL Remediation, presented at the *American Chemical Society, I&EC Division Emerging Technologies in Hazardous Waste Management VII Symposium* in Atlanta, Ga, September 17-20, extended abstract in Book of Abstracts.
- 1994 Falta, R.W. Numerical Simulation of NAPL Removal from Heterogeneous Formations Using Soil Vapor Extraction and Air Sparging, presented at the *1994 Special Symposium, Emerging Technologies in Hazardous Waste Management, American Chemical Society* in Atlanta, Ga, September.
- 1994 Falta, R.W., A General and Efficient Method for Analyzing Unsaturated Zone Gas Pump Tests, presented at the 1994 Annual Meeting of the Geological Society of America in Seattle, WA, abstract in *1994 Annual Meeting Abstracts with Program, Geological Society of America*, October.
- 1994 Kroening, D.E., D.S. Snipes, R.W. Falta, R.A. Hodges, S.M. Benson, J. Janssen, V. Price, and T.J. Temples, Well Redevelopment at the MWD Well Field, Savannah River Site, South Carolina, presented at the *1994 Annual Meeting of the Geological Society of America* in Seattle, WA, abstract in *1994 Annual Meeting Abstracts with Program, Geological Society of America* October.
- 1994 Falta, R.W., J. Rossabi, B.D. Riha, J.D. Schramm, B.B. Looney, Quantitative Atmospheric/Subsurface Pressure Relationships: Theory and Practice, presented at the *1994 Fall Meeting of the American Geophysical Union* in San Francisco, CA, abstract in *EOS, Transactions American Geophysical Union, Vol. 75, No. 44*, December.
- 1993 Falta, R.W., Interpretation of Soil Vapor Extraction Well Pumping Tests, presented at the *1993 Southeastern Section Geological Society of America Meeting*, Tallahassee, Fla., abstract in *1993 Abstracts with Program, Southeastern Section, Geological Society of America*, April.
- 1993 Brame, S.E., and R.W. Falta, Development of a Numerical Simulator for In-Situ Remediation by Alcohol Flooding, presented at the *1993 Southeastern Section Geological Society of America Meeting*, Tallahassee, Fla., abstract in *1993 Abstracts with Program, Southeastern Section, Geological Society of America*, April.
- 1993 Brame, S.E., and R.W. Falta, Development of a Numerical Simulator for In-Situ Remediation by Alcohol Flooding, presented at the *1993 Spring*

- Meeting of the American Geophysical Union* in Baltimore, MD, abstract in *EOS, Transactions, American Geophysical Union, Vol. 74, No. 16, May.*
- 1993 James, A., and R.W. Falta, Optimization of Soil Vapor Extraction Well Design, presented at the *1993 Annual Meeting of the AIChE* in St. Louis, Abstract in *Extended Abstracts, AIChE 1993 National Meeting*, November.
- 1992 Farley, K., and R.W. Falta, Remediation of Hydrocarbon-Contaminated Groundwater by Alcohol Flooding, presented at the *1992 Joint Conference on Hazardous Waste, Hazardous Waste Management Research Fund.*
- 1991 Falta, R.W. and K. Pruess, Numerical Simulation of Steam Injection for the Removal of Nonaqueous Phase Liquids from the Subsurface, presented at the *Characterization of Transport in the Vadose Zone Workshop*, Abstract in *Proceedings of the Characterization of Transport in the Vadose Zone Workshop*, Tucson, AZ, April.
- 1991 Seely, G.E., R.W. Falta, and J.R. Hunt, Buoyant Advection of Gases in Isothermal Porous Media, presented at the *Fall 1991 Meeting of the American Geophysical Union*, Abstract in *EOS, Transactions, American Geophysical Union, Vol. 72, No. 44, December.*
- 1990 Falta, R.W. and K. Pruess, STMVOC: A Numerical Simulator for Three Phase Contaminant Transport in Nonisothermal Systems, *Proceedings of the TOUGH Workshop*, Berkeley, CA, September.
- 1989 Falta, R.W., K. Pruess, I. Javandel, and P.A. Witherspoon, A Numerical Simulator for Strongly Non-Isothermal Three-Phase Contaminant Transport, presented at the *Fall 1989 Meeting of the American Geophysical Union*, Abstract in *EOS, Transactions, American Geophysical Union, Vol. 70, No. 43.*
- 1988 Javandel, I., R.W. Falta, and H.Y. Holman, Hydrocarbon Contaminants in Shallow Soil Systems, *Proceedings of the Second Berkeley Symposium on Topics in Petroleum Engineering*, March.
- 1987 Falta, R.W., and I. Javandel, A Numerical Method for Multiphase Multicomponent Contaminant Transport in Groundwater Systems, presented at the *Fall 1987 Meeting of the American Geophysical Union*, Abstract in *EOS, Transactions, American Geophysical Union, Vol. 68, No. 44.*
- 1984 Falta, R.W., O. Guven, F.J. Molz, and J.G. Melville, An Analysis of Single-Well Tracer Dispersion Tests in Stratified Aquifers, presented at the *Spring 1984 Meeting of the American Geophysical Union*, Abstract in *EOS, Transactions, American Geophysical Union, Vol. 65, No. 16.*

Graduate Student Advisees

- 2024 Joshua Grant, Field study of subsurface thermal energy storage, PhD

2024	Jack Horvath, Laboratory evaluation of borehole thermal energy storage, MS
2024	Caroline Hiott, Modeling seawater intrusion with rising sea-levels, MS
2023	Kayla Bicknell, High temperature subsurface thermal energy storage, MS
2023	Justin Trainor, Solar thermal remediation, MS
2022	Kien Pham, Field determination of matrix diffusion simulation parameters, PhD
2022	Erin Weitzel, non-thesis
2021	Adam Ornelles, Solar powered thermal remediation, MS
2020	Marcus Guarnieri, non-thesis
2019	Wesley Prater, Modeling matrix diffusion at field sites, MS
2018	Thomas Spain, Thermal remediation of mercury contamination, MS
2018	Yoel Gebrai, Hydraulic isolation of contaminant source zones, MS
2018	Brian Hardin, non-thesis.
2017	Noelia Muskus, Modeling contaminant matrix diffusion using a semi-analytical approach, MS
2015	Alexandra-Selene Jarvis, Feasibility of using compressed air storage for energy storage in the southeast, MS
2015	Wenwen Wang, Semi-analytical method for simulating matrix diffusion in clay aquitards, MS
2014	Catherine Ruprecht, Comparison of dissolved and supercritical CO ₂ injection schemes for CO ₂ sequestration, Ph.D.
2014	Zheng, Qi, High temperature aquifer thermal energy storage for electricity production, MS
2014	Jill Branby, non-thesis, MS.
2013	Laura Daniels, Simulation of aerobic degradation of dissolved chlorinated solvents in large groundwater plumes MS.
2011	Kirk Ellison, CO ₂ exolution from saturated brines during depressurization, MS.
2011	Chris Patterson, Nonwetting phase trapping during NAPL transport and CO ₂ sequestration, MS.
2011	Chen, F., Contaminant mass transfer during boiling in fractured rocks, Ph.D.
2009	Liang, H., Probabilistic optimization of groundwater source and plume remediation, Ph.D

- 2008 Tyre, S., Simulation of non-classical groundwater transport using analytical source-plume models, MS
- 2008 Henderson, J., Biodegradation and transport of EDB in groundwater, Ph.D.
- 2007 Hodges, R.A., Injection of Noncondensable Gases for the Pneumatic Control of Shallow Environmental Steam Flood Operations, Ph.D.
- 2006 Richard Mayer, Analysis of EDB contamination at retail gasoline service stations, MS
- 2006 VanAntwerp, D., Numerical simulation of air sparging and steam flooding operations for source zone remediation
- 2005 Liang, H., Modeling Assessment of the Benefit of DNAPL Source Zone Remediation, MS.
- 2004 Bulsara, N., Analysis of underground storage tank sites in South Carolina for EDB contamination, MS.
- 2003 Schweninger, H., Laboratory analysis of cosolvent flooding designs for DNAPL remediation, MS.
- 2002 Fawumi, L., Numerical Simulation of Heavy Oil Recovery by Steam Flooding at the West Coalinga Oil Field, California, MS
- 2001 Melshimer, K.E., In-Situ Measurement of Soil Thermal Conductivity, MS
- 2000 Hornberger, J.P., Laboratory Studies of Cosolvent Flooding for the Removal of DNAPLs, MS
- 2000 Micolet, D., Hydraulic Design of Cosolvent Flooding Systems for NAPL Remediation, MS
- 2000 Ochs, S.O., Predictive Modeling of Field Scale DNAPL Remediation by Steam Injection, MS (Universitaet Stuttgart)
- 1999 Rossabi, J. The Influence of Atmospheric Pressure Variations on Subsurface Soilgas and the Implications for Environmental Characterization and Remediation, Ph.D.
- 1998 Zitsch, K.H., Steam Flooding Simulations of DNAPL Removal from the Subsurface, MS
- 1998 Martin, J.D., Quantitative Analysis of Nonaqueous Phase Liquid Trapping Using Etched Glass Micromodels, MS
- 1998 Roeder, E., Phase Density Modifications for the Remediation of DNAPLs by Cosolvent Flooding Utilizing Separate Phase Mobilization, Ph.D.
- 1997 Price, S.W., Selection of a Cosolvent Flooding Solution for Removal of a Multicomponent LNAPL at Operable Unit One, Hill Air Force Base, Utah, MS
- 1996 Larson, A.G., Numerical Simulation of Field Air Sparging Operations, MS

- 1994 McCray, J.E., Numerical Analyses of Air Sparging for Subsurface Remediation, MS
- 1994 James, A.L., Optimization of Soil Vapor Extraction Well Design, MS
- 1993 Brame, S.E., Development of a Numerical Simulator for the In-Situ Remediation of Dense Non-Aqueous Phase Liquids by Alcohol Flooding, MS

TEACHING

Subsurface Remediation Modeling, Clemson University GEOL/EES 8090. A graduate course on nonisothermal, compositional multiphase flow and transport of organic chemicals in the subsurface with an emphasis on integral finite difference numerical simulation techniques. Taught 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2012, 2013, 2014, 2016, 2017, 2018, 2020, 2021, 2022, 2023, 2024

Groundwater Modeling, Clemson University GEOL/EES 8080. A graduate course on finite difference and integral finite difference methods for simulating groundwater flow and chemical transport. Taught 1993, 1995, 1996, 1998, 2000, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2011, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023

Analytical Methods in Hydrogeology, Clemson University GEOL/EES 810. A graduate course on applied mathematical methods of analysis for solving partial differential equations in hydrogeology. Taught Fall Semester 1992, 1994, 1997, 1999, Spring 2003.

Engineering Geology, Clemson University GEOL 320. An undergraduate course on engineering mechanics and analyses applied to geological problems. Taught Spring Semester 1996, 1997, 2000, 2002

Geoanalysis II, Geoanalysis II Lab, Clemson University GEOL 212, 212L. Undergraduate Geology course in applied mathematics, covering advanced calculus, ordinary differential equations, and Visual Basic computer programming. Taught Spring Semester 2008, 2009

Special Topics in Geology, Clemson University GEOL 100, Seminar series for freshman Geology majors and nonmajors, Fall, 1998.

Hydrogeology Graduate Seminar, Clemson University GEOL 851, Seminar series for graduate Hydrogeology majors, Fall, 1995, Spring 1996, 2002, 2004.

UNIVERSITY AND PUBLIC SERVICE

Committees

Department: Chairman, Tenure and Promotion Committee (2007-2022)
Member, Tenure and Promotion Committee (2003-)

Chairman, Faculty Search Committee (2007)
Chairman, Curriculum Committee (1993-1995)
Chairman, Faculty Search Committee (1996)
Chair, Faculty Search Committee (1995)
Member, Advisory Committee (1996-1999)
Member, Faculty Search Committee (1995-1996)
College: Member, Deans Search Committee (2013)
Member, Deans Advisory Committee (2004-2005)
Member, Curriculum Committee (1993-1995)
Member, By-Laws Committee (1995)
Member, Computer Committee (1996-1999)
University: Grievance Committee (2018-2021)
Faculty Senator (2016-2019)
Member, Search Committee for Vice Provost (1996)

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