Roger Acey is a Professor of Biochemistry at California State University, Long Beach. He has a Ph.D. from Wayne State University and has extensive research in toxicology and pharmacology. One aspect of his research is focused on developing novel technologies for removal and recovery of toxic heavy metals. His group has developed what they refer to as a “heavy metal sponge.” The material is unique in that it selectively removes toxic heavy metal, e.g., lead, from a waste stream, but does not bind biologically essential metals such as sodium or calcium. As such, the sponge is more efficient than traditional ion exchange resins. Dr. Acey has spun off the technology into a company known as MGP Biotechnologies. Thirteen U.S. and international patents have been issued to MGP describing the technology and its applications. Dr. Acey also is working to evaluate the impact of environmental contaminants on neuron development. This project is focused on the effects of phthalates, BPA, and BPA substitutes on stem cell differentiation.

Nick Amini, Ph.D., P.E., is the Chief of Site Cleanup Program at the Santa Ana Regional Water Quality Control Board. In this capacity he is responsible for managing a program with oversight of approximately 130 investigation and remediation projects in parts of Orange, Riverside, and San Bernardino Counties. Prior to joining the State agency, Dr. Amini worked in the private sector as an environmental consultant for over 10 years. With an extensive background in the application of various remediation technologies, he has performed site remedial investigation, feasibility study, engineering evaluation/cost analysis, bench/pilot-scale testing, design, installation, optimization/troubleshooting, and construction quality management of full-scale remedial systems. He functioned at several levels on both commercial and governmental projects and programs with clients such as DoD and NASA. He is currently putting to use the experience gained from the consulting arena in the regulatory world, to oversee the investigation and cleanup cases that are under the jurisdiction of the Santa Ana Regional Board. He has a Bachelor's degree in Chemical Engineering, a Master of Science in Chemistry, and a Doctoral degree in Environmental Engineering from Southern Methodist University. Dr. Amini has had a number of publications in international scientific journals such as Journal of the Chemical Society, Journal of Environmental Engineering, The Journal of Physical Chemistry and The Journal of Chemical Physics. Dr. Amini is a member of the Scientific Advisory Board for the Association for Environmental Health & Sciences (AEHS) Foundation. He is also a registered professional engineer with the State of California.

Alexander Amo Baffour obtained a Bachelor of Art in Information Studies with Psychology from University of Ghana in 2007, and M.B.A. in Finance & Investment from London School of Business and Finance in 2012. He is currently a Doctoral student at Hohai University in China. By nature, he is a resourceful, effective time keeper and honest. He would be described as friendly, enthusiastic, well organized, and a team player. He is highly motivated, possesses effective communication skills, and is adaptable and a very strong social activist in Ghana’s political dispensation.

Jennifer Archuleta is a demonstrated leader in strategic business services and has 12 years of experience applying her core competencies in facilitation, decision and risk analysis, strategic planning, process improvement, change management, and project management. She has facilitated and modeled complex decisions in a variety of markets.

Stephanie Arciva is a junior undergraduate student studying Chemistry at California State University, Long Beach. She is currently a part of the RISE program which will help prepare her for a Ph.D. program in Biomedical Research.

Y. Meriah Arias-Thode is currently a Senior Environmental Microbiologist with the U.S. Navy at the SPAWAR Systems Center, Pacific, located in San Diego, California. As an environmental microbiologist, she has worked on a variety of projects to include determination of toxicity of various sediment amendments to micro and macro benthic estuarine communities, microbial forensics, and more recently, marine microbial fuel cell research projects. She has also served as a consultant at SPAWAR for projects related to far-term chemical and biological defense systems for U.S. soldiers. Due to her varying experience, she serves on the Scientific Advisory Board for the Association of Environmental Health and Science (AEHS) Foundation. She has a B.S. in Biology (magna cum laude) from the University of Texas at San Antonio and a Ph.D. in Marine Biology (Environmental Microbiology) from the University of California San Diego, Scripps Institution of Oceanography. She also served over 22 years in the U.S.
Kent Armstrong has over 35 years of experience working in the environmental industry and has been afforded the chance to participate in a wide variety of environmental investigation, remediation, and management activities. He started as a waste water treatment plant chemist for the LA Sanitation District while attending graduate school; Vertebrate Paleontology, California State University Long Beach. Transferring within the District to become a plant operator while teaching Human Anatomy at CSULB, he was presented with a chance to incorporate his chemistry and biology backgrounds with facility operations and truly learn the workings of the plant. After three years with the District, next were five years as a hazardous waste mobile chemist, analyzing soil and groundwater samples on-site at remediation projects throughout California, Nevada, and Oregon. Next were several years performing RI/FS work for the largest independent landfill company in Southern California, and then a trip east to Connecticut where, for six years, he worked with the CTDOT designing and managing environmental remediation projects for major highway, railroad, and bridge rehabilitation projects throughout the 1990’s. Since then his work experiences have included hazardous waste transportation/disposal brokering and five years with Lowes Home Improvement providing PCB, PHC, and cVOC soil and groundwater management and remediation services at new store construction sites. In 2008 he developed the TerraStryke Products LLC line of biostimulation additives designed to leverage existing site conditions to realize low-impact and safe, cost-effective, and sustainable remediation of groundwater, saturated and vadose soil contaminants.

Ravi Arulanantham has more than 20 years of experience in developing public policies surrounding environmental compliance for land use and water quality issues. As the first staff toxicologist for the California Regional Water Quality Control Boards, he provided expertise and leadership in expanding the application of risk assessment and risk management to the areas of policy development, case review, and staff training. From 1993 to present, he has been the principal instructor for Cal-EPA/SWRRCB-sponsored training courses on risk-based decision making at petroleum-impacted sites. These courses have attracted more than 2,000 regulators, consultants, and responsible parties throughout the state, significantly affecting the movement of consultants and regulators toward accepting risk-based findings as a component of decision making and site closure. Ravi is among the few ASTM-certified national trainers for both the Risk-Based Corrective Action (RBCA) program and the Remediation by Natural Attenuation (RNA) standard and has trained over 1,000 regulators, consultants, and responsible parties in more than 20 states. He has given numerous invited lectures on risk-based decision making to a wide range of audiences and is nationally acknowledged as an expert on this subject. Since joining the private sector in 2002, he has been helping his industry clients find cost-effective business solutions to their environmental liabilities. He is very well known in his field for his abilities to develop and implement investigation, remediation, and risk management strategies for contaminated properties and negotiate risk-based closures with regulatory agencies to obtain No Further Action letters for his clients. He has served as an expert witness for numerous litigation matters ranging from chlorinated solvent releases and indoor air impacts, human exposure to petroleum releases, adequacy of site investigation and remediation conducted to protect human health, classification and disposal of hazardous waste, proper application of cleanup levels, and achieving cleanup levels at contaminated sites. In late 2010, Cal-EPA appointed him to a committee tasked with developing a low-threat petroleum case closure policy. The low-threat policy after going through University of California peer review was adopted and became effective in August 2012. Ravi was primarily responsible for developing the technical justification documents that provided the basis for the low-threat criteria adopted by the state. Ravi Arulanantham was a Fulbright Scholar at the University of California at Berkeley where he received his Master’s and Doctorate in Physiology and Biochemistry in 1988.

Nagaraju Arveti has worked in the field of Environmental Geochemistry involving soils, plants, and groundwater in the mica, barite, and uranium mining areas with a main focus on biogeochemistry. Biogeochemical cycling of elements in fluorine-affected areas of Andhra Pradesh, India has also been undertaken. Dr. Arveti has visited Japan and attended IHP Training Course on Limnology in 1999 at the Institute for Hydrospheric-Atmospheric Sciences, Nagoya University, Japan. Dr. Arveti has received Commonwealth Fellowship twice (during Sep. 2003 to Mar. 2004 and Oct. 2012 to Jan. 2013) and Royal
Society Visiting Fellowship during Oct. 2004 to Jan. 2005, and visited University of Aberdeen, University of London, and University of Birmingham in the United Kingdom. Dr. Arveti has visited Hungary under Indo-Hungarian Cultural and Educational Program during Oct. to Nov. 2008, and has worked on bioremediation with Prof. Ken Killham, who is a leader in this field of science in the UK. Further, Dr. Arveti has visited Germany, USA, China, Italy, and Thailand with regard to various academic assignments. Dr. Arveti has received Research Grants from the University Grants Commission, Council of Scientific and Industrial Research, and Department of Science and Technology, New Delhi, to conduct research at the Sri Venkateswara University, Tirupati, India. The Indo-Italian Project has been completed in collaboration with the Department of Soil Science, University of Florence, Italy, under the bilateral program of DST, India and Italian Ministry, Italy.

Sam Bailey, PE, is a Senior Engineer with Kleinfelder, Inc. in Riverside, California. He has a Bachelor’s degree in Chemical Engineering from University of California, Davis. Sam has over 25 years of experience in environmental consulting, working on a diverse range of sites including Superfund sites, landfills (municipal and hazardous waste), chemical plants, petroleum product tank farms, gas stations, chlorinated solvent spill sites, and many others. He has extensive field experience and is an expert in the design, construction, and operation of most remediation systems targeting soil and groundwater cleanup. He is also an experienced numerical modeler.

Drew Baird has over 15 years’ experience in remediation design and implementation, project and team management, field support services, and environmental consulting. He is currently Senior Geologist at FRx, where he leads the company’s business development efforts and provides technical support on soil and groundwater remediation projects to clients in the U.S. and Canada. Prior to joining FRx, Drew was the East Region Manager at Regenesis, where he was responsible for managing sales and technical support associated with the company’s remediation products in the southeastern U.S. He also led a team of five staff professionals covering 20 states from Louisiana to Maine. In addition, he served as Regenesis’ internal technical leader for remediation of fractured crystalline bedrock. Drew began his career in environmental services as a Geologist for Rogers & Callcott Environmental in Greenville, South Carolina.

David Bardsley has over 32 years of drilling industry experience, 13 of which have been focused on horizontal environmental wells. David has a Bachelor of Science degree in Geology & Geophysics along with a Communications Minor (1984) from the University of Missouri-Rolla. He is a licensed well driller in Texas, Arizona and Louisiana, and holds RG/PG certifications in Texas, Missouri, Louisiana and Tennessee. Mr. Bardsley has authored/co-authored over 20 papers on horizontal environmental drilling methodology and was an early leader in the use of horizontal drilling to solve environmental challenges. He has been directly involved with the design and installation of over 100,000 feet of horizontal remediation wells.

Lila Beckley, PG is a geologist with GSI Environmental, Inc., in Austin, Texas. She has extensive project experience in vapor intrusion studies, environmental site investigation, permitting, and regulatory support. She has served on guidance development workgroups on a variety of topics and is currently a member of the ITRC Petroleum Vapor Intrusion classroom training team. Prior to joining GSI, Ms. Beckley worked in enforcement and remediation programs at the Texas Commission on Environmental Quality in various roles ranging from project to program management.

Barbara Bekins is a Research Hydrologist with the USGS, Water Mission Area, located in Menlo Park, California. She earned a Bachelor’s degree in Mathematics from UCLA and a Ph.D. in Geology from UC Santa Cruz in 1993. She studies the fate and transport of crude oil contaminants in groundwater. These studies are carried out at the USGS long-term study of the oil spill site at Bemidji, Minnesota, for which she serves as Research Coordinator. She is a Fellow of the Geological Society of America and served as 2004 GSA Hydrogeology Division Birdsall-Dreiss Lecturer.

Kurt Berchtold received his Bachelor of Science degree in Civil Engineering from Stanford University. He is a registered civil engineer in the State of California. Since 1981, he has been employed by the California Regional Water Quality Control Board, Santa Ana Region, located in Riverside. From 1988
until 2010, he served as the Board's Assistant Executive Officer, and in June 2010, he was appointed to serve as the Board’s Executive Officer.

**Ravi Bhatia** has over 20 years technical and management experience in areas as diverse as environmental permitting and compliance; regulatory and technical evaluation of industrial processes and operations; brownfields redevelopment, zoning, and land use; and environmental, chemical, petroleum, and nuclear process engineering. Ravi advises a wide array of commercial and industrial clients on integration of environmental process and performance enhancements at the site- and portfolio-level. He is most interested in effective technical strategies aligned with maximizing public, social, and economic policy. He is skilled at identifying liabilities associated with environmental and development matters, and in providing solution strategies that allow clients to focus on improving their balance sheet. His undergraduate and graduate educations in Chemical Engineering are from the University of Washington and Washington State University, respectively. Ravi holds a publically elected office in Los Angeles, where he chairs a neighborhood council Planning, Land Use, and Development advisory committee.

**Frederick W. Blickle**, PE is an Environmental Engineer licensed in nine states. He holds B.S. degrees in Biology and Civil Engineering and an M.S. degree in Environmental Engineering from the University of Alabama. With over 30 years’ experience, he has worked in many facets of the environmental field including groundwater supply, land application and deep well injection of effluent, water reuse, contaminated site investigation and remediation, and building decommissioning and demolition. Mr. Blickle is an expert in the area of site remediation and remedial technologies and has presented seminars and provided expert witness testimony in this area. He is a Principal/Vice President at GHD working from the Emeryville, California office currently.

**Thomas F. Booze**, Ph.D. is a Staff Toxicologist for the State of California’s Department of Toxic Substances Control (DTSC) and is currently serving as one of the two co-leaders of the Interstate Technology & Regulatory Council’s (ITRC) TPH Risk Evaluation at Petroleum Contaminated Sites team. He has also led the development of DTSC’s guidance for petroleum risk assessment guidance. He has over 30 years’ experience in risk assessment and working in the petroleum industry, consulting, and government.

**Roger Brewer** is Senior Environmental Scientist with the Hawai’i Department of Health and has been active in the vapor intrusion arena since the mid-1990s. His environmental experience includes regulatory compliance audits, field investigations, contaminant fate and transport modeling, and human health and ecological risk assessments. His current area of research focuses on the effect of contaminant heterogeneity on the interpretation of sample data and assessment of vapor intrusion risk. He has also worked as an environmental consultant in the U.S., Asia, and South America, and as a senior geologist and environmental risk assessment specialist for the California Environmental Protection Agency. His academic background includes a Ph.D. in Geology.

**Beryl Adormaa Buanya** is an Environmental Science and Engineering Master’s student at Hohai University. She has a B.Sc. in Physician Assistantship, Certificate in Public Health with eight years’ working experience as a community health officer and a support officer for a research center. By nature she is resourceful, an effective time keeper, enthusiastic, well-organized, and a team worker with good communication skills and the ability to work under pressure with or without supervision. These skills and qualities have equipped her in developing a career in health through practical and evidence based medicine in a highly motivated working environment, and she has developed relevant techniques at appropriate levels in the ever-evolving context in which they operate to provide quality health care and a friendly and safe environment. With her partial training in adolescent health services, she was able to form six functional adolescents’ health clubs in her sub-district in a period of two months. She has organized debates and other programs through her leadership skills – she is very good in collating, collecting, writing and analysis of reports, planning and organizing, health education, school health services, screening, home visits, contact tracing, family planning services, national activities, counselling, and physical and environmental health education.

**Nick Buhbe** is an ecologist with more than 20 years of experience, specializing in assessment of aquatic biological resources, ecological risk assessments, water quality studies, sediment testing, preparation of
environmental planning and compliance documents, and wetland-related project work. His wetland work has included ecological community assessments in estuarine and riparian settings, restoration project construction management, and studies related to water quality impairments. He currently serves as President for the Pacific Chapter of the Western Dredging Association (WEDA), and is working with a global team of experts on the Beneficial Use of Dredged Sediments on behalf of CEDA.

Scott Burge, Ph.D., J.D., is President of Burge Environmental, Inc., Tempe, Arizona. Burge Environmental designs, fabricates, and tests monitoring systems for the measurement of environmental contamination (Tc-99, TCE, Cr\text{VI}, Sr-90, and uranium) at remote locations. Additionally, he is President of Burge & Associates, an environmental consulting firm that has performed over 1,000 site assessments and remedial actions (USTs, landfills) in Arizona and adjacent states over the past 30 years, and has performed on over 16 SBIR grants in the field of environmental sensors from the DOD and DOE. In his spare time, he teaches classes on environmental regulations as well as soil/water contamination at Arizona State University.

Daniel Carr is serving as a Principal Emeritus consultant with Sanborn Head & Associates, Inc., a geo-environmental consulting firm. He is a registered professional engineer and geologist with over 35 years of experience. With an M.S. degree from the Groundwater Program in the Department of Civil Engineering at Colorado State University, Dan brings expertise in vadose zone processes which have been applied to many projects related to vapor intrusion. Dan served as the principal investigator on the Endicott NY Groundwater Vapor Project and a consultant/adviser on the DuPont Pompton Lakes NJ project. He is currently leading subsurface characterization work on the ESTCP project charged with demonstrating “Mass Flux Characterization for Vapor Intrusion Potential” (Project ER-201503). Dan can be reached at (207) 415-1550.

Rich Cartwright, PE, CHMM (IHMM Fellow), CPIM (APICS Fellow), is a Hazardous Materials Management Trainer and Resident Site Engineer for complex environmental remediation and green construction projects. He has an M.B.A. in Operations Management from Indiana University, a B.E.S. in Chemical Engineering from Brigham Young University, and a Professional Certificate in Project Management from the State University of New York at Buffalo. Mr. Cartwright is an internationally-recognized motivational platform speaker and blogger on Soil & Groundwater Remediation, Hazardous Materials Management, Professional Networking, and Sustainable Career Development topics. He is a Past President of the Alliance of Hazardous Materials Professionals. He is a recipient of the prestigious Pete Cook Founders Award for distinguished lifetime leadership, dedicated service, and professional achievement within the hazardous materials management profession. He is a Fellow of the Institute of Hazardous Materials Management. Mr. Cartwright is the author of “Hazardous Materials Management 365 Days a Year.”

Jennifer Castillo is a Master’s student studying Chemistry at California State University, Long Beach. Her research thesis project is focused on the kinetics of radical species and disinfection byproducts in the advanced oxidation process. Alongside her academic studies and research projects, she is also a teaching assistant for general chemistry where she is responsible for running multiple undergraduate laboratory courses.

Randy Chapman is an Environmental Manager for the Petroleum Remediation Program at the Virginia Department of Environmental Quality (DEQ) Northern Regional Office in Woodbridge, Virginia. Randy has worked in the Tanks and Remediation Section since 1993. He currently oversees release investigations, environmental assessments, corrective actions, and closure of petroleum impacted sites as well as the compliance and enforcement activities associated with regulated petroleum UST and AST inspections. Randy has been actively involved in the development and implementation of numerous program guidance, including the issuance of the Virginia DEQ 2012 Case Closure Evaluation of Sites with Free Product. He has presented at numerous technical conferences and since 2012 has been with ITRC as a member of the ITRC Petroleum Vapor Intrusion (PVI) team. Currently, Randy is an instructor for the ITRC LNAPL classroom training and is co-Team Lead of the rewrite and update of the existing ITRC LNAPL guidance. Randy earned a Bachelor’s degree in Geology from Clemson University in Clemson, South Carolina.
Eric Cherry is a Principal Scientist with Hexagon Environmental Solutions LLC in Columbus, Ohio. He has worked as an environmental consultant for the last 28 years. Mr. Cherry has extensive experience with site characterization, environmental forensics, and risk assessment for a variety of industrial sites including manufactured gas plants, coke facilities, foundries, and petroleum hydrocarbon and solvent sites, and has provided senior level support for emergency response incidents of national significance. He has been active in environmental forensics and exploratory data analysis since the late 1990s, focusing on multivariate statistical models. Mr. Cherry has provided expert testimony or technical evaluation for contaminant characterization issues, waste management decisions, and hydrogeological impacts. In addition to consulting, he has served on various technical committees for regulatory rule writing and environmental policy development, and has taught environmental chemistry. Mr. Cherry received his M.S. in Geology and Geophysics from Ohio State University during 1984, and has extensive post-graduate academic training in Public Health and Epidemiology through the Ohio State University College of Medicine.

Julie Christiansen is a Senior Environmental Scientist with Global Remediation Solutions (GRS) based out of Longview, Washington. At GRS, she serves as co-lead of Research and Development, provides engineering support and design of Electrical Resistance Heating (ERH) systems, oversees field installations for multiple projects, and has co-operated one of the largest scale ERH pilot studies in the country. Julie’s current research is on brackish environments and the impacts on ERH, having previously presented on the constraints of evaporative cooling in the vadose zone during ERH operations. She received her B.S. in Earth Science and Environmental Conservation from Northern Michigan University and prides herself on being a Yooper.

Gary Cronk is the President of JAG Consulting Group, Inc., a consulting and remediation firm based in Santa Ana, California, that specializes in providing services for the design and implementation of in-situ chemical oxidation, enhanced bioremediation, chemical reduction, and other in-situ technologies. Mr. Cronk has experience in the design and implementation of over 90 injection projects in California and the Western U.S. To date, Mr. Cronk has been successful in attaining No Further Action requirements from regulatory agencies for 12 sites using in-situ injection technology. Mr. Cronk is a California Registered Professional Engineer, a California Certified Hazardous Substances Removal and Remedial Actions Contractor (A-HAZ), a Class A General Engineering Contractor, and a Certified Hazardous Materials Manager (CHMM). He is a frequent speaker at conferences and seminars on in-situ injection technologies.

Darren Croteau is a Principal Geologist with Terraphase Engineering and a California Professional Geologist and has over 15 years of consulting experience working on soil, groundwater, and indoor air quality investigations, with a particular emphasis on site characterization and remediation. Mr. Croteau’s work often involves characterization of petroleum hydrocarbons using forensic techniques and multi-media investigations of commercial and industrial facilities with chlorinated solvent, dioxins and furans, and metals impacts. Mr. Croteau’s remediation work has included in-situ thermal remediation of chlorinated solvents in soil and groundwater, aeration and biodegradation of petroleum hydrocarbon-impacted soil, in-situ injection for petroleum hydrocarbons in soil and groundwater, and excavation of dioxin and furan impacts. Mr. Croteau manages projects for clients in the utilities, forest products, manufacturing, and petroleum industries, as well as private developers and land owners.

Robert Crowder is a practicing attorney with Tressler LLP’s Los Angeles, California office. Prior to law school, he sailed for six years as a United States Coast Guard licensed deck officer aboard oceangoing tank vessels. Mr. Crowder obtained a Law degree in 1998 from Tulane Law School, where he also obtained a Certificate of Specialization in Environmental Law. He has a Bachelor of Science degree from SUNY Maritime College in Marine Transportation with a concentration in Economics (rec. 1981) and a Master of Science in Maritime Management from Maine Maritime Academy (rec. 1988). During the time period between his seagoing and legal careers, Mr. Crowder worked shore-side for Exxon Shipping Company supporting the company's oceangoing tanker fleet and managing terminal and pipeline operations for Exxon Company, U.S.A.’s San Francisco Bay-Area petroleum refinery located in Benicia, California. Mr. Crowder was then Process Section Supervisor for Environmental Units including Sulfur Gas, Fuel Gas, Tail Gas and Waste Water Treatment Units at Exxon's Benicia, California refinery in 1994
and 1995. He has practiced law in Los Angeles from 1998 to the present and handled numerous matters in California, across the United States, and abroad.

**Rob Danckert** has served as Northeast Regional Business Development Manager for Cascade Drilling, LP since 2010. Prior to his time at Cascade Drilling, LP, Mr. Danckert was employed for ten years in the environmental consulting field, specializing in subsurface contaminant investigations and remediation system design and construction. Mr. Danckert graduated from the University of Vermont with a B.S. in Environmental Science/Geology and is licensed as a Professional Geologist in the state of New Hampshire. He is an occasional marathoner, avid “Old Boys” rugby player, and volunteer firefighter in Brookline, New Hampshire.

**Helen Dawson**, Ph.D., is a senior consultant for Geosyntec Consultants, Inc., in the firm’s Washington D.C. Metro office. She has more than 30 years of experience in hydrogeology with a focus on contaminant transport and fate. She is a recognized expert in vapor intrusion assessment, having served as a lead in developing EPA’s 2002 draft Vapor Intrusion Guidance as well as several EPA technical documents to support finalization of EPA’s Vapor Intrusion Guidance in 2015. She has a Ph.D. in Civil/Environmental Engineering from Stanford University, an M.S. in Geochemistry from the Colorado School of Mines, and a B.S. in Geology from New Hampshire.

**Bridgette DeShields** has over 30 years of experience and is a specialist in regulatory strategy, site investigation, risk assessment, site remediation, sediment and water quality management, and environmental toxicology. She has managed programs ranging from large site investigations to screening and quantitative ecological and human health risk assessments. Ms. DeShields has worked on both State and Federal led sites in California and elsewhere. She has participated in efforts to develop screening levels for petroleum hydrocarbons and other constituents, protective of both human and ecological receptors. Her expertise includes exposure and bioaccumulation/bioavailability studies, toxicity value development, and developing site closure strategies. Ms. DeShields has a B.S. in Biochemistry from UCDavis and an M.S. in Environmental Management for the University of San Francisco.

**Tam M. Doduc** is the Professional Civil Engineer on the five-member State Water Resources Control Board, which has the joint authority of water right allocation and water quality protection in California. Her focus areas include ocean protection, water reuse, climate change, research and monitoring, groundwater protection, and organizational performance measurement and strategic planning. She previously served as Deputy Secretary at the California Environmental Protection Agency, as a staff engineer at the Air Resources Board and the State Water Board, and as an environmental consultant. Her professional experience includes working on air quality, environmental justice, scientific peer review, hazardous substances control, health risk assessment, and environmental technology certification projects. Tam holds a B.S. in Bioengineering and M.B.A. from the University of California at Berkeley, and an M.S. in Civil Engineering from the California State University in Sacramento.

**Seth Doe-Puplampu** is currently a graduate student at the faculty of Environmental Management and Technology of Prince of Songkla University, Phuket-campus, Thailand. His main research field is detection of hazardous pollutants (metals and ions) in water by chemical colorimetry technique. He received his B.Sc. in Materials Engineering from Kwame Nkrumah University of Science and Technology in Ghana in July 2013. He worked on the possible use of ground steel slag as a partial replacement of cement during his undergraduate studies.

**Lydia Dorrance** is a Project Scientist at Roux Associates in the Oakland, California office. Her background in environmental chemistry and expertise in reconstructing historical deposition in sedimentary archives has resulted in her having a key role on projects involving complex geochemical issues. Dr. Dorrance is especially adept at implementation and analysis of geochemical forensic techniques.

**Michael Dourson** is the Director of the Toxicology Excellence for Risk Assessment (TERA) Center in the Department of Environmental Health, College of Medicine, University of Cincinnati. The TERA Center is dedicated to the best use of toxicity data in risk assessment. TERA develops partnerships among government, industry, and other interested groups to address risk assessments of high visibility, such as
formaldehyde, perchlorate, chloroform, and soluble nickel, and cooperative ventures such as the Voluntary Children’s Chemical Exposure Program (VCCEP), the International Toxicity Estimates for Risk (ITER) database (available at the National Library of Medicine’s ToxNet), and the Alliance for Risk Assessment (ARA). The TERA Center was an independent nonprofit prior to becoming a part of the University of Cincinnati in 2015. Before founding TERA in 1995, Dr. Dourson held leadership roles in the U.S. Environmental Protection Agency as chair of US EPA’s Reference Dose (RfD) Work Group, charter member of the US EPA’s Risk Assessment Forum, and chief of the group that helped create the Integrated Risk Information System (IRIS). Dr. Dourson received his Ph.D. in Toxicology from the University of Cincinnati. He is a Diplomate of the American Board of Toxicology and a Fellow of the Academy of Toxicological Sciences and Society for Risk Analysis. Dr. Dourson has served on or chaired numerous expert panels, including peer review panels for US EPA IRIS assessments, US EPA’s Risk Assessment Forum, TERA’s International Toxicity Estimates for Risk (ITER) independent peer reviews and consultations, FDA’s Science Board Subcommittee on Toxicology, the NSF International’s Health Advisory Board, and SOT’s harmonization of cancer and non-cancer risk assessment. He served as Secretary for the Society for Risk Analysis (SRA) and has held leadership roles in specialty sections of SRA and SOT. He is currently on the editorial board of two journals. Dr. Dourson has published more than 100 papers on risk assessment methods, has co-authored over 100 government risk assessment documents, and has made over 100 invited presentations.

Brad Elkins leads the technical sales and support department at EOS Remediation based in Raleigh, North Carolina. He specializes in the application of bioremediation strategies to treat hazardous compounds in soil and groundwater. He earned a Master’s degree in Geology from East Carolina University and is a registered Professional Geologist in North Carolina.

Mauricio Escudey has been Vice Rector of Research and Development at the Universidad de Santiago de Chile (USACH) and President of the Science, Technology and Innovation Committee at the Rectors Council of Chilean Universities (2011). He is a distinguished and well published international scientist with a Ph.D. in Chemistry, with specialization in soil chemistry, soil pollution, surface physical chemistry, and synthesis and characterization of nanoparticles. He held a postdoctoral position at University of California Riverside being a frequently visiting professor at the Department of Soil and Environmental Sciences. He is an expert in environmental impacts and has worked extensively on issues related to copper mining. He currently participates in the Environmental Area in the Center for the Development of Nanoscience and Nanotechnology at USACH.

Jim Finegan, Ph.D., PG, CHG, is a Principal Hydrogeologist with Kleinfelder, Inc. in Riverside, California, and he leads Kleinfelder’s modeling practice. He has a Bachelor’s degree in Geology from Occidental College (Los Angeles) and a Ph.D. in Hydrogeology from the University of Melbourne (Australia), where he studied flow and transport in fractured rocks. Jim has over 25 years of experience in environmental consulting, working on a diverse range of sites including Superfund sites, landfills (municipal and hazardous waste), chemical plants, natural gas transfer and compressor stations, petroleum product tank farms, gas stations, and many others. He has also worked as a laboratory analyst, testing water and soil samples for organic and inorganic analytes. He has extensive field experience and is an expert in most field techniques for groundwater investigation and sampling. He provides expert testimony in hydrogeology (litigation support) and is an experienced numerical modeler.

Michael Foster is the Director for Kleinfelder's Contaminated Lands Service Line, including environmental site assessment, remediation, hydrogeology, and environmental data management services worldwide. He has a Ph.D. in Hydrogeology from the University of Minnesota, a Master’s degree in Geohydrology from Rhodes University in South Africa, and a Bachelor’s degree in Engineering Geology and Geotechnics from Portsmouth University in the United Kingdom. Dr. Foster has over 30 years of experience in the management of large environmental investigations. He is an expert in achieving CERCLA, RCRA, and petroleum site closure and assessment of property environmental liabilities, and is skilled in the application of new technologies to hydrogeologic investigation and the integration of geology, hydrogeology, hydrochemistry, and geophysics for site characterization.

John Freim is the President and founder of OnMaterials and has a B.S. in Chemical Engineering from the University of Illinois and a Ph.D. from the University of California at San Diego. For over 15 years, Dr.
Freim has researched, developed, and implemented materials and processes to accomplish the in-situ remediation of contaminated groundwater, specializing in the synthesis and processing of nanoparticles. He has served as the Principal Investigator for over 15 federally funded research programs, in addition to supplying materials used for the in-situ remediation of more than 250 remediation projects.

Aaron Friedrich has over 13 years of experience with environmental programs, project management, and technical expertise with a strong emphasis in due diligence, soil and groundwater investigations, site remediation strategies, and vapor intrusion (VI) pathway assessments and mitigation. Mr. Friedrich is a national technical resource for complex site investigation and remediation at industrial and commercial properties impacted by chlorinated and petroleum hydrocarbons and metals. He has extensive experience in the development of conceptual site models (CSMs) to facilitate investigation activities, remediation decisions, and data gap analysis. He has significant experience under the U.S. EPA Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) programs, as well as the Indiana Department of Environmental Management (IDEM) and the various environmental programs therein such as the Voluntary Remediation Program (VRP), RCRA, and State Cleanup. Mr. Friedrich is a technical resource for complex site investigation and remediation at industrial and commercial properties impacted by chlorinated and petroleum hydrocarbons and metals. He has extensive experience in the development of conceptual site models (CSMs) to facilitate investigation activities, remediation decisions, and data gap analysis. He has significant experience under the U.S. EPA Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) programs, as well as the Indiana Department of Environmental Management (IDEM) and the various environmental programs therein such as the Voluntary Remediation Program (VRP), RCRA, and State Cleanup. Mr. Friedrich is a national technical resource within Environmental Resources Management (ERM) for assessing and managing residential and industrial VI investigation and mitigation activities. Mr. Friedrich has extensive experience using U.S. EPA's recommended multiple lines of evidence (MLE) approach for evaluating VI, including the collection and interpretation of exterior soil gas, sub-slab soil gas, and indoor air sampling analytical data. He has managed the installation of numerous residential sub-slab depressurization (SSD) systems as well as multiple large-scale commercial/industrial SSD systems. He has been involved in high profile VI evaluation and mitigation cases where highly sensitive populations were involved, which include church buildings, daycares, and senior living communities. Mr. Friedrich is a Licensed Professional Geologist (LPG) in the States of Indiana and Arkansas. He has a Bachelor's degree and a Master's degree in Geological Sciences from Hanover College (Hanover, Indiana) and Wright State University (Dayton, Ohio), respectively. Currently, Mr. Friedrich serves as President for the Midwestern States Environmental Consultants Association (MSECA).

Kimberly Gettmann received her Ph.D. in Comparative Pathology from the University of California, Davis where her research focused on respiratory cell biology, toxicology, and drug metabolism. She completed a two-year Postdoctoral Fellowship in the Respiratory Immunology and Asthma Program at Lovelace Respiratory Research Institute in Albuquerque, New Mexico. Following her Postdoc, she worked as an Associate Research Scientist at Lovelace Respiratory Research Institute where her research focused on defining developmental immune responses during exposure to common viruses and environmental pollutants. Since 2009, Dr. Gettmann has been a Staff Toxicologist with Cal/EPA Department of Toxic Substances Control, Human and Ecological Risk Office (HERO), working on human health risk assessments and hazards assessments on complicated Federal Facility sites. Most recently she is the HERO lead and expert for Federal Facility sites sampling for perfluorinated compounds. Dr. Gettmann is a key member of several DTSC teams working on vapor intrusion and drafting toxicity criteria regulation. While at DTSC, she has co-drafted several of the Human Health Risk Assessment Note guidance documents, been lead author of HERO's Quarterly Updates, and has been the Department's expert for the chlorinated solvents trichloroethylene and tetrachloroethylene. She is the lead facilitator for the course Risk and Decision Making: A Workshop in Risk Assessment, Risk Management, and Risk Communication, and has taught the course to over 150 DTSC and California Regional Water Board employees. Dr. Gettmann routinely reviews submitted manuscripts for the journals Toxicological Sciences and Respiration. Additionally, she has continued to contribute to the toxicology field by submitting abstracts for presentation at the Annual Society of Toxicology Conference on topics such as lead, trichloroethylene, and most recently on perfluorinated compounds, where the poster focused on comparison of current screening levels to those derived by DTSC to assess noncancer hazard.

David Gillay is a partner in the Indianapolis office of Barnes & Thornburg. He heads the Remediation, Redevelopment, and Environmental Transactional Practice Groups and provides environmental counseling in connection with assessing environmentally challenged properties. Over the last 15 years, David has focused on the legal, regulatory, and technical impacts and implications related to the vapor intrusion pathway and potential long-term stewardship obligations related to environmentally challenged
properties. He also represents an influential multi-state environmental consultants’ association and works closely with leading technical experts on a wide array of environmental matters, including rapidly evolving vapor intrusion guidance and changes to toxicity for TCE, PCE, and other contaminants. Prior to joining Barnes & Thornburg, he obtained an advanced Environmental Engineering degree and practiced as an environmental consultant on various projects across the country. David can be reached at (317) 231-7474 or dgillay@btlaw.com.

Jamie Gleason is a junior undergraduate student majoring in Biochemistry at California State University Long Beach. Her research interests are based in understanding the radical chemistry occurring in advanced oxidation process treatment of wastewater for direct potable reuse. Her research is being performed under the Maximizing Access to Research Careers U*STAR program at this institution, and her matriculation goal is to obtain her Ph.D. in Biochemistry.

Ryan Gray is a Senior Geologist with over 10 years of experience with scoping, implementation, and management of environmental projects related to inactive/closed municipal solid waste landfills and burn sites. Since 2009, he has been extensively involved in water resource work for traditional and linear construction projects for utility sector clients. Work has included water resource evaluations to determine availability and feasibility of obtaining potable, raw, recycled, and/or de-mineralized water sources for various construction activities in San Diego, Orange, Imperial, and San Luis Obispo County. Additionally, for remote project locations, he has performed investigations to evaluate availability and impacts of using groundwater for construction purposes. Experience specifically related to recycled water work includes preparation of modified Title 22 Engineering Reports, facilitation of enrollment into Regional Water Quality Control Board Waivers for recycled water use, development and implementation of project-specific monitoring and reporting programs, and acquisition and management of recycled water for construction uses.

Kevin W. Green, P.G., is a Professional Geologist in the State of California, and has been with SCS Engineers for 29 years. He has conducted hundreds of Phase I Environmental Site Assessments; conducted investigations at landfills; designed and implemented comprehensive geologic and hydrologic site characterizations, groundwater monitoring systems, and recovery programs; and evaluated, developed, and implemented on- and off-site remedial alternatives for soil, soil vapor, and groundwater contamination. Mr. Green is knowledgeable about health and safety requirements; has coordinated projects with numerous regulatory agencies, local governments, lenders, buyers, and sellers; provided litigation support and served as an expert witness; and is familiar with a wide range of investigative and remedial methods for petroleum hydrocarbons, solvents, metals, and pesticides in soil, soil vapor, and/or groundwater. As a Vice President and Project Director, he currently serves as the Environmental Services Leader for the Long Beach and Las Vegas offices of SCS.

Jing Gu graduated from Tulane University and is currently an Assistant Professor at San Diego State University. Jing is an inorganic chemist in renewable energy research. Her areas of interest include collecting and storing solar energy within chemical bonds by forming fuels such as hydrogen and alcohols (solar fuels). This approach is similar to that of the natural photosynthetic process and thus has been dubbed “artificial photosynthesis.” The ultimate goal of these efforts is to develop a standalone photoelectrochemical cell in which water reduction and oxidation reactions occur efficiently under photo-induced bias (ideally one sun), precluding the introduction of external electricity. She is presently researching combing the photoelectrochemical system with the biomass system, which is a more benign hybridized system for efficiently mimic the photosynthesis.

Yuanming Guo is a Research Assistant Professor at Arizona State University in Environmental Engineering. Dr. Guo has worked on vapor intrusion (VI) for over five years. Currently, his work includes an ESTCP project to develop VI diagnostic tools as well as other contaminant fate and transport related researches.

Angela Haar is an analytical chemist with over 15 years’ experience measuring volatile organic compounds (VOCs) in the environment. She earned her Ph.D. in Chemistry at the University of California, Irvine in 2007. After seven years as a researcher at the Max Planck Institute for Chemistry in Mainz, Germany, she joined Jones Environmental as a chemist, where most of her work focuses on soil and soil
gas investigations. She has published 30 papers in peer-reviewed scientific journals and has presented over 40 conference and workshop talks at international meetings on environmental science and chemistry.

**Megan Hamilton** is the Director of Vapor Intrusion and Risk Assessment for the Environmental Forensic Investigations, Inc. (EnviroForensics) team and has over 18 years of experience in environmental regulatory oversight and consulting. She develops, helps implement, and oversees the vapor intrusion investigations and mitigation for all of EnviroForensics’s projects. She is also the main contact for risk communication issues and community outreach development. Her diversified professional experience includes research, policy development, technical writing, public outreach, vapor intrusion investigation and remediation, data analysis and interpretation, human health risk assessment, and conceptual site model analysis. Ms. Hamilton served as the coordinator and team leader for the Indiana Department of Environmental Management’s Vapor Intrusion Workgroup for six years and is the principal author of the current Indiana Vapor Intrusion Guidance. Ms. Hamilton has presented at several National Conferences, is a member of the National VI Science Advisory Committee, and currently serves on the Board of Directors for the Midwestern States Environmental Consultants Association. Ms. Hamilton can be reached at (317) 972-7870.

**Valerie Hanley** is a Staff Toxicologist at the California Department of Toxic Substances Control (DTSC). Along with being the lead of the Arsenic Bioavailability Grant, she evaluates human health risk assessments for sites throughout California. She is the author of a new guidance document for DTSC (Human Health Risk Assessment Note 6) on evaluating and applying arsenic bioavailability for use in human health risk assessments. She is also a contributing author to an upcoming ITRC guidance document on the same topic. Dr. Hanley has a Bachelor's degree in Molecular, Cellular, and Developmental Biology from the University of California Santa Cruz and a Ph.D. in Comparative Pathology from UC Davis, and she completed a Postdoctoral Fellowship in Respiratory Toxicology at UC Davis.

**David Harn** is a Senior Environmental Quality Analyst with the Michigan Department of Environmental Quality's (MDEQ's) Remediation and Redevelopment Division (RRD). Mr. Harn oversees private party and state-funded cleanup/risk management activities at sites of contamination in southwest Michigan. He also serves as a member of the RRD's Vapor Intrusion Technical and Program Support Team and provides guidance to private party and other MDEQ staff related to vapor intrusion issues across the State. Currently, Mr. Harn is involved with the Interstate Technology and Regulatory Council's Light Non-aqueous Phase Liquid (LNAPL) Update Team. Prior to working with the MDEQ, Mr. Harn was a consultant working throughout Michigan and Ohio with private parties and state and federal agencies.

**Blayne Hartman** is a nationally recognized expert on soil vapor sampling, soil vapor analysis, and vapor intrusion. Dr. Hartman has provided training on soil gas methods and vapor intrusion to State regulatory agencies in over 30 states, many of the EPA regions, ASTSWMO, Australia, Brazil, Israel, and countless stakeholder groups and consultants. He was an instructor in previous training courses given by EPA- OUST, ITRC, API, and ASTM.

**Jennifer L. Hernandez** leads the West Coast Land Use and Environment Practice Group. She divides her time between the San Francisco and Los Angeles offices, and works on projects in Northern and Southern California as well as the Central Valley. She has achieved national prominence in her work on brownfields redevelopment, wetlands and endangered species, as well as the California Environmental Quality Act (CEQA). She represents a broad variety of private, nonprofit and public sector clients, including real estate developers, public agencies and operating companies in numerous industries. Ms. Hernandez serves on the firm’s Directors Committee and was the first West Coast lawyer and first Latina awarded the firm’s highest honor for her professional, pro bono and community achievements. Ms. Hernandez chairs a conference on Climate Change Law in California and has written and spoken extensively on major California climate change laws (including AB 32, SB 375 and SB 97) as well as emerging climate change regulations and guidance documents. Her climate change practice includes integrating climate change requirements into the environmental analyses (relating to greenhouse gas emissions as well as water supply, flood and fire risk, and other topical areas) required by the CEQA for new and modified projects and plans. She also advises clients on legislative and regulatory proceedings.
pending in Sacramento, in various regional air districts, and in Climate Action Plans and other land use
policies being developed by cities and counties. Ms. Hernandez has achieved a "Band 1" ranking from
Chambers USA in the fields of environmental and zoning/land use law, and was recognized as the San
Francisco Bay Area's top environmental law litigator in 2015 by Best Lawyers. She has written three
books and more than 40 articles on environmental and land use law. She received several professional
awards, including a California Lawyer of the Year award for a land use and conservation agreement
between her client (the state's largest private landowner) and several major environmental groups
including the Sierra Club and Natural Resources Defense Council. She has taught land use and
environmental law for the University of California and Stanford Law School and frequently speaks for
client and lawyer professional associations and continuing education seminars. She received her J.D.
from Stanford Law School and B.A. from Harvard University with honors. Ms. Hernandez is a fourth
generation Californian. She was raised in Pittsburg, California, where her father and both grandfathers
spent their careers as steelworkers with U.S. Steel. She lives with her husband and son in the San
Francisco Bay area.

Ian Hers, Ph.D., P.E., is a senior consultant and Principal of Golder Associates located in Vancouver,
B.C., Canada, with 26 years professional experience, and is the global vapor practice leader for Golder
Associates. Much of his work over the past two decades has focused on the evaluation of soil vapor fate
and transport, vadose zone processes, and the prediction, measurement, and mitigation of soil vapor
intrusion into buildings. He is highly familiar with soil gas and indoor air characterization techniques,
appropriate methods to obtain high quality, defensible data, and regulatory guidance and analytical and
numerical models for this pathway. He has developed guidance for numerous regulatory agencies
including U.S. EPA, Health Canada, UK Environmental Agency, and several provinces and states in
Canada and the U.S. He is the principal investigator for several current or recently completed applied
research projects for the American Petroleum Institute, Shell Global, Health Canada, Ontario MoE,
and Electric Power Research Institute. Dr. Hers holds a Ph.D. in Civil Engineering (University of British
Columbia), is on the Board of Directors of the Science Advisory Board for Contaminated Sites, and is a
member of the Contaminated Sites Approved Professionals in British Columbia.

Brian Hitchens, PG, CHG, is a Principal Hydrogeologist with Geosyntec Consultants in San Diego,
California. Brian has been with Geosyntec for the past 17 years and currently heads Geosyntec's
remediation group in San Diego. Brian received his Bachelor of Arts degree in Geology from the College
of Wooster in 1997 and a Master of Science degree in Structural Geology from the University of Wyoming
in 1999. His primary focus has been on in-situ remediation of VOCs and metals, sediment assessment
and remediation, polychlorinated biphenyl (PCB) forensics, and litigation support.

Chase Holton, Ph.D., is an Environmental Engineer with CH2M in Denver, Colorado. He specializes in
the assessment and mitigation of vapor intrusion (VI) and human health risk assessment. Prior to joining
CH2M in June 2015, Chase was a graduate research assistant and student at Arizona State University
working with Dr. Paul C. Johnson on a series of long-term VI monitoring studies at a house in Utah (Sun
Devil Manor). This work included assessment of conventional indoor air sampling schemes and
evaluation of controlled pressure methods for assessing the vapor intrusion pathway and resulted in
several prominent publications. Chase is currently involved with a number of ongoing VI research projects
for USEPA, DoD, and others.

Erika Houtz is a Project Engineer and PFAS Analytical Lead at Arcadis. She received her Ph.D. from the
University of California, Berkeley in 2013 in Environmental Engineering. Dr. Houtz has eight years of
experience analyzing poly- and perfluoroalkyl substances (PFASs) and characterizing their fate in the
environment. Erika developed the total oxidizable precursor (TOP) assay as a way of measuring difficult-
to-detect PFAS compounds.

Susan Hubbard is the Associate Lab Director for Earth & Environmental Sciences at Berkeley
Laboratory, where she leads a premier group of ~500 staff and a research portfolio in climate and
ecosystem science, environmental and biological system science, and subsurface energy geosciences.
Susan is also an Adjunct Professor at UC Berkeley in the Department of Environmental Science, Policy
and Management. She earned her Ph.D. in Civil and Environmental Engineering at UC Berkeley, and
before joining Berkeley Lab, she was a geologist at the US Geological Survey and a geophysicist in the
oil and gas industry. Susan’s research focuses on quantifying how terrestrial environments function, with a particular emphasis on how hydrological, geochemical, and biological processes interact to govern larger scale system behavior. She has made significant contributions through developing and using geophysical approaches to quantify multi-scale terrestrial system functioning, leading to new insights relevant to contaminant remediation, carbon cycling, water resources, precision agriculture, and subsurface energy systems. She has published over 100 papers on these topics. Dr. Hubbard is active in the scientific community and has served on many advisory boards and editorial boards, including *JGR-Biosciences*, *Water Resources Research*, *Vadose Zone Journal*, and the *Journal of Hydrology*. Dr. Hubbard has been honored by the scientific community with several awards. She is a recipient of the Society of Exploration Geophysicists Frank Frischknecht Award and the Hal Mooney Award, both for leadership and innovation in near-surface geophysics. Susan was the distinguished hydrogeology Birdsall Dreiss Distinguished Lecturer in 2010. She is a Distinguished Alumni of UC Berkeley and a Fellow of the Geological Society of America.

**Steve Jones** is a qualified Analytical Chemist with over 45 years of analytical chemistry experience. Since 1984 he has been active in the environmental chemistry field. Over the past 45 years, he has testified several hundred times in court and given deposition as an expert in several states. Because of his forensic background, his expertise is widely used by environmental consultants, attorneys, and engineering firms. Throughout his career, Dr. Jones has been active both in the laboratory and in laboratory management. He has spent several years as the Manager/Technical Director of several large and medium environmental testing laboratories and does extensive data auditing and review of other laboratories’ reports. He is well versed and specializes in oil field operations, fuel hydrocarbon identification, and the associated testing procedures that accompany these activities. He has spent more than 38 years as a bench chemist and is well versed in GC/MS, GC, IR, AA, ICP, and Wet Chemistry methods as well as extraction techniques. Currently, Dr. Jones manages his own analytical testing firm which provides consultation, lectures, fuel fingerprinting, simulated distillation, fuel aging, and many other chemistry related services. He has also headed the building, setup, and operation of four analytical testing laboratories. For the past 31 years, he has served as a reference for lab personnel and clients who have questions about testing procedures related to environmental and analytical chemistry areas. Aside from managing his analytical testing firm, Dr. Jones gives "brown bag seminars" and has taught "Sampling and Analytical Methods for the Characterization of Hazardous Waste" and "Organic Chemistry of Hazardous Waste" at the University of California's Extension Service in Irvine, California. Dr. Jones has given numerous presentations related to the environmental testing field and has expertise with most EPA methods including soil gas methodologies and applications.

**Parisa Jourabchi** is an Environmental Scientist with Golder Associates working in the site investigation and remediation group since 2010. Parisa has over 10 years of experience in the use of numerical models in environmental geochemistry including fate and transport applications. She has applied models to soil vapor simulations for a variety of petroleum hydrocarbon contaminated sites applications. She is also involved in developing and using models to quantify natural source zone depletion rates.

**Sadia Kabir** is a Ph.D. candidate in the Department of Chemical and Biological Engineering at the University of New Mexico. In 2013, she received her Master’s in Chemical Engineering from UNM while working on characterizing the structure-property relationships of nitrogen-functionalized nanomaterials using a synergistic combination of computational and spectroscopic techniques. Currently, Sadia's research is primarily focused on developing and integrating hierarchically structured nanocomposite materials for energy conversion; she has nine peer-reviewed journal publications in the field. Sadia is also involved in several energy-conversion related projects in collaboration with Los Alamos National Laboratory, Daihatsu, and the University of Utah.

**Allan Kanner** is the founding member of Kanner & Whiteley, L.L.C. He received his B.A. from the University of Pennsylvania and his J.D. from Harvard University. Upon graduation from law school, Mr. Kanner clerked for the late Judge Robert S. Vance of the United States Court of Appeals for the Fifth Circuit. Mr. Kanner has had a distinguished 36-year career representing individuals, businesses, and governmental entities in hundreds of complex, multi-district, and high profile cases in both state and federal courts, starting with In re: Three Mile Island Litig. and In re: Louisville Sewer Explosions Litig. He
has won numerous jury verdicts, many of which have established important precedents for other litigants or spurred transformative legislative or regulatory action; has reached multi-million dollar settlements; and has been asked by courts and/or co-counsel to serve in various leadership roles in each. Mr. Kanner represented the State of Louisiana in the Deepwater Horizon oil spill litigation, as well as the state of New Jersey against ExxonMobil in a major natural resource damages case. Mr. Kanner has lectured and written extensively on all aspects of federal litigation and trial practice, Natural Resource Damage Assessments, and Toxic Torts. He has taught law courses at Tulane Law School, Duke University, Yale University, and the University of Texas, and authored *Environmental and Toxic Tort Trials* (LexisNexis) (2d ed.).

**Travis Kegel** is a biologist at Environmental Intelligence (EI) with over a decade of experience in the environmental consulting field with a broad-based scientific and regulatory background. His experience includes numerous biological resource assessments, constraints analyses, focused protocol surveys pursuant to the U.S. Fish and Wildlife Service, and various Natural Community Conservation Planning / Habitat Conservation Plans (NCCPs/HCPs). Much of his experience is located in California’s wetland and riparian systems, including numerous formal wetland delineations and focused surveys for a myriad of sensitive species, nesting birds, and rare plants. He has managed interdisciplinary teams and successfully navigated complex inter-agency programs and permits to maintain environmental compliance on numerous projects in the renewable energy, utility, residential, oil and gas, and public sectors. He also leads EI’s Unmanned Arial Vehicle (UAV/Drone) service line to help support projects with better site characterization and analysis. Mr. Kegel has formulated numerous project-specific UAV/GIS analysis for environmental planning, land use planning, wetland delineations, construction impacts and biological surveys. Mr. Kegel is a graduate of California State University, Fullerton and holds many local, state, and federal permits and certifications.

**Carla J. Kinslow**. Ph.D., is a Principal Consultant for Rimkis Consulting Company in Houston, Texas. She is a toxicologist with over 26 years of biomedical, regulatory, and environmental experience. Carla has expertise in inhalation toxicology; toxicogenomics; toxicological risk assessment; opiate, alcohol, and marijuana toxicology; ambient air monitor placement; human health impacts analysis from emission events; monitoring data; modeling data related to ambient and indoor air quality; water contamination; and stakeholder communication. She specializes in regulatory compliance for risk-based remediation assessment, soil and groundwater toxicology under the USEPA, as well as state and federal air permits. She has served as manager for various regulatory projects where she helped design and implement air monitoring networks, ground water monitoring projects, and remediation scopes, with subsequent assessment of human health impacts based on collected data. She has extensive experience in National Ambient Air Quality Standards (NAAQS), and federal and state regulatory rules regarding air, soil, and water toxicology. Dr. Kinslow also has extensive experience in the evaluation of health risks based on genetic predisposition to disease from environmental, occupational, and pharmaceutical exposures.

**Andrew Kirkman** is the lead LNAPL Technical Specialist for BP America. Andrew joined BP in 2012 with 16 years of experience and currently supports LNAPL related site remediation, educational advocacy, and research efforts. Previously, Andrew was the Global LNAPL Technical lead for AECOM Environment. Andrew has focused on characterization and remediation of railroad, manufactured gas plant, tie treatment facilities, and petroleum facilities in North America and internationally. Andrew has led and participated in multiple industry advocacy efforts related to LNAPL, these include: 1) chairing the ASTM task groups related to LNAPL transmissivity and LNAPL Conceptual Site Models; 2) generating publications for *Applied NAPL Science Review, American Petroleum Institute*, and *Groundwater Monitoring and Remediation*; and 4) supporting ITRC since 2008 and becoming an ITRC trainer in 2012. Andrew graduated from University of Minnesota in 1998 with Bachelor of Science degree in Geology and a Bachelor of Geological Engineering.

**Michael Kleinman** is a Professor (Environmental Toxicology) in the Department of Medicine at UC Irvine and is the Co-Director of the Air Pollution Health Effects Laboratory. He has published 100+ articles on the toxicology of inhaled environmental contaminants; served on two NRC committees on protection of military forces from chemical and biological weapons; and has been a member of the USEPA CASAC Carbon Monoxide, Ozone, and PM panels. He is a member of the Board of Scientific Counselors for the
Center for Disease Control and Preventions Agency for Toxic Substances and Disease Registry (ATSDR) and currently serves as the Chair of the CalEPA Air Quality Advisory Committee. His recent research focuses on chemical components of ambient nanoparticles and how they may contribute to heart diseases and atherosclerosis.

Seok-Oh Ko is a Professor in the Department of Civil Engineering, Kyung Hee University. He has a Ph.D. in Civil Engineering from Texas A&M University. His research has focused on the control of organic contaminants in the environment, with emphasis on physico-chemical remediation and the environmental fate of pharmaceuticals. Recently, his research interest is about nonpoint source control and low impact development (LID).

Mark Kram is the Founder and CTO for Groundswell Technologies, Inc., a group specializing in automated Cloud-based monitoring and modeling of environmental sensor and analytical instrumentation networks. Dr. Kram earned his Ph.D. in Environmental Science and Management from the University of California at Santa Barbara, M.S. in Geology from San Diego State University, and B.S. in Chemistry from the University of California at Santa Barbara. He has over 30 years of experience developing innovative environmental assessment techniques; has authored articles, national standards; and book chapters on the subject; and has taught graduate-level courses on related topics. Dr. Kram is an internationally recognized expert in site characterization and remediation, and has been instrumental in the areas of sensor development and implementation, innovative GIS applications, DNAPL site characterization, chemical field screening, well design, direct push well acceptance, mass flux/discharge based remediation performance, automated vapor intrusion monitoring and response, natural source zone depletion, and groundwater basin yield and storage change assessment. Dr. Kram is a recipient of the NGWA's prestigious Technology Award, and received the ASTM Committee D18 Technical Editors Award for the book entitled Continuous Soil Gas Measurement: Worst Case Risk Parameters (http://www.astm.org/BOOKSTORE/PUBS/STP1570.htm).

Alan Kuoch has earned a B.A. in Environmental Earth Science from UC Berkeley and an M.S. in Geology from San Jose State University. He is an Engineering Geologist working for the Santa Ana Regional Water Quality Control Board in the Site Cleanup Program. He oversees multiple groundwater investigation and remediation projects in Riverside, San Bernardino, and Orange Counties.

Matt Lahvis holds a Bachelor's degree in Geology from Bucknell University, a Master's degree in Engineering Geology from Drexel University, and a Ph. D. in Civil Engineering from Drexel University. His research focuses on quantifying fate and transport of petroleum compounds in the unsaturated zone at gasoline-spill sites. Matt joined the New Jersey District Office of the U.S. Geological Survey in 1989 and served as an Adjunct Professor in the Civil Engineering Department at Drexel University from 1995-1999. In 2000, Matt joined Shell Projects and Technology where he serves as Team Lead for the Soil and Groundwater R&D Program. Matt has published extensively on vapor transport in the unsaturated zone and has been serving as an Associate Editor for the Ground Water Monitoring and Remediation Journal since 2005.

Amiruddin Lechner is a junior at California State University, Long Beach, majoring in Biochemistry. His research interests are in the radical reactions occurring under advanced oxidation conditions with wastewater contaminants. Ultimately he plans on matriculating into a high-ranked medical school, and ultimately working in the field of trauma surgery.

Adam Love leads Roux Associates’ Litigation Practice and provides litigation support and Expert Witness services to clients throughout the United States on both direct defense and insurance coverage on environmental matters. His experience includes strategic and technical analysis and guidance regarding numerous complex groundwater, sediment, soil, and facility contaminated sites, both private party and CERCLA/RCRA sites. Dr. Love is a leader in the use of advanced models and analysis methods to understand and interpret contaminant characterization, transport, and fate for a range of applications.

Steve Luis has more than 20 years of experience in environmental consulting, focusing on soil, soil vapor, and groundwater investigation and remediation; human health risk assessments; chemical fate and transport analyses; and independent third-party review and oversight. Steve has extensive
experience providing litigation support on a wide variety of matters concerning the origin, investigation, behavior, and remediation of chemicals in the environment. Widely published on industry topics, Steve is a lecturer in the Department of Civil and Environmental Engineering at Loyola Marymount University and sits on the Editorial Board of the journal *Environmental Forensics*.

**Loren Lund**, Ph.D., has over 25 years of experience in environmental risk and vapor intrusion (VI) assessments. He is the Vapor Intrusion Practice Leader at CH2M and is responsible for best practices being applied. Dr. Lund is an organizing committee member, classroom instructor, session chair, and presenter for the Air and Waste Management Association (AWMA) VI specialty conferences. He is a member and internet instructor for the Interstate Technology Regulatory Council (ITRC) Petroleum VI team, co-chair of the Navy VI Focus Group, co-author of the Navy 2011 Background Indoor Air Guidance for VI, and technical leader for the Navy Environmental Sustainability Development to Integration (NESDI) VI Decision Framework database project. He has reviewed multiple national VI guidance documents, authored more than a dozen papers, and been a session chair or featured speaker at over a dozen VI conferences or sessions since 2004. He earned a Bachelor’s degree in Chemistry and a Ph.D. in Biochemistry at Utah State University, and was a post-doctorate and Adjunct Professor in toxicology at the University of Texas in Austin.

**Chris Lutes** of CH2M HILL is a nationally recognized expert in the study of the intrusion of contaminated vapors into buildings. He has worked on commercial vapor intrusion projects in more than 15 states and several countries. He has recently completed a study of the vapor intrusion characteristics of a database of 49 military commercial/industrial buildings. He has completed numerous vapor intrusion research projects including uses of radon as a tracer, temporal variability, and passive sampling methods. His volunteer experience includes management responsibility for a small sewer collection and water distribution system.

**Tamzen Macbeth** is an internationally recognized remediation expert with over 17 years of experience in the development, demonstration, design, and implementation of innovative, cost-effective remedial strategies for cleanup of hazardous waste contaminated sites. Dr. Macbeth’s work leverages her interdisciplinary academic and research background in microbiology and engineering to advance remediation technologies such as in situ bioremediation, natural attenuation, in situ chemical oxidation, in situ chemical reduction, pump and treat, and thermal treatment, alone and in combination, to clean up non-aqueous phase liquids (NAPLs), dissolved organic, inorganic, and radioactive chemicals under a variety of regulatory programs. She has served as principal investigator, manager and/or technical lead, and advisor for over 100 government, private, and international contaminated sites undergoing characterization, design, and remediation at the laboratory-scale, pilot-scale, and full-scale. In addition, Dr. Macbeth has led multi-disciplinary teams to support value engineering assessments, including integrating green and sustainable remediation metrics to select, optimize, and/or transition remedies for hazardous waste sites for a variety of government and private clients to achieve successful cleanup.

**Elizabeth Madonick** joined Brooks Applied Labs in 2003, bringing her extensive laboratory and project management experience. In her current role as Technical Services Specialist, she consults with clients to establish the best approach to meet their projects’ requirements and data quality objectives by providing thorough and expert insight into the appropriate analytical methods, sampling techniques, and reporting requirements.

**Lee Marotta** has been a gas chromatographer for over 25 years, starting at Exxon Corporate Research in 1988. After Exxon, Lee moved to PerkinElmer in 1992 as a Product Specialist and is currently a Senior Field Application Scientist focusing on solutions for the petroleum and environmental industries. Lee has over 25 years’ experience in the environmental field including water, soil, and a focus on air.

**Ben Martich** is a Senior Scientist with Geosyntec Consultants in Anchorage, Alaska. He has 20 years of experience in site characterization and remediation of contaminated sites. His disciplinary focus for more than a decade has been characterization and risk associated with the vapor intrusion (VI) pathway. He has worked with both government and private entities in developing strategies for assessment and control of the vapor intrusion pathway, including research projects and guidance development. Mr. Martich was a member of ITRC’s Petroleum Vapor Intrusion Team and is an internet-based instructor for ITRC. Ben
earned a Bachelor’s degree in Analytical Mathematics and Statistics from Furman University in Greenville, South Carolina. He is a Qualified Environmental Professional (QEP) by the Institute of Professional Environmental Practice.

Ashley Martinez is a senior at the University of Portland in Oregon. She is pursuing a Bachelor of Science in Civil Engineering with a minor in Computer Science, as well as a Bachelor of Arts in Spanish. Ashley spent a semester in Santiago de Chile, studying topics such as the Incan language, Andean culture and computer science at the local universities. She is a prolific gardener and worked extensively on the plant selection for Dr. Cara Poor’s bio-retention research. Ashley is passionate about using her engineering skills to serve others and hopes to later work in Latin America performing disaster relief and long-term aid. She currently serves as the President for her university’s chapter of Engineers Without Borders, and has traveled with the professional chapter to Ecuador to complete a pipeline installation. Following graduation, Ashley hopes to obtain a postgraduate grant to research the recent earthquake in Ecuador and the sustainability of the rebuilding processes. She then plans to return to the U.S. for graduate studies in either International Development or Water Resources.

Kevin Mayer is a Partner and Civil Trial Attorney in the Los Angeles and San Francisco offices of Crowell & Moring LLP. Kevin defends American industry in product liability, toxic tort, environmental and OSHA litigation, trials, and administrative proceedings across the United States. He is well known for his work with both plaintiff and defense expert witnesses in the medical, scientific, industrial hygiene, and engineering issues that dominate his case docket. Kevin is long-time member of the Scientific Advisory Board for the AEHS Foundation. He is named annually to the Super Lawyers list in California and is a Fellow of the Litigation Counsel of America, the Trial Lawyers’ Honor Society.

Todd McAlary, Ph.D., P.Eng., P.G., CUT, has been the Vapor Intrusion Practice Leader for Geosyntec Consultants, Inc. since 1998. He has degrees in Geological Engineering, Hydrogeology, and Chemistry from the University of Waterloo, where he measured and modeled vapor diffusion through unsaturated sands as his Master's thesis and demonstrated/validated the use of passive samplers for vapor intrusion assessment as his Doctoral dissertation. Dr. McAlary has 30 years of consulting experience, primarily for Fortune 500 companies in the United States, but including assignments in 14 other countries. He has conducted site-specific investigations of vapor intrusion since 1992, co-authored or peer-reviewed over a dozen guidance documents on vapor intrusion, and presented research in this field at over 50 conferences, workshops, and training sessions. He received the 2006 Industry Recognition Award for his contribution to the ITRC vapor intrusion guidance and has been a member of the Federal EPA Expert Panel on Vapor Intrusion since 2000. Mr. McAlary is currently managing large-scale vapor intrusion investigations for the DOD; conducting applied research for ESTCP, the Navy, and the Air Force to improve vapor intrusion assessment methods; and is an Adjunct Professor at the University of Toronto.

Tom McHugh, Ph.D., is a Toxicologist with GSI Environmental, Inc. in Houston, Texas. He is a Diplomate of the American Board of Toxicology and has over 20 years of experience in the environmental industry. Dr. McHugh has extensive project experience in environmental site investigation, site restoration, human health and ecological risk assessment, data mining, and statistical analysis. Dr. McHugh is interested in developing improved methods to manage contaminated sites and has been PI for several research projects on vapor intrusion, groundwater monitoring, and other topics. He has developed training classes on a number of topics including vapor intrusion and groundwater monitoring, and has contributed to the development of state and federal guidance documents.

Pat McLoughlin was born on Long Island in New York. He earned his B.S. in Chemistry from the University of Notre Dame and his M.S. and Ph.D. in Physical Chemistry from Cornell University. He has been at Microseeps (now a division of Pace Analytical) since 1996 and now serves as a Technical Director working on CSIA method development, geochemical, and isotopic interpretation, as well as instituting a QAQC program for CSIA of VOC's and concentration analyses of dissolved gases and "volatile" fatty acids. He also focuses on interpreting complex data in terms of site remediation and has included molecular biology in the suite of analyses he uses when investigating degradation a site.

Randy Mentz is a Research Program Manager at the University of Wisconsin-Platteville Pioneer Farm. He manages research projects, supervises field staff, organizes and summarizes research data,
publishes and presents research findings, and participates in grant writing. He specializes in year-round (including snowmelt) edge-of-field runoff monitoring methods and environmental data management as it relates to nonpoint source pollution. Randy also collects and analyzes geospatial data, develops maps, assists with fieldwork during intense runoff periods, and supports collaborative research efforts. A native of Appleton, Wisconsin, Randy graduated from the University of Wisconsin - Stevens Point with a B.S. in Water Resources (Groundwater Management Option) and a minor in Geology. He began working at the University of Wisconsin-Platteville in July 2003.

Edmund Merem completed his B.A. and M.E.S. at York University, Toronto, and then his M.A. at Pontifical Lateran University, Vatican City. He began his doctoral education at the University of Ottawa in Ontario, Canada and graduated with a Ph.D. from Jackson State University, Mississippi. Dr. Merem has many years of experience in global environmental planning and environmental accounting for oil and gas in Canada and the U.S. as well as hydro-politics of the Middle East and Africa. Edmund has written several research monographs and papers that have been published in academic journals and major conference proceedings. He worked as an Environmental Analyst in the Environment Bureau of Agriculture and Agric-Food Canada, and he also worked briefly as an accounts clerk at the Federal Ministry of National Planning in Lagos, Nigeria. He is very fluent in Italian and a number of European and African languages. While Dr. Merem is currently a full Professor of Environment and Land Use, for years he worked as the founding Ph.D. Program Coordinator in the Urban and Regional Planning Department at Jackson State University.

Richard Montevideo is a partner in the Government & Regulatory Law Section of Rutan & Tucker, LLP, where he specializes in environmental law. He has also chaired the firm’s Environmental Law Practice Group since 1992, which represents a concentration of the firm’s environmental expertise in both the transactional and litigation settings. In addition, Mr. Montevideo chaired the Environmental Law Section of the Orange County Bar Association for 21 years consecutively, from January 1, 1995 to January 1, 2016. He is a member of the Orange County Bar Association, the California State Bar, and a former Adjunct Professor of Environmental Law at Chapman University College of Law.

Kevin Moody is an Infrastructure Ecologist Team Leader in the Federal Highway Administration’s Office of Technical Services. He specializes in risk management for complex projects that require coordination by multiple actors across time and space, and primarily works with local agencies. Moody is a nationally recognized expert in optimizing infrastructure for manufacturing and cargo-oriented ecosystem performance. He has been recognized by a number of U.S. District Court judges and Special Masters for the clarity and lucidity of his explanations of indirect and cumulative impacts under the Endangered Species Act and National Environmental Policy Act. Moody leads initiatives tied to health in transportation, wildlife-vehicle collision reduction, hazards management, and shrinking cities. Moody is FHWA’s point of contact/liaison for the Departments of Homeland Security and Defense on non-roads partnerships, such as conflicts with transportation asset owners over electro-magnetic spectrum and emerging warfighter testing and training.

Philip Mulvey is the Senior Principal at Environmental Earth Sciences. He has been in earth science consulting for over 35 years and has degrees in Soil Science and Hydrogeology. He is a statutory environmental auditor in Australia and has practiced in Europe, UK, Australia, New Zealand, the Middle East, Pacific, and Australia.

Jonathan Myers has a Ph.D. in Geochemistry plus 35 years of environmental consulting experience. His specialties include environmental forensics, geochemical modeling, radiochemistry, natural attenuation investigations, and the use of geochemical evaluations to distinguish between contamination versus naturally high background concentrations of elements in groundwater, surface water, sediment, and soil. Dr. Myers has authored over 30 peer-reviewed research papers and book chapters, and has been teaching short courses on geochemical and environmental forensic techniques.

Trika Nelson began her environmental career in 2002 installing Aquifer Storage and Recovery wells with a small firm, Water Resource Solutions in Cape Coral, Florida. She received a Bachelor’s degree in Geology from the University of North Dakota in 2002. Trika moved back to her home state of Minnesota in 2004 and joined Arcadis. She has worked in hydrogeology throughout her career, including deployment of
investigations to assess groundwater contamination and hydraulics (capture zone analysis, aquifer testing, well design). Over the past decade, Trika has spent most of her time conducting NAPL mobility and recoverability studies at Sites throughout the United States and South America in order to close sites with NAPL in place via NAPL transmissivity testing, natural source zone depletion studies, and petrophysical testing.

Eric M. Nichols, P.E. is Principal and Founder of Substrata LLC. With a passion for technical excellence in subsurface remediation and groundwater resource management, he leads multidisciplinary teams to efficiently resolve environmental problems by understanding customer needs and developing solutions that are fit for purpose. Through careful application of innovative site characterization strategies and skilled regulatory negotiation, he has led the development of consensus-based conceptual site models to manage risks at a wide variety of release sites, including upstream and downstream petroleum, chlorinated solvents, metals, and radionuclides. He is a specialist in monitored natural attenuation of chemicals in the subsurface, LNAPL management, vapor intrusion characterization and mitigation, groundwater management, and aquifer hydraulics. Mr. Nichols has extensive experience applying and teaching the principles of risk-based decision making in developing conceptual site models. He has focused on improving site management decisions under a variety of U.S. and international regulatory frameworks, including federal and state cleanup programs. With a deep background in the modeling of groundwater flow and contaminant migration, he has effectively applied these skills for remedial design, exposure and risk assessment, and litigation support.

Daniel Nunez has over 18 years of experience in environmental compliance, site investigation, and site remediation. He provides technical and management expertise for soil and groundwater remediation projects, regulatory compliance, and client negotiations. Daniel has designed, implemented, and managed various phases of site characterizations, feasibility studies, and full-scale soil and groundwater remediation at numerous contaminated sites in the Southwest United States and throughout Australia. Remedial expertise is related to LNAPL, DNAPL, 1,4-dioxane, NDMA, perchlorate, and nitrate, both ex situ and in situ. He is currently the Southwest District Manager for Regenesis. Daniel holds a B.S. in Chemistry from the University of California Irvine and an M.S. in Environmental Science from California State University Fullerton.

Jarrett Okita is from the sunny island of Oahu, Hawaii, and is currently a fourth year student at the University of Portland in Oregon. Jarrett is pursuing a Bachelor’s of Science in Civil Engineering, with a focus in Structural Engineering and Water Resources. He is profoundly passionate about engineering and collaborating with other fields of study, serving as the Project Lead for the student chapter concrete canoe project of the American Society of Civil Engineers. He is excited to learn more about stormwater management and utilize his engineering experience in conjunction with environmental studies to find innovative solutions. Jarrett also fuels his enthusiasm for collecting stories and discovering adventures through hiking, watching movies, and traveling. Seeking new ventures to explore the world, experience different cultures, and enjoy wonderful foods, Jarrett has studied abroad in locations such as the Marshall Islands, Austria, and China. He later plans to continue his educational career by pursuing a Master’s in Structural Engineering.

Noah Perch-Ahern, a Partner in Glaser Weil’s Environmental & Energy Department, maintains a broad national environmental and energy practice and is often engaged to work on cases of first impression and other sharply disputed matters. Mr. Perch-Ahern has significant litigation experience and has taken cases to trial. At the same time, Mr. Perch-Ahern regularly helps clients devise solutions to difficult regulatory problems and represents clients in connection with administrative proceedings. A significant component of Mr. Perch-Ahern’s practice also involves transactional matters. For example, he frequently advises clients concerning the environmental aspects of business transactions, represents energy-focused startup companies, and counsels clients in connection with the environmental land use matters related to development projects, including industrial, commercial, and renewable energy projects. Mr. Perch-Ahern has played a key role in variety of high stakes matters, including cost recovery actions involving Superfund sites; constitutional litigation; appellate litigation; environmental remediation projects; portfolio deals concerning electric generation facilities, landfills, and downstream petroleum assets, compliance matters concerning air quality, water quality, hazardous waste, and energy; and utility regulation. Mr.
Perch-Ahern has counseled clients concerning all of the major federal environmental statutes, including CERCLA, RCRA, the Clean Water Act, the Clean Air Act, and NEPA, and has also advised clients concerning various state environmental statutes and regulations around the country, including regulatory programs related to climate change and cap-and-trade, coastal regulations, Brownfield laws, and water rights. Mr. Perch-Ahern has developed specialized knowledge and experience in several niche areas of environmental law. For example, in addition to extensive experience litigating cost recovery and contribution actions, he has litigated several challenges to state waste programs based on the dormant commerce clause of the U.S. Constitution, and has litigated a number of cases centered on preemption principles arising under federal and state law, including laws governing water and electric utilities. Mr. Perch-Ahern maintains active leadership positions in a number of water, energy, and environmental associations. He is the President of the Young Professionals in Energy (YPE) Los Angeles; sits on the Board of Trustees for the Southern California Water Committee (SCWC); is a member of the Board of Directors for the Valley Industry and Commerce Association (VICA); serves as Co-Chair of VICA’s Environmental, Energy and Utilities Committee; and is Co-Chair of the Los Angeles Area Chamber of Commerce’s Water, Energy & Environmental Sustainability Council. Mr. Perch-Ahern received his law degree, magna cum laude, from Tulane University Law School, where he earned the Environmental Law Certificate and served on the Tulane Environmental Law Journal, both as a managing editor and a contributing writer. Mr. Perch-Ahern received his Bachelor’s degree in Political Science, summa cum laude, from the University of New Hampshire, where he participated in the Honors Program and was a member of Phi Beta Kappa. Mr. Perch-Ahern is an avid runner and lover of the outdoors. He is a proud husband and father of two spirited daughters and two unruly dogs.

Jay Peters is the Practice Leader for Risk Assessment at Haley & Aldrich, Inc. He holds a Bachelor’s degree in Toxicology from Northeastern University and a Master’s degree in Environmental Health from Tufts University. Jay has 25 years of experience as a risk assessor. He has developed risk-based regulatory closure strategies and managed risk assessment projects for Superfund Sites, Resource Conservation and Recovery Act sites, and brownfield redevelopment and property transfer sites, under the regulatory frameworks of more than 20 state cleanup programs and seven Environmental Protection Agency regions. Jay’s two-plus decades of experience across this range of regulatory frameworks has allowed him an in-depth insight into the growth and maturation of the vapor intrusion and indoor air risk assessment practices, as well as contemporary positions that regulatory agencies are taking on various initiatives. He has developed numerous presentations and publications on these topics and routinely communicates with community and regulatory stakeholders on these issues.

Ioana Petrisor is an environmental biochemist with over 20 years of experience, specializing in environmental forensics/litigation support. She uses up-to-date fingerprinting methods to track the source and age of contaminants. Dr. Petrisor has helped both national and international clients recover costs in complex cases involving multiple contaminants and releases in time and space. She also conducted innovative research work related to the development of capping for aquatic sediment remediation through SERDP program. Dr. Petrisor is the Editor-in-Chief of the journal Environmental Forensics and the author of the recently published book Environmental Forensics Fundamentals – A Practical Guide. Her extensive publication experience also includes an invention patent, six book chapters, 12 editorials, and over 70 articles. She is teaching both on-line and in-class courses on Environmental Forensics Techniques. Dr. Petrisor has a Ph.D. in Biology (Environmental Biotechnology) from Romanian Academy of Sciences and a Bachelor in Chemistry (major Biochemistry) from Bucharest University in Romania. She has completed an UNESCO training program in Plant Molecular Genetics at the University of Queensland, Brisbane, Australia, and is the recipient of The Greatest Award of Successful Careers for Outstanding Scientific Results and Professional Activity, issued by Cosmopolitan Magazine, Romania.

Kathy Phillips, Ph.D., is a Project Engineer with Geosyntec Consultants in Santa Barbara, California. Dr. Phillips received a Bachelor of Engineering degree in Chemical Engineering and a Bachelor of Science degree in Applied Mathematics from the University of Melbourne, and a Doctoral degree in Chemical Engineering from the University of Delaware. Dr. Phillips has worked with Geosyntec for the last six years, where she has been involved in a range of projects in multiple U.S. states and internationally. Her experience includes risk characterization, project management, site investigation and monitoring, data analysis, radiological dose modeling, risk mitigation, remedy implementation, environmental forensics,
litigation support, and regulatory reporting. Dr. Phillips also has a strong research background, including the application of computational chemistry to predict the behavior of various organic contaminants in the environment.

R. Paul Philp received his Ph.D. in Organic Chemistry from the University of Sydney (Australia) in 1972 and a D.Sc. Degree from the same University in 1998. He spent one-and-a-half years as a post-doctoral fellow with Professor G. Eglinton at the University of Bristol (England) undertaking research in various aspects of organic geochemistry and the application of analytical techniques, such as gas chromatography-mass spectrometry, to this area of research. Following this, he spent four years at the University of California, Berkeley as a research associate, directing the organic geochemistry research group of Professor Melvin Calvin. He returned to Sydney in 1977 to join the CSIRO Fuel Geoscience Unit, now part of the Division of Fossil Fuels, where he was a principal research scientist studying various aspects of petroleum geochemistry. In June 1984, he joined the faculty at the University of Oklahoma. He is the recipient of several awards, including Best Paper of 1974-1975 Award presented by the Organic Geochemistry Section of the Geochemical Society, Regents Award for Outstanding Research at the University of Oklahoma (1989), and Global Excellence Award in the Petroleum Sector from the Energy and Environment Foundation in India (2016). He has presented papers at numerous international meetings and has taught petroleum and environmental geochemistry courses in several countries. He is a member of the American Chemical Society, European Association of Organic Geochemists, and Association of Latin American Geochemists. Recently, a large amount of his research has been concerned with environmental studies, particularly investigating the use of stable carbon isotopes as a means of monitoring and tracking pollutants in the environment. He became a Professor Emeritus at the University of Oklahoma in January 2015 but continues to have an active research program in petroleum and environmental geochemistry in the School of Geology and Geophysics.

Gina Plantz is a Principal Consultant with Haley & Aldrich, Inc. and holds a Bachelor of Science degree in Chemistry from Widener University. Gina has extensive experience in management and oversight of vapor intrusion investigations at sites contaminated with chlorinated solvents, manufactured gas plant (MGP) residues, and petroleum hydrocarbons, with focus on stakeholder engagement and risk communication. She has lectured on the topics of vapor intrusion sampling and data evaluation, forensic chemistry, stakeholder engagement, and risk communication. For the past eight years, Gina has been directing a large investigation and remediation program for a California utility company. This complex, multi-stakeholder program includes evaluating the vapor intrusion pathway.

John Price is the Tri-Party Agreement Section Manager at the State of Washington for the Hanford Site. He is also the Team Leader for the ITRC (Interstate Technical and Regulatory Council) Remediation Management of Complex Sites team.

Richard Rago serves as Lead Scientist and Vapor Intrusion Practice Leader for Haley & Aldrich, Inc. in Rocky Hill, Connecticut. Since joining Haley & Aldrich in 1991, Rich has long been recognized for contributions to regulatory agencies and professional organizations, including for his support for numerous state and federal vapor intrusion guidance and analytical data quality documents. Rich has also directed independent research studies in support of improved environmental characterization, including false positives in analytical quantitation of metals, potential bias in petroleum hydrocarbons measurements, indoor air sampling intervals, soil gas long-term temporal stability, and indoor air background in residences, offices, and schools. Rich has a professional background in environmental analytical chemistry with a CT Department of Public Health Environmental Laboratory Directorship Certification. Rich participates on the environmental laboratory advisory committees of several states and the NELAC Institute National Environmental Field Activities Program, as well as serves as vapor intrusion instructor for ITRC (Petroleum Vapor Intrusion), AWMA, and Princeton Groundwater.

Kazi Rahman completed his Ph.D. from the University of Geneva with a focus in streamflow modeling in a complex watershed. After finishing his Ph.D., he moved to Stanford University with a Swiss National Science Foundation fellowship for his postdoctoral research. In his postdoc study, Kazi Rahman focused on large-scale watershed modeling and management. He is currently employed at the US EPA as a research scientist. His work involves streamflow, sediment and heavy metal simulations in streams and watersheds.
Patrick Randall has a Master's degree in Civil Engineering and is a registered Professional Engineer. He has over 35 years of experience in the design and application of remedial systems. Most of his career has been the design and implementation of in-situ remediation solutions including biological and chemical oxidation.

Ken Reardon is the Jud and Pat Harper Professor of Chemical and Biological Engineering at Colorado State University, and holds joint appointments in the Graduate Program in Cell and Molecular Biology, the Graduate Degree Program in Ecology, the Department of Environmental and Radiological Health Sciences, and the Department of Microbiology, Immunology and Pathology. He is a Visiting Professor in the Department of Chemical and Biological Engineering, University of Sheffield, and has been a Visiting Professor in the Institut für Technische Chemie of the Leibnitz Universität Hannover. Dr. Reardon joined the faculty at Colorado State University in 1988 after completing his Ph.D. at the California Institute of Technology and a year of postdoctoral research at the Universität Hannover as an Alexander Von Humboldt Fellow. Dr. Reardon's current research involves biosensors, the analysis and engineering of bacteria and algae for the production of biofuels and other chemicals, and environmental biotechnology. His projects have led to more than 150 publications, two patents, and seven patent applications. In 2010, he founded OptiEnz Sensors to commercialize biosensor technology that had been developed in his group. He is active as the Chief Technology Officer of OptiEnz.

Catherine Regan is a Principal Consultant with Environmental Resources Management (ERM), located in Boston, Massachusetts, and has worked there since 2002. Catherine has 14 years of professional experience working with industrial clients and regulators in the management of contaminated sites. Her areas of expertise include assessment and management of residential and industrial vapor intrusion investigations, management of chlorinated and petroleum site investigations, and design and execution of remediation activities. Catherine leads ERM’s vapor intrusion technical working group and is responsible for facilitating collaboration and disseminating technology updates regarding vapor intrusion across ERM globally. Since 2012, Catherine has participated as an ITRC team member for ITRC’s Petroleum Vapor Intrusion team. Catherine received a Bachelor of Science degree in Environmental Engineering from Cornell University in 2000 and a Master of Science in Environmental Fluid Mechanics and Hydrology from Stanford University in 2002. Catherine is a registered Professional Engineer in Massachusetts and Vermont.

Trevor Reutershan is a graduate student at California State University, Long Beach working towards dual degrees in Chemistry and Mathematics. His undergraduate studies were done at the same institution where he graduated with honors obtaining degrees in Chemistry, Physics, and Biochemistry, with minors in Applied Mathematics and Biology. Trevor’s research interests are based around using mathematics to model and understand physical and biological phenomena. Recently, he has worked with Dr. Stephen Mezyk of Cal State Long Beach applying his interdisciplinary approach to solving problems in environmental and radiation chemistry.

Bruce Richman, Ph.D., is Chief Technology Officer at Entanglement Technologies, Inc., a small company developing gas analyzers for pollution monitoring, industrial process control, and resource extraction efficiency. Dr. Richman has 19 years of expertise in cavity ring-down spectroscopy (CRDS), the core technology used in Entanglement’s instruments. Since joining Entanglement as CTO six years ago, he has guided the technical development, expanded market applications, and obtained SBIR funding. He is PI on a current NIH SBIR to develop the trichlorethylene analyzer for vapor intrusion. Before joining Entanglement, he was Senior Scientist at Picarro, Inc., where he worked for 12 years advancing CRDS from applied research to commercial applications and product manufacture. While at Picarro, he was PI on development of isotopic water, isotopic methane, and acrolein analyzers, in addition to laser development for fluorescence cytometry and telecommunications. He completed post-doctoral work at Sandia National Laboratory in Livermore, California, and Stanford University, and obtained his Ph.D. from Stanford in Applied Physics and B.S. from Caltech in Physics. He holds 16 patents covering a range of optical technology, CRDS, and gas sensing. He is co-author on over 30 peer-reviewed publications.

Richard Richter is a registered civil engineer with more than 40 years of environmental experience, specializing in the environmental fate and transport of hazardous substances and applied environmental
chemistry. He has managed numerous site investigations, risk assessments, and remedial actions involving property transfer assessments, hazardous waste facilities, and underground storage tanks. He has particular experience involving PCBs, PAHs, dioxins, heavy metals, petroleum hydrocarbons (especially benzene, chlorinated solvents (PCE, TCE, TCA), 1,4-dioxane), and asbestos. Dr. Richter's regulatory experience includes interactions with personnel at EPA, the California EPA (DTSC, OEHHA, SWRCB), and several California regional air pollution districts and water quality control boards. He has served on several national and local peer review committees regarding direct and indirect exposures to air toxics. Dr. Richter has taught environmental engineering courses at Washington State University, University of Southern California, and UC-Irvine.

Kelly Rodgers joined the agency in 2006 and is the Energy Program Manager at the San Diego County Water Authority, the regional water agency that provides about 80 percent of all the water used in San Diego County. Kelly has over 27 years of professional experience in the public and private sectors, including work on large-scale, complex water and energy projects such as the San Vicente Dam Raise suite of projects. Kelly currently leads strategic water-energy nexus planning efforts that include a potential 500 megawatt Energy Storage Facility at San Vicente Reservoir. In her current role, she leverages opportunities to reduce the agency’s energy costs by maximizing the Water Authority’s existing energy facilities, integrating new energy technologies and supplies, and engaging in regulatory issues. She holds a Bachelor’s degree in Civil Engineering, a Master’s degree in Business Administration, and a Doctorate degree in Public Policy and Administration with an emphasis on public management, leadership, and strategic planning. Kelly is also a registered civil engineer in California.

Yue Rong (aka, YR) is currently the Environmental Program Manager at the California Environmental Protection Agency, Los Angeles Regional Water Quality Control Board. He used to be the acting Assistant Executive Officer of the Water Board in the groundwater division. Dr. Rong is the manager in charge of site assessment and remediation of leaking underground storage tank sites, and the program of water quality control in oil and gas production fields. He has more than 25 years’ experience with the Agency in dealing with groundwater contamination problems in the Los Angeles area of California. His expertise includes organic pollutants fate and transport in the subsurface soil and groundwater, environmental analytical chemistry and quality assurance and quality control, environmental statistics, risk assessment, and soil and groundwater pollution assessment and remediation. The projects he worked on and was involved with include collaboration with USEPA at superfund sites, Santa Monica methyl tertiary butyl ether (MTBE) drinking water pollution cleanup, I-710 corridor regional cleanup, and water quality control at oil and gas production fields in Los Angeles area. Dr. Rong was the recipient of the California Regional Water Quality Control Board Outstanding Achievement Award and Supervisory Performance Award. He also received 2011 AEHS Foundation Achievement Award. He is an Associate Editor for the peer-reviewed journal Soil and Sediment Contamination and an Associate Editor for the journal Environmental Forensics. Dr. Rong is the author or co-author for about 30 peer-reviewed publications, and editor of the book entitled Practical Environmental Statistics and Data Analysis. Dr. Rong served as Chairman for the UCLA Alumni Association Outstanding Graduate Student Nominating Committee in 2004. He was elected in 2006 and re-elected in 2008 as the President of the Southern California Chinese American Environmental Protection Association (SCCAEPA), serving the local minority community. He is also the Editor-in-Chief for the peer-reviewed SCCAEPA Online Journal. Dr. Yue Rong has his Ph.D. in Environmental Health Sciences from the University of California at Los Angeles (UCLA), M.S. in Environmental Sciences from the University of Wisconsin, and B.S. in Earth Science from the Beijing Normal University.

Zachary Rounds graduated from California State Polytechnic University, Pomona with a B.S. in Chemical Engineering. He worked for three years at State Water Resources Control Board in the Division of Financial Assistance, followed by 10 years at the Department of Public Health in the drinking water program (now part of the State Water Board), specifically in the Sonoma District regulating public drinking water systems. Zach also has experience working on Recycled Water Regulations and Projects and has been a key lead staff for the past two years in the Division of Drinking Water’s Regulatory Development Unit, working primarily on the 1,2,3-Trichloropropane Maximum Contaminant Level Regulations. He is currently the acting senior for the unit.
Robert Ruscitto, PG, CHG, is a senior Principal Geologist and Project Manager at Arcadis’ Irvine, California office. Mr. Ruscitto is a California Professional Geologist and Certified Hydrogeologist with 25 years of experience in the environmental field, and he also holds a Project Management Professional (PMP) certification from PMI. He has been with Arcadis for over 15 years, where he has lead complex site investigations, conceptual site model development, and development of remedial approaches for diverse project sites with a broad range of contaminants in soil, soil vapor, and groundwater. Mr. Ruscitto holds a B.S. from Cal State Polytechnic University, Pomona, and has spent his entire professional career working on sites mostly within the basins of southern California.

Venus Sadeghi leads AECOM’s In Situ Bioremediation Technical Practice Group and is a co-leader of AECOM’s 1,4-dioxane research and development program. She has over 17 years’ experience in environmental restoration. She specializes in innovative technologies that utilize in situ enhanced bioremediation, in situ chemical oxidation, and in situ chemical reduction in the remediation of recalcitrant compounds, including emerging chemicals of concern such as 1,4-dioxane and hexavalent chromium. Dr. Sadeghi received her M.Sc. and Ph.D. in Chemical Engineering from the University of California at Davis and her B.Sc. in Chemical Engineering from the University of California at Berkeley.

John Sankey, P.Eng., is an engineer for True Blue Technologies. He holds a degree in Mechanical Engineering from Queen’s University in Kingston, Ontario. He sits on the steering committee for several groundwater sampling and monitoring symposiums, which focus on monitoring groundwater so that in situ remediation is planned well. He has been in the groundwater industry for more than 18 years, and in 2003 started True Blue Technologies, a business dedicated to providing engineering, technical support, and business development for technologies in groundwater remediation and characterization. After work, John is the “snowboard” trainer for the Disabled Skiing Association of BC and co-coordinates a small adult co-ed hockey league.

Jasmine Schliesmann-Merkle, CHMM, PCQI, RDN, is a regulatory compliance and training specialist with over 30 years’ experience supporting both public and private sector clients. She has served as a Program Manager for multiple EPA contracts focused on providing enforcement and compliance support for various regulatory programs including RCRA, CERCLA, SARA, CAA, CWA, SDWA, DOT, OSHA, FERC, NRC, and TSCA. Jasmine is highly knowledgeable about federal and state regulations and has provided significant compliance evaluation, regulatory review, and program development support to clients. In addition, she has conducted hundreds of site assessment audits and inspections for multiple industries including nuclear and fossil fuel fired power generation; chemical manufacturing; iron, steel, and brass foundries; and oil refining. Jasmine delivers special expertise in regard to training development and presentation. She has created more than 100 technical and regulatory training programs for federal, state, local, and tribal regulatory agencies and the regulated communities nationwide. She teaches a variety of courses on hazardous materials management for the NIOSH Education Research Centers at UCLA and the University of South Florida, for the CDC and for industry. Ms. Schliesmann-Merkle received a B.S. in Biology and Community Nutrition from Georgia State University in 1989. She received her registration as a dietitian in 1990 from the American Dietetic Association (ADA) and was recertified in 1999. She is certified as a Certified Hazardous Materials Manager (CHMM) and a Preventive Controls Quality Individual (PCQI) in accordance with the Food Safety Modernization Act (FMSA). She is currently pursuing her Regulatory Affairs Certification (RAC)-US certifications.

Brian Schumacher is the Associate Director for Science in the National Exposure Research Laboratory of the United States Environmental Protection Agency’s Office of Research and Development in Las Vegas, Nevada. Brian was hired by the U.S. EPA in 1991 to take the lead on and address ways to improve the sampling and analysis of soils contaminated with volatile organic compounds. This research has led to his natural progression into the arena of vapor intrusion. Dr. Schumacher has conducted research in numerous areas related to vapor intrusion, including: the improvement/standardization of soil gas sampling methodologies; the spatial and temporal variability of VOCs in the environment (in both sub-slab and uncovered areas); passive vapor intrusion sampling for long-term monitoring; examining the influence of an installed mitigation system on the fluctuation of VOC and radon concentrations into the home; and looking for simple, efficient, and rapid methods to determine the potential for vapor intrusion into the home. His current research is focused on looking at monitoring the effectiveness of a soil vapor.
extraction system in reducing/preventing vapor intrusion into neighboring buildings, use of air purifiers to reduce/remove atmospheric VOCs in buildings or homes, and developing a short-duration screening method that will induce the “maximum” vapor intrusion into a building.

**Henry Schuver** was originally trained as geologist (B.S. from WWU, M.S. from ASU). Dr. Schuver began his environmental career in the hazardous waste program in the New Jersey Department of Environmental Protection (NJDEP, 1986-1989), then moved into private consulting (1989-1995), then returned to a regulatory position as a Resource Conservation and Recovery Act (RCRA) case manager in U.S. EPA Region 2 (1995-1997). He then transferred to U.S. EPA headquarters’ RCRA Cleanup Program in 1997. In headquarters he helped to meet the 1993 Government Performance and Results Act (GPRA) deadlines and requirements for 2005 by authoring the 1999 guidance for the multiple-pathway RCRA environmental indicators (EIs) for both ‘Human Health’ and ‘Groundwater Under Control’ determinations. Congressional budget language (2000) stipulated the RCRA EIs would be the model for the Superfund program’s development of EI measures for GPRA and are still used as common metric for progress at all EPA cleanup sites in the agency-wide annual Report on the Environment (ROE). For the EI guidance he convinced the RCRA program to evaluate vapor intrusion (VI) to indoor air pathway at each of the high-priority 2005 baseline facilities and managed the development of a 2001 RCRA VI guidance for EI determinations, which lead to calls for an OSWER-wide (2002 draft) guidance and eventually the 2015 final VI guide. Over the years in headquarters, he has led annual national conferences on EIs, and since 2001 those are primarily focused on the latest science for VI. He earned his Dr. of Public Health (Dr.P.H.) degree in Epidemiology (Johns Hopkins School of Public Health), and is currently focused on evidence-based approaches to maximize the health benefits and cost-effectiveness of VI efforts for all the parties involved. Increasingly he has been asked to help manage ‘emerging science/contaminant’ issues such as dioxin, TCE, lead (Pb), and per- and polyfluoroalkyl substances (PFAS). These emerging science/contaminant topics make more apparent the tentative nature of risk-(concentration)-based decision making and the benefits of the more verifiable and longer-lasting nature of physical controls that minimize exposures by ‘cutting’ pathways to receptors.

**Brad Schwie**’s more than 17 years as an environmental consultant have involved investigating and remediating soil, vapor, and groundwater at agricultural, chlorinated solvent, and petroleum sites for private and public sector clients. He specializes in telemetry and vapor intrusion assessment and mitigation.

**Nabil Shaikh** is a Ph.D. student at University of New Mexico, Department of Civil Engineering, with a focus in Environmental Engineering. Nabil graduated with B.E. in Chemical Engineering from Birla Institute of Technology - Dubai, U.A.E., and worked as an Environmental Engineer at the Barakah Nuclear Power Plant in Abu Dhabi, U.A.E. He is currently conducting research on removal of endocrine disrupting compounds from drinking water under the supervision of Dr. José M. Cerrato in the E-H2O research group. Nabil is also interested in simulation and modelling of contaminants in natural systems. He enjoys biking and video gaming and is an avid sports fan.

**David Shea** has more than 25 years of experience as an environmental and site remediation engineer, with a particular focus on vapor intrusion assessment and mitigation design for residential, commercial, and industrial buildings. He has been the Principal Investigator for RCRA Facility Investigations of vapor intrusion at multiple large commercial/industrial campuses involving over 40 buildings comprising millions of square feet of building footprint. He is a Principal Engineer with Sanborn, Head & Associates in Concord, New Hampshire, where he is responsible for leading vapor intrusion and environmental remediation projects throughout the U.S. and abroad. He is a licensed professional engineer in 15 states. He holds a B.S. in Civil Engineering from Princeton University and an M.S. in Civil Engineering from M.I.T.

**Jack Sheldon** is a Senior Remediation Specialist with Antea Group located in West Des Moines, Iowa. He has over 34 years of experience in the fields of environmental microbiology and remediation. Jack has a B.S. in Bacteriology & Public Health and an M.S. in Environmental/Industrial Microbiology from Wagner College in Staten Island, New York. In his current role, he advises on remediation technology selection, performance, and optimization across the U.S. and abroad. His key technology areas are
bioremediation and chemical oxidation. Jack has authored numerous papers and posters, and co-authored two best-selling books on bioremediation.

Rui Shen is a researcher and the lead of the vapor intrusion modeling team at Brown University. She obtained her Ph.D. with her thesis on vapor intrusion modeling in 2013. Dr. Shen has published more than 14 journal papers and has been invited to various national and international conferences.

Vic Sher has spent his career developing and prosecuting extraordinary legal strategies to protect people and the planet. Over the past 30 years – including as a litigator, consultant, and leader of the world’s largest public interest environmental law firm – Mr. Sher has achieved exceptional success on behalf of communities and non-governmental organizations against the world’s most powerful polluters and largest law firms. As lead trial attorney for the City of New York, he and his team obtained a landmark $105 million verdict against ExxonMobil for MTBE contamination; his clients have recovered hundreds of millions of dollars in drinking water contamination lawsuits. Along with representing public agencies and organizations in active lawsuits, Mr. Sher consults on effective litigation strategies with government agencies, national and local non-profit organizations, and attorneys around the country.

Lenny Siegel has been Executive Director of the Center for Public Environmental Oversight since 1994. He is one of the American environmental movement’s leading experts on both military facility contamination and the vapor intrusion pathway, and for his organization he runs two internet newsgroups: the Military Environmental Forum and the Brownfields Internet Forum. In July 2011 Siegel was awarded U.S. EPA’s Superfund Citizen of the Year Award. He currently serves as Vice-Mayor of Mountain View, California.

Ryan Simone, J.D., is an Associate Attorney at Caufield & James, LLP and practices environmental litigation. Ryan is a graduate of the University of San Diego Law School and holds an undergraduate degree from California State University Fresno, graduating with honors. During law school, Ryan worked as a law clerk at the Law Office of Virginia Nelson for two years and handled matters ranging from complex medical malpractice cases to personal injury. Additionally, Ryan interned at the United States Attorney’s Office in the Eastern District of California and gained experience in civil litigation. Ryan also draws on his experience from participation in Mock Trial and Moot Court. While a student at both the University of San Diego Law School and Fresno State, Ryan was a champion oral advocate and won tournaments at both the undergraduate and graduate school level. Ryan was admitted to the California State Bar in November 2014. Currently, Ryan practices at both the state and federal level, and represents both plaintiffs and defendants in complex ground soil and groundwater contamination cases.

Steven Sittler holds a B.S. in Earth Sciences from the University of Indianapolis and an M.S. in Geology from Purdue University, and is a Registered Professional Geologist in five states. He has more than 31 years of technical experience in applied hydrogeology, with specialized experience in remedial strategy development and implementation, and has managed and performed more than 1,000 hydrogeologic assessment/remediation projects involving both implementation of innovative closure strategies and unique applications of conventional technologies for petroleum hydrocarbons and chlorinated solvents in more than 20 states.

Brant Smith is the Technical Applications Manager for in situ chemical oxidation (ISCO) technologies at PeroxyChem. With over 15 years of experience, Dr. Smith has designed and implemented numerous field applications and bench scale tests involving ISCO, in situ bioremediation, in situ chemical reduction, and metals stabilization. He has made over 60 presentations at national and international conferences and his research has been published in journals including Environmental Science and Technology, Journal of Contaminant Hydrology, Environmental Toxicology and Chemistry, Journal of Environmental Science and Health, and Journal of Environmental Engineering. Dr. Smith has been a co-Principal Investigator for a research grant (ER-2132) awarded by through the Strategic Environmental Research and Development Program (SERDP) and is a chapter co-author for the book In Situ Chemical Oxidation for Groundwater Remediation (Siegrist et al., 2011). Dr. Smith obtained a Bachelor’s of Science with the majors of Civil and Environmental Engineering and Economics from Worcester Polytechnic Institute, and a Master of Science and Ph.D. in Civil Engineering from Washington State University. He is a registered Professional Engineer in Washington State.
Michael Smith has worked as a hydrogeologist for the VT Department of Environmental Conservation since 1986. He is a project manager for State lead, Superfund, and RCRA hazardous site investigation and remediation, specializing in DNAPLs, chlorinated solvents, and coal tar sites. He has also been active in the Interstate Technology Regulatory Council (ITRC) as a team leader on several projects, the ITRC Board Training Liaison, a State POC, and a team member on a number of teams. Michael has an M.S. in Hydrogeology and an M.A. in Climatology from Ohio University in 1985, and a B.S. in Geology from Marietta College in 1978. Prior to finalizing his Master's degrees, Michael worked in uranium mining, geotechnical consulting, and Appalachian basin gas field development and exploration.

Susan E. Smith is a partner and resident in Goldberg Segalla's Baltimore office and leads the Toxic Torts arm of the firm's Toxic Torts and Environmental Practice Group. A seasoned litigator with nearly 20 years of experience, Ms. Smith defends clients in various industries against claims alleging personal injury as a result of Legionnaires' disease and other waterborne pathogens, lead poisoning, chemical burns and inhalation, carbon monoxide poisoning, and exposure to other potentially harmful substances. She regularly obtains successful results for property owners and environmental engineering and consulting firms in a wide range of matters relating to soil and water contamination involving residential, commercial, and industrial properties.

Ross Steenson received his B.S. in Geology from The College of William and Mary and his M.S. in Geology from Miami University. His professional experience includes environmental site investigations and remediation. He has practiced in this field since 1989. He holds professional geologist and certified hydrogeologist registrations in California. In 2008, he joined the San Francisco Bay Regional Water Quality Control Board in the Groundwater Protection Division. He manages a variety of cases, provides technical support to other staff, and serves on the Environmental Screening Level team.

Anna Stephens is a Project Consultant at WSP with ten years’ experience in the renewable energy and sustainability industries and over ten years’ experience in academic research, including a Ph.D. in Biochemistry. She has a range of experience in energy efficiency and sustainability, including the development and analysis of greenhouse gas (GHG) emissions, waste, and water inventories; developing external sustainability communications; assisting with sustainability strategy; and assessing climate risk. She has provided support on GHG inventories and assurances for organizations in a wide range of sectors, including large Fortune 500 companies. She is currently working with multiple corporations to aid in the management of GHG, water, and waste emissions; help develop science-based emissions reductions goals; and assess climate risk for a corporate supply chain.

Mussie Sultan Teweldemedhin is from Eritrea, Africa. He is self-motivated and well-disciplined and devoted to his job. He is a graduate from Asmara University (cumulative GPA 3.45) where he majored in Geography. Currently, he is a student of Environmental Sociology at Hohai University, China, pursuing his Master's degree on a scholarship (2015-2018). His experience within eight years in the Ministry of Education is with different activities such as post teaching, head of the department, program coordinator, and researcher. Mussie was a volunteer in guidance and counseling and was involved in a green program campaign. He was awarded by the government of Eritrea for his contribution on a research paper about housing problems in Eritrea. He has attended several different national and international conferences.

Lindsay Swearingen is the Managing Partner and Principal Scientist at Specialty Earth Sciences. Her duties include experimental design regarding site specific bench scale studies, technology development, and product optimization. She is the co-developer of Sustained Oxidation and Controlled Oxidant Release Encapsulant technologies (SOCORE) as well as Directionally Drilled Permeable Reactive Barrier technologies. Dr. Swearingen holds a B.S. and Clinical Doctorate from Indiana University and has pursued her interdisciplinary Ph.D. from the University of Louisville, focusing on environmental toxicology.

Kim Tenggardjaja is an Environmental Scientist in the Statewide Planning and Policies Unit in the Division of Water Quality at the State Water Resources Control Board (State Water Board). She is the lead State Water Board staff for implementation of the Desalination Amendment to the California Ocean Plan. Prior to her current position, Kim was a 2015 California Sea Grant State Fellow at the State Water Board.
Board. She received a Ph.D. and M.A. in Ecology and Evolutionary Biology from the University of California Santa Cruz.

Diane Thiel is Professor of English and Director of Creative Writing at the University of New Mexico. She received her undergraduate and graduate degrees from Brown University. She is an interdisciplinary writer who has published 10 books and numerous articles in fields such as literature, environmental studies, and the role of the arts in addressing global climate change and sustainability. She has taught in various interdisciplinary programs, including the NSF-funded Ecology for Urban Students. Her work has received numerous awards such as the Robert Frost Award, the Robinson Jeffers Award, a PEN Translation grant, and the NEA International Literature Award.

Karen Thorbjornsen holds Bachelor of Science and Master of Science degrees in Geology and is a registered Professional Geologist licensed in Alabama, Georgia, South Carolina, and Tennessee. She has 20 years of environmental consulting experience with CB&I Federal Services (formerly Shaw Environmental) in Knoxville, Tennessee. She performs background studies of natural metals and ambient PAHs in environmental media and performs statistical analyses of environmental data. Her specialty is geochemical evaluation of metals data – a forensic technique to distinguish natural concentrations from site-related contamination in soil, sediment, groundwater, and surface water. Ms. Thorbjornsen performs geochemical evaluations to delineate the extent of contamination, refine lists of chemicals of concern, optimize long-term monitoring programs, confirm the success of soil-removal actions, characterize background distributions, and determine whether statistical outliers have a natural or anthropogenic source. She has successfully performed geochemical evaluations at hundreds of sites across the U.S., authored several papers on the technique, and taught over 30 short courses. Her papers have been published in *Environmental Forensics Journal, Journal of Structural Geology, Remediation,* and *Soil & Sediment Contamination.*

Marek Trojanowicz is a Professor of Chemistry in the Institute of Nuclear Chemistry and Technology in Warsaw, Poland, and is a Professor Emeritus of the Chemistry Department of the University of Warsaw. He received M.Sc., Ph.D., and D.Sci. (habilitation) degrees in the Department of Chemistry at the University of Warsaw, Poland, and his post-doc one-year stay was in Tohoku University in Sendai, Japan. He is the recipient of Świętosławski Award of Warsaw University for achievements in the field of analytical chemistry, Kemula Medal of Polish Chemical Society, and Scientific Honor Award of Japanese Society of Flow Injection Analysis. He was granted Visiting Professor positions in numerous universities including long-term appointments in University of Michigan; Fulbright senior fellowship in University of California at Riverside; University of Tasmania, Australia; University of Sao Paulo, Brazil; and several European universities. He is a member of the advisory boards of 10 international analytical journals, and for 15 years he served as Scientific Secretary of the Committee on Analytical Chemistry of the Polish Academy of Sciences. His expertise includes design of electrochemical sensors and biosensors, flow analysis, liquid chromatography and capillary electrophoresis, application of ionizing radiation for water and waste treatment, and application of chemical analysis for environmental protection, and in archaeometry. He is the author of 300 scientific papers and two monographic books as well as the editor of one book in the field of flow analysis and automation of analytical measurements. His current number of citations according to ISI Web of Knowledge is about 5200, and Hirsch index is 38.

Laura Trozzolo received her B.S. in Biology from the University of Notre Dame in 1993 and her M.S. in Risk Decision Analysis from Indiana University in 1995. She is a Senior Human Health Risk Assessor with TRC, where she provides data management and regulatory oversight for human health risk assessment and risk management services for military sites, former manufactured gas plant sites, active and former refineries, and railroad derailments and operational sites. In addition, Laura serves as a technical specialist on vapor intrusion issues for TRC, specializing in fate and transport of contaminants in the environment. When she is not working, Laura is wrangling five-year-old twin boys and vaguely remembers enjoying something called “free time.”

Robert Truesdale is a Senior Research Geologist with RTI International. Mr. Truesdale has supported U.S. EPA research on multimedia environmental pollution issues for over 35 years, with work ranging from sampling and analysis to modeling and risk assessment. One of the principal technical authors of
EPA's Soil Screening Guidance. Mr. Truesdale has been involved in vapor intrusion research and regulatory development since 2000, including work for the Indiana Department of Environmental Management and EPA's ORCR, ORD, and OUST. He has managed and organized 12 consecutive vapor intrusion technical workshops and three stakeholder forums for EPA ORCR and ORD. He received a B.A. in Geology from Duke University in 1975 and an M.S. in Geologic Sciences from the University of Maine in 1977, where he conducted research on diatoms as indicators of the impact of climate change on Antarctic paleoecology. Mr. Truesdale has worked at RTI since 1978.

Seema Turner has over 16 years of experience in environmental investigations and analyses, engineering geology, and geotechnical engineering. She has managed several projects in southern California under the oversight of local agencies, including the Regional Water Quality Control Board - Los Angeles and Santa Ana (LARWQCB and SARWQCB, respectively) and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC). She has conducted and overseen no-purge, low-flow, micro-purge groundwater sampling and monitoring, soil sampling, installation of soil gas probes, and supervised installation of bedrock wells using air rotary techniques. In addition to groundwater and soil sampling, Seema has participated in assessing indoor air quality for volatile organic compounds (VOCs) in residential and commercial properties and schools in Southern California. In this capacity, she has performed indoor air quality surveys by conducting chemical inventories and setting-up SUMMA™ canisters with flow controllers. She has sampled, monitored, and traced surface water and groundwater; performed geologic analyses of field data and historical information; and prepared geotechnical cross sections and geologic presentations for reports, mediations, and court presentations.

Liam Twight was accepted at Long Beach State in 2015 as an undergraduate and President's Scholar and is now a junior majoring in Biochemistry. He plans to pursue a career in research and academia in the fields of chemistry and biochemistry.

Usha Vedagiri is the Northern California practice leader for risk assessment at AECOM. She has worked on human health and ecological risk assessments for perfluorinated chemicals in many states and countries. She is based in Oakland, California.

Stephen Wall is the Chief of the Outdoor Air Quality Research Program for the California Department of Public Health, which is located on the Marina Bay Richmond Laboratory Campus. The OAQ Research Program has a staff of six Ph.D. level research scientists who conduct ground breaking investigations to elucidate the sources and environmental fate of toxic particles in order to assess the potential for human exposure. These environment forensics investigations employ state-of-the-art sampling devices and analytical instrumentation, including micro-scale spectroscopy and electron microscopy. Forensics analysis is also conducted in a high hazard laboratory for chemical threat agents associated with environmental release incidents. Dr. Wall received his B.S. in Physical Chemistry from the University of California at Davis, and his Ph.D. in Engineering Physics from the University of California at Berkeley. He is the author of more than 65 scientific publications and has presented over 48 research papers at international conferences on aerosol chemistry and physics.

Andrew Wallace, M.S., LPG, is a Senior Project Manager at Environmental Resources Management (ERM) in Indianapolis, Indiana. Mr. Wallace has over 14 years of experience with environmental site assessment and remediation, which currently includes managing a number of sites within regulatory programs of the Indiana Department of Environmental Management (IDEM) and Illinois Environmental Protection Agency (IEPA). Mr. Wallace has worked on a number of vapor intrusion-related projects, and his technical expertise includes managing a complex vapor intrusion investigation and associated mitigation measures involving the sewer gas to indoor air migration pathway. He received his Bachelor’s degree in Geological Sciences from Hanover College (Hanover, Indiana) and Master's degree in Geoscience from The University of Iowa. Mr. Wallace is a Licensed Professional Geologist (LPG) in the State of Indiana and currently serves as Vice President on the Board of Directors for the Professional Geologists of Indiana (PGI).

Landon Watts is a junior undergraduate student at California State University, Long Beach, majoring in Environmental Science and Policy. He is performing research under the National Institute of Health
BUILD program. His ultimate goal is to obtain his Ph.D. and then work in the water treatment field remediating wastewaters.

**Ryan Wymore**, P.E., has over 19 years of environmental consulting experience, 18 of which he has spent specializing in innovative remediation technologies, particularly in situ bioremediation, monitored natural attenuation, in situ thermal remediation, in situ chemical reduction, in situ biogeochemical transformation, and in situ chemical oxidation. Ryan has extensive experience with characterization and remediation of sites contaminated with volatile organic compounds (VOC’s), including DNAPLS, and has implemented multi-component remedies for large, complex sites. He has led laboratory and field-scale remediation research, and strives to incorporate the latest characterization and remediation technologies into his projects. Ryan has been involved with the Interstate Technology and Regulatory Council (ITRC) for 14 years and has contributed to more than 20 ITRC guidance documents and training seminars. He recently completed a 3-year term on the ITRC Board of Advisors as the industry representative. Ryan has served on the organizing committee for international DNAPL remediation conferences and the 2011 Battelle International Bioremediation Symposium, and currently serves on the Advisory Board for the AEHS Foundation’s Annual International Conference on Soil, Water, Energy & Air.

**June Yi**, P.E. is a senior chemical engineer and program manager with over 22 years of experience in the environmental remediation and water treatment industries. June specializes in project management, focusing on remedy strategies and technical selection, cost-effective project execution, work productivity, and optimization of long-term O&M leading to site closures. She worked extensively on the design and construction of the remedial systems for federal clients (Department of Defense and Department of Energy), municipalities, and private industries including aerospace, landfills, and chemical manufacturing clients. As Program and Operations Manager at Project Navigator, Ltd., she oversees the company operation and provides technical expertise to multi-party Superfund sites and environmental trust sites.