Biosketches of Speakers
Interagency Performance & Risk Assessment Community of Practice (P&RA CoP)
2017 Annual Technical Exchange Meeting
Albuquerque, New Mexico
October 18-19, 2017

Ms. Elizabeth (Betsy) Connell
Betsy Connell was recently named the Director, Office of Regulatory Intergovernmental and Stakeholder Engagement, of the U.S. Department of Energy Office of Environmental Management (EM). Betsy was EM chief of staff since September 2015 and concurrently continued to serve as senior policy advisor to Secretary Moniz, who she had previously worked for when he was Under Secretary of Energy. Prior to rejoining DOE in 2013, Betsy was a manager at the Idaho National Laboratory, and led the transition of the Advanced Test Reactor to a scientific user facility, development of the lab's infrastructure plan, and served as the senior advisor to the laboratory director and deputy director for science and technology. She has 30+ years of experience working on national security, nuclear energy, and environmental cleanup matters of the Department of Energy, as a federal employee, laboratory staff, or contractor. She has also worked at the Savannah River Site, for Defense Programs, the former DOE Office of Nuclear Safety, and the Office of Nuclear Energy.

Ming Zhu, Ph.D., PE, PMP
Dr. Ming Zhu currently advises senior management of the U.S. Department of Energy's Office of Environmental Management (EM) on national laboratory policy issues, and chairs the Interagency Steering Committee on Performance & Risk Assessment Community of Practice (P&RA CoP). He also advises the International Atomic Energy Agency on mathematical modeling, risk assessment and decision analyses, as well as supports Waste Management Symposia as Co-Chair for Track 9 on cross-cutting issues. Previously, he established the DOE Advanced Scientific Simulation for Environmental Management (ASCEM) Initiative, co-led the DOE Low-Level Waste Federal Review Group (LFRG), and chaired the Interagency Steering Committees on Multimedia Environmental Modeling (ISCMEM).

In 2015 he received a DOE Special Act Award for serving as the Acting Budget Director for the DOE Office of Environmental Management. Between 2010 and 2015 he served as the DOE headquarters Senior Site Program Manager/Site Liaison for Richland Operations of the Hanford Site, and received the DOE Secretary's Achievement Award in 2012. In 2012 he also served as Senior Advisor to the Director of Homeland Security Advanced Research Projects Agency (HSARPA) within the Department of Homeland Security.

Prior to joining DOE headquarters in 2009, he managed natural systems testing and modeling work of Sandia National Laboratories and engineering firms in support of the licensing and construction of the Yucca Mountain repository for high level radioactive waste and nuclear spent fuel; and led large-scale modeling efforts on a number of CERCLA and RCRA sites in the U.S. and overseas for URS Dames & Moore. He earned a Ph.D. in Mineral (Hydrogeological) Engineering from the University of California at Berkeley; graduated from a Senior Executive Service Development Program; and completed the Federal Executive Institute's Leadership for Democratic Society Program. A licensed civil engineer, Dr. Zhu was elected Fellow by the American Society of Civil Engineers.

Peter Swift, Ph.D.
Dr. Peter Swift is a Senior Scientist in Advanced Nuclear Energy Programs at Sandia National Laboratories, and is the National Technical Director of the Department of Energy's Office of Nuclear Energy Spent Fuel and Waste Technology Research and Development Campaign. Dr. Swift is a geologist by training, and has 27 years of experience in evaluating the technical basis for radioactive waste disposal, including key roles in the certification and licensing process for both the Waste Isolation Pilot Plant in New Mexico and the proposed Yucca Mountain repository in Nevada.

Dr. Swift received a Ph.D. in Geosciences from the University of Arizona in 1987, Master's and Bachelor's degrees in Geology from the University of Wyoming in 1982 and 1980, and a B.A. in English from Yale University in 1974. He is a Fellow of the Geological Society of America.

Mr. Todd Zeitler
Todd has been at Sandia National Laboratories since 2010 and is currently a senior member of the technical staff at the Carlsbad, New Mexico site. He joined the Performance Assessment and Decision Analysis Department at Sandia in 2012 where he is currently the technical lead of the WIPP Performance Assessment group, which assesses of the long-term performance of the WIPP repository for the U.S. Department of Energy. He also works as a molecular modeler at Sandia, specializing in materials science and geochemistry applications.

Glenn Hammond, Ph.D.
Dr. Hammond is a computational geohydrologist and reactive transport modeler who employs state of the art numerical methods and computational science to simulate subsurface fluid flow and reactive biogeochemical transport on supercomputers. He has over 20 years of experience programming C/C++, Fortran90/95/03/08, Java, and scripting languages (e.g. Python) and over 15 years of experience developing and executing scalable codes on massively parallel supercomputers. Dr. Hammond is one of the primary architects of the open source, petascale reactive flow and multicomponent geochemical transport code PFLOTRAN. He employs PFLOTRAN to simulate reactive multiphase flow and transport processes in the subsurface

Mr. James Bethune
James recently joined the Performance Assessment and Decision Analysis Department of the Sandia Carlsbad site, where he serves as a senior technical staff member of the WIPP Performance Assessment group. Prior to joining Sandia, James volunteered in the Peace Corps Response as a watershed management specialist in the Philippines. James has also worked as a consulting hydrogeologist in Washington state. James graduated from the Colorado School of Mines in 2014 with an M.S. in Hydrology, and from Carleton College in 2010 with a B.A. in Geology.

Ms. Kathy Economy
Ms. Economy has over 20 years of experience participating on the Performance Assessments (PA) teams that support the license applications for two high profile DOE nuclear waste repositories, the Waste Isolation Pilot Plant (WIPP)—licensed and approved by EPA in 1998—and DOE's proposed spent nuclear fuel repository at Yucca Mountain. She has extensive experience reviewing and analyzing regulatory requirements and how they are implemented in performance assessments for spent nuclear fuel, high-level and transuranic nuclear waste. Her particular interest is understanding the importance of determining whether PA model assumptions and inputs reflect and are aligned with empirical data. These evaluations provide confidence that the best scientific practices are implemented in the long term performance of nuclear waste repositories.

Ms. Economy currently works at EPA's Radiation Protection Division as an EPA regulator for DOE's repository of transuranic waste repository, WIPP. She has a Master of Science in Hydrology from New Mexico Institute of Mining and Technology and a Bachelor of Science in Anthropology from University of California Riverside.

Mr. Ricardo Maetas
Ricardo Maestas was born and raised in Anton Chico, New Mexico, a land grant, ranching and farming community on the Pecos River between Las Vegas, NM and Santa Rosa, NM. Ricardo attended college at New Mexico State University in Las Cruces and obtained a bachelor's degree in Environmental Science.

After college, Ricardo started with the New Mexico Environment Department (NMED), Hazardous Waste Bureau, Waste Isolation Pilot Plant (WIPP) Permitting Group in November 2008. This November, Ricardo will be working with the NMED WIPP Group for 9 years. Ricardo is currently the Staff Manager for the NMED WIPP Group.

Ricardo is married and has a son and a daughter. Ricardo is very active with his children's sports and other activities and the Church community. Ricardo and his family call Las Vegas, NM home.

Mr. Chris McKenney
Christepher McKenney has a Bachelor of Science in Nuclear Engineering from Oregon State University and has been with the U.S. Nuclear Regulatory Commission since 1991. He is currently the Chief of the Performance Assessment Branch in the Division of Decommissioning, Uranium Recovery, and Waste Programs in the Office of Nuclear Material Safety and Safeguards. His group is responsible for reviewing and performing modeling related to the long-term impacts of decommissioning, disposal of low-level waste, and waste incidental to reprocessing and ensuring that material licensees have adequate financial assurance for decommissioning. Over his twenty-five years at the NRC, he has primarily worked the waste and radiation protection arenas. He has primarily worked on modeling biosphere transport and establishing exposure scenarios for regulatory compliance in low-level waste, decommissioning, geologic disposal and uranium recovery.

Mr. Roger Seitz
Roger Seitz is a Senior Advisory Scientist with the Savannah River National Laboratory providing technical and policy support on projects related to waste management, environmental remediation and facility closure. He supports the US Department of Energy Office of Environmental Management, the International Atomic Energy Agency (IAEA), and specific projects at multiple sites across the DOE Complex. His primary expertise is in the area of performance assessment and design for waste disposal and decommissioning activities.

His career includes more than 30 years of experience, including positions at the Hanford, Idaho and Savannah River DOE Sites and five years as a Staff Member at the IAEA. He has led, contributed to or reviewed performance assessments for disposal facilities at 7 DOE sites. He has also served as a consultant/peer reviewer for the USNRC, USEPA, IAEA and National Research Council/National Academy of Sciences and served on a Scientific Committee for the National Council on Radiation

Protection and Measurements. He has provided training and technical consulting on performance assessment and waste management in more than 15 different countries.

Mr. Kent Rosenberger
Mr. Rosenberger is the manager of Closure and Disposal Assessment for Savannah River Remediation responsible for the SRS liquid waste facility Performance Assessment Program. He has spent the last 27 years at the Savannah River Site. The first 14 years were within the Radiological Protection Department. He supported new facility design and existing facility health physics technical support including dose rate and shielding calculations primarily in the liquid waste and nuclear materials processing areas. The last 13 years have been spent supporting the development of closure and disposal regulatory documents including Performance Assessments and Waste Determinations for SRS tank closures and the Saltstone Disposal Facility. Mr. Rosenberger has a degree in Nuclear Engineering from Penn State University.

Philip Stauffer, Ph.D. (1999, Geophysics, University of California, Santa Cruz)
Dr. Philip Stauffer has been involved in simulations of subsurface flow and transport for 26 years. Stauffer is currently involved in several projects with nuclear transport components, including 1) Performance assessment science lead for a low level nuclear waste repository at MDA G, LANL, 2) project lead for experiments and numerical calculations of liquid/vapor transport around heat generating nuclear waste in salt, and 3) modeling PI for transport of radionuclides through fractured rock associated with underground nuclear testing. In addition, Stauffer has worked on other nuclear waste problems including deep unsaturated Pu/Am transport at LANL, Yucca Mountain, and tritium transport related to LANL's particle accelerator.

Adam Atchley, Ph.D.
Adam Atchley's background is in ecohydrology with a bachelors degree from Oregon State University in plan and soil ecology and a masters and Ph.D in hydrology form Colorado School of Mines. His dissertation was on reactive transport and human health risks from contaminated groundwater. As a Scientist at Los Alamos National Laboratory he has studied thermal hydrology in Arctic systems and fire and hydrology interactions. Adam has also engaged in the performance assessment of MDA G at TA-54 primarily by modeling transport of radionuclides from waste disposal pits to the groundwater table. He has also simulated long-term surface erosion and streamlined the model-calibration workflow of the erosion simulations.

Ms. Elizabeth (Liz) Miller
Ms. Elizabeth (Liz) Miller is a Research Technologist in the Earth Systems Observations Group of Los Alamos National Laboratory's Earth and Environmental Sciences Division. Ms. Miller applies her 10+ years of experience in field and structural geology, geomorphology, geographic information systems (GIS), and remote sensing techniques (e.g. Lidar and hyperspectral imaging [HSI]) to a number of monitoring and verification R&D programs at LANL. Current projects include the following: (1) Cliff Retreat at Technical Area 54 – a predominantly geomorphological assessment of the cliffs below Material Disposal Area G at Technical Area 54 of Los Alamos National Laboratory in order to determine the stability and potential for failure; (2) Nuclear Testing Limitations – international treaty monitoring and verification support; (3) Underground Nuclear Explosion Signatures Experiment – documentation and interpretation of the signatures produced during underground nuclear tests; (4) Seismic and Volcanic Hazard Assessments – field and GIS support for hazard analyses. In addition, her expertise in geologic framework modeling has become an important tool for visualization and integration of a broad range of geologic datasets for treaty

verification and monitoring programs. Liz received an M.A. in volcanology from the John's Hopkins University in 2007.

Dib Goswami, Ph.D.
As the lead/head hydrogeologist, Dr. Dib Goswami supports the mission of the program by providing necessary direction for the environmental cleanup of soil and groundwater at the Hanford Federal Facilities dealing with complex problems associated with the flow and transport of groundwater contamination, monitoring, sampling and remediation of radionuclides and other chemicals. This position assists the program with cross section, cross program, interagency and interstate duties, and responsibilities. Responsibilities include coordination with various expert panels, National Academy of Science, Nuclear Regulatory Commission, inter-state, federal agencies, Tribal Nations and other stakeholders in developing and communicating sitewide policies on groundwater and vadose zone characterization, monitoring, remediation and risk/impact assessments. Also responsible in providing expert testimonies before such bodies as the legislature, litigation/court on complex hydrogeologic and surface water issues of the Hanford Site. Dib is also a Subject Matter Expert of the American Nuclear Society of the groundwater and vadose zone group and helped to publish the "Evaluation of subsurface radionuclide transports at commercial nuclear power plants", an American National Standard. He has served as team leaders of a number of technical teams dealing with the innovative technology development and deployment for the Interstate Technology and Regulatory Council (ITRC), USA since 1997.

Alaa Aly, Ph.D.
Dr. Alaa Aly is an environmental engineer with 26 years of experience and graduate degrees in irrigation engineering and statistics from Utah State University. His team is responsible for risk and performance assessments in support of major remedial decisions. The team is contractually responsible to the U.S. Department of Energy to integrate human health and ecological risk assessment, vadose zone and groundwater modeling, and performance assessment activities across three major contractors with many subcontractors. In addition to his project management responsibilities, Dr. Aly's experience includes fate and transport modeling, human health risk and ecological assessment, uncertainty analyses, hydrologic and environmental characterization, environmental remediation, and water resources and supply evaluation.

Robert Andrews, Ph.D.
Ph.D., 1979, Hydrogeology, University of Illinois, Urbana-Champaign
A.B., 1973, Geology, Earlham College
Robert "Bob" Andrews has 38 years of experience in quantitative hydrogeology, focusing on performance assessment modeling, groundwater flow and contaminant transport analyses, and hydrogeologic site investigations. For 15 years, he managed the performance assessment project for the U.S. Department of Energy's (DOE) proposed high-level radioactive waste repository program at Yucca Mountain (Yucca Mountain Project). In addition to his performance assessment expertise, he has conducted and managed hydrogeologic characterization and modeling projects in support of radioactive waste management programs in the U.S. and Switzerland. He was a technical contributor to the LFRG review of the Savannah River Saltstone performance assessment. He is currently on the steering committee for the Risk and Performance Assessment Community of Practice.

For the IDF PA Bob was responsible for leading the modeling team at INTERA and integrating the PA document and served as the lead author for various sections of the IDF PA document.

Mr. Kearn P. Lee
AREVA Federal Services, LLC
MCE, Civil and Environmental Engineering, University of Delaware
BChE, Chemical Engineering, University of Delaware
Kearn "Pat" Lee has more than 12 years of performance assessment development and analysis experience and has been supporting Department of Energy nuclear waste programs for 17 years. He supported the development of the post-closure performance assessment for the license application to dispose high-level waste at Yucca Mountain in Nevada. Following completion of the license application, Pat transitioned into technology development to develop and test different technologies to retrieve radioactive waste from underground tanks on the Hanford Site in Washington.

For the IDF PA, Pat was the Project Manager for Washington River Protection Solutions and lead the planning and implementation of the IDF PA for the past 2 ½ years.

Mr. Gary Pyles
BS, Mechanical Engineering from New Mexico State University
Certified project management professional through the Project Management Institute.
Gary Pyles has over 20 years of Waste Management experience with the Department of Energy. He worked 10 years at the Nevada National Security Site (NNSS) managing the Radioactive Waste Acceptance Program and the long-term performance models for the Area 5 and Area 3 disposal facilities. In addition, Gary has approximately 8 years of experience between the Richland Operations Office (RL) and NNSS managing the Solid Waste Stabilization and Disposition Program responsible for repackaging, characterizing, and shipping Transuranic Waste to the Waste Isolation Pilot Plant in Carlsbad, NM. Gary is a member of the Low Level Disposal Facility Federal Review Group (LFRG) and has participated on several LFRG review teams including the Portsmouth On-Site Disposal Cell and the Idaho National Laboratory Remote Handled Low Level Waste Disposal Facility.

Gary Pyles joined the U.S. Department of Energy, Office of River Protection (ORP) in October 2014 as part of the One System Division. He is responsible for coordinating the disposal of radioactive waste at the Integrated Disposal Facility and the evaluating the facility's long-term performance for compliance with DOE performance objectives.

Mr. Scott Kirk
Scott recently joined BWX Technologies and serves as the Director of Regulatory Affairs for their Technical Service Group. In this capacity, Scott provides guidance on a variety of regulatory affairs matters, focusing on radioactive waste management.

Scott was the 2017 Richard S. Hodes, M.D. Honor Lecture Award recipient from the Southeast Compact Commission for Low-Level Radioactive Waste and Management.

Prior to his employment with BWXT, Scott served as the Vice President of Licensing and Regulatory Affairs for Waste Control Specialist (WCS). He contributed to the successful licensing a new regional Low-Level Waste Disposal Facility in Andrews County, TX. Scott has also worked on providing disposal options for complex waste streams, such a large quantities of Depleted Uranium and Greater Than Class C Low Level Waste. Most recently, he was responsible for preparing a license application for a Consolidated Interim Storage Facility for Spent Nuclear Fuel for WCS.

Scott was also employed by Nuclear Fuel Services (a BWXT Company) and served as the principle licensing liaison with Nuclear Regulatory Commission for over 10 years. He was responsible for licensing facilities used to downblend surplus Highly Enriched Uranium into commercial fuel assemblies as part of a major nuclear-nonproliferation program for the Department of Energy.

Scott has a Master of Science Degree in Environmental Health from East Tennessee State University and a Bachelor of Science Degree in Geology/Physics from Appalachian State University. He is also a Certified Health Physicist by the American Board of Health Physics.

Tamara Yankovich, Ph.D. (IAEA)
Ms Yankovich has more than 20 years of experience working on complex nuclear sites, including power reactor sites, research reactor sites and uranium mines and mills, with a focus on safety and compliance. Throughout her career, she has gained practical experience in the development of safe work plans, licensing documentation, surveillance and inspection processes, records management, environmental characterization, monitoring, immediate and long-term environmental radiological protection issues, and evaluation of potential short-term and long-term impacts using a risk-based approach. Ms Yankovich has a recognized expertise in environmental impact assessment and ecological risk assessment for radionuclides, for non-radiological substances and physical stressors. This includes broad project-related experience which, for example, has involved: the assessment of environmental transport and fate of radionuclides, heavy metals, mercury and organic contaminants; the assessment of exposure to contaminants and corresponding environmental effects; short- and long-term planning and development of safe work plans for environmental characterization and remediation at complex sites; decommissioning planning; and emergency preparedness and response.

Paul Black, Ph.D.
Principal and co-founder of Neptune and Company, Inc., an environmental consulting company that specializes in the technical disciplines of statistics, decision analysis, risk assessment, ecology, environmental modeling, QA and chemistry. Manager of Neptune and Company's Statistics, Decision Analysis, and Modeling Group. The main focus of the group is to provide consulting services in environmental decision analysis, covering disciplines such as environmental modeling, cost-benefit (economic) analysis, options analysis, statistics, probability, elicitation, earth sciences, and human health and ecological risk assessment. Responsibilities include managing a group of about 10 people who are focused and motivated to efficiently and effectively solve environmental problems, working in a collaborative environment on interesting problems that call for innovative or cutting edge solutions, and managing various projects in which the group is engaged. Responsibilities also include involving the group in professional societies and conferences, company publications, presentations, and proposals, and marketing and business development.

Jeffrey Whicker, Ph.D.
Dr. Jeffrey Whicker has worked at Los Alamos National Laboratory for over 27 years. He received a PhD in Environmental and Radiological Health Science from Colorado State University and is certified by the American Board of Health Physics. He is a Council Member on the National Council of Radiation Protection and on the Board of Directors for the Health Physics Society. Jeff is an author or co-author on over 175 scientific publications, invited talks, book chapters, and presentations mostly on indoor and outdoor radiological air quality and measurement that span

issues ranging from worker protection, homeland security, public risk assessment and environmental quality.

Craig H. Benson, Ph.D., PE, DGE, NAE
Dr. Craig H. Benson is Dean of the School of Engineering and the Janet and James Hamilton Endowed Chair in Civil & Environmental Engineering at the University of Virginia (UVA). Prior to his appointment at UVA, Benson was Wisconsin Distinguished Professor of Civil & Environmental Engineering and Geological Engineering at the University of Wisconsin-Madison. Dr. Benson has a BS from Lehigh University and MSE and PhD degrees from the University of Texas at Austin, all in Civil Engineering with an emphasis in geoenvironmental engineering. Dr. Benson has been conducting research and consulting related to protection of the environment for three decades, with primary focus on environmental containment of solid, hazardous, radioactive, and mining wastes; beneficial use of industrial byproducts; and sustainable infrastructure. He is recognized as the foremost international authority on engineered barriers for waste containment and is widely sought after for his expertise in design and performance assessment, especially for disposal facilities containing low level waste (LLW), mixed waste (MW), and/or uranium mill tailings. Dr. Benson leads the Landfill Partnership for the US Department of Energy's (DOE) Consortium for Risk Evaluation with Stakeholder Participation (CRESP), which provides research and technical support on issues related to performance assessments for LLW and MW disposal facilities as well as evaluation of the performance of existing and historic disposal facilities owned and/or operated by DOE. Dr. Benson is former Editor-in-Chief of the *Journal of Geotechnical and Geoenvironmental Engineering*, past President of the ASCE Geo-Institute (GI), past Chair of the GI Geoenvironmental Committee, past Vice Chair of the Executive Committee of ASTM Committee D18 on Soil and Rock, and past Chair of ASTM Committee D18.04 on Hydraulic Properties and Barriers. Dr. Benson is a member of the National Academy of Engineering.

Dr. Te-Yang Soong, Ph.D., P.E.
Dr. Te-Yang Soong is the Principal Engineer at CTI and Associates, Inc. He has more than 28 years of experience in teaching, research, engineering consulting, technical and constructability reviews, and served as expert witness related to multiple geotechnical and geo-environmental projects. His areas of expertise include landfill liner and cover design, geosynthetic materials, and durability of barrier materials.

Dr. Soong has published more than 60 papers. Several of Dr. Soong's publications are highly referenced by the geo-environmental design community and used as industry standard. Dr. Soong has conducted technical training seminars on numerous subjects including US EPA's webinar on state-of-the-art landfill design methodology. He has also been invited numerous times by several State regulatory agencies to present advanced design and construction technologies.

Dr. Soong has worked on projects throughout the United States and has also advised landfill projects in China, India and Brazil for private, state and World Bank funded projects. Specific to his recent LLRW landfill experiences, he was the Principal-in-Charge of the closure of the Maxey Flats Disposal Site; the Principal-in-Charge of the Design/Build team for the Mixed-Waste Disposal Unit Cell 25 at the Nevada National Security Site; a consultant to UCOR for their EMDF design at Oak Ridge, TN; and was the Engineering Design Subject Matter Expert supporting the EM's PPR review for the OSWDF at Portsmouth, OH.

Stephen F Dwyer, PhD, PE
Dr. Dwyer has a BS/Civil Engineering, MS/Civil Engineering and PhD in Civil/Geoenvironmental engineering, as well as an MBA. Dr. Dwyer's engineering dissertation and research centered on the concepts of development and modeling of alternative earthen cover profiles including the ET Covers and Capillary Barriers. Dr Dwyer has over 30 years of engineering experience and is recognized as a leading industry expert in the design, water balance modeling, and monitoring of ET Covers. Dr Dwyer has authored multiple design guidance documents for the EPA, DOE, among others and has served as a technical expert to the EPA and DOE. Dr. Dwyer has designed, provided construction oversight, and/or reviewed over 200 hazardous, radioactive, mine, and/or municipal solid waste site closures. Dr. Dwyer retired as a principal engineer from Sandia National Laboratories where he developed and demonstrated the ET Cover concept including water balance modeling techniques to address both prescriptive equivalence and minimum cover thickness to meet regulatory compliance Dr. Dwyer is currently president of Dwyer Engineering LLC that specializes in the design and construction of site closures including uranium mine sites.

George Alexander Ph.D.
Dr. George Alexander is a Systems Performance Analyst for the U.S. Nuclear Regulatory Commission. He has worked in the Performance Assessment Branch for the past 9 years as a technical reviewer for the Savannah River Site tank closures and Saltstone Disposal Facility, materials decommissioning sites, and uranium mill tailing sites. His areas of focus include geochemistry, degradation of cementitious materials, groundwater flow and transport. Dr. Alexander earned his degrees from Penn State University in Energy and Geo-Environmental Engineering.

Edward Winner, Ph.D.
Dr. Edward Winner is the manager for Kentucky's Underground Storage Tank Branch, Energy and Environment Cabinet in Frankfort. He has been manager since 2011. His specific areas of experience include statistical analysis, groundwater sampling design, site assessment and conceptual site modeling, exposure analysis, and risk assessment. Prior to his present position, Dr. Winner was supervisor and Federal Facilities Agreement Manager for the Paducah Gaseous Diffusion Plant Section. He started his employment with the Commonwealth of Kentucky in the Risk Assessment Branch. He came to state government from the University of Louisville, Lion's Eye Research Center where he had been a postdoctoral fellow. Dr. Winner has published peer review articles and white papers on a variety of topics such as the mechanisms of acrylonitrile toxicity, slow adapting receptors in the lung, probabilistic modeling of ground water plume ½-life, analysis of monitor comingled plumes, and anthropogenic background of inorganic elements in Kentucky. He earned Bachelor of Arts degree in 1984 in (Theology) from Tennessee Temple University in Chattanooga, Tennessee, and Bachelor of Science degree in 1989 in (Zoology) and Ph.D. in 1997 in (Environmental Biology), both from the University of Louisville in Louisville, Kentucky. He also pursued additional studies at the University of Louisville, Brandeis School of Law.

Mr. Josh Linard
Josh Linard has spent the majority of his career collecting field data in support of hydrologic and chemical transport model applications for the U.S. Geological Survey (USGS) and U.S. Department of Energy (DOE). As part of the USGS National Water Quality Assessment (NAWQA) Agricultural Chemical Team he applied deterministic, semi-distributed watershed models to improve the understanding of chemical transport processes in different agricultural landscapes

across the United States. In support of the Colorado River Basin Salinity Control Forum he developed multiple linear regression models able to simulate salt and selenium concentrations at any point within the Basin. At the DOE he oversees the collection and management of environmental data and environmental modeling used to support long-term surveillance and maintenance of sites managed by the Office Legacy Management.

Haruko Wainwright, Ph.D.
Haruko is a research scientist at Lawrence Berkeley National Laboratory. She earned master in nuclear engineering and statistics, and PhD in nuclear engineering at University of California, Berkeley. Her research focuses on hydrological modeling, spatial statistics, data integration, and uncertainty quantification. She has worked on various research topics in both nuclear engineering and environmental sciences, including nuclear waste, groundwater contamination, surface contamination after the Fukushima accident, climate change impacts on ecosystems, and geological CO2 storage. She has played a key role in many multidisciplinary projects. She is a recipient of 2016 Director's Award for Early Scientific Career Achievement at LBNL.

Vicky Freedman, Ph.D.
Dr. Vicky Freedman is a Senior Research Scientist in the Hydrology Group at the Pacific Northwest National Laboratory (PNNL). She specializes in the numerical modeling of contaminant fate and transport in both the vadose zone and groundwater, and is particularly interested in the use of high performance computing to solve applied problems. Dr. Freedman is also the lead of the Deep Vadose Zone program, which integrates and leverages investments from basic science, applied research, and site contractors in a collaborative effort to develop innovative remediation alternatives for deep vadose zone challenges in characterization, prediction, remediation, and monitoring.

Mr. Michael Dale
Michael Dale is a Regulator with the New Mexico Environment Department's Hazardous Waste Bureau. He has 23 years of experience with the monitoring, characterization, and corrective action (e.g., remediation) specific to groundwater contamination at Los Alamos National Laboratory, New Mexico. Michael holds a BS degree from New Mexico State University and a MS degree from University of Louisiana at Lafayette, and a licensed Professional Geoscientists with the State of Texas.

Velimir V (Monty) Vesselinov, Ph.D.
Velimir V Vesselinov completed PhD degree at the University of Arizona, Tucson. Presently, he is technical staff member of Earth and Environmental Sciences Division, Los Alamos National Laboratory, NM, USA. His research interests include machine learning uncertainty quantification, risk and performance assessments, optimal design of remedial activities, and decision support. He is the PI of several projects related groundwater flow and transport in the vadose zone and the regional aquifer at the LANL site. He is also Task Leader of the Decision Support team within the ASCEM (Advanced Simulation Capability for Environmental Management; DOE-EM), and the LANL PI of the DiaMonD project (An Integrated Approach to Mathematics at the Interfaces of Data, Models, and Decisions; DOE Office of Science).

David Sevougian, Ph.D.
Dr. David Sevougian is a principal member of the technical staff at Sandia National Laboratories, with 40 years of experience in earth sciences, including geologic repository science, hydrogeology, geophysics, decision analysis, and petroleum engineering. He has an AB degree in physics from

Cornell University and a PhD in petroleum engineering from The University of Texas at Austin. He is a member of the American Nuclear Society and the Society of Petroleum Engineers. Recently he has been working on the safety case and performance assessment methodology for generic deep geologic repositories for high-level nuclear waste and spent nuclear fuel.