

**Invitation for Public Comment on the List of Candidates for the
EPA Science Advisory Board Environmental Engineering Committee**

July 12, 2016

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice on April 6, 2016 (81 FR 19967-19969) that it was inviting nominations of experts to be considered for the Administrator's appointment to the SAB Environmental Engineering Committee. The SAB Environmental Engineering Committee provides advice to the EPA Administrator, through the chartered SAB, on risk management technologies to control and prevent pollution. For the Environmental Engineering Committee, the SAB Staff office sought nominations of experts within the disciplines of chemical fate and transport; environmental remediation and technology; and geochemistry and geochemical reactions.

The SAB Staff Office identified 8 candidates based on their expertise and willingness to serve. We hereby invite public comments on the attached List of Candidates for consideration by the SAB Staff Office. Comments should be submitted to Mr. Edward Hanlon, Designated Federal officer no later than August 2, 2016 at hanlon.edward@epa.gov. E-mail is the preferred mode of receipt. Please be advised that public comments are subject to release under the Freedom of Information Act.

Garvey, Edward

Louis Berger Group

Dr. Edward Garvey is a Technical Vice President with the Louis Berger Group in Morristown, NJ, providing technical direction for the contaminated sediments and hazardous waste efforts of the firm nationwide. He is an environmental geochemist and a licensed professional geologist (PA), with extensive experience in geochemical investigative techniques, environmental forensics, and Superfund Megasite investigations. Dr. Garvey holds a B.Ch.E (Cooper Union) in Chemical Engineering and M.A., M.Phil. and Ph.D. degrees in Geological Sciences from Columbia University. His research interests include the integration of geochemical and geophysical data to establish sediment and contaminant transport, the geochemical study of persistent organic pollutants (POPs) such as PAHs, PCBs and dioxins and the geochemical study of heavy metals, such as lead and mercury. He has extensive experience in the application of environmental forensics by combining sediment core dating and other geochemical study techniques with high resolution analytical techniques to identify current and historical contaminant sources to the environment. Among his accomplishments are the technical direction of the U.S. Environmental Protection Agency's (USEPA) investigation and remedial decision for the Hudson River PCB superfund site (PCBs), the USEPA investigations of the Lower Passaic River and Newark Bay (NJ) Superfund sites (dioxins, PCBs, PAHs and heavy metals), the Onondaga Lake Superfund site for the NYSDEC (mercury and PCBs) as well as the successful investigations of numerous smaller sites throughout the US. He is currently providing technical direction for New York City's investigation efforts in the Gowanus Canal and Newton Creek, NYC (PAHs, PCBs and heavy metals) pertaining to combined sewer overflow discharges. He has coauthored over eighty presentations and journal articles on contaminant fate and transport. Dr. Garvey served for five years (2002 to 2007) on the New York Academy of Sciences NY/NJ Harbor Consortium, a panel convened by the academy at the request of USEPA to review contaminant issues for New York Harbor. Dr. Garvey is a member of the board of the directors for the Hudson-Delaware chapter of Society of Environmental Toxicology and Chemistry (2011 to present). He is also an adjunct professor in the Civil and Environmental Engineering Department at Manhattan College in the City of New York. His research has been conducted as part of his work as a consultant to the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the State of New York, the City of New York and others, with the largest fraction from the USEPA. Dr. Garvey currently has no federal research funding.

Li, Qilin

Rice University

Dr. Qilin Li is an Associate Professor of Civil and Environmental Engineering, Chemical and Biomolecular Engineering, and Materials Science and Nanoengineering at Rice University. Dr. Li received her B.E. degree in Environmental Engineering from Tsinghua University in Beijing, China, her M.S. and Ph.D. degrees in Environmental Engineering from University of Illinois at Urbana-Champaign, and her post-doctoral training at Yale University. Dr. Li's research focuses on advanced technologies for water and wastewater treatment and reuse including adsorption, membrane separation, advanced oxidation and environmental nanotechnology, novel desalination methods, environmental fate and transport of contaminants, and environmental impact of nanotechnology. She has published numerous articles in leading environmental engineering journals and several book chapters and technical reports. She has led many research projects funded by National Science Foundation, US Environmental Protection Agency, WaterReuse Foundation, United Nation, and industry. Dr. Li currently serves as the chair for the IWA Nano&Water Specialist Group Managing Committee and the Associate Director for Research for the NSF Nanosystems Engineering Research Center for Nanotechnology Enabled Water Treatment (NEWTE). She was the recipient of the Shenzhen Pengcheng Distinguished Scholarship, NRC Summer Faculty Fellowship, Roy E. Campbell Faculty Development Award, ES&T Super Reviewer and Excellence in Review awards, American Water Works Association (AWWA) Water Quality and Technology Conference Best Paper Award, Parsons Engineering Science/AEESP Best Doctoral Thesis Award, and AWWA Larson Aquatic Research Award.

Mundell, John

Mundell & Associates, Inc.

John Mundell is President and a Senior Environmental Consultant with Mundell & Associates, Inc. an earth science, environmental and water resources consulting firm founded in 1995 and based in Indianapolis, Indiana. A Professional Engineer and licensed professional geologist with over 36 years of consulting experience, he has served as senior project engineer and manager, project director, senior technical consultant and expert witness for numerous environmental projects throughout the United States, Canada, Mexico, South America, Europe and Asia. He has a B.S. and M.S. in Civil Engineering from Purdue University and has completed doctoral coursework at the University of Notre Dame in environmental engineering. His projects have included the full range of environmental services including: remedial investigation/feasibility studies (RI/FS); RCRA facility investigation (RFI), remedial design/remedial action (RD/RA) studies; RCRA corrective measures studies (CMS), geologic and hydrogeologic assessments; solid and hazardous waste facility siting, design and closure investigations; underground storage tank assessments; groundwater contamination, restoration, and treatment studies; and geophysical and geotechnical engineering studies. Specific expertise includes groundwater and contaminant modeling; geochemical evaluations; risk assessments; design and installation of monitoring well systems; groundwater sampling techniques; field and laboratory permeability testing of soils and rock; water and waste analytical chemical testing interpretation; regulatory compliance; delineation, recovery, and containment of hydrocarbon and hazardous constituents in the subsurface; and evaluation and design of innovative technologies for hazardous waste site cleanup.

Mr. Mundell has been involved in several funded (Department of Energy, National Science Foundation, American Society of Civil Engineers) and non-funded research projects focusing on environmental/geotechnical issues related to groundwater contamination and waste containment. Research topics have included:

- Numerical simulation of multicomponent solute transport with chemical reaction;
- Permeability characteristics of compacted clay for design of waste containment;
- Chemical reaction effects on the hydraulic conductivity of porous media;
- In-place precipitation immobilization at uncontrolled hazardous waste sites;
- Acid reactions with soils;
- Leachate mass estimates from degrading municipal refuse;
- Finite element modeling of moving boundary problems
- Stochastic prediction of soil characteristics from geophysical data;
- Non-circular slope stability analysis;
- Applications of geophysics to archaeological investigations. Calibration of chemical transport modeling with site specific data sets

Orlov, Alexander

State University of New York, Stony Brook

Dr. Alexander Orlov is an Associate Professor of Materials Science and Engineering at State University of New York, Stony Brook, USA. He is also a faculty member of the Consortium for Interdisciplinary Environmental Research, Chemistry Department and the Institute for Advanced Computational Science. In addition Dr. Orlov is the European Research Council (EU) and National Science Foundation (US) funded Visiting Professor of Chemistry at the University of Cambridge. Dr. Orlov has already a substantial experience on providing advice to policy makers on environmental, consumer protection and agricultural matters. From 2007 till 2014 he was appointed by two UK Secretary of States for Environment, Food and Rural Affairs to advice the Government on such issues as hazardous substances, sustainability, environmental health/engineering and environmental impact of nanotechnology. Several of his current NSF funded projects are focused on development of new technologies for air purification using waste materials, water and air remediation utilizing novel catalytic materials and risk analysis for nanomaterials release in the environment. Dr. Orlov has 5 degrees from various European and the US institutions, including: Doctoral and Master's degrees in Physical and Environmental Chemistry from the University of Cambridge (UK) and Master's degree in Environmental Engineering from the University of Michigan (US). He also holds Diploma in Economics from the London School of Economics. Among his current activities Dr. Orlov is contributing to work of the United Nations Environmental Program (Lead Author for the GEO report and reviewer of various UN reports) and the US-EU working group on Risk Assessment of Nanomaterials under auspices of the US White House and European Commission cooperative program on nanotechnology research. He serves as expert for over 20 Governmental agencies throughout the world, which includes grant reviewing for the NSF, DOE, DOD and the EU Commission. He also chairs the American Institute of Chemical Engineering Committee on Research and New Technologies, and participates in the Executive Committee of the American Chemical Society Environmental Division. In the last 7 years his research was supported by 10 National Science Foundation (NSF) grants, the State of New York, the U.S. Department of Education, the U.S. Department of Transportation (via Regional Center), the National Institute of Standards and Technology (NIST) and Industry. He was awarded the US National Science Foundation CAREER Award and the UK National Endowment for Science Technology and Arts CRUCIBLE award. He was also selected to the Fellowship of the UK Royal Society of Chemistry, the US National Academy of Engineering (NAE) Frontiers of Engineering (US), the EU-US (NAE) Frontiers of Engineering, the NAE Frontiers of Engineering Education and was made Kavli Fellow in 2014 by the Kavli Foundation and the US National Academy of Sciences. In 2016 Dr. Orlov has been named Sigma Xi Distinguished Lecturer and was recognized by the State University of New York with Chancellor's Award of Excellence in Scholarship and Creative Activities.

Powers, Susan

Rice University

Dr. Susan Powers – Dr. Powers earned her Ph.D. in Environmental Engineering at The University of Michigan 1992, M.S. Civil & Environmental Engineering – Clarkson University 1985, and her B.S. Chemical Engineering – Clarkson University 1983. Dr. Powers' has historically worked in the area of multiphase flow and contaminant transport in subsurface systems, with specific emphasis on the fate, transport, and remediation of nonaqueous phase liquids (NAPLs) in complex systems. Research on the environmental fate of oxygenated gasoline led to her interest in the application of this subsurface science to aid in regulatory and policy decisions with a broader perspective on the environmental impacts of energy policy over the life cycle of energy systems. Recent projects in this area include environmental life cycle management issues for gasoline, other transportation fuels, and dairy waste-to-energy systems. Her current research is especially focused on defining and quantifying metrics that can be used to assess the energy and environmental benefits and liabilities associated with energy systems. In the wide range of classes that Dr. Powers has taught, she focuses on teaching the process of engineering problem solving in a real-world environment. By focusing on complex and relevant environmental problems, the importance of societal impacts and communication can be stressed as well as providing a basis and relevance for technical material needed to address the engineering problem. This approach has been used in classes designed for middle school science and technology subjects, undergraduate environmental engineering lab and capstone design classes, and graduate classes in groundwater flow, physico-chemical processes, and industrial ecology. Dr. Powers' education and scholarly work are integrated through research on aspects of engineering and broader STEM education. She has had several education oriented research grants, including the NSF Director's Award as a Distinguished Teaching Scholar. Among these efforts, she has promoted and assessed the value of utilizing relevant project-based experiences to improve energy and climate change literacy of middle school, high school and college students.

Scherer, Michelle M.

University of Iowa

Dr. Michelle M. Scherer is the Donald E. Bently Professor of Civil and Environmental Engineering at the University of Iowa. She holds a B.S. in Systems Engineering from the University of Virginia (1989), an M.S. in Civil and Environmental Engineering from the University of Connecticut (1994), and a Ph.D. (1998) in Environmental Science and Engineering from the OGI School of Science and Engineering. Dr. Scherer is currently Chair of the Department of Civil & Environmental Engineering (www.engineering.uiowa.edu/cee/) and is an expert in environmental geochemistry and reactions of metals at the mineral-water interface. Her research and teaching interests are center around the redox chemistry of minerals in soils and water, biogeochemical cycles of nutrients and metals, hazardous waste treatment, and nanogeochemistry. Dr. Scherer is a past Associate Editor for the journal *Environmental Science & Technology* and was awarded the 2010 Malcolm Pirnie Frontier in Research Award by the Association of Environmental Engineering and Science Professors (AEESP) and the 2016 May Brodbeck Distinguished Achievement Award for Faculty at U. Iowa. She has published numerous articles in leading environmental engineering and science journals, as well as several book chapters. Dr. Scherer's current research and education initiatives are supported by competitive grants from the National Science Foundation, Department of Energy, and the Strategic Environmental Research and Development Program (SERDP) to provide funding to understand processes controlling heavy metal and chlorinated solvent cleanup and redox behavior of semiconductor minerals. Current work is focused on perchlorethylene, trichloroethylene, heavy metals (such as arsenic) and iron, manganese, and clay minerals.

VanBriesen, Jeanne

Carnegie Mellon University

Dr. Jeanne VanBriesen is the Duquesne Light Company Professor of Civil and Environmental Engineering at Carnegie Mellon University, and Director of the Carnegie Mellon Center for Water Quality in Urban Environmental Systems (WaterQUEST). She holds a B.S. in Education (Chemistry) from Northwestern University, and an M.S. and Ph.D. in Civil Engineering (Environmental) from Northwestern University. She is a registered professional engineer in Delaware. Her expertise is in water quality engineering. Her research foci include , detection of biological agents in drinking water and natural water systems, coupling watershed behavior and drinking water system operations and security, and energy-water systems interactions. Dr. VanBriesen's research has been funded through grants from the National Science Foundation, the Department of Defense Strategic Environmental Research and Development Program, the Colcom Foundation, the Heinz Endowments, the Packard Foundation, the Pennsylvania Infrastructure Technology Alliance, the Pennsylvania Water Resources Research Center, and the Natural Resources Defense Council. She has served on the boards of the Association for Environmental Engineering and Science Professors, the Ohio River Basin Consortia for Research and Education, and the Nine Mile Run Watershed Association. She currently serves on the board of the Consortium for the Advancement of Hydrologic Sciences (CUAHSI). Dr. VanBriesen has received numerous awards, including the 2015 Carnegie Science Center Environmental Award and the 2015 American Society of Civil Engineering Margaret S. Peterson Award. Dr. VanBriesen served on the National Research Council's Committee on Water Quality in Southwestern Pennsylvania in 2002-2004. She was a selected presenter at the National Academy of Engineering Indo-US Frontiers of Engineering Symposium on Infrastructure in 2008, and an invited speaker at the National Academy of Engineering Education Symposium in 2010. She was selected as a National Academy of Engineering Gilbreth Lecturer in 2011.

Werth, Charles J.

University of Texas, Austin

Dr. Charles J. Werth is a Professor and the Bettie Margaret Smith Chair in Environmental Health Engineering in the Department of Civil, Architecture and Environmental Engineering at the University of Texas at Austin. Dr. Werth received a B.S. in Mechanical Engineering from Texas A&M University, an M.S. and Ph.D. in Environmental Engineering from Stanford University, and a Ph.D. minor in Chemistry from Stanford University. Dr. Werth's research and teaching focus on the fate and transport of pollutants in the environment, the development of innovative catalytic technologies for drinking water treatment, and the mitigation of environmental impacts associated with energy production and generation. In his research, he develops and/or uses noninvasive imaging, environmental microfluidics, nanotechnology, spectroscopic analysis, numerical modeling, and life cycle assessment. Dr. Werth has published 99 peer-reviewed journal articles. His research is currently supported by grants from both government agencies and private companies, with research support during the last three years from the US EPA, DOE, NSF, NASA, USGS, British Petroleum's Energy Bioscience Institute, and Texas Hazardous Waste Research Center. Dr. Werth presently serves on the US EPA's Science Advisory Board Environmental Engineering Committee and the US EPA's Chartered Science Advisory Board. He formerly served on the boards of the Association of Environmental Engineering and Science Professors (AEESP) and the AEESP Foundation, as well as the User Executive Committee for DOE's Environmental Molecular Science Laboratory and the External Advisory Board for a DOE Energy Frontier Research Center. The quality of his work has been recognized by appointment as a Wiley Research Fellow at the DOE's Environmental Molecular Science Laboratory, appointment as Editor-and-Chief of Journal of Contaminant Hydrology, an Editors Choice Best Paper Award from Environmental Science and Technology (2nd in the category of Technology), most cited paper recognition from Journal of Contaminant Hydrology, a Humbolt Research Fellow Award, a National Science Foundation CAREER Award, and a BP Award for Innovation in Undergraduate Instruction.