

**Environmental Engineering Committee Augmented for Sustainability Advisory
EPA Science Advisory Board (SAB) Staff Office**

The EPA Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice (Volume 71, Number 80; Pages 24674-24675) that it was augmenting the EPA Science Advisory Board (SAB) Environmental Engineering Committee with additional members of the SAB, to provide advice to the Agency on the Office of Research and Development's Sustainability Research Strategy and the associated multi-year research plan. The EPA Administrator appoints all members of the chartered SAB and its standing committees. The biosketches for the augmented Committee follow.

Environmental Engineering Committee Members

Aneja, Viney

Professor

North Carolina State University

Dr. Viney Aneja is a Professor in the Department of Marine Earth and Atmospheric Sciences at North Carolina State University. He holds the following degrees: B. Tech. Indian Institute of Technology, Kanpur, India; M.S. and Ph.D. from North Carolina State University in Chemical Engineering; and MBA in Planning and Control from Union College, Schenectady, NY. His areas of professional interest are: air quality and atmospheric chemistry; transport, transformation and fate of pollutants; natural emissions of trace gases (Nitrogen, Sulfur, and Hydrocarbons); biogeochemical cycling of pollutants; atmospheric monitoring of trace gases; biospheric-atmospheric interactions; photochemical oxidants and gas-to-particle conversion. He is a member of the U.S. Department of Agriculture Air Quality Task Force. The Air and Waste Management Association gave him their highest honor, the Frank A. Chambers Award in 1998 and in 2001 Lyman A. Ripperton Award (for distinguished achievement as an educator in the field of air pollution).

His research has been funded by the U.S. Environmental Protection Agency, National Science Foundation, US Department of Agriculture, National Park Service, National Oceanic and Atmospheric Administration, NC Department of Environment and Natural Resources, NC State University Animal and Poultry Waste Management Center and others.

Crittenden, John C.

Professor and Richard Snell Presidential Chair

Arizona State University

Dr. John C. Crittenden is Richard Snell Presidential Chair of Civil and Environmental Engineering, Department of Civil and at Arizona State University. He received a B.S. in Chemical Engineering and was awarded M.S. and PhD in Civil and Environmental Engineering by the University of Michigan. Dr. Crittenden's research has been focused on the following two themes: (1) urban environment and sustainability; and (2) applications and risk assessment of nanomaterials. He is a member of the National Academy of Engineering.

His work is funded primarily by the National Science Foundation with modest funding from EPA's ORD for P3 design and on the Fate, Transport, Transformation and Toxicity of Manufactured Nanomaterials in Drinking Water, and from the America Water Works Association Research Foundation.

Dzombak, David A.

Professor

Carnegie-Mellon University

Dr. David A. Dzombak is professor of civil and environmental engineering at Carnegie Mellon University, a registered professional engineer in Pennsylvania, and a diplomate of the American Academy of Environmental Engineers. He holds a Ph.D. in civil-environmental engineering from the Massachusetts Institute of Technology. The emphasis of his research is on water and soil quality engineering, especially the fate and transport of chemicals in subsurface systems and sediments, wastewater treatment, in situ and ex situ soil/sediment treatment, hazardous waste site remediation, and abandoned mine drainage remediation. Dr. Dzombak has served on two National Research Council Committees and on various research review panels for the Department of Defense, Environmental Protection Agency, National Institute of Environmental Health Sciences, and the National Science Foundation. He has also served on the Board of Directors and as an officer of the Association of Environmental Engineering and Science Professors; as chair of committees for the American Academy of Environmental Engineers, American Society of Civil Engineers, and Water Environment Federation; and on advisory committees for various community and local government organizations and for the Commonwealth of Pennsylvania. Dr. Dzombak was elected a fellow of the American Society of Civil Engineers in 2002. Other recent awards and honors include the Professional Research Award from the Water Environment Association of Pennsylvania in 2002, an Aldo Leopold Leadership Program Fellowship by the Ecological Society of America and the David and Lucile Packard Foundation in 2000, and the Jack Edward McKee Medal from the Water Environment Foundation in 2000.

His research is currently funded by the National Science Foundation, Alcoa, and the U.S. Department of Energy's National Energy Technology Lab.

Eighmy, T. Taylor

Research Professor and Director of the Recycled Materials Resource Center

University of New Hampshire

Dr. Taylor Eighmy is the Director of Strategic Initiatives in the office of the Vice President for Research at the University of New Hampshire (UNH) where he focuses on strategic initiatives, government relations, federal agency relations, private sector partnerships, and coordination with the UNH Foundation on large philanthropic opportunities and special capital projects relating to the research enterprise at UNH. He received his B.S. in Biology from Tufts University in 1980, his M.S. in Civil Engineering from UNH in 1983, and his Ph.D. in Engineering (Civil) from UNH in 1986. Prior to this assignment, Dr. Eighmy served as a Research Professor of Civil Engineering, Dr. Eighmy directed the Environmental Research Group (ERG), an applied environmental engineering and environmental science research center at UNH. He also directed the Recycled Materials Resource Center (RMRC), a partnership with the Federal Highway Administration, to promote the wise use of recycled materials in highway construction. He served on the Advisory Board of the New Hampshire Estuaries Project, a partnership between the New Hampshire Office of State Planning and the U.S. EPA's National Estuaries Program. He also served on the National Steering Committee of the U.S. DOE's Combustion Byproduct Recycling Consortium. He received the UNH Excellence in Research Award in 1997.

His research interests are: recycled materials characterization and beneficial use, chemical speciation, environmental chemistry of leaching behavior, spectroscopic surface analysis, applied geochemistry, reactive barriers, and environmental microbiology. The demands of his current position leave him no time for research and he receives no research funding.

Hughes, Joseph B.

Professor and Chair

Georgia Institute of Technology

Dr. Joseph B. Hughes is Professor and Chair of the School of Civil and Environmental Engineering at the Georgia Institute of Technology. Prior to his employment at Georgia Tech, he held the rank of Professor of Civil and Environmental Engineering and Department Chair at Rice University in Houston Texas. Current additional appointments include Associate Director for Research of the EPA's South and Southwest Region Hazardous Substances Research Center, Chair of the Science Advisory Board of the EPA's West Coast Hazardous Substances Research Center, member of the U.S. EPA standing science advisory committee on Environmental Engineering and he holds an adjunct faculty appointment at Nankai University in Tainjin, China. Dr. Hughes received his Ph.D. and M.S. degrees from the University of Iowa in Civil and Environmental Engineering and a B.A. from Cornell College in Chemistry. He is the recipient of the ASCE 2005 Walter L. Huber Civil Engineering Research Prize given to members for notable achievement in civil engineering research. He has also received the Charles Duncan Award for Outstanding Academic Achievement at Rice University, has twice received the ASCE Outstanding Professor Award, and is faculty advisor to the Chi Epsilon chapter at Georgia Tech. Dr. Hughes' research specializes in the area of Environmental Biotechnology, in particular determining how the novel metabolic capabilities of living organisms can be harnessed to improve the environment in which we live. Recent research projects under Dr. Hughes' direction have focused on how bacteria and plants metabolize toxic organic pollutants, in particular, chlorinated solvents, nitroaromatic compounds, polynuclear aromatic hydrocarbons, and nanomaterials. Dr. Hughes is an award-winning teacher and has demonstrated a commitment to education in a variety of levels. In recent years, his passion in teaching has expanded to address the needs of Civil Engineering students to work in nations with developing economies or where civil infrastructure is inadequate or non-existent. He has sponsored and provided direct oversight to student projects in Mali and in Angola (both of which focused on issues of infrastructure, water, and quality of life improvements).

His research is currently supported by DuPont Corporation Louisiana State University.

Kavanaugh, Michael

Vice President

Malcolm Pirnie, Inc.

Dr. Michael C. Kavanaugh is Vice President and the National Science and Technology Leader for Malcolm Pirnie, Inc. He earned a B.S. and a M.S. in Chemical Engineering from Stanford and the University of California, Berkeley, respectively. He received his PhD in Civil/Environmental Engineering from UC Berkeley. He is a registered professional engineer in several states and is a Diplomate of the American Academy of Environmental Engineers. His areas of expertise include hazardous waste management, site remediation with an emphasis on groundwater cleanup, strategic environmental management, risk analysis, water quality and water reuse, water treatment, industrial and municipal wastewater treatment and technology evaluations including patent reviews. Since 2000, Dr. Kavanaugh has served on the Science Advisory Board of the DOD environmental research program, the Strategic Environmental Research and Development Program ("SERDP"). He is currently on the Editorial Advisory Board for the Environmental Science and Technology Journal. He was elected to the National Academy of Engineering in 1998.

He has provided a broad range of consulting engineering services to private and public sector clients both in the U.S. as well as western Europe and parts of Asia.

Koshland, Catherine

Professor

University of California, Berkeley

Dr. Catherine P. Koshland is the Wood-Calvert Professor in Engineering at the University of California, Berkeley, and Professor in Energy and Resources and in Public Health (Environmental Health Sciences). She is a director and Secretary of the Combustion Institute, and serves on the editorial board of Combustion, Science and Technology. In 1999, she joined a distinguished group when she presented the Nineteenth Annual Steven Manly Memorial Lecturer at the University of California at Santa Barbara. At Berkeley, she is the Chair of the Academic Senate during 2002-2003; she served as Vice-Chair from January 2001-July 2002. She has been a member of the Integrated Human Exposure Committee of the EPA's Science Advisory Board since 2001. Professor Koshland graduated with a B. A. in Fine Arts from Haverford College, studied painting at the New York School of Drawing, Painting and Sculpture, and received her M. S in 1978 and her Ph.D. in 1985. in Mechanical Engineering from Stanford University. She joined the U. C. Berkeley faculty in 1984. She teaches engineering, energy and environmental health, emphasizing mechanistic approaches as well as a systems perspective. Professor Koshland's research is at the intersection of energy, air pollution and environmental (human) health. It is conducted at multiple scales, from mechanistic analyses of combustion products in flow reactors to control strategies in urban airsheds. Her combustion research has focused on pollutant formation particularly involving chlorinated hydrocarbons and particulates, and the development of advanced diagnostic tools for non-intrusive monitoring of combustion species including chlorinated hydrocarbons, metals and particles. She has worked in green manufacturing and industrial ecology, addressing the conception and assessment of environmental and health dimensions to improve energy and manufacturing technologies. Her work includes critical assessments of regulatory policy. Prof. Koshland served on the California Air Resources Board Research Screening Committee from 1998-2002. Prof. Koshland is Associate Director of the UC Berkeley Superfund Basic Research Program, and Director of Health Effects of Modern Technologies, the Berkeley component of the UC Toxic Substances Research and Teaching Program. She has served on numerous committees at Berkeley, including the Berkeley Campus Strategic Planning Committee from 2000-2002. A member of the Haverford College Board of Managers since 1994, she has served as its Vice Chair since 1999.

Her only external support is the NIEHS Superfund Basic Research Program Project at Berkeley.

Lifset, Reid

Associate Director

Yale University

Mr. Reid J. Lifset is the Associate Director of the Industrial Environmental Management Program and a member of the faculty at the Yale University School of Forestry and Environmental Studies. He did his graduate work in political science at the Massachusetts Institute of Technology and in management at Yale University. He is the editor-in-chief of the Journal of Industrial Ecology, an international quarterly on industry and the environment, headquartered at and owned by Yale University and published by MIT Press. He is a member of the governing council of the International Society for Industrial Ecology (ISIE), and the Science Advisory Board of Material Flow Analysis for Sustainable Resource Management (MFASorM) of the Scientific Committee on Problems of the Environment (SCOPE).

His research focuses on the application of industrial ecology to novel problems and research areas, and the evolution of extended producer responsibility. He is currently principle investigator on the Luce Foundation-funded project "Collaborative Industrial Ecology in Asia", a co-principal investigator in the Stocks and Flows (STAF) project at the Yale Center for Industrial Ecology, funded by the National Science Foundation (NSF) and the Nickel Development Institute (NiDI). He is a co-principal investigator on National Institute of Standards & Technology (NIST) and NSF-funded projects on the environmental assessment of bio-based materials. Other recent sources of support include the Garfield Foundation, the U.N. Environment Program and the Hixon Center for Urban Ecology at Yale.

McFarland, Michael J. (Chair)

Associate Professor

Utah State University

Dr. Michael McFarland, PE, DEE is currently an associate professor in the Department of Civil and Environmental Engineering at Utah State University. He received his Bachelors' degree in Engineering and Applied Science from Yale University, his Masters' degree in Chemical Engineering from Cornell University, his Ph.D. in Agricultural Engineering from Cornell University and completed his postdoctoral research program in the Dept. of Civil and Environmental Engineering at the University of Texas at Austin. Dr. McFarland's research interests are biosolids engineering, industrial waste management and pollution prevention. Dr. McFarland has served on numerous federal, state and local environmental engineering and public health advisory committees for the U.S. Department of Defense, U.S. Environmental Protection Agency, U.S. Dept. of Energy, National Science Foundation and the state of Utah.

His research is funded by the Utah Division of Water Quality and the U.S. Air Force's Hill Air Force Base in Ogden, Utah.

Powers, Susan

Professor

Clarkson University

Dr. Susan E. Powers is a Professor in the Department of Civil and Environmental Engineering and Associate Dean of Engineering for Research and Graduate Studies. The University of Michigan awarded her a Ph.D. in Environmental Engineering; she received a Master of Science in Civil and Environmental Engineering and a Bachelor of Science in Chemical Engineering from Clarkson University. She is a registered professional engineer in the state of New York. Dr. Powers' research has focused on understanding the physical and chemical phenomena associated with contaminant transport in subsurface systems, with specific emphasis on organic non-aqueous phase liquids (NAPLs) in complex systems. Her research on NAPL dissolution, the wettability of NAPL-water-mineral systems and the fate of ethanol-blended gasoline in the subsurface is widely cited and considered at the leading edge in her field. Experimental and mathematical modeling techniques are utilized in all research activities. Research that has provided a solid understanding of the environmental fate of oxygenated gasoline has led to an interest and current work in the application of this science and the general understanding of the environmental impacts of energy systems to aid in regulatory and policy decisions. Current projects in this area include life cycle management issues for gasoline, other transportation fuels and energy systems in general. Dr. Powers has been an invited participant at many workshops and symposia related to the environmental impacts of reformulated gasoline. She has served on the Board of the Association of Environmental Engineering and Science Professors and the editorial boards for the Journal of Environmental Engineering, Advances in Water Resources and the Journal of Contaminant Hydrology.

Funding for her current research projects includes NSF, USDA, NYSERDA and the EPA P3 program.

Rood, Mark

Professor

University of Illinois

Dr. Mark J. Rood is the Ivan Racheff Professor of Environmental Engineering and in the Department of Civil and Environmental Engineering at University of Illinois (Urbana-Champaign). He received his B.S.E. degree in Environmental Engineering from Illinois Institute of Technology and his M.S.E. and Ph.D. degrees in Environmental Engineering from University of Washington. Professor Rood's research and teaching interests are in the areas of pollution prevention, physical-chemical treatment processes, aerosol optics and chemistry, and the characterization of ambient aerosols with respect to atmospheric chemistry and climate forcing. Professor Rood and his students have received more than 17 national awards from the Association of Environmental Engineering and Science Professors, Air and Waste Management Association, American Carbon Society, and American Chemical Society. His distinguished service is recognized with his past appointment as Treasurer and member of the Executive Board of the Association of Environmental Engineering and Science Professors, as an associate editor for Journal of Air and Waste Management Association, and as the Chief Editor of Journal of Environmental Engineering.

His research is funded by Department of Defense, National Science Foundation, Grainger Foundation, and the University of Illinois at Urbana-Champaign.

Smith, John R.

Manager

Alcoa Technical Center

Dr. John R. Smith is the manager for the Environmental, Health and Safety Science and Technology Center at Alcoa's Technical Center. He has a Ph.D. in Civil/Environmental Engineering from Carnegie-Mellon University and is a registered professional engineer in Pennsylvania. He is also an Adjunct Professor in the Civil/Environmental Engineering Department at Carnegie-Mellon University. He has over 25 years experience in the environmental sciences and engineering field where he has dealt with numerous aspects of site remediation, treatment of plant process waters and wastewaters, and sustainable development

technology initiatives. Dr. Smith is recipient of the Best Research Paper Award from the American Society of Civil Engineers Practice Periodical in 2001, the Jack Edward McKee Medal from the Water Environment Foundation in 2000, and the Linn H. Enslow Memorial Award from the New York State Water Association in 1994. His current focus is to establish sustainable development initiatives within Alcoa via the innovative integration of environment, health, safety considerations into all new and existing products and production processes. Such work specifically relates to developing, evaluating and implementing technically viable and cost-efficient ways to treat, minimize and/or eliminate water and wastewater discharges, solid waste generation, and air pollutant discharges by addressing such issues via innovative modifications to production process and/or operations, rather than the more conventional end-of-pipe treatment approaches. Focus is also given to implementing energy efficiency, safe work practices and providing a healthy work environment associated with production operations.

Other Science Advisory Board Members

Alberini, Anna (Member of SAB Environmental Economic Advisory Committee)

Professor

University of Maryland

Dr. Anna Alberini is an Associate Professor of Economics in the Agricultural and Resource Economics Department of the University of Maryland. Dr. Alberini has a Ph.D. in Economics from the University of California, San Diego, Department of Economics.

Dr. Alberini's research interests are in Environmental Economics, and specifically in the valuation of non-market natural resources; estimation and valuation of health effects of environmental quality; hazardous waste and contaminated site policy, and conservation and reuse of urban areas and cultural heritage sites. She has served as a co-editor of the Journal of Environmental Economics and Management, and is currently the coordinator of the Sustainability Indicators and Environmental Valuation Program (SIEV) for the Fondazione ENI Enrico Mattei. She has worked and is currently working on a number of projects funded by the European Commission on Climate Change and Economic Tools for Environmental and Sustainability Policies.

Mitsch, William (Member of SAB Environmental Processes and Effects Committee)

Professor

Ohio State University

Dr. William Mitsch is Distinguished Professor in the School of Environment and Natural Resources at Ohio State University, and Director of the Wilma H. Schiermeier Olentangy River Wetland Research Park. Dr. Mitsch received his B.S. in engineering at University of Notre Dame and an M.E. and Ph.D. in Environmental Engineering Sciences (Systems Ecology) from the University of Florida. Prior to joining Ohio State University in 1986, he taught at Illinois Institute of Technology and University of Louisville. Dr. Mitsch's research interests include wetland ecology and biogeochemistry, the creation and restoration of wetlands, ecosystem modeling and ecological engineering. He is extensively published in the peer reviewed literature and is Editor-in-Chief of the journal Ecological Engineering. He has edited or co-authored 13 books including the textbooks "Wetlands, 3rd ed" (2000) and "Ecological Engineering and Ecosystem Restoration" (2004). Dr. Mitsch gives an average of 15 invited lectures per year around the U.S. and world to scholarly audiences. He has advised to completion almost 60 graduate students and post-docs and eleven are faculty at other universities including Oklahoma, Texas A&M, and Ohio State.

Dr. Mitsch is Past President of the Society of Wetland Scientists (1995-96) and the American Ecological Engineering Society (2000-2002). Dr. Mitsch has been invited to serve on four National Research Council Panels and has provided testimony on several occasions to the U.S. Congress on wetland matters. Dr. Mitsch's awards include Environmental Law Institute/U.S. EPA National Award for Wetland Research (1996), a Fellow of the American Association for the Advancement of Science (AAAS) (1997), Odum Lecturer at University of Georgia (1998), Distinguished Scholar Award at The Ohio State University (1998), CH2M-Hill Foundation National Environmental Award (2000), and Theodore M. Sperry Award from the Society of Ecological Restoration International (2005).

In August 2004, Dr. Mitsch received, along with his Danish colleague and friend Sven Erik Jørgensen, the 2004 Stockholm Water Prize in Stockholm Sweden from King Carl XVI Gustaf for lifetime achievements in contributing to the modeling, management, and conservation of lakes and wetlands.

His current sources of research funding are the U.S. Department of Agriculture and the U.S. Department of Energy.

Rejeski, David (Member of the Chartered SAB)

Director, Foresight and Governance Project

Woodrow Wilson International Center for Scholars

Mr. David Rejeski is the director of the Foresight and Governance Project at the Woodrow Wilson International Center for Scholars in Washington, DC. He also directs the Project on Emerging Nanotechnologies, a partnership with the Pew Charitable Trusts. He has graduate degrees in public administration and environmental design from Harvard and Yale. His interests are science, technology, and policy issues, in areas ranging from genetics to electronic commerce and pervasive computing. He was a visiting fellow at Yale University's School of Forestry and Environmental Studies and an agency representative (from EPA) to the White House Council on Environmental Quality (CEQ). Before moving to CEQ, he worked at the White House Office of Science and Technology (OSTP) on a variety of technology and R&D issues. Before moving to OSTP, he was head of the Future Studies Unit at the Environmental Protection Agency. He sits on the advisory boards of a number of organizations, including the Greening of Industry Network, the National Environmental Education and Training Foundation, the University of Michigan's Corporate Environmental Management Program, and the Journal of Industrial Ecology.

Theis, Thomas L. (Member of the Chartered SAB)

Professor

University of Illinois at Chicago

Dr. Thomas L. Theis is the Director of the Institute for Environmental Science and Policy, a cross-disciplinary unit dedicated to promoting collaborative research on the environment, and Professor of Civil and Materials Engineering at the University of Illinois at Chicago. He earned his B.S.C.E, M.S.C.E. and Ph.D at the

University of Notre Dame. His areas of expertise include the mathematical modeling and systems analysis of environmental processes, the environmental chemistry of trace organic and inorganic substances, interfacial reactions, subsurface contaminant transport, hazardous waste management, industrial pollution prevention, and industrial ecology. He has been principal or co-principal investigator on over fifty funded research projects totaling in excess of ten million dollars, and has authored or co-authored over one hundred papers in peer reviewed research journals, books, and reports. He is a member of the USEPA Science Advisory Board, and is a former editor of the Journal of Environmental Engineering. From 1980-1985 he was the co-director of the Industrial Waste Elimination Research Center (a collaboration of Illinois Institute of Technology and University of Notre Dame), one of the first Centers of Excellence established by the USEPA. In 1989 he was an invited participant on the United Nations' Scientific Committee on Problems in the Environment (SCOPE) Workshop on Groundwater Contamination, and in 1998 he was invited to by the World Bank to assist in the development of the first environmental engineering program in Argentina. He is the founding Principal Investigator of the Environmental Manufacturing Management Program, one of the Integrative Graduate Education Research and Training (IGERT) grants of the National Science Foundation.

Dr. Theis has received research funding from several sources. At present he has grants from the EPA, NSF, Alcoa, Inc., and the Illinois Board of Education.

Thomas, Valerie (Member of the Chartered SAB)

Professor

Georgia Institute of Technology

Dr. Valerie Thomas is the Anderson Interface Associate Professor in the School of Industrial and Systems Engineering at the Georgia Institute of Technology, with a joint appointment in the School of Public Policy. Dr. Thomas received a Ph.D. in theoretical physics from Cornell University, and a B. A. in physics from Swarthmore College. She was a post-doctoral Research Fellow at the Department of Engineering and Public Policy at Carnegie Mellon University. Her expertise is in quantitative approaches to environmental assessment, and the lifecycle environmental impacts of products and materials, including metals and electronics. Current research is in the area of industrial ecology, including energy efficiency, the use of electronics and information technology for lifecycle management of products, and the environmental impacts of global second-hand markets. She is a Fellow of the American Physical Society and a member of the International Society for Industrial Ecology. She is chair of the 2006 Gordon Research Conference on Industrial Ecology. From 1988-2004 she was a Research Scientist at Princeton University, at the Princeton Environmental Institute and the Center for Energy and Environmental Studies. In 2004-05 she was the American Physical Society Congressional Science Fellow.

She has had recent funding from the US EPA STAR grants program and the National Science Foundation.

