

**U.S. Environmental Protection Agency**  
**Science Advisory Board Workgroup on Coastal Mississippi**  
**Water Quality Assurance Plan**

To expedite the development of advice on Hurricane Katrina related issues, the SAB Staff Office did not follow the usual shortlist process. Instead, it convened workgroups of technical experts drawn, as described in 70 FR 54046, from the U.S. EPA SAB, the Clean Air Scientific Advisory Committee, the Advisory Council on Clean Air Compliance Analysis (chartered advisory committees), their standing committees, subcommittees, and advisory panels. Workgroup members were invited to serve based on their scientific and technical expertise, knowledge, and experience; availability and willingness to serve; absence of financial conflicts of interest; and scientific credibility and impartiality.

# U.S. Environmental Protection Agency

## Science Advisory Board

### Workgroup on Coastal Mississippi Water Quality Assurance Plan

#### Singer, Phil, Chair

University of North Carolina

Dr. Philip C. Singer is the Dan Okun Professor of Environmental Engineering in the Department of Environmental Sciences and Engineering in the School of Public Health at the University of North Carolina at Chapel Hill. He directed the Water Resources Engineering Program at UNC for 19 years and currently directs UNC's Drinking Water Research Center. He has conducted research on chemical aspects of water and wastewater treatment and on aquatic chemistry for the past 35 years, and has published more than 160 papers and reports in these areas. For the past 27 years, Dr. Singer's research has focused on the formation and control of disinfection by-products in drinking water. In 1993, Dr Singer was selected for the Freese Lecture by the American Society of Civil Engineers, in 1995 he was given the A.P. Black Research Award by the American Water Works Association, and in 1999 he received the Fuller Award from the North Carolina section of the American Water Works Association. Dr. Singer has been active in the American Water Works Association, serving as a past Chair and Trustee of the Research Division, and has served on the Research Advisory Council of the American Water Works Association Research Foundation. He was on the editorial board of Ozone Science and Engineering and is a past associate editor of Environmental Science and Technology. He was a member of the Water Science and Technology Board of the National Research Council, and served on the National Research Council's Committee on Drinking Water Contaminants. He is currently on the Board of Directors of the Water Environment Research Foundation and the U.S. Environmental Protection Agency Science Advisory Board's Drinking Water Committee. In 1995, Dr. Singer was inducted into the National Academy of Engineering.

#### Eighmy, T. Taylor

University of New Hampshire

Dr. Taylor Eighmy is a Research Professor of Civil Engineering at the University of New Hampshire (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. Dr. Eighmy directs the Environmental Research Group (ERG), an applied environmental engineering and environmental science research center at UNH. He also directs 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 presently serves 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 serves on the National Steering Committee of the U.S. DOE's Combustion Byproduct Recycling Consortium. Formerly, he was appointed to and served on the New Hampshire Waste Management Council (1988-1995); the Council has solid and hazardous waste adjudicatory and rule making authority. He was a member of the International Ash Working Group (IAWG), sponsored by the International Energy Agency, and coauthored the treatise "Municipal Solid Waste Incinerator Residues" with his IAWG colleagues. He received the UNH Excellence in Research Award in 1997. He has research interests in recycled materials characterization and beneficial use, chemical speciation, environmental chemistry of leaching behavior, spectroscopic surface analysis, applied geochemistry, reactive barriers, and environmental microbiology. Dr. Eighmy's present research focus is on contaminant leaching and leaching modeling, use of surface spectroscopies to characterize surfaces where leaching first occurs, contaminant fate and transport in beneficial use scenarios within the highway environment, phosphate stabilization of wastes, use of phosphate-based reactive barriers (both permeable and impermeable) for waste containment, and geochemical and microbial characterization of microfracture surfaces in TCE-contaminated bedrock. His present research is supported by FHWA, NOAA, U.S. EPA, the European Union, and the private sector.

#### Griffiths, Jeffrey

Tufts University

Dr. Jeffrey Griffiths is currently Director of the Graduate Programs in Public Health, Tufts University School of Medicine. Associate Professor of Family Medicine and Community Health, Medicine, and Biomedical Sciences, Tufts University Schools of Medicine and Veterinary Medicine; Associate Physician, Division of Geographic Medicine and Infectious Diseases, New England Medical Center; Physician, Department of Infectious Diseases, St. Elizabeth's Medical Center, and Consulting Physician, Divisions of Infectious Diseases, Carney Hospital and Quincy Hospital. Dr. Griffiths received is AB in Chemistry in 1977 from Harvard College and a MD from Albert Einstein College of Medicine in 1982. He received a MPH and TM in Tropical Medicine from Tulane University in 1982. Internships occurred at Yale-New Haven Hospital, 1982-84 in Internal Medicine and Pediatrics; Research Fellow in Tropical Public Health at Harvard School of Public Health in 1986-88; Research and Clinical Fellow at Tufts-New England Medical Center from 1988-91 in Geographic Medicine and Infectious Disease; National Board of Medical Examiners certification in 1984. He received a Connecticut Licensure in Medicine, 1985; Massachusetts Licensure in Medicine, 1986; Diplomate, American Board of Internal Medicine (ABIM), 1987; Diplomate, American Board of Pediatrics, 1987; Govt. of Bangladesh Licensure in Medicine, 1989; Diplomate, Sub-specialty Board in Infectious Diseases, ABIM, 1992; and Certificate of Knowledge in Clinical Tropical Medicine and Travelers' Health, 2000. National Committees or Advisory Groups: Member, National Academies' Committee on Drinking Water Contaminants (1999-2001); Member, Public Interest Advisory Forum, American Water Works Association (1999-2001), Public Health Subgroup; Member, National Drinking Water Advisory Council of the EPA (1998-2000; 2001-2003); Federal representative for the National Association of People with AIDS (NAPWA) to the EPA Drinking Water Microbial Disinfection and Byproducts Committee, 1997-current; Member, AIDS Clinical Trials Group (ACTG) Focus Group on Enteric Pathogens, 1998-; Member, AIDS Clinical Trials Group (ACTG) Focus Group on Microsporidiosis and Cryptosporidiosis, 1996-1998; Consultant to ACTG 336, A Phase II/III Placebo-controlled study of Nitazoxanide (NTZ) for persons with AIDS and Cryptosporidiosis. Other Research & Professional Experience: Director of Microbiology and Serology, St. Elizabeth's Medical Center, 1991-1997; Director, Traveler's Clinic, St. Elizabeth's Medical Center, 1991-1997; Consultant, the Applied Diarrheal Diseases Project, Harvard Institute of International Development, 1991-94; represented USAID to the government of Ecuador during the cholera outbreak; experience in Ecuador and Central America; Field work at the International Centre for Diarrheal Diseases Research in Dhaka, Bangladesh 1988-89; Fellow in Tropical Nutrition, Tulane Univ. School of Public Health and Tropical Medicine, New Orleans, LA. July 1981-June 1982; Field work on the north coast of Haiti, 1981.

## Maddalena, Randy

### Lawrence Berkeley National Laboratory

Randy Maddalena, Ph.D., is a Scientist in the Exposure and Risk Analysis Group within the Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory. He received his BS in Environmental Toxicology (1992) and his Ph.D. in Agricultural and Environmental Chemistry (1998) from the University of California, Davis. The primary focus of his research is development, evaluation and application of models that predict chemical fate in multiple environmental media (air, water, soil, vegetation, sediment) and chemical exposures through multiple pathways (drinking water, food, feed, indoor air) for both human and ecological receptors. He also develops tools and methods for performing probabilistic risk assessment and sensitivity analysis applied to complex regulatory models. His most recent work combines the use of models and experimental data to investigate how vegetation influences the environmental fate and transport of semivolatile organic pollutants and how the uptake of these pollutants into ecological or agricultural food chains might contribute to dietary exposures.

Dr. Maddalena is a Co-chair of the Society of Environmental Toxicology and Chemistry (SETAC) Advisory Group on Fate and Exposure Modeling where he serves as an Editor of the Fate and Exposure Modeling column in the SETAC Globe. He is also a member of the International Society of Exposure Analysis and a member of the SAB's Integrated Human Exposure Committee. He receives funding from the EPA's National Exposure Research Lab for research on fate and exposure models; the DOE's Fossil Energy Program for experimental work on plant uptake of petroleum related hydrocarbons; and from the EPA's Office of Air Quality Planning and Standards for his work on the TRIM.FaTE model. Dr. Maddalena also recently completed a project funded by the EPA's Office of Emergency and Remedial Response where he developed an approach for constructing inputs to probabilistic risk assessment models.

## McFarland, Michael

### 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 where his research interests are focused in the areas of biosolids engineering, industrial waste management and pollution prevention. Dr. Michael J. McFarland 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 has served on numerous federal, state and local environmental engineering and public health advisory committees for the U.S. Dept. of Defense, U.S. Environmental Protection Agency, U.S. Dept. of Energy, National Science Foundation and the state of Utah.

## Owen, Christine

### Tampa Bay Water

Christine Owen is the Water Quality Assurance Officer for Tampa Bay Water, a regional water utility in southwest Florida. Dr. Owen received a Doctorate of Philosophy (a.b.d.) in Biology at U.C.S.C., 1991 and a B.S. in Biology from Shippensburg State College, 1980. Chris is responsible for integrating water quality into the operation of groundwater, surface water and desalination facilities. She works with member utilities and regulatory agencies to address their distribution water quality needs and issues. She has worked in water treatment for the past thirteen years; prior to that, she taught at the University of California at Santa Cruz. She has both participated in and directed numerous research projects ranging from taste and odor analytical method development to membrane integrity investigations. Chris has been involved in numerous projects including ozone, GAC, integrated membranes and distribution water quality. In addition, she has presented papers at national meetings and was an invited presenter on a national AWWA teleconference on water treatment and regulations in 1999. She is a member of the Microbial Technical Advising Workgroup for AWWA, a utility representative to the Technical Work Group for the Stage 2 Disinfection/Disinfection By-Product Rule, a utility representative for AWWA on the Technical Work Group for the ICR Public Database Development, member AWWA Standards Committee, member AWWA Laboratory Committee, member AWWA Desalting Committee. Dr. Owen managed all aspects of Tampa Water Department Information Collection Rule Compliance including database management, data review, laboratory certification, laboratory coordination, sample collection and quality assurance/quality control.

## Sayler, Gary

### University of Tennessee

Dr. Gary S. Sayler is a Distinguished Professor of Microbiology, and Ecology and Evolutionary Biology at the University of Tennessee. He received his Ph.D. (1974) in Bacteriology and Biochemistry from the University of Idaho where he conducted research of heterotrophic turnover of organic matter in freshwater environments. This was followed by postdoctoral training in Marine Microbiology and Biodegradation at the University of Maryland after which he joined the faculty of the University of Tennessee in 1975. He is the Founding Director (1986) of the Center for Environmental Biotechnology, a recently designated Research Center-of-Excellence, and is current Director of the State Center-of-Excellence, Waste Management Research and Education Institute. Over his career he has directed approximately \$25,000,000 in environmental, biodegradation, and molecular ecological research for numerous federal, state, and industrial sponsors. He has directed the graduate programs of approximately 34 Ph.D. and 15 Master's students in Microbiology, Ecology, and Evolutionary Biology. He has edited five books and contributed 251 publications in broad areas of molecular biology, environmental microbiology, biodegradation, and biotechnology, and holds seven patents on environmental gene probing, genetic engineering for bioremediation and bioelectronic sensor technology. His work has included molecular and environmental aspects of PCB, PAH, BTEX and TCE metabolism. He has given invited presentations at over 200 national and international meetings in the broad area of biotechnology and the environment. He has served on numerous panels and chaired advisory review committees of ORNL, LBNL, ANL, NSF, NIH, DOE, EPA, and four different NAS/NRC subcommittees and panels. During his career, he has been awarded a NIEHS' Research Career Development Award (1980-1985); he received the American Society for Microbiology, Procter and Gamble Award for Environmental Microbiology (1994), the Distinguished Alumni Award of the University of Idaho (1995) and the DOW Chemical Foundation SPHERE Award (1998-2000). He was elected to the American Academy of Microbiology in 1991. He has served in an editorial capacity for six journals and is currently an associate editor for Environmental Science and Technology. Professional memberships include AAAS, ASM, ACS, SIM, SETAC and SPIEE. Dr. Sayler served as a member of the Water Environment Research Foundation, Research Council from 1999 to 2001. Recent research support is from NIH, NASA, DARPA, NSF, USDA, WERF, US Army, DOE, Perkin Elmer Instruments and Eastman Chemical in areas integrating Bioluminescent Bioreporter Integrated Circuit technology, nucleic acid environmental diagnostics and expression, and biosensing and monitoring in complex system analysis. Areas of research expertise include microbiology, genetic engineering, molecular biology in biodegradation and bioremediation; PAH, PCB soils, sediments, and H2O; molecular ecology in biological waste treatment, PCR-gene probes, biosensors for bioavailable pollutants including endocrine disruptors, nanotechnology, and carbon nanofibers in microbial biofilms.

## Stubblefield, William

### Parametrix

Dr. William Stubblefield is a senior environmental toxicologist with Parametrix, Inc. in Corvallis, Oregon; he also holds a courtesy faculty appointment in the Department Molecular and Environmental Toxicology at Oregon State University. Dr. Stubblefield has more than 15 years of experience in environmental toxicology, ecological risk assessment, water quality criteria derivation, and aquatic and wildlife toxicology studies. He has authored more than 50 peer-reviewed publications and technical presentations in the areas of aquatic and wildlife toxicology and environmental risk assessment. He is a co-editor of a recently published book entitled, "Re-evaluation of the State of the Science for Water Quality Criteria," that specifically examines the issues and approaches to be used in the evaluation of environmental impacts associated with contaminants in multiple media. Dr. Stubblefield's research efforts have looked at the fate and effects of metal and hydrocarbon contaminants in the environment and the relationships between these contaminants in the water/sediment/soil compartments. He has also investigated food chain concerns through research efforts such as the investigation of metals transfer in resident aquatic and terrestrial organisms on Alaska's North Slope. His most recent research uses a combination of laboratory and field methods to investigate the effects of storm water-associated short-term pulse exposures of metals to aquatic organisms and examines the fate and disposition of storm water-associated metals in natural systems. About 70% of Parametrix projects are funded by municipal and other government agencies the remainder are industrial clients. Funding for the majority of Dr. Stubblefield's metal related work comes from industrial trade associations or not-for-profit research organizations working in cooperation with U.S. EPA. Dr. Stubblefield is an active member of the Society of Environmental Toxicology and Chemistry, where he serves as the Society's vice-president, member of the Board of Directors, chairman of the Publications Advisory Council, chairman of the SETAC's Metals Advisory Group, past member of the Editorial Board for Environmental Toxicology and Chemistry, and 2002 annual meeting co-chair. He has been an invited participant at a number of scientific and regulatory conferences, served on U.S. EPA peer-review panels, and frequently acts as a technical reviewer for a number of scientific publications. Dr. Stubblefield has a Ph.D. in Environmental Toxicology from the University.