

## APPENDIX 1-1: NWRI INDEPENDENT ADVISORY PANEL MEMBERS

# NATIONAL WATER RESEARCH INSTITUTE

### **NWRI Independent Advisory Panel for: California Department of Public Health Review of Water Recycling Criteria for Agricultural Irrigation**

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#### **ROBERT C. COOPER, PH.D. (Panel Chair)**

*Professor Emeritus, School of Public Health, University of California, Berkeley  
Vice President, BioVir Laboratories, Inc. (Benicia, California)*

Robert Cooper is Professor Emeritus of the School of Public Health at the University of California, Berkeley, where he served for 33 years and was Director of the University's Sanitary Engineering and Environmental Health Research Laboratory from 1980-1991. He also served in the United States Army Medical Corps and retired from the United States Public Health Service Reserve. Cooper has extensive experience in the field of water quality, infectious disease, and public health, and has published more than 70 papers on water quality and infectious disease. In addition, he has served on federal, state, and local government panels and committees dealing with these and related issues. At present, he is Vice President of BioVir Laboratories, Inc., a laboratory devoted to environmental microbiology. Cooper received a B.S. in Public Health from the University of California, Berkeley, and both an M.S. and Ph.D. in Microbiology from Michigan State University.

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#### **ADAM W. OLIVIERI, DR. P.H., P.E. (Vice Chair)**

*Vice President  
EOA, Inc. (Oakland, California)*

Adam Olivieri has 35 years of experience in the technical and regulatory aspects of water recycling, groundwater contamination by hazardous materials, water quality and public health risk assessments, water quality planning, wastewater facility planning, urban runoff management, and on-site waste treatment systems. He has gained this experience through working as a staff engineer with the California Regional Water Quality Control Board (San Francisco Bay Region), as staff specialist (and Post-doc fellow) with the School of Public Health at the University of California, Berkeley, project manager/researcher for the Public Health Institute, and as a consulting engineer. He is currently the Vice president of EOA, Inc., where he manages a variety of projects, including serving as Santa Clara County Urban Runoff Program's Manager since 1998. Olivieri is also the author or co-author of numerous technical publications and project reports. He received a B.S. in Civil Engineering from the University of Connecticut, an M.S. in Civil and Sanitary Engineering from the University of Connecticut, and both an MPH and Dr.PH in Environmental Health Sciences from University of California, Berkeley.

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**MICHAEL D. CAHN, PH.D.**

*Irrigation and Water Resources Advisor*

*University of California, Cooperative Extension (Salinas, California)*

Michael Cahn has worked for the University of California, Cooperative Extension since 1995, first as a vegetable and row crop advisor in the Sacramento Valley, and since 2001 as an Irrigation and Water Resources Advisor based in Monterey County. He also works in the central coast counties of San Benito, Santa Clara, Santa Cruz, and San Mateo. His research and extension activities are focused in the areas of irrigation technology, water management of vegetable and horticulture crops, food safety, and farm water quality. His areas of specialty include irrigation management of vegetable and row crops, water quality protection, salinity management, drip irrigation, fertility management of vegetables, and microbial food safety. Cahn received a B.S. in Soil and Water Science from the University of California, Davis, and a Masters and Ph.D. in Agronomy-Soil Science from Cornell University.

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**JOHN COLFORD, JR., M.D., PH.D., MPH**

*Professor of Epidemiology, School of Public Health*

*University of California, Berkeley (Berkeley, California)*

John Colford is Professor of Epidemiology in the School of Public Health at the University of California, Berkeley. His research interests include waterborne infectious diseases (domestic, developing country, and recreational water settings), and clinical trial design (individual and community-level). His research frequently employs randomized, controlled trials as a study design. Dr. Colford has multiple peer-reviewed publications of both trial results and methodological issues in the design of trials. He is the Principal Investigator of National Institutes of Health (NIH)-funded, long-term individual and community trials in both the U.S. and developing world.

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**JAMES CROOK, PH.D., P.E.**

*Water Reuse Consultant (Boston, Massachusetts)*

Jim Crook is an environmental engineer with 40 years of experience in state government and consulting engineering arenas, serving public and private sectors in the U.S. and abroad. He has authored more than 100 publications and is an internationally recognized expert in water reclamation and reuse. He has been involved in numerous projects and research activities involving public health, regulations and permitting, water quality, risk assessment, treatment technology, and all facets of water reuse. Crook spent 15 years directing the California Department of Public Health's water reuse program, during which time he developed California's first comprehensive water reuse criteria. He also spent 15 years with consulting firms overseeing water reuse activities and is now an independent consultant specializing in water reuse. He has served on several advisory panels and committees convened by the National Academy of Sciences, NWRI, and others. Among his honors, he was selected as the American Academy of Environmental Engineers' 2002 Kappe Lecturer and the WaterReuse Association's 2005 Person of the Year. Crook received a B.S. in Civil Engineering from the University of

Massachusetts and both an M.S. and Ph.D. in Environmental Engineering from the University of Cincinnati.

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**JEAN-FRANÇOIS DEBROUX, PH.D.**

*Director, Advanced Technologies Group  
Kennedy/Jenks Consultants (San Francisco, California)*

At Kennedy/Jenks Consultants, Jean Debroux serves as Director of the Advanced Technologies Group, which was formed to solve technologically challenging problems. Part of this effort includes performing pilot and field studies for regulated and emerging contaminants and evaluates the cost impacts of complying with Safe Drinking Water Act regulations. A water quality expert, Debroux has extensive experience and expertise working with water utilities and research organizations in water treatment and water reuse issues, and is an active member of the WaterReuse Foundation, where he serves on the Research Advisory Committee. Debroux received a B.S. in Chemical Engineering from the University of South Florida, and both an M.S. in Environmental Engineering and Ph.D. in Civil Engineering from the University of Colorado, Boulder. In addition, he attended the Environmental Management Institute at Tufts University and has served as a Post-Doctoral Research Fellow and Lecturer at Stanford University and as a Research Fellow at Université de Poitiers, France.

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**ROBERT MANDRELL, PH.D.**

*Research Leader, Produce Safety and Microbiology Research Unit  
U.S. Department of Agriculture, Agricultural Research Service (Albany, California)*

Robert Mandrell has served as Research Leader of the Produce Safety and Microbiology Research Unit at the U.S. Department of Agriculture (USDA) since 1996. His research interests include microbial food safety related to fresh produce, with an emphasis on the ecology and epidemiology of enteric pathogens in a major leafy greens production region in California; genomics and biology of *Campylobacter*, *Listeria* and *Salmonella* species related to food; Norovirus in the environment; and high-throughput methods for detection and characterization of foodborne pathogens. Prior to working with the USDA, Mandrell studied the human immune response to bacterial polysaccharide-conjugate vaccines and other topics at the Oakland Children's Hospital Research Institute; immunochemistry and biochemistry of lipooligosaccharides of *Neisseria meningitidis*, *Neisseria gonorrhoeae*, and *Haemophilus species* at the VA Medical Center in San Francisco; and conducted research at the Walter Reed Army Institute of Research, Department of Bacterial Diseases in Washington, DC. Mandrell received a B. S. in Microbiology from Ohio State University and a Ph.D. from the School of Biochemistry at the University of Birmingham in the United Kingdom.

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**TREVOR SUSLOW, PH.D.**

*Extension Research Specialist, Department of Plant Sciences  
University of California, Davis (Davis, California)*

Trevor Suslow is the Extension Research Specialist in the Department of Plant Sciences at the University of California, Davis, having statewide responsibilities in the quality and safety of perishable horticultural commodities. His program involves preharvest and postharvest research and outreach education on diverse fresh and fresh-cut horticultural foods. His emphasis is on microbial safety and disinfection within the pre-harvest and postharvest environment and postharvest pathology. Additional interests include biological control and other biologically mediated controls of postharvest diseases and pathogens of human food safety concern. He also served as a member of numerous panels, most recently for the U.S. Department of Agriculture's Agriculture and Food Research Initiative (AFRI) and the Institute of Food Technologists. Suslow received a B.Sc. in Agricultural Sciences and Ph.D. in Plant Pathology from the University of California, Berkeley.

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**GEORGE TCHOBANOGLIOUS, PH.D., P.E., NAE**

*Professor Emeritus  
University of California, Davis (Davis, California)*

For over 37 years, wastewater expert George Tchobanoglous has taught courses on water and wastewater treatment and solid waste management at the University of California, Davis, where he is Professor Emeritus in the Department of Civil and Environmental Engineering. He has authored or coauthored over 350 publications, including 13 textbooks and five engineering reference books. Tchobanoglous has been past President of the Association of Environmental Engineering and Science Professors and currently serves as a national and international consultant to both government agencies and private concerns. Among his honors, he received the Athalie Richardson Irvine Clarke Prize from NWRI in 2003, was inducted to the National Academy of Engineers in 2004, and received an Honorary Doctor of Engineering degree from the Colorado School of Mines in 2005. Tchobanoglous received a B.S. in Civil Engineering from the University of the Pacific, an M.S. in Sanitary Engineering from the University of California, Berkeley, and a Ph.D. in Environmental Engineering from Stanford University.

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