Improving Risk Analysis Approaches Used By the U.S. EPA

Committee

Thomas A. Burke

Chair

Thomas A. Burke is professor of Health Policy and Management at the Johns Hopkins University Bloomberg School of Public Health, with joint appointments in the Department of Environmental Health Sciences and the School of Medicine Department of Oncology. He is founding Co-Director of the Johns Hopkins Risk Sciences and Public Policy Institute. His research interests include environmental epidemiology and surveillance, evaluation of population exposures to environmental pollutants, assessment and communication of environmental risks, and application of epidemiology and health risk assessment to public policy. Before joining the university, Dr. Burke was Deputy Commissioner of Health for the State of New Jersey and Director of Science and Research for the New Jersey Department of Environmental Protection. In New Jersey, he directed initiatives that influenced the development of national programs, such as Superfund, the Safe Drinking Water Act, and the Toxics Release Inventory. Dr. Burke was the inaugural chair of the Advisory Board to the Director of the CDC National Center for Environmental Health and served two terms on the NRC Board on Environmental Studies and Toxicology. He has served on several NRC committees; he was chair of the Committee on Human Biomonitoring for Environmental Toxicants and the Committee on Toxicants and Pathogens in Biosolids Applied to Land, and a member of the Committee on the Toxicological Effects of Methyl Mercury. In 2003 he was designated a lifetime national associate of the National Academies. He received his Ph.D. in epidemiology from the University of Pennsylvania.

A. J. Bailer

Member

A. John Bailer is a distinguished professor in the Department of Mathematics and Statistics and a Senior Researcher in the Scripps Gerontology Center at Miami University in Oxford, Ohio. His research interests include the design and analysis of environmental and occupational health studies and quantitative risk estimation. Dr. Bailer is a fellow of the American Statistical Association, a fellow of the Society for Risk Analysis, and a recipient of the ASA Statistics and the Environment Distinguished Achievement Medal. He currently serves on the NRC Committee to Review the OMB Risk Assessment Bulletin and the Committee on Spacecraft Exposure Guidelines (SEGs). He also has served as a member of subcommittees of the Board of Scientific Counselors of the National Toxicology Program. He received his Ph.D. in biostatistics from the University of North Carolina at Chapel Hill.

John M. Balbus

Member

John M. Balbus is the director of the Health Program at Environmental Defense and Adjunct Professor of Environmental Health Sciences at Johns Hopkins University. His expertise is in epidemiology, toxicology, and risk science. Previously he spent seven years at George Washington University where he was the founding director of the Center for Risk Science and Public Health and served as acting chair of the Department of Environmental and Occupational Health. He was also an Associate Professor of Medicine at that university. Dr. Balbus has served as a member of EPA's Children's Health Protection Advisory Committee, a core panel member on EPA's Voluntary Children's Chemical Exposure Program, and on the EPA Science Advisory Board subcommittees for National Air Toxics Research Plan Review and Computational Toxicology Review. He currently serves on the NRC's Committee on Applications of Toxicogenomic Technologies to Predictive Toxicology and the NRC's Board on Environmental Studies and Toxicology. Dr. Balbus received his M.D. from the University of Pennsylvania.

Joshua T. Cohen

Member

Joshua T. Cohen is a lecturer at Tufts New England Medical Center in the Institute for Clinical Care Research and Health Policy Studies. Dr. Cohen's research focuses on the application of decision analytical techniques to environmental risk management problems with a special emphasis on the proper characterization and analysis of uncertainty. He was the lead author on a study comparing the risks and benefits of changes in population fish consumption patterns, an analysis of the risks and benefits of cellular-phone use while driving, and a study comparing the costs and health impacts of advanced diesel and compressed natural gas urban transit buses. He also has played a key role in a risk assessment of bovine spongiform encephalopathy ("mad cow disease") in the United States. Dr. Cohen served on the NRC Committee on EPA'S Exposure and Human Health Reassessment of TCDD and Related Compounds and is currently a member of the EPA's Clean Air Science Advisory Committee that is reviewing the lead document. He earned his Ph.D. in decision sciences from Harvard University.

Adam M. Finkel

Member

Adam M. Finkel is professor of Environmental and Occupational Health at the University of Medicine and Dentistry of New Jersey (UMDNJ) School of Public Health, and Visiting Professor at Princeton University's Woodrow Wilson School of Public and International Affairs. His research interests include quantitative risk assessment of health hazards in the workplace and general environment; regulatory design and policy; scientific integrity issues; human susceptibility to carcinogenesis; and occupational and environmental regulation and enforcement. For ten years (1995-2005) he was a senior executive at the US Occupational Safety and Health Administration (OSHA), serving as OSHA's national director of regulatory programs, and later as chief OSHA administrator in the six-state Rocky Mountain region, based in Denver, CO. He has developed methods to quantify and communicate the uncertainties in risk and cost estimation, and to explore the variation in environmental and medical risks individual citizens and patients face due to differences in susceptibility, exposure, and other factors. Dr. Finkel received his Sc.D. in environmental health sciences from Harvard University.

Gary L. Ginsberg

Member

Gary Ginsberg is a senior toxicologist in the Division of Environmental Epidemiology at the Connecticut Department of Public Health. In addition, he is an Assistant Clinical Professor at the University of Connecticut School of Medicine and an adjunct faculty member at the Yale University School of Medicine. Dr. Ginsberg is involved with the use of toxicology and risk assessment principles to evaluate human exposures to chemicals present in air, water, soil, food, and in the workplace. He provides risk assessment expertise to the department and other state agencies in standard setting and site remediation projects. Dr. Ginsberg is a member of the Federal Advisory Committee on Children's Health Protection which reports to the EPA Administrator. He served on the NRC Committee on Human Biomonitoring for Environmental Toxicants. He received his Ph.D. in toxicology from the University of Connecticut.

Bruce K. Hope

Member

Bruce K. Hope is a senior environmental toxicologist in the Air Quality Division of the Oregon Department of Environmental Quality. Dr. Hope's expertise includes preparation and review of human, ecological, and probabilistic risk assessments, exposure modeling, development of air toxics benchmarks and risk assessment strategies, and evaluation and communication of health and environmental risk associated with chemical releases. He has been an adjunct faculty member of the Oregon Health & Science University where he taught courses in risk communication, toxicology, and risk assessment. Dr. Hope served on a number of EPA Science Advisory Board committees. Recently, he served as a workshop panelist for Ecological Risk Assessment – An Evaluation of the State-of-the-Practice and on EPA's Regulatory Environmental Modeling Guidance Advisory Panel. He received his Ph.D. in biology from the University of Southern California.

Jonathan I. Levy

Member

Jonathan I. Levy is the Mark and Catherine Winkler associate professor of Environmental Health and Risk Assessment in the Department of Environmental Health and the Department of Health Policy and Management at the Harvard School of Public Health. Dr. Levy's research focuses on developing models to quantitatively assess the environmental and health impacts of air pollution from local to national scales, with a focus on urban environments. His current research efforts include using geographic information systems (GIS) to determine spatial heterogeneity in levels of air pollution both outdoors and indoors in low-income urban neighborhoods; developing methods to better estimate exposures and health risks associated with emissions from motor vehicles, including consideration of spatial scales of influence and heterogeneity in exposure and risk; developing quantitative measures of environmental equity suitable for air pollution risk assessment and benefit-cost analysis, including case studies evaluating power plant and diesel bus control strategies; and modeling exposures and health risks associated with usage of pesticides in urban low-income settings. In addition, Dr. Levy teaches a course on risk assessment at the Harvard School of Public Health and is affiliated with the Harvard Center for Risk Analysis. Dr. Levy served on the NRC Committee on the Effects of Changes in New Source Review Programs for Stationary Sources of Air Pollutants. He received his Sc.D. from the Harvard School of Public Health in Environmental Science and Risk Management.

Thomas E. McKone

Member

Thomas E. McKone is senior staff scientist and deputy department head at the Lawrence Berkeley National Laboratory and an adjunct professor and researcher at the University of California at Berkeley School of Public Health. Dr. McKone's research interests include the use of multimedia compartment models in health-risk assessments; chemical transport and transformation in the environment; and measuring and modeling the biophysics of contaminant transport from the environment into the microenvironments with which humans have contact and across the human-environment exchange boundaries--skin, lungs, and gut. One of Dr. McKone's most recognized achievements was his development of the CalTOX risk assessment framework for the California Department of Toxic Substances Control. He has been a member of several NRC committees including; Environmental Decision Making: Principles and Criteria for Models, EPA's Exposure and Human Health Reassessment of TCDD and Related Compounds, Toxicants and Pathogens in Biosolids Applied to Land, and the Committee on Toxicology. Dr. McKone is also a member of the Advisory Council of the American Center for Life Cycle Assessment and the Organizing Committee for the International Life-Cycle Initiative, a joint effort of the United Nations Environment Program and the Society for Environmental Toxicology and Chemistry. He earned his Ph.D. in engineering from the University of California at Los Angeles.

Gregory M. Paoli

Member

Gregory M. Paoli leads a consulting firm (Decisionalysis Risk Consultants) specializing in risk assessment and risk management in the field of public health and safety. He has experience in diverse health risk domains including microbiological and toxicological hazards, climate change impact assessment, air and water quality, medical and engineering devices as well as comparative risk assessment. Mr. Paoli has served on several international panels including Expert Consultations as part of the Joint Food and Agriculture Organization and World Health Organization (FAO/WHO) Activities on Microbial Risk Assessment (JEMRA). Mr. Paoli previously served on the NRC Committee on the Review of the USDA E. coli 0157:H7 Farm-to-Table Process Risk Assessment. He serves as a Councilor of the Society for Risk Analysis. Mr. Paoli earned a Master of Applied Science degree in systems design engineering from the University of Waterloo.

Charles Poole

Member

Charles Poole is associate professor in the Department of Epidemiology at the University of North Carolina School of Public Health. Previously, he was with the Boston University School of Public Health. Dr. Poole's work focuses on the development and utilization of epidemiologic methods and principles, including problem definition, study design, data collection, statistical analysis, and interpretation and application of research results, including systematic review and meta-analysis. His research experience includes studies in environmental and occupational epidemiology and other substantive areas. Dr. Poole was an epidemiologist in EPA's Office of Pesticides and Toxic Substances for five years and worked for a decade as an epidemiologic consultant. Dr. Poole was a member of the IOM Committee on Gulf War and Health: Review of the Literature on Pesticides and Solvents and the NRC Committees on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations and Fluoride in Drinking Water. He currently serves as a member of the NRC Committee to Review the OMB Risk Assessment bulletin. He received his Sc.D. in epidemiology from the Harvard School of Public Health.

Joseph V. Rodricks

Member

Joseph V. Rodricks is a founding principal of ENVIRON International Corporation. Dr. Rodricks has expertise in the field of toxicology and risk analysis, and in their uses in regulation. He was formerly Deputy Associate Commissioner, Health Affairs, and Toxicologist for the Food and Drug Administration, and he is now a visiting professor at the Johns Hopkins University Bloomberg School of Public Health. Dr. Rodricks' experience includes chemical products and contaminants in foods, food ingredients, air and water pollution, hazardous wastes, the workplace, consumer products, and medical devices and pharmaceutical products. He has consulted for manufacturers, government agencies, and the World Health Organization. He has more than 150 publications on toxicology and risk analysis, and he has lectured nationally and internationally on these topics. He has been certified as a Diplomate, American Board of Toxicology since 1982. Dr. Rodricks has served on numerous NRC and IOM committees, and currently serves on the Board on Environmental Studies and Toxicology and the Committee to Review the OMB Risk Assessment Bulletin. He earned his Ph.D. in biochemistry from the University of Maryland.

Bailus Walker, Jr.

Member

Bailus Walker, Jr, (IOM) is professor of Environmental and Occupational Medicine at Howard University College of Medicine. His research interests include lead toxicity and environmental carcinogenesis. He was the Commissioner of Public Health for the Commonwealth of Massachusetts and State Director of Public Health for Michigan. He is past president of the American Public Health Association and a Distinguished Fellow of both the Royal Society of Health (London, England) and the American College of Epidemiology. Dr. Walker is a member of IOM and has served on several NRC committees, including as chair of the Committee on Toxicology. Dr. Walker received his Ph.D. in Occupational and Environmental Medicine from the University of Minnesota.

Terry F. Yosie

Member

Terry F. Yosie is President and CEO of the World Environment Center, a non-profit, non-advocacy organization whose mission is to develop and implement sustainable development practices around the world. From 2001 through 2005, Dr. Yosie served as the American Chemistry Council's Vice President for the Responsible Care initiative, a performance program that includes environmental, health and safety management; product stewardship; security; and other aspects of the business value chain. He has approximately 25 years of professional experience in managing and analyzing the use of scientific information in the setting of environmental standards. He was the first executive director of the Clean Air Scientific Advisory Committee, which is responsible for reviewing the scientific basis of National Ambient Air Quality Standards. He served as director of EPA’s Science Advisory Board from 1981 to1988 and instituted policies and procedures for enhancing the use of scientific information in the development of regulatory decision making. Dr. Yosie was vice president for health and environment at the American Petroleum Institute and executive vice president of Ruder Finn consultancy where he was responsible for the firm's environmental management practice. He has served on a number of NRC committees and boards, including the Committee to Review the Structure and Performance of the Health Effects Institute, the Committee on Research Priorities for Airborne Particulate Matter, and the Board on Environmental Studies and Toxicology. He has also been a consultant to EPA’s Science Advisory Board. He is the author of numerous publications on the use of scientific information in the development of public health and environmental policies. He earned his doctorate from the College of Humanities and Social Sciences at Carnegie Mellon University.

Lauren Zeise

Member

Lauren Zeise is chief of the reproductive and cancer hazard assessment branch of the California Environmental Protection Agency. Dr. Zeise's research focuses on modeling human interindividual variability and risk. She has served on advisory boards of the EPA, WHO, OTA, and NIEHS. She has also served on several IOM and NRC committees, including Risk Characterization, Comparative Toxicology of Naturally Occurring Carcinogens, Copper in Drinking Water, and Review EPA's Research Grants Program. Dr. Zeise is currently a member of the NRC Board on Environmental Studies and Toxicology and the Committee on Toxicity Testing and Assessment of Environmental Agents. She received her Ph.D. in epidemiology from Harvard University.