Incorporating 21st Century Science into Risk-Based Evaluations

Committee

Jonathan M. Samet

Chair

Jonathan M. Samet is a pulmonary physician and epidemiologist. He is Distinguished Professor and Flora L. Thornton Chair for the Department of Preventive Medicine at the Keck School of Medicine at the University of Southern California (USC) and director of the USC Institute for Global Health. Dr. Samet's research has focused on the health risks of inhaled pollutants. He has served on numerous committees concerned with public health: the U.S. Environmental Protection Agency Science Advisory Board; committees of the National Research Council (NRC), including chairing the Biological Effects of Ionizing Radiation VI Committee, the Committee on Research Priorities for Airborne Particulate Matter, the Committee to Review EPA's Draft IRIS Assessment of Formaldehyde, the Committee to Review the IRIS Process, and the Board on Environmental Studies and Toxicology; and committees of the Institute of Medicine. He is a member of the Institute of Medicine. Dr. Samet received his MD from the University of Rochester, School of Medicine and Dentistry.

Melvin E. Andersen

Member

Melvin E. Andersen is Distinguished Research Fellow at ScitoVation. His research career has focused on developing biologically based dose-response models and applying them to human health risk assessments for many environmental chemicals. Before joining ScitoVation in 2016, he held positions at the Hamner Institutes for Health Sciences, the Chemical Industry Institute of Toxicology, Colorado State University, the U.S. Environmental Protection Agency, and the Department of Defense with both the Navy and the Air Force. He has served on several National Research Council Committees, including the Committee on Toxicity Testing and Assessment of Environmental Agents. Dr. Andersen is a fellow of the Academy of Toxicological Sciences and a diplomat of both the American Board of Toxicology and the American Board of Industrial Hygiene. He earned a PhD in biochemistry and molecular biology from Cornell University.

Jon A. Arnot

Member

Jon A. Arnot is an adjunct professor in the Department of Physical and Environmental Science and in the Department of Pharmacology and Toxicology at the University of Toronto and president of ARC Arnot Research & Consulting Inc. He has 15 years of research experience in the development, application, and evaluation of methods and models to assess the exposure, hazard, and risk of organic chemicals to humans and the environment. His research has focused on the application of high-throughput screening methods for prioritizing chemicals for risk assessment. He is the principal investigator or co-investigator of various international projects including collaborations in the United States, Europe, and Canada. He was the recipient of the James M. McKim III Innovative Student Research Award (2008) from the International QSAR Foundation to Reduce Animal Testing and the Society of Environmental Toxicology and Chemistry (SETAC) Best Student Paper Award (2009). Dr. Arnot earned his PhD in environmental and life sciences from Trent University.

Estaban Burchard

Member

Estaban Burchard is Professor of Medicine and Biopharmaceutical Sciences at the University of California, San Francisco (UCSF). His research interests center on identifying genetic, social, and environmental risk factors for asthma in ethnically diverse populations. Dr. Burchard has created the largest gene-environment study of asthma in minority children in the United States. Dr. Burchard directs the UCSF Center for Genes, Environment & Health. Dr. Burchard received his MD from Stanford University School of Medicine and his clinical training from Harvard’s Brigham and Women’s Hospital and UCSF. He also completed epidemiology training at Harvard and UC Berkley Schools of Public Health.

George P. Daston

Member

George Daston is the Victor Mills Society Research Fellow at the Procter & Gamble Company. He has published over 100 articles and book chapters and edited five books in toxicology and risk assessment. His current research efforts are in the areas of toxicogenomics and mechanistic toxicology, particularly in addressing how findings in these fields can improve risk assessment of chemicals and the development of non-animal alternatives. Dr. Daston has served as President of the Teratology Society, as Councilor and Treasurer-Elect of the Society of Toxicology, and on the U.S. EPA Science Advisory Board, the Board of Scientific Counselors of the National Toxicology Program, the National Research Council's Board of Environmental Studies and Toxicology, and the National Children's Study Advisory Committee. He is Editor-in-Chief of Birth Defects Research: Developmental and Reproductive Toxicology. With scientists at the U.S. Humane Society, Dr. Daston manages the AltTox website, which is devoted to the exchange of scientific information leading to the development of in vitro replacements for toxicity assessments. Dr. Daston has been awarded the Josef Warkany Lectureship and the Distinguished Service Award by the Teratology Society, the George H. Scott Award by the Toxicology Forum, and the Society of Toxicology's Best Paper of the Year Award, and is an elected Fellow of AAAS. Dr. Daston is an adjunct Professor of Pediatrics at University of Cincinnati. Dr. Daston earned his PhD in developmental biology from the University of Miami.

David B. Dunson

Member

David B. Dunson is Arts and Sciences Distinguished Professor in the Department of Statistical Science at Duke University. His research interests include Bayesian statistics, complex hierarchical and latent variable modeling, and nonparametric statistical modeling. His ongoing methodologic research focuses on nonparametric Bayes, latent variable methods, big data, scalable Bayesian inferences, functional and object data, and dimensionality reduction. He is a member of the International Society for Bayesian Analysis, the Institute of Mathematical Statistics, the American Statistical Association, and the International Biometrics Society. Dr. Dunson received his PhD in biostatistics from Emory University.

Nigel Greene

Member

Nigel Greene is the Director of Predictive Compound ADME and Safety at AstraZeneca and specializes in the application of computational and in vitro approaches to assess compound liabilities. His specific duties include establishing and managing a group of PhD-level scientists that profile chemicals for off-target pharmacology. His group uses computational modeling and analysis of chemical properties and in vitro assay profiles to help to predict the safety profile of chemicals in early discovery programs and to aid in chemical series and compound selection before in vivo studies are conducted. Dr. Greene’s other activities include mining internal and public databases of gene expression data to explore biological mechanisms of toxicity and developing new in vitro assays for safety profiling on the basis of findings from the mining exercises. He recently served as a member of the National Research Council Committee on the Design and Evaluation of Safer Chemical Substitutions. Dr. Greene received his PhD in organometallic chemistry from the University of Leeds.

Heather B. Patisaul

Member

Heather B. Patisaul is Associate Professor in the Department of Biology at North Carolina State University. Her research examines the steroid-dependent mechanisms through which sexually dimorphic behaviors and brain circuits arise. She also explores the mechanisms by which sexually dimorphic systems and behaviors can be disrupted by environmental estrogens. Her laboratory is interested in the mechanisms by which exposure to environmental estrogens can advance puberty and impair fertility in females. Dr. Patisaul served on the World Health Organization expert panel that assessed the risks of bisphenol A in 2010 and recently served on the National Research Council Committee to Review EPA's Draft Paper, State of the Science on Nonmonotonic Dose Response. Dr. Patisaul received her PhD in population biology, ecology, and evolution from Emory University.

Kristi Pullen Fedinick

Member

Kristi Pullen is a Staff Scientist with the Natural Resources Defense Council (NRDC) health program. Her multidisciplinary training spans nearly 20 years and includes work in molecular biology, biochemistry, structural biology, computational biology, and population health. Dr. Pullen’s work at NRDC has focused on the application of high-throughput technologies in predictive toxicology and chemical risk assessment. Before joining the health and environment team, she served as the sole scientist for the Environmental Law and Policy Center, where she worked on air quality, drinking water quality, science communications, and environmental justice projects. Dr. Pullen received a PhD in molecular and cell biology from the University of California, Berkeley.

Beate R. Ritz

Member

Beate R. Ritz is Professor and Chair of the Department of Epidemiology at the University of California, Los Angeles, (UCLA) Fielding School of Public Health. Her research focuses on the health effects of occupational and environmental toxins, such as pesticides, ionizing radiation, and air pollution, on chronic diseases, including neurodegenerative and neurodevelopmental disorders, cancers, adverse birth outcomes, and asthma. In her research, she uses geographic information system (GIS) modeling of environmental exposures, including pesticide use and traffic-related air pollution in California, and investigates links between genetic susceptibility factors and environmental exposures in populations. Dr. Ritz is a member of the Center for Occupational and Environmental Health and the Southern California Environmental Health Science Center and co-directed the NIEHS-funded UCLA Center for Gene-Environment Studies of Parkinson's disease. Dr. Ritz received her MD and a PhD in Medical Sociology from the University of Hamburg, Germany and a MPH and PhD in Epidemiology from UCLA.

Ivan Rusyn

Member

Ivan Rusyn is a Professor in the Department of Veterinary Integrative Biosciences in the College of Veterinary Medicine and Biomedical Sciences at Texas A&M University. Before joining TAMU, Dr. Rusyn was professor of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill. Dr. Rusyn's laboratory has an active research portfolio with a focus on the mechanisms of action of environmental toxicants, the genetic determinants of the susceptibility to toxicant-induced injury, and computational toxicology. His studies on health effects of environmental agents resulted in over 150 peer-reviewed publications. He has served on several National Research Council committees and is currently a member of the Committee on Emerging Science for Environmental Health Decisions and the Committee on Toxicology. Dr. Rusyn received his MD from Ukrainian State Medical University in Kiev and his PhD in toxicology from the University of North Carolina-Chapel Hill.

Robert L. Tanguay

Member

Robert L. Tanguay is Distinguished Professor of Molecular Toxicology in the Department of Environmental and Molecular Toxicology at Oregon State University. His research interests are varied and include exploiting the advantages of the zebra fish (Danio rerio) model to improve human and environmental health; evaluating biological interactions and responses to environmental chemicals, pharmaceuticals and nanoparticles using rapid throughput approaches; and understanding the mechanisms underlying the toxicity of chemicals, such as 2,3,7,8-tetrachlorodibenzo-p-dioxin, PAHs, ethanol, pharmaceuticals, and pesticides. Dr. Tanguay is involved with Oregon State's Superfund Research Program as the project leader for an investigation into PAH-induced developmental toxicity, as a co-investigator on work involving biological response indicator devices, and as a research coordinator within the program. He received his PhD in biochemistry from the University of California-Riverside.

Justin G. Teeguarden

Member

Justin G. Teeguarden is a Senior Scientist in Biological Monitoring and Modeling at Pacific Northwest National Laboratory. His current research involves developing an integrated systems-biology-directed research program in particulate matter on respiratory health. He works with the U.S. Environmental Protection Agency (EPA) and private companies to develop and apply physiologically based pharmacokinetic models and other dosimetry approaches to support risk assessments. He served as chair and president elect for the Dose-Response Specialty Section of the Society of Risk Analysis and as a member of the EPA STAR grant review panel (Computational Toxicology). In 2003, Dr. Teeguarden received an award from the Risk Assessment Specialty Section of the Society of Toxicology for the Best Published Manuscript Advancing the Science of Risk Assessment. Dr. Teeguarden served on the National Research Council Committee on Human and Environmental Exposure Science in the 21st Century. He received his PhD in toxicology from the University of Wisconsin, Madison.

James M. Tiedje

Member

James M. Tiedje is the University Distinguished Professor of Microbiology and Molecular Genetics, and of Plant, Soil and Microbial Sciences, and is Director of the Center for Microbial Ecology at Michigan State University. His research focuses on ecology, physiology, and genetics underlying important microbial processes in nature, including biodegradation of pollutants. He has made notable contributions using genomics and metagenomics to understand ecological functions, speciation, and niche adaptation. He has served as editor-in-chief of Applied and Environmental Microbiology and as editor of Microbial and Molecular Biology Reviews. He has over 500 refereed papers, including seven in Science and Nature. He shared the 1992 Finley Prize of UNESCO for research contributions in microbiology of international significance, is a fellow of the American Association for the Advancement of Science, the American Academy Microbiology, and the Soil Science Society of America, and is a member of the U.S. National Academy of Sciences. He was president of the American Society for Microbiology in 2004-2005. He received his PhD from Cornell University.

Paolo Vineis

Member

Paolo Vineis is Professor and Chair of Environmental Epidemiology at Imperial College London, School of Public Health. He is a leading researcher in the field of molecular epidemiology and his latest research focuses on examining biomarkers of disease risk, complex exposures, and intermediate biomarkers from omic platforms in large epidemiological studies. He also studies the effect of climate change on non-communicable diseases. Dr. Vineis is coordinating the European Commission funded Exposomics Project and is a principal investigator or co-investigator of numerous international projects. He has more than 700 publications including in Nature, Nature Genetics, Lancet, and Lancet Oncology. Additionally, he is a member of various international scientific and ethics committees and vice-chair of the Ethics Committee at the International Agency for Research on Cancer. Dr. Vineis received his MD from the University of Torino, Italy.

Michelle A. Williams

Member

Michelle Williams is Stephen B. Kay Family Professor of Public Health and Chair of the Department of Epidemiology at the Harvard School of Public Health. Her research interests lie principally in the field of reproductive and perinatal epidemiology where she focuses on integrating epidemiological, biological, and molecular approaches into rigorously designed clinical epidemiology research projects. Her overarching goal has been, and continues to be, to use biological and molecular biomarkers as objective measures of exposure and as validated pre-clinical proximal determinants (such as oxidative stress, systemic inflammation, and endothelial dysfunction) of discrete outcomes of clinical, public, and global health importance. She is the principal investigator of three large projects funded by the National Institutes of Health and previously served on the National Research Council Committee on Evaluation of Children's Health: Measures of Risks, Protective and Promotional Factors for Assessing Child Health in the Community. Dr. Williams received her ScD in epidemiology from Harvard University.

Fred Wright

Member

Fred Wright is Professor of Statistics and Biological Sciences and Director of the Bioinformatics Research Center North Carolina State University. He is an internationally known statistical geneticist who has wide-ranging research interests, including genomics, bioinformatics, toxicogenomics, and the statistical principles underlying high-dimensional data analysis. Dr. Wright has been principal investigator of numerous grants, with activities ranging from development of new methods of gene mapping to expression-quantitative trait mapping for multiple tissues. He was principal investigator of an EPA-funded STAR Center to apply genomics principles to long-standing problems in toxicology. He is an elected fellow of the American Statistical Association and the Delta Omega Honor Society for Public Health. Dr. Wright received his PhD in statistics from the University of Chicago.

Lauren Zeise

Member

Lauren Zeise is Deputy Director for Scientific Affairs for the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). Dr. Zeise oversees the department's scientific activities, which include the development of risk assessments, hazard evaluations, toxicity reviews, cumulative impact analyses, frameworks and methods for assessing toxicity and cumulative impact, and the department's activities in the California Environmental Contaminant Biomonitoring Program. Dr. Zeise was the 2008 recipient of the Society of Risk Analysis Outstanding Practitioners Award. She has served on advisory boards and committees of the Environmental Protection Agency, the Office of Technology Assessment, the World Health Organization, and the National Institute of Environmental Health Sciences. Dr. Zeise has served on numerous National Research Council (NRC) and Institute of Medicine committees, including the NRC Committee on Toxicity Testing and Assessment of Environmental Agents and the NRC Committee on Improving Risk Analysis Approaches Used by the U.S. Environmental Protection Agency. Dr. Zeise received a PhD from Harvard University.