

Committee on Toxicology

Committee

Peter S. Thorne

Chair

Peter S. Thorne is professor and head of the Department of Occupational and Environmental Health at the University of Iowa (UI) College of Public Health. He is Director and co-founder of the Human Toxicology Program and also directs the UI Human Toxicology and Exposomics Laboratory. He serves as Deputy Director of the NIH-funded Environmental Health Sciences Research Center. His research interests are in environmental risk factors for inflammatory lung diseases, endotoxin- and glucan-induced immunomodulation, the toxicity of engineered nanomaterials, and novel methods for exposure assessment and modeling. He is internationally recognized for his discoveries in the exacerbation of asthma and other respiratory diseases associated with domestic and occupational exposures to bioaerosols. He was co-investigator of a 1990s study of exposure and health outcomes in Persian Gulf War veterans and is co-investigator of a current project evaluating relationships between climate disasters and veterans' health. From 2011 to 2017, he served on the U.S. Environmental Protection Agency's Science Advisory Board and served as chair of the board from 2015-2017. Thorne is a former member of the National Academies Board on Environmental Studies and Toxicology. He received his M.S. in biomedical engineering and Ph.D. in toxicology from the University of Wisconsin-Madison and was a post-doctoral fellow in immunotoxicology at the University of Pittsburgh.

Linda S. Birnbaum

Member

Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., is the former Director of the National Institute of Environmental Health Sciences (NIEHS) of the National Institutes of Health, and the National Toxicology Program (NTP). After retirement, she was granted scientist emeritus status and still maintains a laboratory. As a board-certified toxicologist, Birnbaum served as a federal scientist for 40 years. Prior to her appointment as NIEHS and NTP Director in 2009, she spent 19 years at the U.S. Environmental Protection Agency (EPA), where she directed the largest division focusing on environmental health research. Birnbaum has received many awards and recognitions. In 2016, she was awarded the North Carolina Award in Science. She was elected to the Institute of Medicine of the National Academies, one of the highest honors in the fields of medicine and health. She was also elected to the Collegium Ramazzini, an independent, international academy comprised of internationally renowned experts in the fields of occupational and environmental health and received an honorary Doctor of Science from the University of Rochester and a Distinguished Alumna Award from the University of Illinois. She has also received Honorary Doctorates from Ben-Gurion University, Israel, and Amity University, India; the Surgeon General's Medallion 2014; and 14 Scientific and Technological Achievement Awards, which reflect the recommendations of EPA's external Science Advisory Board, for specific publications. Birnbaum is an active member of the scientific community. She was vice president of the International Union of Toxicology, the umbrella organization for toxicology societies in more than 50 countries, and former president of the Society of Toxicology, the largest professional organization of toxicologists in the world. She is the author of more than 1000 peer-reviewed publications, book chapters, abstracts, and reports. Birnbaum's own research focuses on the pharmacokinetic behavior of environmental chemicals, mechanisms of action of toxicants including endocrine disruption, and linking of real-world exposures to health effects. She is an adjunct professor in the Gillings School of Global Public Health, the Curriculum in Toxicology, and the Department of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill, as well as in the Integrated Toxicology and Environmental Health Program at Duke University where she is also a Scholar in Residence. A native of New Jersey, Birnbaum received her M.S. and Ph.D. in microbiology from the University of Illinois at Urbana-Champaign.

Vincent J. Cogliano

Member

Vincent Cogliano is the deputy director for scientific programs at the California Office of Environmental Health Hazard Assessment. Previously, he directed the Integrated Risk Information System program and served as deputy to the Scientific Integrity Official at the U.S. Environmental Protection Agency, and also was head of the Monographs program at the International Agency for Research on Cancer in Lyon, France. Cogliano is a health risk assessor who has managed authoritative public health programs at the state, national, and international levels. These programs include qualitative and quantitative health risk assessment, mapping tools to evaluate pollution burden and population vulnerability, indicators of climate change, biomonitoring of pollutants in human populations, and the use of new assessment methods to evaluate groups of unassessed chemicals. He places special emphasis on exposures that affect children and vulnerable communities and geographic areas. Cogliano received a B.A. in mathematics from the Catholic University of America, an M.A. in mathematics from the University of Michigan, and a Ph.D. in operations research from Cornell University.

Pamella Gann

Member

Pamella Gann is a principal scientist in research and development toxicology at Alcon Laboratories. Prior to entering ocular toxicology, Pamella served as the technical director for over 30 hazardous material incidents across the country, providing toxicological and industrial hygiene support as a consultant. With experience in risk communication and environmental toxicology, Gann has consulted for a variety of industries including the pharmaceutical, agrochemical, and petrochemical industries. She has conducted human health risk assessments and developed health-based exposure levels for chemicals, components of medical devices, and active pharmaceutical ingredients. Gann is an active participant in the Society for Toxicology and is committed to mentoring the next generation of toxicologists. Prior to entering consulting, her career began studying particulate matter with a focus on inhalational and developmental immunotoxicology. She received her Ph.D. in environmental health sciences from New York University while conducting research in the Department of Environmental Medicine at NYU Langone.

John D. Groopman

Member

John D. Groopman is currently the Edyth H. Schoenrich Professor of Preventive Medicine at Johns Hopkins University. He has academic appointments in the Bloomberg School of Public Health's Department of Environmental Health and Engineering and in the Department of Epidemiology. He is also a Professor in the Department of Oncology and Associate Director of Cancer Center for Population Sciences at the School of Medicine and Sidney Kimmel Comprehensive Cancer Center. Groopman's main research interests involve the development and application of molecular biomarkers of exposure, dose and effect from environmental carcinogens and their translation to cancer prevention. The environmental carcinogens studied include agents that are naturally occurring in the diet as well as ubiquitous air pollutants. A major emphasis of the research has been in the elucidation of the role of aflatoxins, a common contaminate of the food supply, in the induction of liver cancer in high-risk populations in Asia and Africa. This work has led to the identification of a very strong chemical-viral interaction between aflatoxin and the human hepatitis B virus in the induction of liver cancer. These biomarkers have also been used in many collaborative molecular epidemiology studies of liver cancer risk and recently employed to assess the efficacy of a number of chemopreventive agents in trials in high-risk aflatoxin-hepatitis B virus exposed populations. Collectively, the collaborative research has resulted in over 300 peer-reviewed publications and chapters, focuses on the translation of mechanistic research to public health based prevention strategies. Groopman received the Ph.D. from the Massachusetts Institute of Technology in toxicology in 1979 and received additional training as a fellow at MIT and the US National Cancer Institute.

Kurunthachalam Kannan

Member

Kurunthachalam Kannan is a Professor in the Department of Pediatrics at New York University School of Medicine and a Research Scientist at Wadsworth Center, New York State Department of Health. His research interests are in understanding sources, pathways and fate of organic pollutants in the environment. His recent research is focused on human biomonitoring and exposure assessment. He was an editor of the Environmental Chemistry section of Chemosphere and editor in chief of Ecotoxicology and Environmental Safety. Kannan is a recipient of several awards and honors including the Society of Environmental Toxicology and Chemistry's Weston F. Roy Environmental Chemistry award in 1999. He received a Bachelor's degree from Tamil Nadu Agricultural University in India and a Ph.D. in environmental chemistry and ecotoxicology from Ehime University in Japan.

Pamela J. Lein

Member

Pamela J. Lein is a professor of Neurotoxicology at the University of California (UC), Davis School of Veterinary Medicine with a faculty appointment in the UC Davis Medical Investigation of Neurodevelopmental Disorders (MIND) Institute. She previously was on the faculty at Oregon Health and Science University and the Johns Hopkins University Bloomberg School of Public Health. Lein's research focuses on the cellular and molecular mechanisms by which environmental stressors, including toxic chemicals, contribute to neurodevelopmental and neurodegenerative disorders. Lein was selected as an American Association for the Advancement of Science (AAAS) fellow in 2023, received the 2023 American Association of Veterinary Medical Colleges Excellence in Research Award, the 2022 Distinguished Neurotoxicologist Award from the Society of Toxicology (SOT), and the 2022 Mentoring Award from the SOT Women in Toxicology Special Interest Group. Lein has held numerous leadership positions in SOT and is a member of the AAAS. Lein received a B.S. in biology with Honors from Cornell University, an M.S. in environmental health from East Tennessee State University, and a Ph.D. in pharmacology and toxicology from the University of Buffalo. She did postdoctoral training in Molecular Immunology at Roswell Park Cancer Institute. She has served on several National Academies of Sciences, Engineering, and Medicine committees focused on toxicological concerns, most recently the Committee to Review the Revised NTP Monograph on Systematic Review of Fluoride Exposure and Neurodevelopmental and Cognitive Health Effects.

Andrew F. Olshan

Member

Andrew F. Olshan is the Barbara S. Hulka Distinguished Professor, Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina, Chapel Hill. He served as Chair of the department from 2006 to 2018. He is Associate Director of Population Sciences, UNC Lineberger Comprehensive Cancer Center. Olshan's major interests include the epidemiology of cancer, perinatal, and pediatric outcomes. His cancer research has focused on genetic and environmental risk factors for childhood cancer, breast cancer, head and neck cancer, and endometrial cancer. He has led multiple cancer studies in North Carolina and nationally. He has been the principal investigator for multiple NCI-, EPA-, and CDC-funded studies. Olshan has served on the IOM Committees to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides. He was Vice-Chair of the NRC's Committee to Review the Draft IRIS Assessment of Formaldehyde. He was a member of the Committee for the Review of EPA's 2022 Draft Formaldehyde Assessment. He is Editor-in-Chief of Current Epidemiology Reports. He is a past-president of the Society for Epidemiologic Research. Olshan received his doctorate in Epidemiology from the University of Washington, Seattle and was a postdoctoral fellow at the University of British Columbia, Canada. He joined the Department of Epidemiology at the University of North Carolina, Chapel Hill in 1991.

Resha M. Putzrath

Member

Resha M. Putzrath, Fellow, Society for Risk Analysis, retired in 2019 as Toxicologist, Environmental Programs, Navy and Marine Corps Public Health Center, with the Navy Meritorious Civilian Service Award. Prior employment included EPA's Office of the Science Advisor, Risk Assessment Forum, and Hazardous Waste Enforcement Task Force; private consulting companies; National Academy of Sciences; and teaching toxicology and risk assessment at Johns Hopkins University and FAES, NIH. Her primary interest is in improving models for quantitative risk assessment with an emphasis on incorporating more data on interactions of mixtures (chemical, radiological, and pathogen) and from discontinuous patterns of exposure. She served on expert panels (including EPA, ATSDR, FDA, and DoD); has publications in cell biology, virology, toxicology, and risk assessment (including Guest Editor of Comments on Toxicology, "The Cost of Being Linear in a Non-linear World"); and invited presentations (including UN Development Programme and Korean FDA Conference on Risk Assessment and Management of Environmental Contaminants in Food; NAS Committee on Combined Exposures of Carbon Monoxide and Hydrogen Cyanide; NAS Standing Committee for Emerging Science for Environmental Health Decisions). She received an A.B in physics from Smith College, an M.S., and Ph.D. in biophysics from the University of Rochester. She completed postdoctoral fellowships at Harvard Medical School and Harvard School of Public Health.

Kan Shao

Member

Kan Shao is an Associate Professor of Environmental and Occupational Health at Indiana University (IU) School of Public Health - Bloomington, where he primarily works on human health risk assessment research and education. Prior to joining IU, he served as a postdoctoral fellow at the National Center for Environmental Assessment at the US EPA. Shao's research primarily focuses on advancing computational and modeling methods to support chemical risk assessment in the face of uncertainty. His major contributions to the field of quantitative chemical risk assessment include the development of the benchmark dose (BMD) methodology, Bayesian approaches to quantify various sources of uncertainties in dose-response assessment, and a modeling framework to quantitatively integrate mechanistic information. He has received more than three million dollars in external grants from NIH to support his research projects in computational toxicology. Shao is now an Associate Editor of the journal Drug and Chemical Toxicology and served as a reviewer for a few high-profile risk assessment reports, including NRC's Review of U.S. EPA's ORD Staff Handbook for Developing IRIS Assessments: 2020 Version. He holds a dual Ph.D. in Civil & Environmental Engineering and Engineering & Public Policy and an M.S. in Machine Learning both from Carnegie Mellon University.

Joshua Vaughan

Member

Joshua Vaughan is an Associate Director of Occupational Toxicology in Merck's Research Laboratories Preclinical Development group. In this role, he provides technical guidance on a broad range of occupational, environmental health, and product quality issues and serves as a current member of Merck's Industrial Toxicology Advisory Committee, which sets internal health-based exposure standards to support worker protection/safety and product quality. Joshua has previously supported and managed human health risk assessment and toxicological testing programs across several domains including biocides/pesticides and health/hygiene/cosmetic product safety. He is board-certified by the American Board of Toxicology and holds a MS and Ph.D. from the NYU School of Medicine Dept. of Environmental Medicine, with respective specializations in exposure assessment and inhalation toxicology.

Paul M. Wax

Member

Paul M. Wax is the executive director of the American College of Medical Toxicology (ACMT), since 2008, and an Adjunct Clinical Professor at the University of Texas (UT) Southwestern Medical School in Dallas. He is Board-certified in both Medical Toxicology and Emergency Medicine. Wax has had faculty appointments in the Departments of Emergency Medicine at University of Rochester (1991-2001), University of Arizona (2001-2006), and UT Southwestern (2006 – present). In 2010 Wax co-founded ACMT's Toxicology Investigators Consortium, known as ToxIC. A multicenter research consortium and patient registry, ToxIC currently receives funding from NIH, CDC, and FDA and in recent years has focused on the fentanyl epidemic. Wax was the project director for the ATSDR/EPA funded Pediatric Environmental Health Specialty Unit program from 2014-2019 and has served as a subject matter expert for several DHS/DOD funded projects investigating the impact of chemical threats both acutely and long term. In 2019 Wax received the Career Achievement Award in Medical Toxicology from ACMT. Wax received his B.A from Dartmouth College, his M.D. from the Mount Sinai School of Medicine, his Emergency Medicine residency training at UCLA, and his Medical Toxicology fellowship training at New York University.

Judith T. Zelikoff

Member

Judith T. Zelikoff is a tenured professor at New York University (NYU) Grossman School of Medicine in the Department of Medicine, Division of Environmental Medicine. She began her toxicology training early in her career, beginning with her National Heart, Lung and Blood Institute post-doctoral fellowship at NYU Grossman School of Medicine. Her primary laboratory research interests and scientific focus are in toxicology and environmental health associated with respiratory, immunotoxicology, and developmental/reproductive toxicology outcomes in animal models. She has directed NYU programs in community outreach and engagement with marginalized populations for almost two decades. She served as a standing member of two toxicology-related National Institute of Environmental Health Sciences (NIEHS) Study Sections, and continues to actively serve as a National Institutes of Health (NIH) ad hoc reviewer. Zelikoff is a very active member of the Society of Toxicology (SOT), having received the SOT Education Award, Mentoring Award from the Women in Toxicology and Lifetime Achievement Award from the Immunotoxicology Specialty Section; she has also served as SOT Council Secretary and the president of four different toxicology specialty areas. She received a Ph.D. in experimental pathology from the University of Medicine and Dentistry of New Jersey. She has served on several National Academies of Sciences, Engineering, and Medicine committees, most recently the Committee on the Chemistry of Urban Wildfires.

Clifford Duke

Staff Officer

Clifford Duke is Director of the National Academies of Sciences, Engineering, and Medicine Board on Environmental Studies and Toxicology, where he oversees consensus studies and workshops that provide the nation with independent, objective advice and dialog on matters related to the impacts of human activities and environmental exposures on environmental quality, human health, and ecosystems. From 2003 to 2018, Duke directed the Office of Science Programs for the Ecological Society of America, which promotes the continued development of ecological science and its integration into decision-making and education. From 1989 to 2003, Duke worked as a consultant in environmental impact analysis and project management on National Environmental Policy Act and Comprehensive Environmental Response, Compensation and Liability Act projects for defense, transportation, and waste management facilities nationwide. He previously held postdoctoral research positions at Northeastern University, Wellesley College, and Harvard University. He received his B.A. in biology and environmental studies from the University of Vermont and his Ph.D. in botany and M.A. in public policy science, both from Duke University.