Emerging Technologies to Advance Research and Decisions on the Environmental Health Effects of Microplastics: A Workshop

Committee

Kevin C. Elliott

Member

Kevin C. Elliott is a Professor at Michigan State University with joint appointments in Lyman Briggs College, the Department of Fisheries and Wildlife, and the Department of Philosophy. He received his Ph.D. in History and Philosophy of Science from the University of Notre Dame in 2004, his M.A. in History and Philosophy of Science from the University of Notre Dame in 2002, and his B.S. in Chemistry and Philosophy from Wheaton College in 1997. His research lies at the intersection of the philosophy of science and practical ethics, with an emphasis on critically examining the ways in which ethical and social values influence science and technology. Much of his work has focused on issues related to environmental pollution. He has served on the NIEHS National Advisory Environmental Health Sciences Council, and he is currently serving as an Associate Editor for the journal Philosophy of Science. He is the author of Is a Little Pollution Good for You? Incorporating Societal Values in Environmental Research (2011) and A Tapestry of Values: An Introduction to Values in Science (2017) and co-editor (with Ted Richards) of Exploring Inductive Risk: Case Studies of Values in Science (2017).

Mark Hahn

Member

Mark Hahn is a Senior Scientist and past Chair (2011-2016) of the Biology Department at the Woods Hole Oceanographic Institution (WHOI) in Woods Hole, MA, USA. He also is a Project Leader in the Boston University Superfund Research Program and the Woods Hole Center for Oceans and Human Health. Hahn received his PhD in Environmental Toxicology (1988) from the University of Rochester School of Medicine and Dentistry. He conducted postdoctoral research at WHOI before being appointed to the scientific staff in 1992. Dr. Hahn's research foci include: molecular mechanisms and evolution of transcription factors (e.g. AHR, NRF2) involved in the response to chemicals, mechanisms of adaptation and evolved resistance to chemicals in fish following long-term chemical exposure, mechanisms of developmental toxicity of harmful algal bloom toxins, and recently, the impact of microplastics in the environment. Dr. Hahn is author or co-author of more than 160 papers in peer-reviewed journals and books. Dr. Hahn's previous experience with the National Academies included participation as a speaker and discussant in the 2018 ESEHD workshop on The Promise of Genome Editing Tools to Advance Environmental Health Research and as a speaker in the 2014 NRC Discussion Forum on Microplastics in the Marine Environment & Potential Human Health Risks.

Kathleen McDonough

Member

Kathleen McDonough is a Principal Scientist in Procter and Gamble’s Global Product Stewardship organization where she has technical responsibility for all areas of environmental fate and exposure science including management of their environmental fate and biodegradation laboratory. She has extensive experience evaluating, monitoring, and modeling environmental fate for a wide range of materials from soluble compounds to non-soluble polymers in a variety of environmental compartments. Prior to joining Procter and Gamble, she worked as an environmental consultant managing an interdisciplinary government and corporate funded research program focused on environmental fate and bioavailability of organic chemicals. She was a post-doctoral fellow at Carnegie Mellon University and has co-authored over 20 peer reviewed publications in the area of environmental science. She holds a Ph.D. in Environmental Engineering from Carnegie Mellon University, M.S. in Environmental Engineering from Georgia Institute of Technology, and a B.S. in Civil and Environmental Engineering from Cornell University.

Anil K. Patri

Member

Anil K. Patri is the agency lead for nanotechnology and serves as the Chair, Nanotechnology Task Force (Office of the Commissioner, Office of Chief Scientist) and Director, Nanocore, National Center for Toxicological Research, US Food and Drug Administration. His laboratory is very active in regulatory science research to understand material characteristics, safety and efficacy of products containing nanomaterial for medical applications and provides training to scientists and reviewers at FDA. He serves on the U.S. National Nanotechnology Initiative (NNI) NSET Subcommittee and NEHI working group for inter-agency coordination on behalf of FDA. He is as member of ISO TC229 and serves on the executive committee of ASTM E56 to facilitate standards development in Nanotechnology. Dr. Patri's laboratory is developing international standards, guides and test methods, for nanotechnology through collaboration with stakeholders and the National Toxicology Program (NTP). He is leading the inter-agency interest group on Nanoplastics through NNI/NEHI, with 45 members from 15 federal agencies. Dr. Patri co-organized the Global Summit on Nanotechnology and Nanoplastics in September 2019, in Italy, to coordinate research efforts on Nanoplastics through global collaborations. Prior to joining FDA in 2014, Dr. Patri served as the Deputy Director, Nanotechnology Characterization Laboratory at the Frederick National Laboratory for Cancer Research. From 2006-2014, he held a guest scientist position at the National Institute of Standards and Technology (NIST). He served on editorial and advisory boards, organized many international conferences, invited to speak at over 200 conferences and workshops and published over 65 peer-reviewed publications related to nanomaterial for biomedical applications. He earned his Ph.D. from University of South Florida, conducting basic research on dendrimer synthesis and characterization.

Gina M. Solomon

Member

Gina M. Solomon, is a principal investigator at the Public Health Institute in Oakland, California, and a Clinical Professor of Medicine at the University of California, San Francisco. She served as the Deputy Secretary for Science and Health at the California Environmental Protection Agency from 2012-2017. Dr. Solomon's work has spanned a wide array of areas, including children's environmental health, reproductive toxicity, cumulative impacts, and the use of novel data streams to screen chemicals for toxicity. Her work has also focused on exposure science for air pollutants, pesticides, mold, and metals in soil, and on the health effects of climate change. She was involved in the aftermath of Hurricane Katrina, the Gulf oil spill, and the Chevron Richmond explosion and fire, and she successfully spearheaded regulations to improve refinery safety in California. Dr. Solomon has served on multiple boards and committees of the National Academies, the US EPA Science Advisory Board, and the National Toxicology Program's Board of Scientific Counselors. She also serves on the US EPA Board of Scientific Counselors Chemical Safety for Sustainability subcommittee. Dr. Solomon received her M.D. from Yale and completed her M.P.H. and her residency and fellowship training in internal medicine and occupational and environmental medicine at Harvard.