

Reducing the Health Impacts of the Nitrogen Problem: An Environmental Health Matters Initiative Workshop

Committee

Catherine L. Kling

Chair

Catherine L. Kling is the Tisch University Professor of Environmental, Energy, and Resource Economics in the Dyson School of Applied Economics at Cornell University and the Faculty Director of the Atkinson Center for a Sustainable Future. She specializes in the economic valuation of ecosystem services and the integrated assessment modeling for water quality modeling. Dr. Kling currently chairs the National Academies' Water Science and Technology Board and is a member of the PNAS editorial board. She has been a member of nine Academies study committees, including several focused on water resources and agricultural issues. She served as president of the Association of Environmental and Resource Economists, held editorial positions at ten economics journals, and has published over 100 journal articles and book chapters. She is currently the editor of the Review of Environmental Economics and Policy. She is an elected Fellow of the Association of Environmental and Resources Economists, the Agricultural & Applied Economics Association, and the American Association for the Advancement of Science. She is also a University Fellow at Resources for the Future, a member of the National Academy of Sciences, and served for ten years on EPA's Science Advisory Board. She received her B.A. in business and economics from the University of Iowa and Ph.D. in economics from the University of Maryland, College Park.

Elena Austin

Member

Elena Austin is Assistant Professor at the University of Washington School of Public Health in the Department of Environmental and Occupational Health Sciences. Dr. Austin has a background in exposure assessment and epidemiology as well as strong statistical skills. Her expertise areas and past work include complex multi-pollutant exposure metrics, geographic information systems, remote sensing and environmental and occupation risk communication in rural communities. She is the co-investigator of a project sampling outdoor ultrafine particles and developing multi-pollutant exposure metrics to identify unique sources and health impacts on communities. She also participates in several community-engaged environmental monitoring studies, including projects along the US-Mexico border region and in agricultural communities in the Pacific Northwest. Dr. Austin earned her Doctor of Science (ScD) in Environmental Health from the Harvard T.H. Chang School of Public Health.

James N. Galloway

Member

James N. Galloway is Sidman P. Poole Professor of Environmental Sciences at the University of Virginia. Dr. Galloway is a biogeochemist known for his work on the magnitude and consequences of the human alteration of biogeochemical cycles. His research includes investigations on the natural and anthropogenic controls on chemical cycles at the watershed, regional and global scales. He started first with trace metal biogeochemistry of the coastal ocean, and then expanded to investigations on the increased acidification of the atmosphere, soils and fresh waters. Most recently he has focused on the nitrogen cycle. He was elected to Fellow of the American Association for the Advancement of Science in 2002, and to Fellow of the American Geophysical Union in 2008. Also, in that year he, together with Harold Mooney, Stanford University, received the Tyler Prize for Environmental Achievement. In 2020 he was elected to the US National Academy of Sciences. He graduated from Whittier College with a BA in Biology and Chemistry, and from UCSD in 1972 with a PhD in Chemistry for his research on the fate of trace metals in a coastal ocean.

Jerry L. Hatfield

Member

Jerry L. Hatfield is a retired Laboratory Director of the USDA-ARS National Laboratory for Agriculture and the Environment in Ames, Iowa. His research interests focus on the impact of agricultural systems on environmental quality and how improved management can enhance production efficiency and create resilience to weather/climate extremes. He is the recipient of numerous awards including the Hugh Hammond Bennett award, and election to the ARS Hall of Fame. His PhD degree is from Iowa State University in 1975 in the area of Agricultural Climatology with a statistics minor.

Rajiv Khosla

Member

Rajiv Khosla is Professor and Head of Agronomy at Kansas State University and is a globally recognized authority and a pioneer of Precision Agriculture. He has been engaged in precision agriculture since inception and has made significant contributions in the development and spread of Precision Agriculture worldwide. Dr. Khosla's research specializes in harnessing spatial and temporal heterogeneity in managed agro-ecosystems and translating those into better decision models. His group has extensively used remote sensing and other geo-spatial tools to enhance production, resource use efficiency, profitability, and sustainability of managed agro-ecosystems. Their on-going precision nitrogen management work has demonstrated significant reductions in nitrous oxide (N₂O) emissions on farm fields. Most recently, his laboratory in collaboration with two other institutions are developing the next generation of soil-moisture and soil-nitrate sensors that are in-expensive, passive (battery-less), small, and bio-degradable. He has co-authored over 100 publications (book chapters, refereed journal articles, extension articles, proceedings, bulletins, reports, popular press articles, digital media, and others). He has been invited globally to over 30 countries. He is the Founder and Past-President of the International Society of Precision Agriculture. Most recently, he served as the member of National Academy of Science Executive Committee on Science Breakthrough 2030. In 2017, his research was recognized with the "Werner L. Nelson Award for Diagnosis of Yield-Limiting Factors Award" by the American Society of Agronomy. Previously, he has been recognized as the "Precision Ag Educator of the Year 2015" by the US agricultural industry. In 2012, Dr. Khosla was named the Jefferson Science Fellow by the National Academy of Sciences and was appointed as the Senior Science Advisor on Food Security to the U.S. Department of State. In 2011, he was inducted by NASA to the US "Presidential Advisory Board on Positioning, Navigation and Timing" to work on the US space-based GPS policy. Dr. Khosla is the Fellow of American Society of Agronomy; Fellow of Soil Science Society of America; Fellow of Soil and Water Conservation Society and Honorary Life Fellow of International Society of Precision Agriculture. Dr. Khosla received his BS in Agricultural Sciences at the University of Allahabad, India, MS in Soil Physics from Virginia Tech, and PhD in Soil Fertility and Crop Management from Virginia Tech.

Jennifer McPartland

Member

Jennifer McPartland is a senior scientist in the Health Program at Environmental Defense Fund (EDF) where she focuses on advancing science, policy, and market solutions to protect human health and the environment from harmful chemical exposures. Dr. McPartland directly supports EDF's efforts to ensure public health protective implementation of the Toxics Substances Control Act. She is the primary technical advisor for EDF corporate partnerships focused on improving supply chain chemicals management and in this capacity has worked with major businesses to develop corporate chemicals policies and management plans. Dr. McPartland leads EDF's engagement in federal efforts to apply systematic review in chemical assessment and to advance new chemical testing approaches. She also works closely with EDF's Energy program to address emerging issues associated with alternative reuse of produced water including through research initiatives and multi-stakeholder dialogue. Dr. McPartland currently serves on the U.S. EPA's Board of Scientific Counselors Chemical Safety for Sustainability Subcommittee and on the GreenScreen for Safer Chemicals Steering Committee. She earned her PhD in microbiology from the University of Chicago and her BS in biochemistry from the University of Virginia.

Robyn S. Wilson

Member

Robyn S. Wilson is the professor of risk analysis and decision science in the School of Environment and Natural Resources at The Ohio State University. Dr. Wilson is a behavioral decision scientist studying individual decisions under risk. She is also interested in the development of strategic communication efforts, as well as the design of decision support tools that assist individuals in making more informed choices. Her current research focus is on adaptation to climate-exacerbated hazards, and what motivates and constrains different land use and land management decisions on private and public lands. She is the incoming President of the Society for Risk Analysis, and member of the National Academies Board on Environmental Change and Society. She received her Ph.D. from Ohio State in Natural Resources Management.