
## Speaker and Panelist Biographies

**Tina Bahadori, Sc.D.,** is the National Program Director for Chemical Safety for Sustainability (CSS) at the U.S. Environmental Protection Agency (EPA). CSS research advances sustainable development, use and assessment of existing chemicals and emerging materials by developing and applying computational science, integrated chemical evaluation strategies, and decisionsupport tools. Before joining EPA in May 2012, Dr. Bahadori was the Managing Director of the Long-Range Research Initiative at the American Chemistry Council (ACC). She is a past president of the International Society of Exposure Science and was an associate editor of the Journal of Exposure Science and Environmental Epidemiology. She has served as a member of several committees of the National Academies, including one that developed a research strategy for environmental, health, and safety aspects of engineered nanomaterials. Dr. Bahadori holds a doctorate in Environmental Science and Engineering from the Harvard School of Public Health.

**Martin Blaser, MD,** is the Muriel and George Singer Professor of Medicine, Professor of Microbiology, and director of the Human Microbiome Program at New York University School of Medicine. He is a Diplomate from American Board of Internal Medicine, subspecialty of Infectious Diseases. He has served as President of the Infectious Diseases Society of America, Chair of the Board of Scientific Counselors of the National Cancer Institute, and is Vice Chair of the Advisory Board for Clinical Research at the NIH. He serves as a Member of Scientific Advisory Board of AvidBiotics Corp. He is a member of the editorial boards of "Cell Host and Microbe," "FASEB Journal" "Helicobacter", "Emerging Infectious Diseases", and "Microbiome," amongst others, and is Senior Editor of "Cancer Prevention Research." His Board Certifications also include Internal Medicine in 1977; Infectious Diseases in 1980 and his Clinical Fellowships include fellow in Infectious Diseases, Department of Medicine, University of Colorado Medical Center in 1980. He completed his Residency Training from Department of Medicine, University of Colorado Medical Center in 1977. He has published extensively on how changes in the human microbiome impact the development of several of the illnesses that have been increasing in recent years, including esophageal diseases, obesity, diabetes, and asthma. Dr. Blaser's laboratory focuses on the biology of H. pylori and Campylobacter species and on the constituents of the human microbiome, with reference to the interactions that lead to or protect from disease. Dr. Blaser done his Internship from Department of Medicine at University of Colorado Medical Center from 1973 to 1974 and completed his Medical Education at New York University in 1973.

**Carl Cerniglia, Ph.D.,** is a Senior Biomedical Research Service (SBRS) Research Microbiologist, Director of the Division of Microbiology at the National Center for Toxicological Research (NCTR), US Food and Drug Administration (FDA) and elected member of the American Academy of Microbiology. He is also an adjunct Professor in the Department of Pharmacology and Toxicology at the University of Arkansas

Medical Sciences, Little Rock, AR. Dr. Cerniglia leads a team at the NCTR that has impacted public health in a variety of research areas including food safety, antimicrobial resistance, environmental biotechnology, nanotechnology, women's health and human intestinal microbiome-host interactions. Dr. Cerniglia's research has resulted in over 400 scientific publications and numerous book chapters and review articles. His research has been frequently highlighted in the scientific and popular press. Dr. Cerniglia has made more than 400 invited presentations at national and international conferences and meetings and is also an ASM Foundation of Microbiology lecturer. The research achievements of Dr. Cerniglia has been recognized by national and international awards from the Food and Drug Administration, American Pharmaceutical Association, International Society of Toxicity Testing, American Society for Microbiology, and American Academy of Microbiology and U.S. Department of Health and Human Services. Dr. Cerniglia was recently awarded the Silver Medal by the World Health Organization for outstanding scientific contribution to the Joint Expert Committee on Food Additives (JECFA) in advancing science-based risk assessments on evaluating the effects of veterinary drug residues and other food contaminants on the human intestinal microbiome, the FDA Lifetime Achievement Award, the FDA Commissioner's Award Merit, the DHHS Outstanding Leader Award in providing mentoring, training and career advancement opportunities to employees in a diverse workforce and Distinguished Alumnus Award at North Carolina State University.

**Maria Gloria Dominguez-Bello, Ph.D.,** is an associate professor in the Divison of Translational Medicine in the Department of Medicine at New York University Langone Medical Center. She also holds appointments as a Professor at the University of Puerto Rico and at the Venezuelan Institute of Scientific Research. She is the winner of the Roi Baudouin Award given by the International Foundation for Science, and the Medal of Merit given by the Venezuelan Institute of Scientific Research. She is also a fellow at the Infectious disease society of America and a fellow at the American Academy of Microbiology. Her research is focused on how modern practices in Western lifestyles impact the microbiome, and its differences with traditional societies' microbiomes.

**Eran Elinav, M.D., Ph.D.,** heads a research group at the Department of Immunology, Weizmann Institute of Science. His lab focuses on deciphering the molecular basis of host-microbiome interactions and their effects on health and disease, with a goal of personalizing medicine and nutrition. Dr. Elinav completed his medical doctor's (MD) degree at the Hebrew University of Jerusalem Hadassah Medical Center summa cum laude, followed by a clinical internship, residency in internal medicine, and a clinical and research position at the Tel Aviv Medical Center Gastroenterology institute. He received a PhD in immunology from the Weizmann Institute of Science, followed by a postdoctoral fellowship at Yale University School of Medicine. Dr. Elinav has published more than 70 publications in leading peer-reviewed journals, and was awarded for his discoveries including the Claire and Emmanuel G. Rosenblatt award from the American Physicians for Medicine, the Alon Foundation award, and the Rappaport prize for biomedical research.

**Neha Garg, Ph.D.,** is a post-doc in the Dorrestein Lab in the Department of Pharmacology, Chemistry and Biochemistry at the University of California, San Diego. The focus of her research is on understanding the underlying chemical interactions between the host and its microbiome that dictate human health and disease. The language in which microbes talk to each other and their host is through chemistry, with small molecule natural products being the alphabets of this language. Using a concoction of innovative tools including bioinformatics, clinical microbiology, mass spectrometry, DNA sequencing, and spatial mapping tools, she aims to delineate specific molecules that modulate the dynamics of microbial involvement in our response to genetic and environmental triggers of disease. Currently, Dr. Garg is developing these tools in the laboratory of Prof. Pieter C. Dorrestein to understand

the presence and heterogeneity of microbiome and metabolome of a human lung associated with cystic fibrosis. Her interest in the influence of microbial metabolites affecting human health is a natural extension of my graduate studies at the University of Illinois Urbana-Champaign, where I worked on several projects to study the biosynthesis of small cyclic peptides involved in microbial interactions in various environments.

**Margaret Karagas, Ph.D.,** is Professor and Department Chair of Epidemiology at the Dartmouth College Geisel School of Medicine, and Director of the Children's Environmental Health and Disease Prevention Research Center and Center of Molecular Epidemiology at Dartmouth. Dr. Karagas' research encompasses interdisciplinary studies to illuminate the etiology of human cancers, along with adverse pregnancy and children's health outcomes. Her work seeks to identify emerging environmental exposures, host factors and mechanisms – that impact health from infancy to adult life, and to apply novel methods and technologies to understand disease pathogenesis. Among her current investigations are population-based studies of the temporal increases in the incidence rates keratinocyte cancers in the US and the contribution of widespread exposures such as indoor tanning, as well as drinking water contaminants. More recently she established a cohort of pregnant women and their offspring in New Hampshire to assess the sources and potential health impacts of arsenic and other factors i.e., on childhood infection, allergy/atopy, growth and neurodevelopment through the Children's Center. The cohort entails multiple collaborative studies of exposure biomarkers, individual susceptibility, and biological response to environmental agents including the developing microbiome and immune response. Dr. Karagas received her Ph.D. from the University of Washington.

**Germaine Buck Louis, Ph.D.,** is a Senior Investigator and Director of the Division of Epidemiology, Statistics and Prevention Research, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), of the National Institutes of Health. Dr. Buck Louis was formerly a professor for 13 years in the Department of Social and Preventive Medicine, University of Buffalo, School of Medicine and Biomedical Sciences where she received her master's and doctoral degrees in epidemiology. Her research interests primarily focus on the interplay between environmental chemicals, behaviour and human reproduction and development. She has been an active member of several epidemiologic societies, including her service as Secretary, then President, of the Society of Perinatal and Pediatric Epidemiologic Research and board member of the American College of Epidemiology and the International Society of Environmental Epidemiology. She has served on numerous committees, panels and boards for The National Academies, Pan American Health Organization, U.S. Environmental Protection Agency, and World Health Organization. While at NICHD, Dr. Buck Louis serves as the Principal Investigator of the Longitudinal Investigation of Fertility and the Environment (LIFE) Study, which is a prospective cohort study with preconception enrollment of couples that is focusing on the relation between persistent organochlorine pollutants and reproductive outcomes such as time-to-pregnancy, pregnancy loss, infertility, gestation, and birth weight. Dr. Buck Louis is also the principal investigator of the Endometriosis, Natural History, Diagnosis and Outcome (ENDO) Study, which focuses on the relation between persistent organochlorine pollutants and gynecologic diseases including endometriosis. She has published numerous papers focusing on the determinants of human fecundity and fertility including the role of environmental chemicals. She is an editor of the recent book entitled, Reproductive and Perinatal Epidemiology, published by Oxford University Press in 2011.

**Kun Lu, Ph.D.,** received his Ph.D. from University of North Carolina in 2009, studying formaldehyde-induced DNA adducts and its risk assessment. He did a postdoctoral training at Massachusetts Institute of Technology to develop metabolomics methods for biomarker discovery. Since 2012, He has been appointed as an assistant professor at University of Georgia, with the overall research goal to better

understand the health effects of environmental exposure and individual response by integrating the microbiome, exposome, omics, and biomarker development. He was the winner of the Board of Publications Best Paper Award by the Society of Toxicology in 2011. He was also one of the recent recipients of the Outstanding New Environmental Scientist Award from the NIEHS in 2015. His recent research concentrates on understanding functional interactions between the microbiome and heavy metals, pesticides, and a number of other important environmental chemicals.

**Ana Navas-Acien, M.D., Ph.D.,** is an associate professor in the Department of Environmental Health Sciences at Johns Hopkins Bloomberg School of Public Health. She is a physician-epidemiologist with a specialty in preventive medicine and public health, and a long-term interest in the health consequences of widespread environmental exposures. Based on an epidemiologic approach, her research investigates chronic health effects of arsenic, selenium, lead, cadmium, and other trace metals and other major environmental exposures (secondhand tobacco smoke and air pollution). Dr. Navas-Acien has served as an expert witness to the Baltimore City Council and she has served as a member of the 2010 National Toxicology Program Workshop on the Role of Environmental Chemicals in the Development of Diabetes and Obesity. She earned an MD from the University of Granada School of Medicine in Spain and a Ph.D. in epidemiology from Johns Hopkins School of Public Health.

**Andrew Patterson, Ph.D.,** is an Associate Professor of Molecular Toxicology at the Pennsylvania State University, University Park. Dr. Patterson is the Scientific Director of the Metabolomics facility. Dr. Patterson graduated from the joint National Institutes of Health and George Washington University graduate partnerships program in 2006 and completed a postdoctoral fellowship as a Pharmacology Research Associate in the Laboratory of Metabolism at the National Cancer Institute in 2011. Dr. Patterson joined the Center for Molecular Toxicology and Carcinogenesis at the Pennsylvania State University in 2011. He and his students, postdocs, and collaborators focus on understanding the host-metabolite-microbiota axis—specifically how the manipulation of gut microbiota impacts host metabolites (e.g., bile acids), their metabolism, and how these co-metabolites interact with host nuclear/soluble receptors (e.g., farnesoid X receptor, aryl hydrocarbon receptor). The lab employs a variety of cutting-edge tools, including NMR- and mass spectrometry-based metabolomics, genomics, and conventional and gnotobiotic transgenic mice, to facilitate its study of these pathways and understand their impact on human health and disease.

**Lita Proctor, Ph.D.,** is the program director responsible for coordination of the Human Microbiome Project (HMP) at the National Human Genome Research Institute at the National Institutes of Health. The HMP is an eight-year, trans-NIH Common Fund Initiative to create a toolbox of resources for this emerging field. During the first phase of HMP (2008-2012), resources which were developed included bacterial, viral and fungal strains and their genome sequences, phylogenetic and metagenomic sequence data from the microbiomes of healthy adults and from a collection of cohort studies of patients with specific gut, skin or urogenital diseases. Computational tools for phylogenetic and metagenomic data analysis, and single cell genomics and novel cultivation approaches as well as ELSI studies in human microbiome research rounded out the resources for this phase. For the second phase of HMP (2014-2016), an integrated dataset of biological properties, to include transcripts, proteins and metabolites, from both the microbiome and host will be developed as a community resource. These datasets are being developed from three different systems - IBD, diabetes and pre-term birth - as exemplar models of microbiome-associated conditions or diseases. Computational tools to analyse these complex datasets will also be developed as a resource. Dr. Proctor joined the Division of Genomic Sciences in the Extramural Research Program in 2010. Prior to this she served as Program Director at the National Science Foundation (NSF) in the Geosciences and the Biosciences Directorates, where she

managed microbiological, bioinformatics and research resources programs. She is formally trained in microbial ecology, was a National Science Foundation (NSF) Postdoctoral Fellow in molecular microbial genetics at the University of California, Los Angeles, and has held appointments at Florida State University and at the University of California, Santa Cruz.

**Matthew Redinbo, Ph.D.,** is Kenan Distinguished Professor in Chemistry, Biochemistry, Microbiology and Genomics in UNC's College of Arts and Sciences and School of Medicine. His first decade of independent work focused on structural and chemical biology studies of factors important to human disease, including topoisomerases, nuclear receptors and drug metabolizing enzymes. He has recently transitioned into studying model systems of the GI mucosal epithelium and its dynamic interaction with the microbiota. Based on that work, he now seeks to alter the treatment of disease by pharmacologically modulating the GI microbiome.

**Ivan Rusyn, M.D., Ph.D.,** is professor of Veterinary Integrative Biosciences in the College of Veterinary Medicine and Bio-medical Sciences at Texas A&M University. Prior to joining TAMU, he was professor of Environmental Sciences and Engineering at the University of North Carolina at Chapel Hill. Dr. Rusyn received his MD from Ukrainian State Medical University and his Ph.D. in toxicology from the University of North Carolina-Chapel Hill. His areas of research are toxicology and environmental health sciences. He has an established record of academic excellence developing highly mechanistic approaches to elucidate the potential effects of environmental pollutants and other anthropogenic stressors on human health. 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 have resulted in over 150 peer-reviewed publications. Dr. Rusyn is recognized as a national and international authority and leader on complex problems in environmental health and human health assessments. He has served on several National Research Council committees and is currently a member of the Committee on Emerging Science for Environmental Health Decisions, the Committee on Toxicology, and the Committee on Incorporating 21st Century Science in Risk-Based Evaluations.

**Joel Schwartz, Ph.D.,** is a Professor of Environmental Epidemiology at the Harvard School of Public Health and Director of the Harvard Center for Risk Analysis. His work has been instrumental in the removal of lead from gasoline, and the setting of particulate air pollution standards around the world. Schwartz's work tightened federal clean-air standards and improved compliance within industry. In addition to his research into lead, he was among the first to link elevated death rates to particulates of sulfur from coal-burning power plants and black carbon from motor-vehicle exhaust. Dr. Schwartz's current research interests include health consequences of exposure to pollutants, health effects of ozone exposure, and effects of antioxidants on respiratory health. Dr. Schwartz received his Ph.D. from Brandeis University.

**Stephanie Shore, Ph.D.,** received her BSc in Physics and Physiology at McGill University in 1979 and her Ph.D. in Respiratory Physiology at McGill University in 1984. She did her thesis work under the mentorship of Dr. James Martin at the Meakins Christie Labs. Her thesis work involved examination of factors, especially prostanoids and cholinergic innervation, contributing to the heterogeneity of airway smooth muscle responsiveness to histamine. In 1984, she moved to Boston, MA and joined the lab of Dr. Jeffrey Drazen at the Harvard School of Public Health to do her postdoctoral fellowship. During that time she worked on canine models of chronic bronchitis. She also developed an interest in the sensory innervation of the lung, particularly the neuropeptides substance P and neuropeptide K, and their roles in airway disease. In 1989, she joined the faculty of the Respiratory Biology Program (now the Molecular

and Integrative Physiological Sciences Program) in the Department of Environmental Health at the Harvard School of Public Health, where she is now a Senior Lecturer. In the mid 1990's, Dr. Shore's interests shifted towards understanding how inflammatory cytokines interact with airway smooth muscle, particularly their responses to beta agonists. Her interest in obesity and its impact on the lung began in the early 2000's as the rising obesity epidemic made the role of obesity as a risk factor for asthma more apparent.

**John Vandenberg, Ph.D.,** is Director of the Research Triangle Park Division of the National Center for Environmental Assessment at the US Environmental Protection Agency. He is responsible for leadership, planning and oversight of EPA's Integrated Science Assessments for the major (criteria) air pollutants and Integrated Risk Information System (IRIS) assessments for high priority hazardous air pollutants. He began working at EPA in 1984, and was responsible for performing national-scale exposure and health risk assessments for numerous hazardous air pollutants. Following a year on assignment from EPA to the State of California to help develop risk assessment guidelines, he joined EPA's Office of Research and Development as Director of EPA's Research to Improve Health Risk Assessments program. He served in recent years as EPA's first National Program Director for particulate matter research and as acting director of EPA's Human Studies Division, and Experimental Toxicology Division. In recent years Dr. Vandenberg was Associate Director for Health at NCEA, where he had oversight responsibilities for much of EPA's health risk assessment activities. Dr. Vandenberg has been a consultant to the World Health Organization and has represented EPA in scientific meetings in Europe, South America, Africa and Asia, and he serves on numerous scientific advisory committees. In 2006, he was elected a Fellow of the Society for Risk Analysis. He is an adjunct professor at the Nicholas School of the Environment at Duke University and since 1991 he has taught a graduate-level course in air quality management. He received his B.A from the College of Wooster, Ohio, and the MS and PhD from Duke University in biophysical ecology.

**Ian Wilson, Ph.D., DSc.,** worked in the areas of bioanalysis and drug metabolism in the pharmaceutical industry for over 30 years, most recently as a Senior Principal Scientist in the Dept. of Drug Metabolism and Pharmacokinetics at the AstraZeneca Research site at Alderley Park in Cheshire (UK) before moving to Imperial College London in 2012 where he is Professor of Drug Metabolism and Molecular Toxicology. His research is directed towards problems in understanding drug metabolism and toxicology using both "classical" techniques, "omics" approaches (particularly metabonomics) and "systems biology". The relationship between the host and gut microbiome, and how this two-way interaction, is affected by exposure to xenobiotics has been a focus of this work for many years.

**Lauren Zeise, PhD,** Chief, Reproductive and Cancer Hazard Assessment Branch, of the California Environmental Protection Agency's (Cal/EPA) Office of Environmental Health Hazard Assessment. In that role she oversees a variety of scientific activities concerning risk assessment, including chemical hazard and dose response assessment and development of improved methods for risk assessment. As part of Cal/EPA's environmental justice work, her group is also developing the Agency's approach to cumulative impact assessment – for characterizing the impact on communities of multiple sources of pollution and non-chemical stressors in the presence of community vulnerability. Her group works with other departments in California government in operating Biomonitoring California, the state's biomonitoring program. She co-led the team that developed California's Green Chemistry Hazard Trait regulation. Dr. Zeise has served on numerous national and international science advisory committees and boards focusing on environmental public health and improving the way chemicals are tested or evaluated for health risk. She has coauthored a number of National Academy of Science (NAS) reports, including "Science and Decisions: Advancing Risk Assessment" (2009), "Toxicity Testing in the 21st Century: A

Vision and Strategy" (2007), "Sustainability and the US EPA" (2011), and "Understanding Risk: Informing Decisions in a Democratic Society" (1996). She is currently a member of the NAS committees including the Committee on Use of Emerging Science for Environmental Health Decisions. She is member, fellow, former editor and former councilor of the Society of Risk Analysis and was the 2008 recipient of the Society's Outstanding Risk Practioner Award. She is a lifetime NAS National Associate. She received her doctorate from Harvard University.