Biographies of Speakers and Panelists

Marc Audebert, Ph.D. in Life Sciences and Toxicology, is currently Research Director at INRAE Toxalim. He is part of the "Metabolism and Xenobiotics" (MeX) team, which gained international recognition in the field of metabolic and genotoxicity studies. Dr. Audebert has skills in different scientific domains: genotoxicity, cellular and molecular biology, DNA repair, carcinogenesis, cell signaling. His current research focuses on a novel genotoxicity assay based on the quantification of histone H2AX/H3 phosphorylation, with simultaneous examination of the cytotoxicity and genotoxicity of xenobiotics on human cells. Using this assay, he successfully evaluated the genotoxic potential and metabolism of several groups of food contaminants (e.g. pesticides, polycyclic aromatic hydrocarbons, heterocyclic aromatic amines, mycotoxins, heavy metals, bisphenols), using single compounds as well as mixture. Dr. Audebert investigates the genotoxic mode of action of food contaminants (e.g. DNA adducts, aneugens, oxidative stress). He has coordinated or participated to several projects contributing to establish the scientific basis for predicting and assessing the genotoxic effects of food contaminants. Dr. Audebert is board member of the French-Society of genetic toxicology and European Environmental Mutagen and Genomics Society since 2010.

Lesa L. Aylward, Ph.D.,†λ is an Honorary Associate Professor with a joint appointment between Queensland Children's Medical Research Institute and the National Research Center for Environmental Toxicology (Entox) and a Principal at Summit Toxicology, LLP. Dr Aylward's research interests include the development and application of toxicokinetic models and the use of biomonitoring for tracking exposure to chemicals in the environment, foods, and consumer products. She has published extensively on the development of tools for the interpretation of biomonitoring data in a risk assessment context and the use of biomonitoring as an exposure assessment tool in epidemiological studies. Her current research interests include evaluation of the sources of and factors influencing inter- and intra-individual variation in chemical biomarker concentrations with a focus on the design and implementation of biomonitoring for exposure characterization in epidemiological studies. She has several current collaborations with Entox researchers on the use of human biomonitoring to characterize chemical exposures in the Australian general population and in occupationally exposed groups.

Sarah Blossom, Ph.D., is an Associate Professor of Pediatrics at the University of Arkansas for Medical Sciences. Her research goal is to advance understanding of how environmental exposures, primarily to the solvent and common environmental pollutant trichloroethylene (TCE), alter CD4+ T cell function. She approaches her research from a mechanistic and pathways perspective. She has served as the Principal Investigator on an NIH R21 and is currently the Principal Investigator on an NIH K02 career development award; she is also working on defining the role of the CD4+ T cell and accompanying inflammation in neurological oxidative stress and behavioral abnormalities observed in her model. While studying neurodevelopment/behavior may be seen as a departure from Dr. Blossom's existing focus, she notes the only way to fully understand the effects of TCE on the brain, liver, or other organs where she has seen pathology is to determine the mechanism of how TCE affects its primary target: the CD4+ T cell. In 2016, Dr. Blossom accepted the invitation to be a Scientific Technical

Advisor for the Agency for Toxic Substances and Disease Registry-Camp LeJeune Community Assistance Panel at the Centers for Disease Control in Atlanta based on her expertise in the immunotoxicity of TCE. She is also the Principal Investigator on two clinical studies to correlate the maternal immune response and infant outcome in diabetic pregnancy. Dr. Blossom also collaborates with various clinical investigators at UAMS to study the role of the inflammatory response in major depression. In addition, she is also involved in the section of Birth Defects Research's "Birth Defects Study to Evaluate Pregnancy exposureS (BD-STEPS)."

Kim Boekelheide, M.D., Ph.D.,†λ is Professor of Pathology and Laboratory Medicine at the Brown University School of Medicine. He received his B.A. from Harvard University, and M.D. and Ph.D. from Duke University. His research examines fundamental molecular mechanisms by which environmental and occupational toxicants induce cellular injury and male reproductive effects. Current projects include the development of novel in vitro approaches to safety assessment, use of xenotransplantation approaches for human-relevant toxicity testing, and the discovery of sperm molecular biomarkers that reflect testicular injury. He is Director of the Brown University Superfund Research Program and the Brown University Center to Advance Predictive Biology. His research has been continuously funded by the National Institute of Environmental Health Sciences since 1985 and he has received several awards including a Burroughs Wellcome Toxicology Scholar Award (1994-1999), and the Lifetime Achievement Award (2015) from the Reproductive and Developmental Toxicology Specialty Section of the Society of Toxicology.

Andres Cardenas, Ph.D., M.P.H., is an Assistant Professor in the Division of Environmental Health Sciences and faculty member in Computational Biology at the University of California, Berkeley. Dr. Cardenas applies epidemiological and molecular approaches to evaluate the contribution of environmental exposures in the development of health and disease. He has investigated the prenatal influence of exposure to multiple metals, air pollution, endocrine disrupting compounds, diet and maternal medication use on the epigenome of newborns and children. His current research evaluates the role of environmental exposures throughout the life course, epigenetic modifications, and their role in the developmental origins of health and disease.

Brian N. Chorley, Ph.D., is currently a Research Biologist and acting Branch Chief in the Center for Computational Toxicology and Exposure (CCTE) at the U.S. Environmental Protection Agency (EPA). His primary research interests are identification of genomic and epigenomic biomarkers to inform chemical risk assessment, prioritization, and human health impacts with over 40 peer-reviewed publications in this field to date. He also leads a task group within the EPA Research Action Plan (RAP) focused on assessing the impact of extrinsic and intrinsic susceptibilities to exposures using *in vitro* and *in silico* models. Before joining U.S. EPA, Dr. Chorley completed his Ph.D. in 2005 from North Carolina State University and a postdoctoral fellowship at the National Institute of Environmental Health Sciences (NIEHS). Dr. Chorley serves on multiple workgroups, committees, and review boards, including co-chair of the microRNA Biomarkers workgroup for the Health and Environmental Science Institute (HESI) Emerging Systems Toxicology for the Assessment of Risk (eSTAR) Committee and elected positions include former President and councilor on the Boards of Directors for the Genetics and Environmental Mutagenesis Society (GEMS), current Councilor for the Environmental Mutagenesis and Genomics Society (EMGS), and Vice President for the Molecular and Systems Biology Specialty Section for the Society of Toxicology.

Stephen Dertinger, Ph.D. received his post-graduate training from the University of Rochester, Department of Environmental Medicine. At the University of Rochester, he worked with Dr. Thomas Gasiewicz studying the role of AhR signaling on the toxicity of cigarette smoke. Since completing his Ph.D., Dr. Dertinger has served as Director of Research of Litron Laboratories. During this time, he has overseen the development of high throughput *in vitro* and *in vivo* cytogenetic damage assays, most notably automated procedures for scoring

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micronuclei in mammalian cell culture and also blood reticulocytes. These methods have been developed into simple to use kits that are commercially available under the trade name MicroFlow®, and they are used throughout the world by industry and government laboratories to assess chemicals for genotoxic potential. More recently, Stephen's research team developed *in vitro* and *in vivo* mutation assays based on the *Pig-a* gene (MutaFlow®), and a multiplexed high information content *in vitro* assay that distinguishes between clastogenic and aneugenic modes of action (MultiFlow®). Dr. Dertinger has served on IWGT, ECVAM, and OECD expert working groups. Through these committees, he has helped shape the regulatory requirements for genotoxicity assays in the U.S. and abroad. Honors include: Tibbett's Award recipient, an honor given to NIH grant awardees whose work has had tremendous societal and/or economic impact; Rochester Intellectual Property Law Association Distinguished Inventor of the Year; and EMGS Alexander Hollaender Award, conferred in recognition of outstanding contributions in the application of the principles and techniques of environmental mutagenesis and genomics to the protection of human health.

Jamie C. DeWitt, Ph.D., D.A.B.T., is Associate Professor in the Department of Pharmacology & Toxicology of the Brody School of Medicine at East Carolina University and Adjunct Associate Professor in the Department of Biological Sciences at North Carolina State University. Her laboratory's research program explores relationships between biological organisms and their responses after exposure to environmental contaminants with a specific focus on the immunotoxicity and as well as how immune dysfunction may influence the nervous system during development and adulthood. A particular focus of Dr. Dewitt's research program is on emerging aquatic contaminants, especially per- and polyfluoroalkyl substances (PFAS). She has B.S. degrees in Environmental Science and Biology from Michigan State University and Ph.D. degrees in Environmental Science and Neural Science from Indiana University-Bloomington. She completed postdoctoral training in ecotoxicology at Indiana University-Bloomington and in immunotoxicology at the U.S. EPA in partnership with the University of North Carolina at Chapel Hill. Dr. DeWitt has co-authored nearly 70 scientific publications including two edited books, one of the toxicity of per- and polyfluoroalkyl substances and one on methods in immunotoxicology.

Nicole C. Deziel, Ph.D., M.H.S.,†λ is Assistant Professor in the Department of Environmental Health Sciences at the Yale School of Public Health with expertise in exposure science and interdisciplinary training in epidemiology, biostatistics, and industrial hygiene. Her research involves applying existing and advanced statistical models, biomonitoring techniques, and environmental measurements to provide comprehensive and quantitative assessments of exposure to combinations of traditional and emerging environmental contaminants. Dr. Deziel's exposure assessment strategies aim to reduce exposure misclassification for epidemiologic studies, advancing understanding of relationships between exposure to environmental chemicals and risk of cancer and other adverse health outcomes. She serves as principal investigator (PI) of a study funded by the American Cancer Society investigating co-exposures to multiple flame retardants, pesticides, and other persistent pollutants and thyroid cancer risk. Dr. Deziel is also leading an interdisciplinary team of investigators on a project entitled "Drinking water vulnerability and neonatal health outcomes in relation to oil and gas production in the Appalachian Basin." She is also an investigator in the U.S. EPA-funded Air, Climate, and Energy Center at Yale. In addition, Dr. Deziel is an investigator for an NIMHD-funded project examining how environmental and social stressors jointly contribute to health disparities in elderly populations. She obtained a Master's of Industrial Hygiene and Doctorate in Environmental Health from the Johns Hopkins Bloomberg School of Public Health.

Esther Erdei, Ph.D., M.Sc., M.P.H. is Assistant Professor at the University of New Mexico Health Sciences Center. Dr. Erdei has been working on various public health problems for her entire scientific career in Europe and in the United States. She is an expert in molecular epidemiology, immunology, autoimmune molecular markers and environmental health research involving air pollution and health effects, asthma research and inflammatory

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responses. Her research focuses on integrating benchtop immune biomarkers with community participatory research approaches among underserved and underrepresented communities in the United States, Latin America and Europe. Her recent works are centered on various immunological effects of smoking, chronic, low-level exposures to mercury and other heavy metals originated from mine waste exposures in Tribal communities in the Southwest and Midwest United States. Dr. Erdei received her Ph.D. in immunology from the Eotvos Lorand University at Budapest, Hungary.

Rebecca Fry, Ph.D., is the Carol Remmer Angle Distinguished Professor in Children's Environmental Health and Associate Chair at the Gillings School of Global Public Health at UNC-Chapel Hill in the Department of Environmental Sciences and Engineering. Dr. Fry is the founding Director of the Institute for Environmental Health Solutions (IEHS) at UNC-Chapel Hill and is a leading expert in environmental epigenetics and toxicogenomics. A major focus of her laboratory is to identify mechanisms underlying the deleterious impacts of toxic exposures during the prenatal period with a focus on the epigenome and developmental origins of health and disease. Her group has identified epigenetic mechanisms that relate toxic substances to pregnancy complications, children's health, and cancer outcomes. Dr. Fry's laboratory uses transdisciplinary approaches including human population-based research, cell culture-based research and mouse model-based research to refine the understanding of chemical exposure and toxicity. Dr. Fry's lab has published on a host of toxic substances including but not limited to acetaminophen, arsenic, cadmium, disinfection byproducts, and per- and polyfluoroalkyl substances (PFAS). Dr. Fry has participated in advisory committees and expert panels, including the committee for the National Academies of Science (NAS) National Research Council for the Integrated Risk Information System (IRIS) review of inorganic arsenic, a reviewer for the cancer and non-cancer risk assessment of arsenic in food by the Food and Drug Administration (FDA), and a reviewer for the International Agency for Research on Cancer (IARC).

David L. Gerhold, Ph.D.§ is the group leader for Genomic Toxicology of National Center for Advancing Translational Sciences. He is developing *in vitro* methods to identify toxic compounds by introducing differentiating stem cell and immortalized cell models, cell engineering, and high-throughput gene expression technologies. Dr. Gerhold's lab is applying improved cellular models and transcription profiling technologies to identify toxicants that cause neurodegenerative disease, characterize chemical toxicants in tobacco smoke that cause heart attack and stroke, and facilitate toxicant library screening to support the Toxicology in the 21st Century consortium. Previously, he pioneered gene expression microarray technology at Merck Research Labs, applying this expertise to identify kidney injury biomarkers. Dr. Gerhold subsequently co-led the Kidney Biomarker Working Group within the Predictive Safety Testing Consortium, collaborating across the pharmaceutical industry to qualify seven biomarkers with the Food and Drug Administration and publishing the findings in 2010. He also worked as a liaison with the AKIN clinical nephrologists, initiating translational studies to improve nephrology standard of care.

Gary Ginsberg, Ph.D.,†λ is Director of the Center for Environmental Health of New York State Department of Health and a lecturer at the Yale School of Public Health. Prior to this, he was a toxicologist for the Connecticut Department of Public Health. He serves on a number of national committees including U.S. EPA's Science Advisory Board (2008-present) and the National Academies' Biomonitoring committee (2004-2006), U.S. EPA's Risk Methods committee which produced Science and Decisions (2006-2008), and Inorganic Arsenic Risk Assessment committee (2012-2015). He also served on U.S. EPA's Children's Health Protection Advisory Committee (2004-2009) and has been an external reviewer on a number of U.S.E PA IRIS documents. Dr. Ginsberg has been called on by other federal agencies to provide reviews including OSHA (silica workplace

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standard), U.S. CPSC (cadmium in children's jewelry) and U.S. FDA (dental amalgam). His risk assessments on fish contaminants, synthetic turf fields, acrylamide, cadmium, and assessments pertaining to risks in children and those with genetic polymorphisms have been published in peer-reviewed journals. Dr. Ginsberg co-authored a book for the lay public called "What's Toxic, What's Not" (Berkeley Books, 2006).

Tomás R. Guilarte, Ph.D., joined FIU after serving as the inaugural Leon Hess Professor and Chairman of the Department of Environmental Health Sciences (EHS) at Columbia University Mailman School of Public Health. Prior to joining Columbia University faculty, he received his doctorate and spent three decades as professor and researcher in the Environmental Health Sciences Department at the Johns Hopkins University Bloomberg School of Public Health. In 2018, he was inducted into the prestigious Johns Hopkins University Society of Scholars. In the same year, the Hispanic Organization of Toxicologists honored Dr. Guilarte as the recipient of the Distinguished Toxicologist Award, which celebrates a toxicologist of Hispanic origin for his or her outstanding professional achievements, excellence in research, and service to the Society of Toxicology (SOT). In 2020, Dr. Guilarte was the recipient of the 2020 Metal Specialty Section - Career Achievement Award - from SOT. In November 2020, Guilarte will be inducted into the Academy of Science, Engineering, and Medicine of Florida. His research explores the impact of environmental pollutants on neurodevelopmental disorders and neurodegenerative diseases. His work uses behavioral, cellular, and molecular approaches, ranging from studies using primary culture of brain cells to the application of brain imaging technologies. He has made seminal discoveries in the molecular and cellular mechanism(s) of heavy metal-induced neurological dysfunction and has been a pioneer in the validation and application of a biomarker of brain injury and neuroinflammation using PET imaging that is used in clinical research centers throughout the world.

Alison Harrill, Ph.D.,† is a geneticist in the National Toxicology Program (NTP) of the National Institute of Environmental Health Sciences. She has extensive experience in bio-fluid based biomarkers of toxicological effect and on precision medicine approaches to identify genetic sequence variants that predict adverse drug and chemical response. At NTP, she is leading efforts toward developing models that incorporate host genetic susceptibility into safety assessment. Her current research includes investigation of population dynamics in response to drugs and chemicals, identification of gene variants that influence toxicity responses, and determination of transcriptional signatures that distinguish sensitive versus resistant individuals to define precision medicine approaches. Before joining NTP, Dr. Harrill held positions as an assistant professor at the University of Arkansas for Medical Sciences and as head of the Translational Pharmacogenetics Laboratory at the Hamner Institutes for Health Sciences. In these roles, she worked to qualify population-based rodent models for pharmaceutical safety testing and identification of pharmacogenetics toxicity risk factors that might enable precision medicine strategies. In addition, she has led safety biomarker discovery and qualification efforts that translated from animal species to clinical populations. Dr. Harrill serves as the Deputy Editor for the journal Toxicological Sciences, incoming Councilor of the Society of Toxicology (2020-2023), and co-Chair of the Emerging Systems Toxicology for Assessment of Risk Committee of the Health and Environmental Sciences Institute (2015-2020). She received her Ph.D. in Toxicology from the University of North Carolina at Chapel Hill.

Robert H. Heflich, Ph.D. received a Ph.D. in microbiology from Rutgers, The State University of New Jersey, in 1976, followed by postdoctoral training with Veronica Maher and Justin McCormick at Michigan State University, studying mechanisms of DNA repair and mutagenesis in normal human fibroblasts. Dr. Heflich joined U.S. Food and Drug Administration's National Center for Toxicological Research (NCRT) in 1979, where he is currently the Director of the Division of Genetic and Molecular Toxicology. He maintains an active research program, while managing a division of over 30 scientists and administrative support personnel. Dr. Heflich has published over 250 papers in peer-reviewed journals, has served as Editor-in-Chief of *Environmental and*

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Molecular and Mutagenesis, and participates on several U.S. FDA and international committees dealing with genetic toxicology regulatory issues. Dr. Heflich has been a member of the U.S. FDA's Senior Biomedical Research Service since 2001 and received the Environmental Mutagen and Genomics Society Service Award in 2006 and Alexander Hollaender Award in 2018. He was awarded U.S. FDA Critical Path funding in 2008 to develop a human *Pig-a* assay for use during clinical trials. Since 2009, he has been awarded funding from U.S. FDA's Center for Tobacco Products (CTP) to develop 3-D cell culture models and to evaluate existing genetox assays to regulate tobacco products. Additionally, CTP has funded his research on applying *Pig-a* assays for *in vitro* to *in vivo* extrapolation of tobacco product toxicity.

Syed Z. Imam M.S., Ph.D., has a B.S. in Zoology (Honors), M.S. and Ph.D. in Toxicology. He did his post-doctoral training at the National Institute on Aging at NIH in genetics of age-related neurological disorders after which he took a tenure-track Assistant Professor position at the University of Texas Health Sciences at San Antonio. There he discovered the role of ABL tyrosine kinase in Parkinson's disease–a breakthrough in therapeutic development of Parkinson's disease. Dr. Imam is currently a staff scientist of National Center for Toxicological Research's (U.S. FDA) Division of Neurotoxicology where he conducts research on: Drug discovery–development and validation of Neurotherapeutic approaches in human iPSC-derived neuronal models; safety and efficacy evaluation for neurological disorders–development and validation of efficient alternative cellular models for safety and efficacy evaluations; development of neurotoxicity biomarkers– fluidic and imaging biomarkers of CNS toxicity; high throughput approaches to detect neurotoxicity–development and validation of Multi-Electrode Array (MEA) technology to detect neurotoxicity and neuronal functions in human iPSC-derived 2D and 3D cellular models of neurological disorders; and discovery of a nicotine-based nano-conjugate for Parkinson's disease. He also holds an Adjunct Faculty position in Department of Geriatrics at University of Arkansas in Medical Sciences and Adjunct Faculty in Department of Medicine at University of Texas Health Sciences at San Antonio. Dr. Imam authored over 55 manuscripts and many more abstracts, serves as an expert grant reviewer on several scientific committees including those for the U.S. Department of Veteran Affairs and the Michael J. Fox Foundation. He serves as the NCTR's liaison to the Critical Path for Parkinson's (CPP) program of the Critical Path Institute. Additionally, Dr. Imam serves as NCTR's liaison to the European Cooperation in Science and Technology (COST) initiative with a focus on the NANO4NEURO action committee.

Chandra L. Jackson, Ph.D., M.S., is an Earl Stadtman Investigator who leads the Social and Environmental Determinants of Health Equity Research group in the Epidemiology Branch of the National Institute of Environmental Health Sciences with a joint affiliation at the National Institute on Minority Health and Health Disparities. She earned a Master's degree in Epidemiology from the Harvard T.H. Chan School of Public Health, a Ph.D. in Epidemiology from The Johns Hopkins Bloomberg School of Public Health, and was a Research Associate in the Harvard Catalyst Clinical and Translational Science Center. Dr. Jackson investigates physical and social environmental factors that impact racial/ethnic and socioeconomic disparities in sleep health and subsequent risk of cardiometabolic dysfunction. Her research has been presented at national as well as international scientific conferences and published in both academic journals like *Lancet, JAMA Internal Medicine,* the *American Journal of Epidemiology,* and *SLEEP* as well as major media outlets such as the *U.S. News & World Report* and *The New York Times*. In addition to serving as an evaluation member for both a CDC-funded REACH Demonstration project and the Massachusetts Prevention Wellness Trust Fund to address health disparities and reduce healthcare costs, Dr. Jackson was recently awarded a Bench-to-Bedside grant to integrate metabolomics into her equity-focused research program. She has earned merit-based awards, including the Charlotte Silverman Award for outstanding commitment to public health, policy, and community outreach at Johns Hopkins, an Outstanding Fellows Award at Harvard, and the Presidential Early Career Award for Scientists and Engineers.

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Mark S. Johnson, Ph.D., D.A.B.T., Fellow ATS,§ currently serves as the Director of Toxicology, U.S. Army Public Health Center at Aberdeen Proving Ground, MD where he is responsible for the operational and technical arm of the Army Surgeon General and the Assistant Secretary of the Army for toxicological matters. He has worked extensively in the evaluation of the toxicity of military unique compounds and development and evaluation of a phased approach to the gathering toxicity data for new compounds under development. He has authored over 100 peer-reviewed publications, book chapters, and technical reports and serves on several NATO STO panels. He has been a member of Society of Environmental Toxicology and Chemistry (SETAC) since 1997, is a past Steering Group Member of the Wildlife Toxicology World Interest Group, past chair of Ecological Risk Assessment World Interest Group, and a member of the World Science Committee for SETAC and SETAC North America. Dr. Johnson is also a member of the International Board of Environmental Risk Assessors (IBERA). He has been a member of SOT since 2009. Dr. Johnson is a fellow of the Academy of Toxicological Sciences, Chair of the Tri-Service Toxicology Consortium (TSTC), past Steering Committee Chair of the Joint Army-Navy-NASA-Air Force (JANNAF) Propulsion Committee, Subcommittee on Safety and Environmental Protection, the past president of the American Board of Toxicology (ABT).

Christina M. Jones, Ph.D., is currently a Research Chemist in the Chemical Sciences Division of the National Institute the Chemical Sciences Division of the National Institute of Standards and Technology (NIST) where she leads programmatic efforts focused on quality assurance and quality control for metabolomics, a tool for precision medicine. Dr. Jones joined NIST as a National Research Council Postdoctoral Associate in 2015 at the Hollings Marine Laboratory (HML) campus. While at HML, she helped establish a mass spectrometry-based environmental metabolomics and lipidomics program. Before joining NIST, Dr. Jones received her doctoral degree in Analytical Chemistry from the Georgia Institute of Technology where she was both a Presidential and FACES Fellow. Under the advisement of Dr. Facundo M. Fernández, she developed an ambient mass spectrometry sampling and analysis method for metabolomics research in addition to using traditional chromatographic-based methods for onco- and ecometabolomics applications. Dr. Jones, a native of Baton Rouge, Louisiana, obtained her B.S. in Chemistry from Louisiana State University and A&M College. While there, she was an avid researcher under the guidance of Dr. Isiah M. Warner. Dr. Jones' work has been published numerous times in peer-reviewed journals and a book, in addition to being featured on the cover of the *Proceedings of the National Academy of Sciences*. She has received several awards throughout her career, including the Winifred Burke-Houck Professional Leadership Award, a NIST Material Measurement Laboratory Outreach Accolade, a NIST Material Measurement Laboratory Strategic Partnership Accolade, a National Research Council Postdoctoral Fellowship, an ACS Undergraduate Award in Analytical Chemistry, and the United Negro College Fund/Merck Undergraduate Science Research Scholarship Award.

Norbert E. Kaminski, Ph.D.,†λ is the Director of the Michigan State University Institute for Integrative Toxicology and a Professor in the Department of Pharmacology and Toxicology. Dr. Kaminski is a member of the Society of Toxicology and Immunotoxicology Specialty Section, the American Association of Immunologists and the International Cannabinoid Research Society. He served as President of the SOT from 2014-2015. Dr. Kaminski currently serves on the NIEHS National Advisory Environmental Health Sciences Council, and is on the External Advisory Committee of the Oregon State University Superfund Center Grant. Dr. Kaminski was an Associate Editor for the *Journal of Pharmacology and Experimental Therapeutics* and was also on the editorial board for *Toxicological Sciences*, *International Immunopharmacology*, and *Nonlinearity in Biology-Toxicology-Medicine*. He has served on various scientific advisory committees including the National Academy of Sciences' *Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides*, the U.S. Environmental Protection Agency's Science Advisory Board for the Dioxin Reassessment Review, the Health Effects Task Group for NSF International, and the National Academy of Sciences' *Committee to review EPA's Exposure and Human Health Reassessment of TCDD and Related Compounds*. Dr. Kaminski served on the Board of Trustees for the

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International Life Sciences Institute-Health and Environmental Sciences Institute from 2003 to 2012. Dr. Kaminski is a faculty trainer for the NIEHS training grant.

William B. Mattes, Ph. D., D.A.B.T.,† is the Director of the Division of Systems Biology, part of the U.S. FDA's National Center for Toxicological Research. He was the Director of Toxicology at the Critical Path Institute where he developed and directed the Predictive Safety Testing Consortium (PSTC). This work resulted in the establishment of a formal process of FDA/EMA biomarker qualification. His other positions included independent consulting, Director of the COPD Biomarkers Qualification Consortium, senior scientific director of Toxicogenomics at Gene Logic, Associate Director of Toxicogenomics and Group Leader of Genetic Toxicology at Pharmacia Corp, Kalamazoo, MI, Group Leader of Experimental Toxicology and Metabolism at Ciba Pharmaceuticals, Summit, NJ, and Group Leader of Molecular and Cellular Toxicology, Ciba-Geigy Agricultural Chemical Division, Farmington, CT. Dr. Mattes received a B.A. from the University of Pennsylvania and Ph.D. in biological chemistry from the University of Michigan, Ann Arbor. He did postdoctoral training at the Johns Hopkins University and was a staff fellow at the National Cancer Institute. He is a diplomate of the American Board of Toxicology, and a full member of the Society of Toxicology and the American College of Toxicology (ACT). He has served in several capacities for these groups and is currently on ACT's Council. His research interests include bioinformatics, data science, cross-species and cross-tissue comparisons of molecular responses, as well as group dynamics that lead to successful collaboration between scientists and changes in scientific policy. He also currently fills the guitar chair for the group Jazzicology at the ACT's annual meeting.

Patrick McMullen, Ph.D.,†λ has a keen interest in leveraging high-content biological experiments (gene expression studies, high-throughput screens, imaging, and other sources) into a mechanistic understanding of the underlying biology. His background in molecular biology, engineering and programming has been instrumental in interpreting and communicating complex data problems in diverse applications. He manages a diverse computational biology team that uses modeling and high-content data to deepen our understanding of how chemicals interact with biological systems. His group combines expertise and tools from different disciplines to develop innovative strategies for using large-scale data to solve problems related to chemical and drug safety and efficacy.

Syril Pettit, Dr.PH., M.E.M., is the Executive Director of the Health and Environmental Sciences Institute (HESI) and has been with the organization since 2000. Dr. Pettit holds a Doctorate in Public Health Leadership (Dr.PH.) from the University of North Carolina's Gillings School of Global Public Health, a Master's Degree in Environmental Management (M.E.M.) from Duke University's Nicholas School of Environment, and a Bachelor's Degree in Biology from Amherst College. As the organization's senior scientific and organizational leader, Dr. Pettit guides strategic and technical direction for the organization's collaborative programs and its Board of Trustees. She has authored or co-authored dozens of scientific articles and lectured at international scientific meetings around the world on topics, including public health, oncology, cardiac safety, genomics, collaborative approached to science, and other drug and chemical safety issues.

Lesliam Quirós-Alcalá, Ph.D., M.Sc., is an Assistant Professor in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health and Adjunct Assistant Professor in the Maryland Institute of Applied Environmental Health at the University of Maryland School of Public Health. She is also an Affiliate Researcher at the Center for Environmental Research and Children's Health (CERCH) at the University of California (UC) at Berkeley. Dr. Quirós-Alcalá received her Ph.D. in Environmental Health Sciences

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from U.C. Berkeley and conducted her postdoctoral work at CERCH. She also holds a M.Sc. in Safety Engineering and Industrial Hygiene, and a B.Sc. in Biomedical Engineering from Texas A&M University. Prior to pursuing her Ph.D., she worked in industry and government. Her research focuses on characterizing exposures to environmental contaminants and examining their potential health effects on vulnerable minority populations underrepresented and understudied in public health research, including occupational populations, pregnant women and women of reproductive age, and children. To this end, she has examined determinants of exposure and health outcomes associated with chemicals in personal care products, cleaning agents, pesticides, and flame retardants; and validated biomarkers of exposure. Her research also seeks to design and implement culturally-appropriate interventions to reduce environmental health disparities among vulnerable populations. She is on the Scientific Advisory Board for the Children's Environmental Health Network, in the Governor's Commission on Environmental Justice and Sustainable Communities for the State of Maryland, and serves as Secretary for the International Society of Exposure Science (ISES). She is Associate Editor for several journals in her field and was recently recognized with the 2019 ISES Joan M. Daisey Outstanding Young Scientist Award, which recognizes outstanding contributions to the science of human exposure analysis by a young scientist.

Reza J. Rasoulpour, Ph.D.,λ is the Science and Technology Leader for the Developmental and Reproductive Toxicology discipline with the responsibility of regulatory testing, investigational research focusing on mode-of-action and epigenetics, and serves Dow businesses as a technical expert consultant. Reza's primary research focus has been in leading the epigenetics research program designed to evaluate potential transgenerational epigenetic phenomena and to determine the adequacy of the current regulatory toxicity testing program to detect such effects. Reza has participated and/or organized numerous Society of Toxicology sessions, workshops by NAS and ILSI-HESI, and published several review and position papers on the role of epigenetics in chemical safety assessment. To date, he has authored/coauthored 16 peer-reviewed publications to the scientific literature, as well as authored a book chapter on the topic of male reproductive biology. He also serves Dow as a representative on the ILSI-HESI DART Technical Committee. Reza earned a B.S. from the University of Connecticut in molecular and cellular biology, and his Ph.D. in the laboratory of Kim Boekelheide at Brown University.

Les Recio, Ph.D., D.A.B.T., is Chief Scientific Officer for Integrated Laboratory Systems (ILS) where he applies thirty years of experience in investigative toxicology research in the areas of mutagenesis, toxicogenomics and regulatory based genotoxicity assessment using in vitro cell culture methods, in vivo studies in transgenic mouse strains, and genomic approaches. In 2014, Dr. Recio was appointed ILS's VP of Research and Development. He has authored or co-authored over 95 publications in peer-reviewed literature examining mode-of-action and identification of biomarkers of cytotoxicity, genotoxicity, and mutagenicity. Dr. Recio served on the board of Councilors for the North Carolina Chapter of the SOT (2006-2008), and in 2006 was the President of the Genetic and Environmental Mutagenesis Society. In 2010, he was appointed to SOT's Council on Diversity Initiatives and in 2012, was elected President for SOT's Hispanic Organization of Toxicologists. From 2012 to present, Dr. Recio has served on the Organisation for Economic Co-operation and Development's Expert Group that was charged with revising genetic toxicology test guidelines. He has also served on the Editorial Board (2008-2016) and Associate Editor (2016-2019) for *Toxicological Sciences* 2008-2016, the Editorial Board for *Mutation Research–Reviews in Mutation Research,* and as Associate Editor for *Toxicological Sciences*. Dr. Recio received both his M.S. and Ph.D. in Toxicology from the University of Kentucky.

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John-Michael Sauer, Ph.D., is a pharmacologist and toxicologist by training with over 20 years of experience in drug discovery and development. He has been responsible for leading multiple functional areas across several pharmaceutical companies. He received his Doctorate degree from The University of Arizona. Currently, John Michael is the Program Officer of Biomarkers Program and the Executive Director of the Predictive Safety Testing Consortium (PSTC), Inflammatory Bowel Disease (IBD) Group, and Polycystic Kidney Disease Outcomes Consortium (PKDOC) at the Critical Path Institute, as well as an Adjunct Research Professor in the Department of Pharmacology at the University of Arizona, College of Medicine. He has spent the last 7 years qualifying biomarkers for use in drug development, as well as, working with health authorities to refine the process of regulatory endorsement of drug development tools including biomarkers.

Rita Schoeny, Ph.D., retired from the U.S. EPA in 2015 after 30 years and is currently a consultant in risk assessment and science policy. Recent positions at U.S. EPA were Senior Science Advisor for the Office of Science Policy, Office of Research and Development; and as the Director of the Risk Assessment Forum in EPA's Office of the Science Advisor. Dr. Schoeny received her Ph.D. in microbiology from the University of Cincinnati. She regularly lectures academic institutions colleges and universities, and has trained and spoken on risk assessment, science policy and toxicology in many areas of the world. She was responsible for major assessments and programs in support of legislative mandates including Safe Drinking Water Act, Clean Water Act, Clean Air Act, and Food Quality and Protection Act. Areas of publication include toxicity of PCBs, PAHs, mercury, and drinking water contaminants including disinfectant byproducts and microbes; assessment of complex environmental mixtures; and principles and practice of human health risk assessment. Recent work includes frameworks for human health risk assessment, interpretation of DNA adduct data for risk assessment, evaluation of episodic and less-than-lifetime exposure to carcinogens, contemporary approaches to dose response, OECD guidelines for genetic toxicity testing, quantitative approaches to genetic toxicology, Adverse Outcome Pathways and Mode of Action, and approaches to cancer risk assessment. She has served on international assessment and review panels. Her numerous awards include EPA's Science Achievement Award for Health Sciences, Gold, Silver, and Bronze Medals, an FDA award, and professional society awards for publications. She is an elected Fellow of the Society for Risk Analysis.

Gina M. Solomon, M.D., M.P.H.,λ was appointed by Governor Edmund G Brown Jr. in April 2012 to serve as Deputy Secretary for Science and Health at the California Environmental Protection Agency (CalEPA). Prior to joining CalEPA, Gina was a senior scientist at the Natural Resources Defense Council since 1996 and has been on the faculty in the Division of Occupational and Environmental Medicine at the University of California, San Francisco (UCSF) since 1997, where she still holds the title of clinical professor of health sciences. Gina served as the director of the Occupational and Environmental Medicine Residency Program at UCSF from 2008-2012 and was the associate director of the UCSF Pediatric Environmental Health Specialty Unit from 2003-2009. Gina has served on numerous scientific committees for the State of California, the U.S. Environmental Protection Agency, the National Toxicology Program, and the National Academy of Sciences. She is on the editorial board of the journal *Environmental Health Perspectives*, published by the National Institute of Environmental Health Sciences, and serves regularly as a peer-reviewer for numerous scientific journals. She has authored about 50 peer-reviewed articles, a book published by the Massachusetts Institute of Technology Press, numerous reports, and chapters in several medical textbooks. Gina's prior work has included research on diesel exhaust and asthma, endocrine disrupting chemicals, pesticides, environmental contaminants in New Orleans after Hurricane Katrina, the health implications of the 2010 Gulf oil spill, and the health effects of climate change.

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Gina received her bachelor's degree from Brown University, a Doctorate of Medicine from the Yale University School of Medicine, and a master's degree in public health from the Harvard School of Public Health. She is board-certified in both internal medicine and occupational and environmental medicine, and is licensed to practice medicine in California.

Joshua Wallach, Ph.D., M.S., is an Assistant Professor of Epidemiology, concentrating in Environmental Health, at Yale University School of Medicine. His research focuses on synthesizing, evaluating, and establishing the best evidence to inform research, regulatory, and public health decisions. His primary area of research, known as meta-research (i.e. the study of research itself), includes the key thematic areas of research methods, reporting/transparency, and reproducibility. Dr. Wallach's research interests include meta-analytical methodology, evaluating study biases, clinical trial design/conduct, pharmacoepidemiology, and regulatory science. His work with the Collaboration for Research Integrity and Transparency at Yale focuses on evaluating the tools, standards, and approaches used to assess the safety, efficacy, quality, and performance of FDA-regulated products using epidemiologic and meta-research methods. Dr. Wallach is also a Faculty Affiliate of the Meta-Research Innovation Center at Stanford University. Dr. Wallach is currently leading or collaborating on numerous studies, including meta-analyses of environmental exposures and clinical interventions, real world data analyses of medications, and meta-research projects with students.

Carole Yauk B.Sc., Ph.D., is the lead scientist of the Genomics Laboratory in the Environmental Health Science and Research Bureau at Health Canada, an adjunct professor of Biology at Carleton University, and will join the University of Ottawa's Department of Biology as a full professor in September 2020. Her research focuses on the development and implementation of genomic tools for human health risk assessment of environmental exposures, and on improving regulatory assessment of heritable genetic effects. She is actively involved in various international committees to advance this area, including within the Health and Environmental Sciences Institute's Emerging Systems Toxicology in the Assessment of Risk (eSTAR) and Genetic Toxicology Technical (GTTC) Committees. She has served as a Canadian delegate to the OECD's Extended Advisory Group for Molecular Screening and Toxicogenomics since 2012. Within the OECD, she is involved with the Adverse Outcome Pathways program and is co-chairing a project to develop omics reporting frameworks for regulatory submissions of transcriptomic data. She is currently Vice President of the Environmental Mutagenesis and Genomics Society and will co-chair the International Conference on Environmental Mutagens in 2021.

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