Speaker and Panelist Biographies

Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S., is the Director of the National Institute of Environmental Health Sciences (NIEHS) of the National Institutes of Health (NIH), and Director of the National Toxicology Program. A board certified toxicologist, Birnbaum has served as a federal scientist for over 35 years. Dr. Birnbaum has received many awards and recognitions, including the Women in Toxicology Elsevier Mentoring Award, the Society of Toxicology Public Communications Award, EPA's Health Science Achievement Award and Diversity Leadership Award, the National Center for Women's 2012 Health Policy Hero Award, Breast Cancer Fund Heroes Award, and 14 Science and Technology Achievement Awards, which reflect the recommendations of EPA's external Science Advisory Board, for specific publications. Dr. Birnbaum was also elected to the Institute of Medicine of the National Academies, and received an honorary degree from Ben-Gurion University in Israel. Dr. Birnbaum is a former president of the Society of Toxicology, the largest professional organization of toxicologists in the world; former chair of the Division of Toxicology at the American Society of Pharmacology and Therapeutics; and former vice president of the American Aging Association. She is the author of more than 700 peer-reviewed publications, book chapters, and reports. She is also an adjunct professor at several universities, including the University of North Carolina at Chapel Hill and Duke University. A native of New Jersey, Dr. Birnbaum received her M.S. and Ph.D. in microbiology from the University of Illinois at Urbana-Champaign.

Jon C. Cook, Ph.D., is Senior Director of Investigative Toxicology at Pfizer Inc. (1998-present). He is located in Groton, CT and leads the Investigative Toxicology group that de-risks findings observed in nonclinical studies. He has worked at Pfizer for 16 years on early and late-stage drug development teams. Jon worked with Searle colleagues to obtain approval for Celebrex and Valdecoxib. Jon later worked on the team to register Lasofoxifene and led de-risking efforts following complete response letters. More recently, he was a member of the team working on Lyrica de-risking of hemangiosarcoma to obtain the Generalized Anxiety Disorder indication. He currently leads a Drug Safety team of scientists to implement a Precision Medicine strategy for his line and is and a member of Drug Safety's Science and Technology Board. Prior to joining Pfizer Inc., he was a Senior Research Toxicologist at DuPont-Haskell Laboratory (1987-1998) and a Postdoctoral Fellow at Chemical Industry Institute of Toxicology (1985-1987). Dr. Cook received his B.S. in Physiology from the University of California, Davis, and his M.S. and Ph.D. degrees in Toxicology from North Carolina State University. He is a Diplomate of the American Board of Toxicology and a Fellow of the Academy of Toxicological Sciences. He served on the Editorial Boards of the Journal of Toxicology and Environmental Health (1988-1994), Fundamental & Applied Toxicology (1995-1998) and Toxicological Sciences (1998-2002). Dr. Cook received the Rutgers University Robert A. Scala Award in Toxicology in 1998.

Mike DeVito, Ph.D., is the acting Chief of the NTP Laboratory in the Division of National Toxicology Program at the National Institute of Environmental Health Sciences. From 1995 to 2002. Dr DeVito was a principle investigator in the Pharmacokinetics Branch of the National Health and Environmental Effects Research Laboratory at the US Environmental Protection Agency. From 2002-2009 he was Chief of the Pharmacokinetic Branch. Dr DeVito was one of the lead health effects researchers on the Dioxin Reassessment from 1991-2009. In 2009, Dr. DeVito joined the National Toxicology Program at NIEHS as the discipline leader for pharmacokinetic modeling. Dr DeVito's research has focused on the toxicity of persistent organic pollutants, thyroid hormone disruptors and pyrethroid pesticides. In addition, he has developed quantitative models to understand the exposure, dose and toxicity continuum for individual environmental chemicals as well as for cumulative risk assessments. He is presently the co-chair of the targeted testing working group for the Tox21 initiative at NTP, which is developing second tier tests as follow up studies for high-through put screening data. In addition he has interests in using HTS data to better understand the potential hazards and risks associate with chemical mixtures and natural products.

Gary Ginsberg, Ph.D., is a toxicologist and risk assessor for the Connecticut Department of Public Health and also has adjunct faculty positions at Yale and the University of Connecticut Health Center. He has served on several national panels including USEPA's Science Advisory Board, USEPA's Children's Health Protection Advisory Committee, the National Research Council's panels on USEPA risk methods (produced "Science and Decisions"), human biomonitoring, and most recently arsenic. He has published in the areas of chemical carcinogenesis, children's toxicokinetics, genetic polymorphisms, development of fish consumption advisories and a variety of other risk assessment topics. His professional experience has included working within the pesticide industry, consulting, academia and currently in state government.

Terry Gordon, Ph.D., directs a number of ongoing research projects that study the underlying toxicity of inhaled particles and gases encountered in ambient and occupational environments. The majority of his current research focus is on the adverse health effects of size-fractionated ambient particles and nanoparticles. He has examined the pulmonary effects of numerous inhaled particles in cell and rodent test models as well as in human subjects in panel studies. Dr. Gordon has sampled ambient particles across the U.S., Europe, and China to study the contribution of source and components to particle toxicity. Recently, he has collected particles in urban and rural environments in the NYC metropolitan area and in the Central Valley of California. These studies have found important differences in the toxicity of urban and rural particles and may have important impact on revisions to federal policies and regulations. Dr. Gordon is currently collaborating on a clinical study that evaluates the adverse cardiopulmonary effect of traffic-related pollution while exercising alongside the George Washington Bridge (car and diesel traffic) and the Garden State Parkway (car traffic only). Additional urban clinical studies are being planned to study the adverse effects of mainstream and second hand hookah smoke encountered in hookah lounges in NYC, as well as the assessment of particle exposure in taxi cabs and the NYC subway system. He is also interested in the interaction between inhaled pollutants and susceptibility factors and has broadened his particle research to examine age-related and genetic differences in response. Dr. Gordon is currently Chair of the Threshold Limit Value Committee of ACGIH, a committee that develops occupational exposure guidelines that protect workers' health around the world. He is the co-director of the Department of Environmental Medicine's inhalation exposure facility, one of the largest academic facilities of its kind in the country. Dr. Gordon has mentored numerous graduate students over the last 25 years (both MS and PhD students). He teaches the Environmental Sampling course at NYU, has been a member of the Department's Graduate Steering Committee for

over a decade, and serves as the Director of NYU's T32 training grant from NIEHS. Thus, overall, he has the necessary experience to participate in the proposed inhalation toxicology experiments.

Anna B. Lowit, Ph.D., received her Ph.D. in Environmental Toxicology from the University of Tennessee in 1998 where she was a Graduate Fellow in Sustainable Waste Management. Dr. Lowit began her career with EPA in 1998 with the Office of Pesticide Programs, where she remains today. Dr. Lowit is currently a Senior Scientist in the Health Effects Division where she advices senior managers and leads multidisciplinary teams on a variety of cross-cutting topics. She is currently one of the Co-Chairs of the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM). ICCVAM is composed of representatives from 15 U.S. Federal regulatory and research agencies that require, use, generate or disseminate toxicological and safety testing information and whose purpose is to promote and facilitate the 3Rs of toxicity testing (reduce, refine, replace) in regulatory toxicity testing. Dr. Lowit has extensive experience in developing cumulative risk assessments for groups of pesticides which share a common mechanism of toxicity (e.g., organophosphates, N-methyl carbamates). She also has interest in the integration of science along multiple lines of evidence (epidemiology, in vivo & in vitro experimental toxicology). She has particular interest in improving the use of quantitative approaches in human health risk assessment such as use of meta-analysis in deriving benchmark dose estimates and linking PBPK models with probabilistic exposure models.

Joshua Millstein, Ph.D., is Assistant Professor in the Division of Biostatistics at the University of Southern California. During his PhD work, and throughout his career, Dr. Millstein's research interests and efforts have focused on problems of high dimensional data, particularly population based genomic and transcriptomic data in the context of complex diseases. This work has included statistical methods development for the analysis of genomic data in the context of animal model, epidemiological, and clinical studies. During his time at Rosetta Inpharmatics in Eric Schadt's Genetics department he was one of two principle statistical geneticists to develop and apply an analytic approach for Merck's first genome-wide pharmacogenetic study of treatment effects and adverse events for a phase III clinical trial of Taranabant (MK-0364), an obesity drug. Areas of statistical methods development have included statistically powerful and computationally efficient approaches designed for epistasis, eQTL, causal inference, false discovery rates, and copy number alterations in tumor tissue. Currently, he is branching out and exploring analytic approaches for the microbiome and high order interactions between multiple drugs and between drugs and patient characteristics such as age, weight, gender, genetic background, and environmental exposures.

James O'Leary, MBA, is Chief Innovation Officer at Genetic Alliance. In his role, James works to foster innovation at Genetic Alliance and within its network of patients, hospitals, companies, universities, and government agencies. Over the past 10 years, James has built collaborations between these diverse stakeholders to seed change within the healthcare system and help individuals, families, and communities reclaim control of their health. He has harnessed health information and web technologies to enhance patients' ability to access information and use that information to make better decisions. In addition, he has worked with national public health systems, disease-specific organizations, and community groups to improve access to genetic services, engage consumers in national policy-setting, and institute legislation that protects the public from discrimination. James earned an MBA from the Wharton School of the University of Pennsylvania and a BS in Biology, concentrating in Cellular and Molecular Biology and Genetics from the University of Delaware. Prior to joining Genetic Alliance, James worked with PA Victory '04 supporting the John Kerry campaign.

Michael Pacanowski, Pharm.D., M.P.H., is the Associate Director for Genomics and Targeted Therapy in the Office of Clinical Pharmacology at FDA. His team of translational scientists is charged with advancing the use of genomic and other biomarker innovations to maximize individualization in drug development. To that end, Dr. Pacanowski oversees a program focused on reviewing investigational new drugs, developing policies and processes, engaging stakeholders, and conducting regulatory science research. Dr. Pacanowski received his Pharm.D. from the Philadelphia College of Pharmacy and his M.P.H. from the University of Florida. He completed a residency in clinical pharmacology at Bassett Healthcare in Cooperstown, NY, and a clinical research fellowship in cardiovascular pharmacogenomics at the University of Florida.

John Satterlee, Ph.D., earned a B.S. in Biology from Cornell University and a M.S. in Science Education from Syracuse University. He completed a Ph.D. at the University of Wisconsin-Madison in plant molecular biology. His post-doctoral work at Brandeis University was in behavioral genetics. In 2003, Dr. Satterlee became co-director of the C. elegans Core facility at Massachusetts General Hospital where he identified new genes involved in a variety of developmental processes. In 2005 he began work at the National Institute on Drug Abuse. He has been co-coordinator of the Roadmap Epigenomics Program since its inception and is involved with other Common Fund programs including the 4D Nucleome and exRNA Communication Programs.

Joel Schwartz, PhD, 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.

Gina Solomon, M.D., M.P.H., is the Deputy Secretary for Science and Health at the California Environmental Protection Agency (CalEPA) and a Clinical Professor of Medicine at the University of California San Francisco (UCSF). Prior to coming to CalEPA in 2012, she was a senior scientist at the Natural Resources Defense Council, the director of the occupational and environmental medicine residency program at UCSF, and the co-director of the UCSF Pediatric Environmental Health Specialty Unit. Dr. Solomon's work has spanned a wide array of areas, including pediatric vulnerabilities in risk assessment, reproductive toxicity, and evaluating the use of novel data streams to screen chemicals for toxicity. She has also done work in exposure science for air pollutants, pesticides, mold, and metals in soil. She was involved in the response and aftermath of Hurricane Katrina, the Gulf oil spill, and the Chevron Richmond explosion and fire, and she is interested in the health effects of climate change. Dr. Solomon serves on the U.S. EPA's Science Advisory Board and Board of Scientific Counselors. She is also on the NAS Board on Environmental Studies and Toxicology, and previously served on the Committees on Toxicity Testing in the 21st Century and Exposure Science in the 21st Century. Dr. Solomon received her bachelor's from Brown University, her M.D. from Yale, and did her residency and fellowship training in internal medicine and occupational and environmental medicine at Harvard.

David W. Threadgill, Ph.D., is the Director of the recently formed Texas A&M Institute for Genome Sciences and Society at Texas A&M University. He is holds the title of University Distinguished Professor with a joint appointment in the Department of Veterinary Pathobiology in the College of Veterinary Medicine & Biomedical Sciences and the Department of Molecular and Cellular Medicine in the College

of Medicine, where he also holds the Tom and Jean McMullin Chair of Genetics. Dr. Threadgill graduated with a bachelor of science degree in zoology from Texas A&M University in 1983 and earned a Ph.D. in genetics from Texas A&M University in 1989. Dr. Threadgill subsequently held a National Institutes of Health Individual Postdoctoral Fellowship at Case Western Reserve University. In 1996, Dr. Threadgill joined Vanderbilt University as an assistant professor of Cell Biology and in 2000 moved his research laboratory to the newly formed Department of Genetics at the University of North Carolina at Chapel Hill where he was granted tenure and progressed to full professor. Dr. Threadgill moved to North Carolina State University in 2008 as Professor and Head of the Department of Genetics where he remained until being recruited back to Texas A&M University in 2013 to establish the Texas A&M Institute for Genome Sciences and Society. Dr. Threadgill was also a Visiting Distinguished Scientist at Oak Ridge National Laboratory form 2006-2008. Dr. Threadgill's research program uses the mouse as an experimental genetic model to investigate genetic and environmental factors that contribute to inter-individual differences in health and susceptibility to disease. His research program and trainees have been supported by the National Institutes of Health, Department of Defense, National Science Foundation, March of Dimes, Jimmy V Foundation, American Cancer Society, and the Kleberg Foundation.

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.

Barbara Wetmore, Ph.D, is a Senior Research Investigator at The Hamner Institutes for Health Sciences. Her research interests focus on integrating predictive modeling tools with high-throughput screening and other in vitro strategies to address issues of importance in chemical and drug safety and risk assessment. Other research interests have focused on the application of genomic and proteomic tools to inform chemical mode of action assessments and biomarker discovery. She is currently vice-president-elect of the Society of Toxicology's In Vitro and Alternative Methods Specialty Section and has served as a study section reviewer for the US EPA and as an expert for the European Union Reference Laboratory for alternatives to animal testing (EURL-ECVAM). Dr. Wetmore received her Ph.D. in Toxicology from North Carolina State University.

Kimberly Wise White, Ph.D., is a Senior Director in the American Chemistry Council Chemical Products and Technology Division. She possesses B.S. and M.S. degrees in biology and a Ph.D. in environmental

toxicology. For the past several years, Dr. Wise has been actively involved in the management of scientific research and regulatory advocacy programs related to human health and toxicology. She regularly engages with local, state, federal and international entities to promote utilizing the most relevant and up to date science information in human health risk assessments. She has also created and managed environmental sustainability, compliance, process safety and risk management programs.

Fred Wright, Ph.D., joined North Carolina State University in August 2013 as a Chancellor's Faculty Excellence Program cluster hire in Bioinformatics, and Professor in the Departments of Statistics and Biological Sciences. Wright is an internationally-known statistical geneticist, with wide-ranging interests including genomic bioinformatics, toxicogenomics, and the statistical principles underlying high-dimensional data analysis. Wright was recruited to be the new Director of the Bioinformatics Research Center (BRC), which has a strong history of research and training in statistical, evolutionary, and computational methods applied to a variety of genomic problems. Bioinformatics and computation have become central to much of biology, and Wright will lead the expansion of the BRC's focus to additional cross-cutting activities in human health and complex systems, while retaining the longstanding strengths of the BRC. Prior to joining NCSU, Wright was a Professor of Biostatistics at UNC Chapel Hill and member of the Lineberger Cancer Center and Carolina Center for Genome Sciences. He has been principal investigator of numerous grants, with activities ranging from development of new methods of gene mapping to expression-quantitative trait (eQTL) mapping for multiple tissues (credit christian). He was also principal investigator of an EPA-funded STAR Center to apply genomics principles to long-standing problems in toxicology. Wright is one of the lead investigators in the International Cystic Fibrosis Genetic Modifier Consortium, seeking to unravel the unexpected complexities of this disease, which was once thought to be "simple" in its underlying genetics. While at UNC, Wright fostered the development of a new statistical genetics curriculum, producing one of the most varied and rigorous programs among departments of Biostatistics. He is an elected Fellow of the American Statistical Association and the Delta Omega Honor society for Public Health. He received a B.A. in Statistics and Psychology from the University at Buffalo, and a Ph.D. in Statistics from the University of Chicago.

Michael Yudell, PhD, MPH, is the Interim Chair and an Associate Professor in the Department of Community Health and Prevention at the Drexel University School of Public Health. He is also Director of the Program in Public Health Ethics and History at the School of Public Health. Yudell received his PhD and MPH from Columbia University and his BA from Tufts. He is the author Race Unmasked: Biology and Race in the 20th Century (Columbia University Press, 2014), a history that examines the way biologists, especially geneticists, shaped the race concept during the 20th century from eugenics to the sequencing of the human genome. Yudell is the author, with Rob DeSalle, of Welcome to the Genome: A User's Guide to the Genetic Past, Present, and Future (John Wiley and Sons, 2004). Yudell and DeSalle also edited The Genomic Revolution: Unveiling the Unity of Life (Joseph Henry Press of the National Academy of Science, 2002). He is currently writing Ages of Uncertainty: Autism Spectrum Disorders and the Search for Cause and Cure, a history of autism spectrum disorders. Yudell is currently the principal investigator on a grant funded by Autism Speaks looking at the ethical challenges of communicating scientific findings from autism research. Yudell also writes the blog "The Public's Health" for the Philadelphia Inquirer.

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.