Udayan Apte, Ph.D. DABT

Affiliation: Associate Professor, Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center, Kansas City, Kansas

Expertise: Chemical carcinogenesis, perfluorinated alkyl acids, hepatotoxicity, drug induced liver injury, nuclear receptor toxicology

Education: Ph.D. University of Louisiana at Monroe; Postdoctoral training, Texas A&M University and University of Pittsburgh School of Medicine

Experience Summary: Dr. Apte has 20 years of experience as a mechanistic toxicologist with primary focus on liver as a target organ. He has been teaching toxicology to medical students and in the graduate school for 10 years. His research is focused on mechanisms of drug-induced liver injury and chemical carcinogenesis with emphasis on role of nuclear receptors, oncogenic signaling, stem cell biology and role of bile acids. Recently, he has been studying developmental hepatotoxicity of perfluorinated alkyl acids and their derivatives. He has published over 70 original papers, 10 book chapters and has edited a book on mechanisms of liver regeneration. He has organized and given talks at several national symposiums at Society of Toxicology, American Society for Investigative pathology and American Association for the Study of Liver Diseases. He is an associate editor for Scientific Reports and serves on the editorial boards of Toxicology and Applied Pharmacology, GE Liver and American Journal of Pathology. Dr. Apte is a Diplomat of the American Board of Toxicology (2008, 2013, 2018).

Panel Experience: Dr. Apte has served on several grant review panels for NIH (study sections) including R21, p01 study sections for NCI and Hepatobiliary Pathophysiology (HBPP). He has served as a reviewer for American Cancer Society, Veterans for Foreign Wars Grants panel and several international panels from Austria, The Netherlands and Hong Kong.

Priya Balachandran, Ph.D.

Affiliation: Vice President, Applied Silver, Inc., Hayward, California

Expertise: Chemistry, microbiology, antimicrobials, infectious disease, disease monitoring, genomics, academic research, industry research and product development, corporate product management, applications development and study management.

Education: Ph.D. in Microbiology, University of Alabama at Birmingham; M.Sc. in Biotechnology, Maharaja Sayajirao University, Baroda, India; B.Sc. in Microbiology, Pune University (India)

Experience Summary: Dr. Priya Balachandran is a domain expert in infectious disease and microbial/epidemiological monitoring in healthcare, food and biopharmaceutical manufacturing. At Applied Silver, she leads scientific development and marketing efforts as head of product and corporate marketing. She also manages customer collaboration, serving as the scientific liaison for technical and clinical stakeholders in healthcare. Dr. Balachandran has deep research and product development experience with multiple patents and peer-reviewed publications. She is an active member of Association of Professionals in Infection Control and Epidemiology, American Society for Microbiology and Infectious Disease Society of America. Prior to Applied Silver, Dr. Balachandran held leadership positions in, product marketing at NuGEN Technologies, global product management at Thermo Fisher Scientific, and scientific and business roles at Life Technologies. Dr. Balachandran received her Ph.D. from the University of Alabama at Birmingham and completed her postdoctoral fellowship at the University of California at San Francisco. She is a member of Partners in Education, Palo Alto Unified School District: 2017- current.

Panel Experience: Scientific review panel, Applied Markets Division (Applied Biosystems, now Thermo Fisher Scientific): 2007 – 2010.

Edwin C. Bisinger Jr., PhD, DABT

Affiliation: Senior Science Advisor, Nouryon, Chicago, Illinois

Expertise: Chemical risk assessment, dermal absorption

Education: PhD, University of Illinois, School of Public Health; M.S., University of Illinois; B.S., University of Illinois

Experience Summary: Dr. Bisinger is currently the Senior Science Advisor for Nouryon (formerly AkzoNobel Specialty Chemicals), a Netherlands-based manufacturer of specialty chemicals. He has held technical and managerial positions not only in private industry, but also in the not-for profit sector.

He has extensive experience in chemical risk assessment, hazard assessment, TSCA regulatory requirements, and food contact materials. Dr. Bisinger received his PhD in occupational and environmental toxicology from the University of Illinois, School of Public Health with a focus in chemical risk assessment. He is a member of the Society of Toxicology and is a Diplomate of the American Board of Toxicology. Edwin is an Authorized GreenScreen Practitioner.

Dr. Bisinger has over 25 publications/public meeting presentations.

Panel Experience: Dr. Bisinger served on chemical industry testing review panels including the following: ACC 1,4-Dioxane Panel (2017-2018); Chair, Toxicology committee, Organic Peroxide Producers Safety Division (2018); Chair, Toxicology Section, ACC ANSI MSDS Standard (2005-2007); Chair, Oleylamine TSCA Section 4 Test Panel, ACC (1986-1990); ACC Biocides Panel (1988-1993)

Brad Black, MD

Affiliation: Medical Director at the Center for Asbestos Related Disease, Libby, Montana

Expertise: Clinical screening and longitudinal monitoring of individuals exposed to Libby amphibole with observation of subsequent health effects over 18 years

Education: BA in Chemistry, University of Kansas; Medical Degree, University of Kansas School of Medicine; Residency in Pediatrics, Children's Mercy Hospital, University of Missouri, Kansas City and University of Utah, Salt Lake City

Experience Summary: Dr. Brad Black's experience includes practicing clinical medicine for 41 years with a focus on health effects from exposure to Libby amphibole involving longitudinal follow-up of individuals exposed to the fibers for the last 18 years. This work has in part been supported by a CDC/ATSDR Public Health Emergency, asbestos health screening grant.

Dr. Black has been Medical Director at the Center for Asbestos Related Disease in Libby, Montana since its creation in 2000. He has participated in research with multiple agencies and university partners including the Agency for Toxic Substances and Disease Registry (ATSDR), National Institute of Occupational Safety and Health (NIOSH), Environmental Protection Agency (EPA), University of Cincinnati, Mount Sinai School of Medicine, University of Pennsylvania, Montana State University, and others. His special interests have surrounded understanding of the unique health effects observed due to exposure to Libby amphibole which includes a unique pattern of pleural fibrosis and disease progression and an association with autoimmunity. Dr. Black has coauthored over 25 peer reviewed journal articles. At the invitation of the Institute of Medicine, he was asked to be a reviewer of "The NIOSH Roadmap for Research on Asbestos Fibers and Other Elongate Mineral Particles." He also participated with ATSDR, EPA, and Montana Department of Health in developing the 2000-2001 Libby community asbestos health screening program.

Dr. Black participated on an NIEHS workshop ("Asbestos and Related Mineral Fibers: State of the Science and Mode of Action") focusing on pleural effects from fibers. Consensus from that panel work resulted in the 2011 article titled "Non-neoplastic and neoplastic pleural endpoints following fiber exposure" published in the Journal of Toxicology and Environmental Health.

Panel Experience: NA

Robert A. Budinsky, Jr. Ph.D.

Affiliation: Science Leader, Toxicology and Environmental Research and Consulting (TERC), Dow Chemical Company, Saginaw, Michigan

Expertise: Mammalian Toxicology, Pharmacology and Environmental and Product Risk Assessment

Education: Ph.D. Biopharmaceutics and Pharmacokinetics, University of Cincinnati; NIH-Sponsored Post-Doctoral Fellowship, Medical University of Charleston,; B.S. Pharmacy, University of Cincinnati;

Experience Summary: Dr. Budinsky has 30 years of experience in managing toxicological scientific and regulatory projects that include mechanistic research focused on product safety and remediation. He is currently a Science Leader within the TERC organization at Dow where he has been for the last 18 years. He co-leads Dow's global chemicals and health issues team with global responsibilities for TSCA Reform, endocrine disruption, mixtures risk assessment, and respiratory sensitization. He supports Dow's transition into a 21st century toxicology program. He is a Toxicology business consultant responsible for various chemical technologies in Dow. He provides toxicology and risk assessment leadership for Dow's ongoing remediation of dioxin contamination in the Tittabawassee River. He is member of Dow's Industrial Hygiene Guideline team that is responsible for setting occupational exposure limits to protect its workers. His research activities study species sensitivities differences, toxic equivalency factors, and mode-of-action for dioxin and dioxin-like compound, vinyl acetate, and others. He is participating in OECD's Adverse Outcome Pathway program.

Panel Experience: NA

Raymond M David, Ph.D., DABT

Affiliation: Principal, David Tox LLC, Toxicology Consulting, Sarasota, Florida

Expertise: General Toxicology

Education: Ph.D., Pharmacology, University of Louisville; M.S., Biology, Loyola University of Chicago; B.S., Biology, Marquette University

Experience Summary: Dr. Raymond David has been a toxicologist for over 35 years working in the chemical industry. He received his Ph.D. in Pharmacology from the University of Louisville, after which he was a Postdoctoral Fellow at the Chemical Industry Institute of Toxicology in Research Triangle Park, North Carolina. Dr. David worked at Microbiological Associates in Bethesda, Maryland, (1983-1991) conducting guideline and non-guideline toxicity studies of substances for industrial clients. These studies involved inhalation, oral, or dermal exposure of laboratory animals for up to 13-weeks. Dr. David then moved to Eastman Kodak in Rochester, New York, where he was study director for inhalation, general toxicology, reproductive, and neurotoxicity studies (1991-2006). He also provided scientific support to Eastman Chemical on phthalate esters. At BASF Corp in Florham Park, New Jersey (2006-2016) he was the manager of Toxicology for the Corporation. Dr. David led a team responsible for the safe use and handling of nanomaterials at Eastman Kodak Company, and was responsible for nanotechnology issues at BASF Corporation. He has now retired and is the Principal at David Tox, LLC, a Toxicology Consulting company.

Dr David has participated in several workshops and workgroups including: NSF Nano Workshop: Safety Aspects of Nanosystems and Infrastructure for Sustainability, Orlando, FL, 2011; ILSI Health and Environmental Sciences Institute, Workgroup on Dose-Dependent Transitions in Mechanisms of Toxicity, 2001-2003; ILSI Risk Science Institute, Workgroup on Human Relevance of Animal Tumors, PPARα Agonist-induced Rodent Tumors: Mode(s) of Action and Human Relevance, 2001-2003;

Panel Experience: Panel member, NTP Center for Evaluation of Risks to Human Reproduction, Dec 5-7, 2001.

Serap Erdal, Ph.D.

Affiliation: Associate Professor of Environmental and Occupational Health Sciences at the University of Illinois at Chicago (UIC) School of Public Health, Chicago, Illinois

Expertise: Research on assessment of exposures and associated health risks in environmental and occupational settings.

Education: PhD in Environmental and Occupational Health Sciences, University of Pittsburgh Graduate School of Public Health; M.Sc. and BSc. in Chemical Engineering, Istanbul Technical University

Experience Summary: Dr. Erdal has a research program in exposure and health risk assessment for environmental and occupational hazards. Previously, she worked for the Health Risk Assessment Division of the EA Engineering, Science, and Technology (a for-profit consulting firm) and the Washington State Department of Ecology. Through professional history, she has performed health risk assessments for many fortune 500 companies and governmental entities (e.g., U.S. Department of Defense and Department of Energy). Her areas of expertise include: multi-media human exposure and risk assessment for cancer and non-cancer effects; health and safety evaluation of new chemicals or products, petroleum and alternative fuels, renewable energy sources; multi-media (air, water, soil, sediment, fish) exposure and health risk assessment for hazardous waste sites; remediation and risk management; Brownfields or Superfund site evaluation and redevelopment; sustainable development; indoor and outdoor air pollution; aerosol science and technology; fine and nanoparticle exposure and risk assessment; nanotechnology health and safety evaluation; persistent organic chemicals (PAHs, PCBs, PBDEs, Dioxins, Furans) and lead and other toxic metal exposure assessment and abatement; industrial hygiene; retrospective occupational exposure assessment; development of exposure assessment methodologies for epidemiological investigations; technical and regulatory interpretation of environmental and occupational health and safety regulations under the Clean Ari Act (CAA), Clean Water Act (CWA), Toxic Substances Control Act (TSCA), Comprehensive Environmental Response, Compensation, Liability Act (CERCLA), and Occupational Safety and Health Act (OSHA); and regulatory science policy analysis.

Dr. Erdal has been invited to conduct reviews of scientific articles focusing on health risk evaluation by many scientific journals throughout her career including Environmental Science and Pollution Research; Environmental Pollution; Science of the Total Environment; Environmental Science & Technology, International Journal of Environmental Research and Public Health, Toxicology Letters, Annals of Occupational Hygiene, Journal of Hazardous Materials, American Journal of Industrial Medicine, Human and Ecological Risk Assessment, and others.

Panel Experience: Dr. Erdal served as an invited peer reviewer by the U.S. EPA for the revised guidance on the Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK Model) in 2012. She also served as an invited peer reviewer by the Ireland Environmental Protection Agency for grant program focusing on health risks evaluation in 2017 and 2018.

Katherine L. Fallace, MPH, CPH

Affiliation: Risk assessor, Minnesota Department of Health, St. Paul, Minnesota.

Expertise: Children's Health; Susceptible Populations; Human Health Risk Assessment; Toxicology

Education: MPH Environmental Health Sciences - Regulatory Toxicology and Risk Assessment, University of Minnesota; BS Pharmacology & Toxicology and Biology (Neuroscience), University of Wisconsin-Madison

Experience Summary: Katherine Fallace is a human health risk assessor at the Minnesota Department of Health. Katherine Fallace was an Association of Schools and Programs of Public Health Fellow hosted by the Office of Children's Health Protection at the US Environmental Protection Agency for two years (2016-2018) where she focused on creating materials to facilitate the use of risk assessment approaches that appropriately consider children's health issues, as well as the prioritization of chemicals that may disproportionately affect children's health in the risk evaluation process under the Toxic Substances Control Act. Ms. Fallace has over two years of experience in critically assessing risk assessments for the proper application of children's health protective approaches and now works at the state level to create and review risk assessments using those approaches as appropriate.

Panel Experience: NA

Adam M. Finkel, Sc.D., M.P.P., CIH

Affiliation: Senior Fellow, Wharton Risk Management and Decision Processes Center, Ann Arbor, Michigan

Expertise: Quantitative risk assessment of environmental/occupational toxicants, with special emphasis on estimating and communicating uncertainty and human interindividual variation in susceptibility. Extensive experience (at OSHA) writing, enforcing, and defending toxic-substance regulations.

Education: Sc.D. (environmental health sciences), Harvard School of Public Health. MPP (Master's in Public Policy), Harvard Kennedy School of Government. AB (biology), Harvard College. Certified Industrial Hygienist

Experience Summary: Dr. Finkel is a professor of Public Health with 30 years of experience pioneering methods for quantifying the risks of environmental and occupational toxicants, the economic costs of regulatory and other controls on these risks, and the valuation of risk reductions by the public. In addition to his scholarly work, Dr. Finkel is one of a very few career senior executives in the federal service who have directed both regulatory science (rulemaking) operations and regional enforcement operations. He has taught and conducted research at Princeton University, the University of Medicine and Dentistry of New Jersey, the Law and Business schools at the University of Pennsylvania, and the Public Health School at the University of Michigan. From 1987-1994, he was a scientist at the Center for Risk Management at Resources for the Future in Washington, DC. He was a voting member of the National Toxicology Program Executive Committee (representing the US Dept of Labor) from 1995 to 2000.

Dr. Finkel currently receives support from a National Science Foundation grant (Decision, Risk, and Management Sciences Program) to improve methods for estimating the value of mortality risk reductions, and occasionally works as an expert witness (current cases are on behalf of plaintiffs exposed to ortho-toluidine and to diacetyl, with various defendants involved).

Panel Experience: Dr. Finkel served on the EPA Board of Scientific Counselors (NCER Standing Subcommittee) from 2007 to 2011 and was a member of the SAB Environmental Health Committee from (approximately) 1988-1993. He is one of three individuals chosen to serve on both of the National Academy of Sciences reports (Science and Judgment, 1994, and Science and Decisions, 2008) convened to review EPA's progress in improving risk assessment subsequent to the landmark 1983 "Red Book" recommendations.

Raja M. Flores, M.D.

Affiliation: Chairman and Professor, Icahn School of Medicine at Mount Sinai Health System, New York, New York

Expertise: Extensive surgical, medical, and research experience with environmental, occupational and health impacts on individuals with mesothelioma, lung cancer, and other asbestos related conditions; background in biostatistics and epidemiology.

Education: MD Medicine, Albert Einstein College of Medicine; MS Biostatistics, Columbia School of Medicine; BA Biochemistry, New York University

Experience Summary: Dr. Raja Flores is the Founding Chairman and Professor of the Thoracic Surgery Department at the Icahn School of Medicine at the Mount Sinai Health System. His research interests focus on asbestos-related diseases, particularly developing and identifying prognostic factors for lung cancer and mesothelioma. He is known for setting the VATS gold standard treatment for early lung cancer and has an interest in exploring disparities in minority communities. He is part of the Mount Sinai World Trade Center health initiative that serves 9/11 first responders (2010-present). He also has experience with persons affected by occupational and environmental exposure in his daily surgical practice. As the Principal Investigator of the Libby Epidemiology Research Program (LERP) funded by the CDC/ATSDR (2012-2015), he traveled frequently to Libby, Montana to examine the health consequences and disease pathology resulting from the extensive community-wide environmental asbestos exposure (Libby Amphibole). He has written several sentinel publications (see CV) focusing on survival, patterns of recurrence and complications in lung cancer, in addition to publications with the LERP team. He served on the Asbestos Disease Awareness Organization (ADAO) Science Advisory Board (2016) as well as the International Association for the Study of Lung Cancer – Mesothelioma Task Force (2016). He has been the Course Director and Moderator for the I-ELCART Advances in Early Detection, Diagnosis, and Treatment of Lung Cancer: Integrating New Paradigms of Assessment and 25 Years of Research and Experience, 1st International Conference on Early Lung Cancer Treatment, Icahn School of Medicine at Mount Sinai, New York, New York (12/2015).

Panel Experience: Dr. Flores was the Chairperson, Scientist Reviewer, at the 2017 Peer Reviewed Cancer Research Program (PRCRP) Mesothelioma Peer Review Panel (11/2017). He was invited to serve again as the chairperson on the Mesothelioma Panel in 2018 (11/2018).

Mary A. Fox, PhD, MPH

Affiliation: Assistant Professor of Health Policy and Management, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland

Expertise: Environmental and Occupational Health Policy; Human Health Risk Assessment; Cumulative Risk Assessment

Education: PhD in Environmental and Occupational Health Policy, Johns Hopkins Bloomberg School of Public Health; MPH in Environmental Studies, University of Rochester School of Medicine and Dentistry; BS in Biology, State University of New York at Albany

Experience Summary: Dr. Mary A. Fox is an Assistant Professor in the Department of Health Policy and Management. She has 14 years of teaching and research experience in quantitative human health risk assessment as part of environmental policy making, particularly approaches to cumulative and chemical mixtures risk assessment. Dr. Fox's research has evaluated air toxics, metals and complex mixtures including metals and chemical weapons degradation products primarily in the context of community environmental health. Dr. Fox is Co-Director of the Johns Hopkins Risk Sciences and Public Policy Institute providing graduate certification in the practice of human health risk assessment (2009-present); and Associate Director of the Center for Advancing Research in Transportation Emissions, Energy and Health (2016-present). Dr. Fox's sources of funding include U.S. Department of Transportation and the National Institute for Occupational Safety and Health.

Panel Experience: U.S. EPA Science Advisory Board ad hoc Perchlorate Advisory Panel on the Draft White Paper on Scientific and Technical Bases for Approaches to Derive a Maximum Contaminant Level Goal for Perchlorate in Drinking Water (2012-2013); U.S. EPA Peer Consultation Workshop on Cumulative Risk Assessment of Phthalates (2010); U.S. EPA Expert Panel on Improved Valuation of Ecological Services Benefits for the Steam-Electric Utility Regulations (2010); U.S. EPA Office of Water Fluoride: Exposure and Relative Source Contribution Analysis (2010); NIEHS P42 Superfund Review (2016); NIEHS Small Conference Grants (2014); NIEHS Centers for Children's Environmental Health and Disease Prevention Research (2012); U.S. EPA Science to Achieve Results Graduate Student research program (2011)

Arthur L. Frank MD, PhD

Affiliation: Professor of Public Health, Dornsife School of Public Health of Drexel University, Philadelphia, Pennsylvania

Expertise: Research on occupational and environmental lung diseases with special emphasis on the effects of asbestos.

Education: MD, Mount Sinai School of Medicine; PhD in Biomedical Sciences, City University of New York; BA Anthropology with High Honors, State University of New York at Buffalo

Experience Summary: Dr. Frank is a Professor of Public Health, Professor of Medicine and Professor of Civil, Architectural and Environmental Engineering at Drexel University (2002-present) with 50 years of experience studying the health effects of asbestos. He has been an academic at Mount Sinai 1977-83), the University of Kentucky (1983-94) where he was Professor and Chair of the Department of Preventive Medicine and Environmental Health and Professor of Toxicology, the University of Texas Health Sciences Center at Tyler (1994-2002) where he was Professor of Occupational and Environmental Medicine and Professor of Cell Biology and Environmental Sciences. He is a Fellow of the American College of Physicians, the American College of Preventive Medicine, a Fellow of American Association for the Advancement of Science (AAAS), Fellow of the American Thoracic Society and a Fellow of the Collegium Ramazzini. He was the Occupational Medicine Regent of the American College of Preventive Medicine (ACPM, 1997-1999 and Secretary-Treasurer from 2000-04). He was a founding Member of the Society for Occupational and Environmental Health and served on the Governing Council (1992-94) and Vice-President (1998-2000). He has been active in many other organizations at leadership levels. His research interests have focused on the effects of asbestos on cells, animals and humans. Dr. Frank has been a consultant to the EPA, OSHA and many international entities. He has been an adjunct faculty member for the US Air Force School of Aerospace Medicine, and at national and international schools.

Panel Experience: Dr. Frank has been on the Study Section for NIOSH (1985-89, Chair 88-89) and was a member of National Board of Medical Examiners question writing panels (1985-94). He has served on two Boards of Scientific Counselors, National Institute for Occupational Safety and Health (NIOSH, 1992-96) and Center for Disease Control Center for Environmental Health/ATSDR (2008-12). Dr. Frank has served on numerous editorial boards and as an article peer reviewer for dozens of journals. He served on the Institute of Medicine Gulf War and Health Committee (2005-06) and the NIOSH Diacetyl Document Review group (2011). Dr. Frank has served on ad hoc review groups for NIOSH.

Shannon Leeder Gainey, Ph.D.

Affiliation: Director, Environmental Safety and Health (EHS) & Regulatory Compliance, Hallstar, Chicago, Illinois

Expertise: Over 15 years of experience supporting global regulatory compliance strategies for chemical companies.

Education: Ph.D. in Organic Chemistry from the University of North Carolina at Chapel Hill; B.S. in Chemistry from the University of North Carolina at Wilmington

Experience Summary: Dr. Gainey is currently the Director of EHS and Regulatory Compliance for The Hallstar Company. She has served in this role for two years. Prior to joining Hallstar, Dr. Gainey served as the Product Stewardship Manager for Evonik Corporation (2012-2016), Health, Safety and Environment (HS&E) Analyst for Afton Chemical Corporation (2009 - 2012) and Global Chemical Manager for Ashland, Inc. (2004 - 2009). In these roles, Dr. Gainey has developed vast knowledge regarding industrial chemical regulations and has become an industry expert.

Panel Experience: NA

John D. Gordon, Ph.D.

Affiliation: Toxicologist, U.S. Consumer Product Safety Commission, Rockville, Maryland

Expertise: Expertise in the area of pre-clinical toxicology with considerable research and regulatory experience with in vitro toxicology working in both human and environmental toxicology.

Education: Ph.D. in Biochemical Genetics, West Virginia University; BS in Biology, West Virginia University

Experience Summary: Dr. Gordon is a Toxicologist with the U.S. Consumer Product Safety Commission (CPSC, 2016 - present) and has over 20 years of experience spanning industry, government contract and regulatory. He is the CPSC representative on the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM) committee and works on 7 ICCVAM working groups. His research has been primarily focused on in vitro toxicology, however he has also worked in human and pre-clinical development studies for the Department of Defense. He is a member of the Society of Toxicology. Previous to CPSC Dr. Gordon was a government contractor with the Department of Defense (2014 - 2016) at Ft. Detrick in the Chemical Biological Defense (CBD) and Chemical Defense Pharmaceutical (CDP) groups, at Medical Countermeasures Systems (MCS). Previously, he was with BioAgilytix, a large molecule diagnostics Contract Research Organization (CRO) in Research Triangle Park (RTP), North Carolina (2012- 2014); Alion Science and Technology (2009 - 2012) starting up their bioassay testing group; and Xenobiotic Detection Systems (2003 - 2008) as their Director of Research. Dr. Gordon was a Post-Doctoral Fellow at both Indiana University - Purdue University Indianapolis (IUPUI) Cancer Center (2000 - 2003) and Medical University of South Carolina (MUSC), Charleston (1997 - 2000). Dr. Gordon is the CPSC representative on the ICCVAM and Scientific Advisory Committee on Alternative Test Methods (SACATM) committees and works on 7 ICCVAM working groups: Alternative Toxicology working group, Development and Reproductive Toxicology working group, In Vitro to In Vivo Extrapolation working group, Nano Technology working group, Ocular and Dermal Irritation working group, Read Across working group, Skin Sensitization working group.

Panel Experience: NA

Robert J. Harrison, MD, MPH

Affiliation: Clinical Professor of Medicine, University of California, San Francisco (UCSF)

Expertise: Occupational and Environmental medicine

Education: MD, Albert Einstein College of Medicine; MPH, University of California, Berkeley; BA, University of Rochester;

Experience Summary: Robert Harrison, MD, MPH has been on the faculty at UCSF in the Division of Occupational and Environmental Medicine since 1984 and is a senior scientist with the California Department of Public Health. He established the UCSF Occupational Health Services where he has diagnosed and treated thousands of work and environmental injuries and illnesses. He has designed and implemented numerous medical monitoring programs for workplace exposures, and has consulted widely with employers, health care professionals, and labor organizations on the prevention of work-related injuries and illnesses. Dr. Harrison has led many work and environmental investigations of disease outbreaks. He has served as a technical and scientific consultant to Federal OSHA and CDC/NIOSH and was a member of the California Occupational Safety and Health Standards Board. He is the Director of the NIOSH-funded Occupational Health Internship Program, and Associate Director of the UCSF Occupational and Environmental Medicine Residency Program. His research interests include the collection and analyses of California and national data on the incidence of work-related injuries and illnesses. Dr. Harrison has authored or co-authored more than 50 peer-reviewed journal articles, more than 40 book chapters/contributed articles/letters to the editor and co-edits the major textbook in occupational medicine.

Dr. Harrison's current funding includes: National Institute for Occupational Safety and Health - Public Health Institute: "California Occupational Safety and Health Surveillance"; "California Workers Compensation Surveillance" "Western States Occupational Network Meeting"; Occupational Health Internship Program"; California Breast Cancer Research Program – "Occupational Chemical Exposures in California and Breast Cancer Risk".

Panel Experience: Special Emphasis Panels, National Institute for Occupational Safety and Health (1995-2005); Reverse Site Visit Panel, National Institute for Occupational Safety and Health (1996, 1998, 2000); NIOSH/DOE Physician Panel (2001-2004); NIOSH Board of Scientific Counselors (2010-2013); NIOSH World Trade Center Scientific and Technical Advisory Committee (2011-2016).

Carl E. Heltzel, PhD

Affiliation: President, Heltzel Editorial, LLC (DBA, sole proprietorship), Seneca, South Carolina

Expertise: Organic chemistry, natural product chemistry, organic synthesis, assay-guided isolation and structure elucidation of bioactive natural products with anticancer potential. Environmental risk management and remediation; biomimetic nanoparticle self-assembly, materials science

Education: National Science Foundation Postdoctoral Fellowship, University of Hawaii, Manoa; PhD Organic chemistry, Virginia Tech; BS Chemistry, Radford University

Experience Summary: Dr. Heltzel is a freelance author, editor, and grant writer (2007-present) with over 20 years of experience teaching organic chemistry. He is currently teaching online courses for the American Chemical Society (ACS): separation science, general chemistry, and currently reviving/revising an organic chemistry course (2010-present). As ghost writer for a renowned research professor in the Midwest, Dr. Heltzel helped to secure over $15M in funding from NSF, DOE, DOD, and other programs; edited over 100 journal articles published in leading journals; and drafted white papers, responses to journal editors and patent attorneys (2013–present). Dr. Heltzel is a contributor to Marine Conservation without Borders (2018-present) and was Science Advisor and editor for the International Academy of Oral Medicine and Toxicology (2007–2010). He was a Senior Chemistry consultant with Environmental Risk Management Consulting Company/Corporate Environmental Risk Management Insurance Agency (2007–2009) and Chief Technical Officer for the National Institute for Hometown Security (2010–2011). Dr. Heltzel served as an editor of an American Chemical Society (ACS) publication (2006–2007) and served on the ACS National Committee on Environmental Improvement (2006, 2008–2011) and is currently serving on the ACS National Committee, Chemists with Disabilities: (2016-present). Dr. Heltzel is the Monroe Moosnick Professor of Chemistry, Transylvania University (1997–2005) and has the following grants: NSF CCLI, 2002; KYCPSE Eisenhower ; NSF EPSCoR.

Dr Heltzel has served on numerous committees including: Portuguese Foundation for Science and Technology (2012); NSF, Course, Curriculum and Laboratory Improvement (2003–2001); KY Council on Postsecondary Education, Improving Educator Quality (2005–2003); NSF-KY Experimental Program to Stimulate Competitive Research (EPSCoR, 2002–2000); U.S. Department of Education, Fund for the Improvement of Postsecondary Education (2002)

Panel Experience: U.S. EPA, Phase II, Small Business Innovation Research Program (2018); U.S. EPA, People, Prosperity, and the Planet-P3-Phase II (2018, 2016, 2010); ACS Petroleum Research Fund proposal reviewer (2017)

Kristin H. Hill, MSHSA

Affiliation: Self-employed Evaluation Consultant, Rhinelander, Wisconsin

Expertise: Health care management, specifically public health. Extensive background working with American Indian/Alaska Native organizations and communities.

Education: MS, Health Services Administration, Cardinal Stritch University; BS, Nursing, University of Wisconsin, Madison; Certificate in Thanatology, New England Institute, National Center for Death Education, Boston Certificate in Mediation, Mediation Training Institute

Experience Summary: Ms. Hill is an administrator, consultant, educator, facilitator and evaluation practitioner with over 40 years of progressively responsible national and international experience in professional nursing practice, public health, education, facilitation, mediation, program management, evaluation and consultation in a wide variety of settings such as health care, university and local school district education, environmental agencies, local government and community development. Along with international experience in Poland, Russia, Nicaragua and Haiti, Ms. Hill has immersed herself in the public health issues impacting American Indian/Alaska Native citizens. This includes directing one of the nation's twelve Tribal Epidemiology Centers, serving as faculty for the Mountain Plains Health Consortium and independent consulting with plains and Midwest Tribes. Participates as a site surveyor for the Council on Education in Public health, accrediting schools and programs of public health.

Ms. Hill serves on numerous committees and advisory groups including: National Environmental Health Partnership Council (2010 - present); National; Environmental Health Partnership Council Steering Committee (2010-present); National Tribal Environmental and Public Health Think Tank (2010 - 2017); Center for Disease Control (CDC) Public Health Preparedness and Response, Board of Scientific Counselors (2014-2016); CDC Tribal Advisory Committee Public Health Work Group (2014-2016); National Conversations in Chemical Exposures (2009-2010); Native American Research Centers for Health, (NARCH, Lac du Flambeau Band of Lake Superior Indians), Community and Scientific Advisory Board (2006-2016).

Panel Experience: NA

Adrienne L. Hollis Ph.D., J.D.

Affiliation: President, Hollis Environmental Consulting Services, LLC, Bowie Maryland, Former Director of Federal Policy, WE ACT for Environmental Justice, Washington, District of Columbia

Expertise: Environmental Toxicology, Public Health Disparities, Environmental Justice

Education: J.D. from Rutgers School of Law in Newark, New Jersey; Ph.D. in Biomedical Sciences, with a focus in nutritional biochemistry from Meharry Medical College in Nashville, Tennessee; B.S. in Biology from Jackson State University

Experience Summary: Dr. Hollis is an environmental toxicologist with over 20 years of experience in working on the public health effects from exposure to toxic chemicals, both in the federal government and academia and teaching in the field of environmental health and policy, public health and environmental risk communication. Dr. Hollis was a professor in the Institute of Public Health at Florida A&M where she engaged in applied research with environmental justice communities and developed the environmental and occupational health track. Dr. Hollis is a member of the American Public Health Association, the Climate Adaptation Forum and the Maryland Environmental Health Network. She is currently a consultant in public health and also serves as adjunct faculty at George Washington University's Milken School of Public Health and American University's Washington College of Law, both in Washington, D.C. Her research interests focus on the Toxic Substances Control Act, toxicological risk assessments, public health disparities and vulnerable populations, and environmental justice. Dr. Hollis has received funding from the Passport Foundation for her work on the Toxic Substances Control Act (TSCA). She has received specific funding from Earthjustice (2018), the Partnership Project (2017) and the Environmental Defense Fund (2017, 2018). WE ACT for Environmental Justice has received funding from the JPB Foundation.

Panel Experience: Dr. Hollis is currently a member of EPA's Clean Air Act Advisory Committee (2017 - Present), serves on the Steering Committee of the National Climate Adaptation Forum and serves on the Equity Committee of the National Climate Adaptation Forum. Dr. Hollis's federal experience on panels includes EPA's Chemical Data Reporting (CDR) Inorganic Byproducts Negotiated Rulemaking Committee (2017). Dr. Hollis has past experience as a reviewer for National Institute for Environmental Health Sciences (NIEHS) grants (2002-2003)

Yue-Wern Huang, Ph.D.

Affiliation: Professor of Toxicology at the Missouri University of Science and Technology, Rolla, Missouri

Expertise: Polycyclic aromatic hydrocarbons (PAHs, including polychlorinated biphenyls (PCBs)); dioxins; pharmaceuticals including endocrine modulators; nanotoxicology. Research on understanding molecular mechanisms of toxic effects of the above compounds in vitro and in vivo.

Education: PhD, The University of Wisconsin-Madison; MSc & BS, National Taiwan Normal University

Experience Summary: Dr. Yue-Wern Huang is Professor of Toxicology at the Missouri University of Science and Technology with 19 years of teaching and research experiences in toxicology. Dr. Huang was a member of the Board of Directors of the Society of Environmental Toxicology and Chemistry (SETAC), Ozark-Prairie Chapter (2004-2006). Dr. Huang is on Editorial Boards of Frontiers in Public Health and Current Gene Therapy. Dr. Huang chaired platform and poster sessions of Society of Toxicology international conferences (2003, 2008), Midwest Chinese American Science and Technology Conferences (2004 & 2005), and BIT's 1st annual World Congress of Nanomedicine in Bejing (2010). Dr. Huang served as a research proposal reviewer of the following institutes: United Kingdom Medical Research Council (2015), Oak Ridge Associated Universities (2015), US Army Corps of Engineers Research and Development Center (2010), and National Taiwan Science Council (2010).

Panel Experience: Dr. Huang's experience as a panelist includes: two research programs (Biodiversity Research Center, Institute of Ecology and Evolutionary Biology) at National Taiwan University (2014 & 2018), U.S. EPA Endocrine Disruptor Study Section (2005).

Michael Jayjock, Ph.D. CIH

Affiliation: Sole Proprietor of Jayjock Associates, LLC, Langhorne, PA

Expertise: Human health exposure/risk assessment; Exposure Modeling; Dose-Response Modeling

Education: PhD and MS in Environmental Engineering, Drexel University; BS in Secondary Education, Penn State University

Experience Summary: Dr. Michael Jayjock is an independent consultant who retired as a Senior Research Fellow from the Rohm and Haas Company where he worked for 35 years. During his employment at Rohm and Haas his responsibilities included development and management of all aspects of exposure assessment and mathematical modeling projects in the service of product safety. Dr. Jayjock is a consultant to Fortune 500 companies and government agencies including Health Canada, the European Commission, the U.S. CPSC and the U.S. EPA. He is a Fellow of the American Industrial Hygiene Association (AIHA) and Certified by the American Board of Industrial Hygienists (ABIH). He is active in various committees of the AIHA and in the publication of his research. His primary research interest includes exposure modeling of human exposure to chemicals.

Panel Experience: Dr. Jayjock's experience on Federal panels includes: 2018 Peer Review U.S. EPA Draft Exposure and Use Assessment of Five PBT Chemicals; 2016 Reviewer of U.S. EPA Draft Guidelines for Human Exposure Assessment; 2014 U.S. Department of Energy (DOE) Hanford Tank Vapor Assessment Team; 2013 U.S. Environmental Protection Agency (EPA) peer review panel for the Draft Risk Assessment for Trichloroethylene (TCE)/Degreaser Arts/Crafts Uses; 2011 U.S. Environmental Protection Agency (EPA) Science Advisory Panel on Lead Exposure; the 2008 U.S. Environmental Protection Agency (EPA) Peer Consultation Panel for Perfluorooctanoic Acid (PFOA) Site-Related Environmental Assessment Program; 2005 U.S. Environmental Protection Agency (EPA) Board of Scientific Councilors Peer Review Panel for the Office of Research and Development Science Program; 2002 U.S. Environmental Protection Agency (EPA) Human Health Research Strategy Panel; member of or consultant to the 1998-2003 U.S. Environmental Protection Agency (EPA) Science Advisory Board – Integrated Human Exposure Committee (IHEC).

Jagdish Khubchandani, MBBS, MPH, PhD

Affiliation: Associate Professor and Statistician, College of Health, Ball State University, Muncie, Indiana

Expertise: Medicine, Epidemiology, Research Design, Biochemistry

Education: Doctorate of Medicine, MBBS, DAVV University, Indore, India; Masters of Public Health, MPH, Western Kentucky University; Doctorate in Health Education and Epidemiology, PhD, University of Toledo

Experience Summary: Dr. Jagdish Khubchandani is a Professor of Community Health and a Statistician for the College of Health and has previously served as a fellow of Center for International Development and Global Health Institute at Ball State University. He received his Doctorate in Clinical Medicine from India, MPH from Western Kentucky University, and Ph.D. in Health Education and Epidemiology from University of Toledo. Currently, he teaches in the areas of environmental health, global health, social epidemiology, and public health education in community and clinical settings. Within the past decade, he has mentored over 500 students pursuing undergraduate and graduate degrees in the field of public health, nursing, or medicine. In the past 5 years, he has coauthored more than 100 research articles in prestigious journals such as the Lancet, Journal of American Medical Association, and the New England Journal of Medicine on a broad range of issues including morbidity and mortality associated with environmental health problems. Within the past 2 years, Dr. Khubchandani has received research funding from Merck Neuroscience Laboratories and Ball State University Foundation. Previously, he has also mentored racial/ethnic minority students on National Science Foundation and National Institute of Diabetes and Digestive and Kidney Disease.

Panel Experience: Served as an ad-hoc reviewer or panel member for National Institutes of Health (2017); Substance Abuse and Mental Health Services Administration (2017); Health Resources and Services Administration (2018)

David Kriebel, Sc.D.

Affiliation: Professor of Epidemiology at the University of Massachusetts, Lowell, Massachusetts

Expertise: Occupational and Environmental Epidemiology, Exposure Assessment, Biostatistics

Education: Sc.D. in Epidemiology and Occupational Health and M.S. in Physiology, Harvard School of Public Health; B.S. in Human Biology, University of Wisconsin, Green Bay

Experience Summary: Dr. David Kriebel is Professor of Epidemiology at the University of Massachusetts Lowell with 30 years of teaching and research experience in occupational and environmental epidemiology, exposure assessment and related topics. He is also the Director of the Lowell Center for Sustainable Production, which collaborates with industries, government agencies, unions, and community organizations on the redesign of systems of production to make them healthier and more environmentally sound. His research interests include occupational and environmental causes of cancer, non-malignant respiratory diseases, and other health outcomes.

Panel Experience: Dr. Kriebel's experience on federal panels includes: Member, National Academy of Sciences, Institute of Medicine Committee to Review the Health Effects of Herbicides in Vietnam Veterans (1992 – 1996); Member, National Institute for Occupational Safety and Health Study Section (1996 -- 1998); Member, National Academy of Sciences, Board on Environmental Science and Toxicology, Committee on Beryllium (2007 – 2008); Member, U.S. EPA Science Advisory Board, Libby Amphibole Asbestos Review Panel (2011 – 2012); Member, Gulf Long-term Follow-up (GuLF) Study Scientific Advisory Board, National Institute for Environmental Health Sciences (2011 – 2021); Member, National Research Council Board on Environmental Science and Technology Committee to Review the Carcinogenicity of Formaldehyde (2013-14).

Dr. Kriebel was also a member of the WHO International Agency for Research on Cancer Monographs Working Group for volume 121 – 'Styrene, Styrene-7,8-oxide, and Quinoline' (2017 -2018).

Juleen Lam, PhD, MHS, MS

Affiliation: Assistant Professor in Health Sciences, California State University, East Bay, Hayward, California

Expertise: Environmental chemical exposures and links to adverse reproductive and developmental health outcomes

Education: PhD in Environmental Health Policy, Johns Hopkins University; MHS in Biostatistics, Johns Hopkins University; MS in Environmental Engineering Management, George Washington University; BS in Mathematics, University of California, Davis; BS in Environmental Toxicology, University of California, Davis

Experience Summary: Dr. Lam is an Assistant Professor at California State University, East Bay with over a decade of experience researching topics related to environmental health, with a particular focus on developing and applying analytic methods to issues within epidemiology and risk assessment as it pertains to maternal and fetal exposures to industrial chemicals in the environment. Dr. Lam has served on multiple National Institute of Health grant study sections, such as K01, K99, and P30 grant reviews (2015- present).

Panel Experience: Dr. Lam is currently a member on the U.S. EPA Board of Scientific Counselors (BOSC), Subcommittee for Chemical Safety for Sustainability (2017-present). Dr. Lam has also been retained under contract to peer-review several government documents, such as the EPA Issue Paper on Physiological and Behavioral Changes in Pregnant and Lactating Women and Available Exposure Factors (2014); National Toxicology Program (NTP) Office of Health Assessment and Translation (OHAT) Protocol to Evaluate the State of the Science for Transgenerational Inheritance of Health Effects (2015); Occupational Safety and Health Administration (OSHA) Proposed Approach for the Initial Trial of OSHA's Infectious Agents Systematic Review (2015); and the World Health Organization (WHO) Air Quality Guideline Development, Process and Methods Proposals (2016).

Joel D. LeBlanc, P.E.

Affiliation: General Manager at Ashworth Leininger Group (ALG) - Environmental Consulting, Houston, Texas

Expertise: Air permitting/compliance, litigation support, emissions estimation and emissions control design.

Education: Bachelor Degree in Chemical Engineering, Louisiana State University, Baton Rouge, Louisiana

Experience Summary: Joel LeBlanc has over 20 years of professional experience in air quality and related environmental disciplines, including roles in industry, consulting, and a regulatory agency. This experience includes environmental permitting and compliance with particular expertise in preparing applications and negotiating Title V and New Source Review (NSR) permits, developing and implementing Title V compliance programs (including writing procedures and training personnel), developing emissions inventories, developing and expanding an air emissions stack testing division, performing and peer reviewing emission calculations, and evaluating air quality issues. He has provided technical support for environmental and safety matters, compliance matters associated with an Initial Public Offering, developed and managed an emissions testing business, and oversaw Phase I environmental assessments for new property acquisitions. Mr. LeBlanc has also developed and implemented Spill Prevention Control and Countermeasures (SPCC) plans and conducted various environmental compliance audits for a broad spectrum of industrial sources.

Panel Experience: NA

Steven B. Markowitz MD, DrPH

Affiliation: Professor and Director, Barry Commoner Center for Health and the Environment, Queens College, City University of New York, Queens, New York

Expertise: Occupational medicine, internal medicine, epidemiology

Education: B.A., Yale University; M.D., , Columbia College of Physicians and Surgeons; DrPH, Columbia University Mailman School of Public Health (Epidemiology)

Experience Summary: Dr. Steven Markowitz, an occupational medicine physician, internist, and epidemiologist, directs the Barry Commoner Center for Health and the Environment at the City University of New York. He is Adjunct Professor of Environmental Medicine and Public Health at the Icahn School of Medicine at Mt. Sinai. Dr. Markowitz has taught and conducted research in occupational medicine and occupational epidemiology for over 3 decades. He currently directs the largest screening program for the early detection of occupational lung cancer in the country (Department of Energy nuclear weapons workers). Dr. Markowitz has published research on occupational cancer, asbestos-related disorders and the burden of occupational diseases. From 2007 until 2018, he served as the Editor-in-Chief, American Journal of Industrial Medicine and is the Associate Editor of a major textbook, Environmental and Occupational Medicine. He has over 100 publications in the field of occupational medicine. Dr. Markowitz's active grants include: NIOSH/CDC Assessing Inflammatory and Behavioral Pathways Linking Post Traumatic Stress Disorder (PTSD) to Increased Asthma Morbidity in World Trade Center (WTC) Workers; US Dept of Energy (DOE), (subcontract from United Steelworkers Union), Medical Surveillance of Former Workers at DOE Gaseous Diffusion Plants and DOE Medical Surveillance of DOE Workers and NIOSH/CDC Optimizing Lung Cancer Screening in WTC Rescue & Recovery Workers.

Panel Experience: Dr. Markowitz is currently the Chair, Advisory Board on Toxic Substances and Worker Health, U.S. Department of Labor (2016-present) and a member of the World Trade Center Scientific and Technical Advisory Board, National Institute for Occupational Safety and Health/CDC (2011-present). He recently served as a member, Board of Scientific Counselors, National Toxicology Program (2014-2017). He previously served on Federal and State panels: Expert Panel Committee, National Toxicology Program, NIEHS (2007, 2008, and 2018); World Trade Center Expert Technical Review Panel, Environmental Protection Agency (2004-2005); Governor's Task Force on Health Effects of Toll Plaza Air Quality in New York City (2009-2012).

Melissa A. McDiarmid, MD, MPH, DABT

Affiliation: Professor of Medicine and Director of the Division of Occupational and Environmental Medicine at the University of Maryland School of Medicine, Baltimore, Maryland

Expertise: Heavy metal exposures, Medical surveillance and management, Reproductive hazards, Occupational cancers

Education: MD in Medicine, University of Maryland Baltimore; MPH in Occupational Health and Toxicology, The Johns Hopkins School of Hygiene and Public Health; BA in Biological Sciences, University of Maryland Baltimore County

Experience Summary: Dr. McDiarmid is Professor of Medicine, Epidemiology and Public Health and Director of the University of Maryland School of Medicine's Division of Occupational and Environmental Medicine where she teaches, sees patients, and directs a surveillance program for Gulf War Veterans. She received her B.A. degree from the University of Maryland Baltimore County, in Biological Sciences; her M.D. from the University of Maryland at Baltimore; and her M.P.H. from The Johns Hopkins School of Public Health (JHSPH) where she also completed fellowship training in Occupational Medicine. She is board-certified in Internal Medicine, Occupational Medicine and Toxicology. She was Director of the Office of Occupational Medicine for the U.S. Occupational Safety & Health Administration in Washington, D.C., a position she held from 1991 until 1996. From 1987 until moving to OSHA, she was Assistant Professor of Environmental Health Sciences at The Johns Hopkins School of Hygiene and Public Health where she directed the Occupational Medicine residency. She retains her Hopkins affiliation as an adjunct professor of Environmental Health. She has authored numerous journal articles and book chapters on occupational and environmental medicine topics related to: metal toxicology, healthcare workers, medical surveillance and management, reproductive hazards, occupational cancers, and Gulf War environmental exposures.

Dr. McDiarmid serves on numerous committees and advisory groups including: U.S. Pharmacopeia (USP) Advisory Group on U.S.P. 800 Hazardous Drugs 2013 – 2016; CDC/NIOSH National Personal Protective Technology (NPPTL) - Institute of Medicine - Advisory Board - 2007-2013, appointed New Chair 2018

Panel Experience: Member, Board of Scientific Counselors, National Toxicology Program 2009-2012 (NTP); Appointed Chair, Board of Scientific Counselors, National Toxicology 2013 Program (NTP)

Aubrey K. Miller, MD, MPH

Affiliation: Senior Medical Advisor, Office of the Director, National Institute of Environmental Health Sciences (NIEHS); National Institutes of Health, Bethesda, MD.

Expertise: Expertise in applied epidemiology, occupational and environmental health, toxicology, exposure assessments, risk assessments, public health policy, and research involving health impacts of environmental contamination and disasters.

Education: M.P.H., Environmental & Occupational Health Sciences, University of Illinois School of Public Health; M.D, Rush Medical College, Chicago; B.S., Biology (Honors Distinction), University of Illinois, Urbana; B.A., Political Science, University of Illinois, Urbana

Experience Summary: Dr. Miller's qualifications include over 27 years of service as a commissioned medical officer of the US Public Health Service; Board Certified in Occupational and Environmental Medicine, in positions with NIH, FDA, EPA, and CDC. His educational training encompassed both political and biological/medical sciences, with applied experiences over the course of his career to develop expertise in toxicology, occupational and environmental health, exposure science, risk assessment, risk communications, public health, and strategic policy formulation. Additionally, he has engaged in a diverse range of research investigations including in-vitro, in-vivo, clinical, and population-based studies. His positions with HHS and EPA Regional Offices in Denver, included extensive engagement with vulnerable and impacted populations, complex health studies, and risk assessments, to address highly challenging situations and disasters, including the Public Health Emergency in Libby, Montana, Hurricane Katrina, and the World Trade Center and anthrax attacks. He has over 50 publications and is a national and international expert in environmental asbestos issues, disaster science, and other areas of occupational and environmental health. In his current position he supervises the NIEHS Office of the Director, overseeing congressional inquiries, strategic policy formulation and stakeholder engagement.

Dr. Miller serves on numerous committees and advisory groups including: US Pharmacopeia Expert Panel on Talc, 2012-2014; NIOSH Mine Safety and Health Research Advisory Council, 2015-present; White House Office of Science Technology and Policy, Subcommittee on Disaster Reduction, 2010-present.

Panel Experience: Dr. Miller's experiences and qualifications include: Chair EPA Technical Review Workgroup (TRW) on Asbestos, 2003-2007; Expert panel to update Helsinki Criteria on Asbestos, organized by Finnish Institute of Occupational Health, 2014-2015; NCI National Cancer Advisory Board, 2010-present

Franklin E. Mirer, PhD, CIH

Affiliation: Professor Emeritus, City University of New York School of Public Health, New York, New York

Expertise: Toxicology, Risk Assessment, Exposure Assessment, Chemistry

Education: Ph.D., Physical-Organic Chemistry, Harvard University; Post Doctoral Trainee, Toxicology, Harvard School of Public Health; AM, Organic Chemistry, Harvard University; AB, Chemistry, Columbia University;;

Experience Summary: Dr. Franklin Mirer served as Professor of Environmental Health Sciences at the CUNY School of Public Health, retiring as Professor Emeritus in 2018 with 12 years' experience of teaching at the graduate level and research in occupational and environmental health. Prior to that, he was Director of the Health and Safety Department and Industrial Hygienist for the United Autoworkers union (UAW) from 1975-2006. His primary research interests are exposure assessment in the occupational environment, risk assessment and occupational health policy. Dr. Mirer served on the National Academy of Sciences committees for Institutional Means for Risk Assessment (1983), Risk Assessment Methodology (1986), Review of the Health Effects Institute (1987), and the Framework Committee for Evaluation of NIOSH research programs and its study of the NIOSH Health Hazard Evaluation Programs (2000-2003). He served on the National Toxicology Program Board of Scientific Counselors (1994-2000). He served on the EPA Common Sense Initiative Council and Auto Manufacturing Sector Subcommittee (1995-1998).

Panel Experience: Dr. Mirer was a member of the working groups which wrote the International Agency for Research on Cancer Monographs Volumes 77 (2000), Volume 101 (2011) and Volume 105 (2015). He served on the OSHA Metalworking Fluids Standards Advisory Committee (1997-1999). He served on the National Toxicology Program BSC Report on Carcinogens review subcommittee (1996-2000) and Technical Report (bioassay) review committee (1985-1990). Dr. Mirer serves on numerous committees and advisory groups. He was a member of the NIH NIOSH Study section (1982-1985), ad hoc review (2007), and NIEHS worker training programs (2015). He served on the Michigan OSHA Occupational Health Standards Commission (1982-1986).

Robert J. Mitkus, PhD, DABT, ERT

Affiliation: Regulatory Toxicologist, BASF Corporation, Durham, North Carolina

Expertise: Applied Toxicology and Human Health Risk Assessment

Education: PhD in Toxicology, University of Maryland; BS in Biology, Loyola University

Experience Summary: Dr Rob Mitkus has worked as a Regulatory Toxicologist at BASF Corporation from 2014-Present. Dr Mitkus worked as a Regulatory Toxicologist and Human Health Risk Assessor in the Office of Biostatistics and Epidemiology at the Center for Biologics Evaluation and Research at U.S. Food and Drug Administration (2010-14) and at the Office of Pesticide Programs of the U.S. EPA (2004-10). Dr Mitkus is a Diplomate of the American Board of Toxicology and a European Registered Toxicologist. He has experience monitoring and reviewing the gamut of Office of Prevention, Pesticides, and Toxic Substances (OPPTS) and Organization for Economic Cooperation and Development (OECD) guideline in vitro and in vivo toxicity studies required for pesticide and chemical registrations under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Food Quality Protection Act (FQPA), the Federal Food, Drug, and Cosmetic Act (FFDCA) and the Toxic Substances and Control Act (TSCA); performing hazard assessments utilizing both proprietary study and published tox data for both chemicals and pesticides; and performing safety and risk assessments. Dr Mitkus has served on several FDA and CropLife America (CLA) project teams aimed at advancing the optimization and application of reliable new methods in toxicology for human health risk assessment. He also has experience developing both traditional and physiologically based pharmacokinetic (PK) models.

Dr. Mitkus serves on numerous committees and advisory groups including: he currently serves as a member and chair of the American Board of Toxicology (ABT) Question Writing Committee that peer reviews all questions for the ABT certifying exam (2016-Present) and served on the Modernizing Toxicology Working Group of the Chemical and Environmental Sciences Council (CESC) established by the FDA Office of the Chief Scientist (2011-13); served as member of the OPP/HED Technical Evaluation Panel (2009-10), the OPP/HED Cancer Assessment Review Committee (CARC) (2007-10), and the OPP/HED Developmental Neurotoxicity (DNT) Workgroup (2007-10).

Panel Experience: He has served on, co-chaired and chaired the Epidemiology Expert Specialty Group that peer reviewed all published epidemiological studies for the Bisphenol A Joint Review Working Group organized by the FDA Office of the Chief Scientist (2011-13)

Peter Moleux, P.E.

Affiliation: Chemical engineering advisor working as a sole proprietor, Waltham, Massachusetts

Expertise: Investigating applications and processes involving chemicals in complex circumstances including Chemistry, Environmental Risk Assessment, Exposure Assessment, Environmental Fate, environmental engineering and sustainability

Education: MS in Chemical Engineering, Northeastern University; BS in Chemical Engineering, Northeastern University

Experience Summary: Peter Moleux is a chemical, environmental, health and safety engineering advisor serving industrial clients, law and expert witness search firms (from 1988-2018). Mr. Moleux's background includes developing inhouse procedures for designing and suppling drinking, process water and wastewater treatment systems including pilot testing to provide a performance guarantee for an original equipment manufacturing firm (from 1971 to 1988). Typical clients included defense contractors, electronic firms and printed circuit board suppliers, metal finishers, automotive, aircraft and aerospace manufacturing looking for ways to reduce pollution, recycle water and purify process baths. Mr. Moleux worked for the Massachusetts Division of Water Pollution Control (from 1965-1971) inspecting (and reviewing engineering reports on methods to reduce pollution from) industrial and municipal wastewater treatment systems including chemical manufacturers and petrochemical firms, paper and pulp firms, and metal plating companies. Mr. Moleux contributed to the August 1998 EPA Design for the Environment publication titled "Printed Wiring Board Pollution Prevention and Control Technology: Analysis of Updated Survey Results," publication by EPA as 744-R-98-003. Peter was a speaker on environmental issues and risk assessment throughout the United States as part of the Speakers Bureau Tour for the American Institute of Chemical Engineers.

Panel Experience: NA

Celeste A. Monforton, DrPH, MPH

Affiliation: Project Director, Beyond OSHA Project, San Marcos, Texas

Expertise: Disproportionately exposed populations; other susceptible populations; occupational, consumer, and general exposure assessment; Epidemiology

Education: DrPH, George Washington University, Milken Institute School of Public Health; MPH, George Washington University, Milken Institute School of Public Health; BA, University of Michigan

Experience Summary: Dr. Celeste Monforton is Director of the Beyond OSHA Project and lecturer of public health in the Department of Health and Human Performance at Texas State University. She is a nationally recognized expert in U.S. occupational health and safety policy and enforcement. Prior to her academic training, Dr. Monforton was employed at the Occupational Safety and Health Administration (1991-1995) and the Mine Safety and Health Administration (1996-2001). Dr. Monforton holds several leadership positions with the American Public Health Association (APHA), including a member of the Action Board (2017 to present) and co-chair of the Policy Committee of the Occupational Health and Safety Section (2011 to present). Dr. Monforton serves as the Liaison to the Science Advisory Board and the Prevention Board of the Asbestos Disease Awareness Organization. Dr. Monforton focuses her research and advocacy on work-related injuries and illnesses experienced by vulnerable workers, including people of color, women, and those employed in high-hazard industries.

Panel Experience: Dr. Monforton served on the Centers for Disease Control and Prevention's Scientific Review Group Evaluation of University of Massachusetts Lowell's Work Environment Program Training Grant (2009).

John B. Morris, Ph.D.

Affiliation: Board of Trustees Distinguished Professor Emeritus at the University of Connecticut, Storrs, Connecticut

Expertise: Toxicology, inhalation toxicology, PBPK modeling, quantitative inhalation risk assessment

Education: Post-doctoral Fellowship in Inhalation Toxicology, New York University; PhD in Toxicology, University of Rochester; MS in Toxicology, University of Rochester; BS in Chemistry, Allegheny College

Experience Summary: Dr. John Morris is Board of Trustees Distinguished Professor Emeritus at the University of Connecticut. He had 34 years of teaching and research experience at that University prior to his retirement in 2015. At the University of Connecticut, he was Director of the Graduate Program in Toxicology, Head of the Department of Pharmaceutical Sciences, and Interim Dean of the School of Pharmacy. He was elected and served as Treasurer of the Society of Toxicology (2011-2013) and as President of the Society of Toxicology (2016-2017). He is currently a member of the Board of Directors of the Federation of American Societies of Experimental Biology. His research interests focus on toxicology, inhalation toxicology, inhalation dosimetry (particularly of inspired vapors), quantitative inhalation risk assessment and PBPK modeling.

Dr. Morris has also served on numerous additional federal, state, foundation, and professional review panels and committees including: NIH Special Emphasis Review Panel for U15 Nanotoxicology center grants (2010); State of Virginia Inhalation Toxicology Advisory Group (2008-2010); NIH Toxicology II then ALTOX-4 Initial Review Group (study section) (1994-1999)

Panel Experience: Dr. Morris' experience on panels includes: National Research Council Committee on Review of the Styrene Assessment in the National Toxicology Program 12th Report on Carcinogens (2013-2014); National Research Council Committee on Review of the Formaldehyde Assessment in the National Toxicology Program 12th Report on Carcinogens (2013-2014); National Research Council Committee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants (2008-2009); EPA External Review Panel for "Methods for Derivation of Inhalation Reference Concentration" (2004); State of Vermont Toxicology Advisory Committee (1993-1999); EPA External Review Panel for "Methods for Derivation of Inhalation Reference Concentration" (1993); and State of Connecticut Hazardous Air Pollutant Advisory Panel, chair (1990-1993).

Virginia C. Moser, Ph.D.

Affiliation: Independent neurotoxicology consultant, Apex, North Carolina

Expertise: Neurotoxicology research on developmental neurotoxicity and sensitive subpopulations focused on behavioral and neurochemical effects of numerous toxicants including pesticides, solvents, organometals, and others. Development and validation of test methods for neurobehavioral toxicity screening.

Education: PhD in Pharmacology and Toxicology, Medical College of Virginia, Virginia Commonwealth University; BS in Pharmacy, University of North Carolina Chapel Hill.

Experience Summary: Dr Moser is an independent neurotoxicology consultant, having retired after 33 years as principal investigator in the Office of Research and Development, US Environmental Protection Agency. She is a Diplomate of the American Board of Toxicology (ABT, since 1987) and Fellow of the Academy of Toxicological Sciences (since 2011). She has served as officer and committee member in scientific societies, including ABT Executive Board of Directors (1997-2001), North Carolina Society of Toxicology (president 2005-2008, secretary-treasurer 2000-2002), and others. She was section editor for Neurotoxicology and Teratology (2011-2017) and Drug and Chemical Toxicology (2004-2016), associate editor for Encyclopedia of Toxicology 3rd edition (2011-2015) and remains on editorial boards for several journals. She served on numerous workgroups within EPA, with external groups such as International Life Sciences Institute and DOD Department of Veteran Affairs, and international groups such as Organization for Economic Cooperation and Development and Health Canada. Current consulting work applies her expertise in pesticide neurotoxicity, developmental studies, and behavioral testing

In her job at U.S. EPA, Dr Moser served on numerous internal committees developing chemical assessments and participated in FIFRA Scientific Advisory Panel reviews, including individual pesticide regulatory actions and pesticide cumulative risk assessments. She served on the U.S. EPA Risk Assessment Forum (2004-2008) and technical panels including Data-Derived Extrapolation Factors (policy finalized 2015) and Mode of Action Harmonization (2006-2011). Activities external to U.S. EPA included a Voluntary Children's Chemical Evaluation Program (VCCEP) ethylbenzene peer consultation expert panel (2007), and grant reviews including DOD Department of Veterans Affairs Joint Biomedical Laboratory and Clinical Science Research and Development Scientific Merit Review Board (2013-2016), Veterans Administration Gulf War-related illness ad hoc grant reviews (2012), Fogarty grant review (2012), NIH Neurotoxicity and Alcohol Research grant study section (2011), Joint Science and Technology Office for Chemical and Biological Defense, Defense Threat Reduction Agency grant review (2009), Northern Contaminants Program grant review (2006), NIEHS Grant Review Panel, Advanced Research Cooperation and Environmental Health Program (2005), NIEHS Grant Review Panel, Center for Oceans and Human Health (2003), NIEHS Grant Review Panel, Small Business Innovative Research (2001), and NIEHS Grant Review Panel, Neurotoxicity Special Emphasis (1999).

Panel Experience: NA

Keeve E. Nachman, Ph.D., M.H.S.

Affiliation: Assistant Professor, Department of Environmental Health and Engineering, Johns Hopkins Bloomberg School of Public Health, Baltimore, Maryland
Expertise: Human Health Risk Assessment; Toxicology; Epidemiology; Exposure Science; Disproportionately Exposed Populations; Consumer and General Exposure Assessment; Systematic Review; Environmental and Occupational Health Policy; Food Safety
Education: Ph.D. in Health Policy and Management with specialization in Environmental and Occupational Health Policy, Johns Hopkins University; M.H.S. in Environmental Health Sciences with specialization in Radiation Health Sciences and Medical Physics, Johns Hopkins University; BA in Writing Seminars, Johns Hopkins University
Experience Summary: Dr. Keeve Nachman is an Assistant Professor of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health. He is the Co-Director of the Johns Hopkins Risk Sciences and Public Policy Institute and the director of the Food Production and Public Health Program at the Johns Hopkins Center for a Livable Future. His research applies a risk sciences lens to food production practices (spanning from veterinary pharmaceutical residues to urban agricultural production) and their implications for occupational, environmental and dietary exposures to inorganic and organic chemicals and microbiological hazards. He has worked extensively on the issue of arsenic exposures in food and drinking water.

Dr. Nachman has served as on numerous international, federal, and state, and non-governmental advisory and grant review panels. He was a reviewer for the EPA Science To Achieve Results (STAR) Graduate Fellowship Review Panel, Risk Assessment section in 2011; he was a reviewer for the Foundation for Food and Agriculture Research grants from 2017-2018; he is a member of the Maryland Attorney General's Environmental Advisory Council and of the Maryland Department of Health and Mental Hygiene Food Safety Roundtable. He is currently a member of the Dartmouth Toxic Metals Superfund Research Program External Advisory Committee and served on the Collaborative on Food with Arsenic and associated Risk and Regulation Steering Committee; he has chaired panel sessions at annual meetings of the Society for Risk Analysis, the International Society for Environmental Epidemiology, and the American Public Health Association; he is a member of the Editorial Review Board for the *Environmental Health Perspectives* journal and a Section Editor for the *Current Environmental Health Reports* journal. Dr. Hachman has funding from NIH/NIAID, USDA, Johns Hopkins Fisher Center, and Johns Hopkins Lipitz Public Policy Center.

Panel Experience: Dr. Nachman was an expert for the World Health Organization Foodborne Disease Burden Epidemiology Reference from 2013-14; he was an expert panelist for the U.S. EPA Workshop on Temporal Exposure Issues for Environmental Pollutants in 2016; he served as an academic stakeholder for a U.S. Government Accountability Office (GAO) report, "Food Safety: Federal Efforts to Manage the Risk of Arsenic in Rice" in 2018.

Deborah, T. Newby, PhD

Affiliation: Laboratory Operations Manager, Burst Biologics, Boise, Idaho

Expertise: Environmental Microbiology; Chemistry; Remediation

Education: Ph.D., Environmental Microbiology/Molecular Microbiology, University of Arizona; B.S., Chemistry, Willamette University

Experience Summary: Dr. Deborah Newby has spent the majority of her career developing and managing teams capable of converting innovative research into processes and scales capable of delivering real-world solutions to energy and environmental issues. She has conducted several projects focused on fate and transport of chemicals, including trichloroethylene, heavy metals, and agricultural (dairy) waste. She has over 20 years of experience in the national laboratory system and private industry where she has obtained over $12M in research revenue through competitively awarded proposals and private contracts, contributing to all aspects of project execution from concept to completion. She also has served as a biotech regulatory manager and overseen laboratory operations. She held a DOE Q clearance (2001-2015). She is committed to scientific outreach and promotes Science, Technology, Engineering and Mathematics (STEM) education.

Dr. Newby has served as a reviewer for Algal Research, Applied and Environmental Microbiology, Soil Biology and Biochemistry, FEMS Microbiology Letters, and the DOE Small Business Innovation Research (SBIR) program and Bioenergy Technology Office reviews. She has also served on various review panels and committees at Idaho National Laboratory.

Panel Experience: NA

Heather B. Patisaul, Ph.D.

Affiliation: Professor of Biological Sciences in the Center for Human Health and the Environment at North Carolina State University, Raleigh, North Carolina

Expertise: Research on endocrine disruption, brain and behavior with a focus on sexually dimorphic neuroendocrine pathways and behaviors

Education: Ph.D. in Population Biology, Ecology and Evolution, Emory University; BS in Zoology, University of Florida

Experience Summary: Dr. Heather Patisaul is a Professor of Biological Sciences in the Center for Human Health and the Environment at North Carolina State University where she serves as co-director of the Molecular/Cellular-Based Systems and Model Organisms Team. Dr. Patisaul chaired the 2016 Gordon Research Conference on Environmental Endocrine Disruptors, co-edited a special issue on endocrine disruptors for the journal Hormones and Behavior (2018), and is on the editorial board of the journal Endocrinology. She is a member of the Advocacy and Public Outreach Core Committee of the Endocrine Society and is a member of Project Targeting Environmental Neuro-Development Risks (TENDR) which seeks to identify and reduce environmental neurodevelopmental risks. Her research interests focus on mechanisms of endocrine disruption in the developing brain and long-term effects on neuroendocrine function and behavior.

Dr. Patisaul has served on over a dozen national and international expert panels including: the Joint Research Center of the European Commission's Workshop on Bridging Across Methods in the Biosciences (BEAMS, 2018), the organizing committee for the National Academy of Sciences workshop Cultivating Confidence: Understanding Pathways to a Paradigm Shift in Toxicity Testing and Decision Making (2017), and the National Institute of Environmental Health Sciences Strategic Planning Stakeholder Community Workshop (2011).

Panel Experience: Dr. Patisaul has served on the National Research Council Committee on Incorporating 21st Century Science into Risk-Based Evaluations (2015-2016), the National Academy of Sciences review of the EPA document, State of the Science Evaluation: Nonmonotonic Dose Responses as They Apply to Estrogen, Androgen, and Thyroid Pathways and EPA Testing and Assessment Procedures (2013), and the 2010 Joint Food and Agriculture Organization of the United Nations (FAO) and World Health Organization (WHO) Expert meeting to review the toxicological and health aspects of Bisphenol A (BPA). Dr. Patisaul is a standing member of the Integrative and Clinical Endocrinology and Reproduction Study Section [ICER] for the NIH and has served as an ad hoc reviewer for the NIH, National Science Foundation (NSF) and European Science Foundation, U.S. EPA and the French National Research Agency.

Michael L Pennell, PhD

Affiliation: Associate Professor, Division of Biostatistics, College of Public Health, The Ohio State University, Columbus, Ohio

Expertise: Bayesian statistics, statistical methods in toxicological risk assessment

Education: PhD in Biostatistics, University of North Carolina-Chapel Hill; BS in Biology, University of Puget Sound

Experience Summary: Dr. Pennell is an Associate Professor of Biostatistics in the College of Public Health at The Ohio State University, where he has been since 2006. For the past eleven years, he has taught a unit on dose-response assessment in the Principles of Risk Assessment course at Ohio State. He is an Associate Editor of the journal Lifetime Data Analysis (2014-Present) and has held several positions in the Section on Risk Analysis of the American Statistical Association: Program Chair Elect (2015), Program Chair (2016), Chair Elect (2017), and Chair (2018). His research interests are in Bayesian nonparametric and Bayesian survival analysis methods motivated by applications in toxicological risk assessment. Currently, Dr. Pennell is supported by a contract with the National Institute of Occupational Safety and Health to develop Bayesian nonparametric methods for relating EPA Toxcast high throughput assays to in vivo and in vitro National Toxicology Program studies.

Panel Experience: Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel, Ad hoc member, U.S. EPA, 2017; Chemical Safety Advisory Subcommittee for 1-Bromopropane, U.S. EPA, 2016; Libby Amphibole Asbestos Scientific Advisory Board Review Panel, U.S. EPA, 2012; Trichloroethylene Scientific Advisory Board Review Panel, U.S. EPA, 2010

Myles Perkins, PE

Affiliation: Chemical engineer serving as the Toxics Reduction Supervisor at the Washington State Department of Ecology in the Hazardous Waste and Toxics Reduction Program.

Expertise: Practical application of alternative assessment methodology for safer chemicals and/or processes at businesses currently using hazardous substances.

Education: BS in Chemical Engineering, Montana State University.

Experience Summary: Mr. Perkins is responsible for leading a team that provides consulting and technical assistance to Washington State industry, specializing in pollution prevention, safer chemical selection, industry process analysis, end of life waste management, green engineering techniques, and resource conservation. A primary objective of the Toxics Reduction program is to evaluate the applicability and feasibility of safer chemical alternatives and identify ways to cost effectively eliminate, reduce or avoid hazardous substances from entering waste streams. He previously worked as an environmental consultant at a multi-national firm with experience in various fields of environmental consulting, including engineering oversight, storm water design, excavation remedial design, and regulatory permitting and compliance.

Panel Experience: NA

Deborah C. Rice, Ph.D.

Affiliation: Consultant; Formerly toxicologist, State of Maine, Augusta, Maine; senior risk assessor, U.S. EPA, Washington, District of Columbia

Expertise: Neurotoxicology, developmental toxicology, environmental contaminants

Education: Ph.D., Toxicology, University of Rochester; B.S. Biological Sciences, University of California, Irvine

Experience Summary: Dr. Rice has 22 years' experience in research into the developmental neurotoxicity of environmental contaminants including lead, methylmercury, and PCBs. She was a senior risk assessor at EPA and toxicologist with the Maine Center for Disease Control. Her other positions include: Associate Editor, Neurotoxicology and Teratology, 1999-2005; Associate Editor, Environmental Research, 1995-present; Associate Editor, Neurotoxicology, 1995-2008; Section Editor, Quintessence, 1994-1995; Editorial Board, Neurotoxicology and Teratology, 1987-1999, 2006-2012; Editorial Board, Neurotoxicology, 1986-1995, 2008-2010. Dr. Rice's experience includes the following workshops: Lead Toxicokinetic Modeling Phase 1: Problem Formulation, Existing Model Review and Evaluation, and Feasibility Assessment, Health Canada, Vancouver, British Columbia, 2008; Fate and Bioavailability of Mercury in Aquatic Ecosystems and Effects on Human Exposure, sponsored by Dartmouth College, Durham, New Hampshire, 2006; Neurobehavioral Development and Environmental Exposures: Measures for the National Children's Study, sponsored by EPA and NIH, Washington, DC, 2004; Exploring Opportunities for Interdisciplinary Linkages in Neurodevelopment and Environmental Health Sciences, sponsored by The John Merck Fund, Boston, Massachusetts, 2003; and additional workshops

Panel Experience: Reference Values for trichloroethylene (TCE), dicloromethane DCM, and n-mewthylpyrolidone NMP, U.S. EPA/OPPT, 2014; Toxicological Review and Recommended Toxicological Reference Values for Environmental Lead Exposure in Canada, Health Canada, 2008; Environmental Threats to Healthy Aging, Greater Boston Physicians for Social Responsibility and Science and Environmental Health Network, 2008; Risks and Benefits of Marine Seafood, Harvard School of Public Health, Boston, MA, 2008; State Alternatives Assessment Forum: Identifying Safer Alternatives to Chemicals of High Concern, Toxics Use Reduction Institute, Lowell, MA, 2008; external peer review panel for Toxicological Review of Thallium and Compounds, EPA, Arlington, VA, 2008; Chair, external peer review panel of Toxicological Assessment of Polybrominated Diphenyl Ethers, EPA, Washington, D.C., 2007; State of Maine Governor's Task Force on Safer Chemicals in Consumer Products and Services, 2006-2007; Derivation of Proposed Primary Drinking Water Standard for Perchlorate, New Hampshire Department of Environmental Services, 2005; panel on the health effects and reference dose (RfD) for perchlorate, Massachusetts Department of Environmental Protection and the Massachusetts Department of Health, Boston, MA, 2003-2005; Lead Renovation, Repair, and Painting Program Rule – Benefits, EPA, 2005; Modeling of Neurotoxicology Data for Risk Assessment, EPA, 2004; and additional panels**.**

Elizabeth A (Lianne) Sheppard, PhD

Affiliation: Professor, University of Washington, Seattle Washington

Expertise: Understanding the health effects of environmental and occupational exposure with an emphasis on the design, measurement and modeling of exposure for such inferences

Education: PhD in Biostatistics, University of Washington; ScM in Biostatistics, Johns Hopkins University

Experience Summary: Dr. Sheppard is a Professor of Biostatistics and Environmental and Occupational Health Sciences at the University of Washington. She is Fellow of the American Statistical Association. Her research focuses on statistical methods for understanding the health effects of environmental and occupational exposures; they include study design, measurement error, exposure modeling and estimation, and estimation of environmental exposure effects with application to a wide range of health outcomes. She actively collaborates with many principal investigators on multiple projects in the environmental and occupational health sciences.

Panel Experience: Dr. Sheppard's experience on EPA panels includes chartered Clean Air Scientific Advisory Committee (CASAC, 2015-2018) and several CASAC Review Panels: O3 (2005-2008 + 2010-11), NOx and SOx (2007-2010), NOx (2013-2016), SOx (2014-2018), PM (2015-2018); two Integrated Risk Information System (IRIS) Review Panels: Libby Amphibole Asbestos (2011-2013), Ethelene Oxide (2014-2015); and the FIFRA Scientific Advisory Panel for the Evaluation of the Carcinogenic Potential of Glyphosate (2016-2017). She has also been a member of the Health Effects Institute Review Committee, the Pesticides Advisory Committee for CAREX Canada, and the Center for Transportation, Environment and Community Health Technical Advisory Board. She has also served on several peer review panels for NIH, NIOSH, and EPA.

Veena I. Singla, PhD

Affiliation: Associate Director, Science & Policy, University of California San Francisco Program on Reproductive Health and the Environment, San Francisco, California

Expertise: Reproductive and developmental toxicity, flame retardant chemicals, biological susceptibility, chemical exposures in indoor environments

Education: PhD, Developmental and cell biology, University of California San Francisco; BS, Chemistry, University of California Berkeley

Experience Summary: Dr. Singla is Associate Director of Science & Policy at the Program on Reproductive Health and the Environment. Her work focuses on informing policies with the most current scientific principles and data to reduce and prevent harmful environmental exposures. Her research focuses on indoor environmental quality and how exposure to multiple chemicals affects health outcomes, especially for vulnerable populations such as workers, pregnant women and young children. She worked as a staff scientist with the Natural Resources Defense Council (2014-17), senior scientist with the Green Science Policy Institute (2012-13), postdoctoral teaching fellow at Stanford University (2011-12) and as an adjunct faculty member at the University of San Francisco (2008-10). She currently serves on the Scientific Guidance Panel for the California Environmental Contaminant and Biomonitoring Program.

Dr. Singla's funding sources include: JPB Foundation, Marisla Foundation, Broadreach Foundation, Clarence E. Heller Charitable Foundation, Passport Foundation, Forsythia Foundation

Panel Experience: NA

Darius D. Sivin, PhD

Affiliation: International Representative, International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) Washington, District of Columbia

Expertise: Disproportionately exposed populations (workers); Epidemiology; Human Health Risk Assessment; Occupational and General Exposure Assessment; Dose-response Modeling; and Systematic Review

Education: PhD, Public Health, Johns Hopkins School of Public Health; MES, Environmental Studies, The Evergreen State College; BA, Politics/Econ/Rhetoric/Law (Honors), University of Chicago

Experience Summary: Dr. Sivin is an environmental/occupational health scientist who focuses on chemical hazards. He has 20 years of experience working with government, academia, nonprofits, and unions to make working environments safer so that people can enjoy healthy, long, productive lives. As a leader in health and safety training, he has been awarded more than $10 million in grants. He has participated in the management of research programs by drafting funding opportunity announcements, evaluating grant applications, making funding recommendations, reviewing progress reports, and commenting on draft publications. In 2018, he was appointed to the editorial board of the journal New Solutions. On the World Health Organization (WHO) Nanomaterials and Workers' Health Guideline Development Group (2013 – Present), he has participated in the development and implementation of an international voluntary guideline to protect workers from potential risks of manufactured nanomaterials. On the Manufacturing Sector Council for the National Occupational Research Agenda (NORA), Dr. Sivin participated in the development of an agenda to stimulate innovative research and workplace interventions (2011-2016). In the National Conversation on Public Health and Chemical Exposures (2009-10), he chaired a group that made a major contribution to the final report of the Chemical Emergencies Workgroup.
Dr. Sivin served as an advisor on a Special Emphasis Panel to review applications submitted in response to the SBIR RFA-ES-16-006, SBIR RFA-ES-15-008 "E-learning for HAZMAT and Emergency Response." (2015, 2016), http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-16-006.html, http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-15-008.html.

Panel Experience: Dr. Sivin's panel experience includes:
American Conference of Governmental Industrial Hygienists (ACGIH) Chemical Substances Threshold Limit Value Committee (2004 – Present). Participated in a committee that uses epidemiology, dose-response modeling, and risk assessment to recommend airborne concentrations of chemicals to protect worker health; NIOSH Review Panel (2013). Served as reviewer for NIOSH Draft Strategic Plan for Nanotechnology Research and Guidance for FY2013- 2016; Institute of Medicine Panel (2012). Challenges and Benefits of Harmonizing the Federal and ISO Respiratory Protective Device Standards
http://www.nationalacademies.org/hmd/~/media/Files/Activity%20Files/PublicHealth/PPEinWorkplace/2012-DEC-10/Agenda.pdf

Marissa N. Smith, MS, Ph.D. Candidate

Affiliation: Research Scientist, University of Washington, Seattle, Washington

Expertise: Toxicology, children's health, risk assessment

Education: PhD Toxicology (Expected 2019) University of Washington; MS Toxicology, University of Washington; BS Aquatic and Fishery Sciences, University of Washington.

Experience Summary: Ms. Smith is a research scientist at the University of Washington. She has worked with the University of Washington Child Environmental Health Risks Research, Predictive Toxicology Center, Center for Oceans and Human Health and the Pacific Northwest Center for the National Children's Study. She currently works as a research coordinator for the Children's Health Exposure Analysis Resource. Her research interests include toxic chemicals and alternatives in children's consumer products, agricultural exposures in rural communities, environmental microbiome analysis and predictive toxicology tools. She has thirteen publications in these research areas. Her graduate research focuses on prioritizing toxic chemicals for children's health and is funded by the EPA STAR fellowship program (2016-2019). She has co-developed and participated in workshops, such as Children' Health Matters (2013) and Fish and Future (2018).

Panel Experience: NA

Kurt Straif, MD, MPH, PhD

Affiliation: Head, Section of Evidence Synthesis and Classification, Head Group of IARC Monographs, International Agency for Research on Cancer / World Health Organization, Lyon, France

Expertise: Expertise in cancer hazard identification and risk assessment, particularly in integration of different streams of evidence; expertise in cancer epidemiology, occupational and environmental medicine.

Education: PhD in Epidemiology, University of California, Los Angeles; MPH, University of California, Los Angeles; Board certifications in occupational and environmental medicine, University of Giessen, Germany.

Experience Summary: Dr. Straif is Head of Section of Evidence Synthesis and Classification of the International Agency for Research on Cancer, World Health Organization (WHO), Lyon, France, where he directs the programs of the International Agency for Research on Cancer (IARC) Monographs, the IARC Handbooks of Cancer Prevention and the WHO Classification of Tumours. His research focuses on occupational and environmental risk factors for cancer and cancer epidemiology. He serves on several national and international committees on primary and secondary prevention of cancer. He has a long record of teaching medicine and epidemiology and is the Scientific Director of the IARC International Summer School on Cancer Epidemiology since 2010.

Panel Experience: Dr. Straif's panel experience includes: 2014 WHO IPCS Chemical Risk Assessment Network; 2010 WHO Dichlorodiphenyltrichloroethane and (DDT) Risk Assessment Consultation; 2006-2010 WHO Expert Group on Indoor Air Quality Guidelines; 2006 InVS Expert working group on the carcinogenicity of formaldehyde (to report to the French Ministry of Labour); 2005 WHO IPCS/IARC Working group on chrysotile substitutes (to report to the Rotterdam Convention); Since 2004 United Nations Environment Programme, International Labour Organization & World Health Organization: Peer Review Meetings of International Chemical Safety Cards (ICSCs); 2003 European Commission, Directorate-General Health & Consumer Protection: Expert Meeting on Tobacco Ingredients; Since 1997 German Research Foundation, Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area; MAK Committee.

Shannon M. Thomas, MBA

Affiliation: Product Steward at Dexco Polymers, Plaquemine, Louisiana

Expertise: Product stewardship and global regulatory issues including REACH, TSCA, food contact, and transport.

Education: MBA, Seattle University; BS, Biochemistry, Seattle University; BS, Biology, Seattle University

Experience Summary: Shannon Thomas, is a Product Steward at Dexco Polymers. In this role, she is responsible for regulatory strategies for developmental products in the R&D pipeline as well as product regulatory compliance and product stewardship for existing products. She is responsible for leading product stewardship initiatives as they pertain to products produced in the United States and sold globally. Ms. Thomas is also responsible for leading and implementing EH&S policies and strategies within the R&D department. Prior to joining Dexco, she served as a Product Compliance Specialist for Univar USA (2013-2017). In this role she was responsible for authoring Safety Data Sheets and labels as well as determining transport classifications for a wide range of chemicals and mixtures.

Panel Experience: NA

Ryan J. Vierling, Ph.D.

Affiliation: Chemist, Pipeline & Hazardous Materials Safety Administration, US Department of Transportation, Washington, District of Columbia

Expertise: Technical review of new regulatory proposals, Special Permits and Letters of Interpretation concerning Environmentally Hazardous Substances, Infectious Substances, Poison, and Poison by Inhalation materials in accordance with the 49 Code of Federal Regulations (CFR) and international regulations and conventions.

Education: Ph.D. in Chemical Biology, Johns Hopkins University; BS in Biochemistry, University of Tulsa.

Experience Summary: Dr. Ryan Vierling has served 2 years (2016-present) as a Chemist at the Department of Transportation (DOT) in the Pipeline & Hazardous Materials Safety Administration. In addition to providing technical expertise in toxicology, environmental hazards, and infectious agents, he represents DOT on inter-agency Working Groups concerning Alternative Testing Methods for toxicology and serves as the Technical Point of Contact on the International Working Group for the publication of the Emergency Response Guidebook. Prior to joining DOT, he was an Oak Ridge Institute for Science and Education (ORISE) Postdoctoral Fellow (2014-2016) at the US Army Medical Research Institute of Chemical Defense (Edgewood, MD) where his research in small molecule adsorption and Blood-Brain Barrier penetration supported the establishment and continuing operations of the Department of Defense (DOD) Absorption, Distribution, Metabolism, Excretion and Toxicity (ADMET) Center of Excellence.

Dr Vierling served as an advisor on Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM), alternate member (2016-present); ICCVAM Acute Toxicity Working Group, member. 2020 Emergency Response Guidebook, US technical point of contact (2016-present); Interim Guidance for Transportation of Category A Waste, Agency representative (2017-present)

Panel Experience: NA

Katherine von Stackelberg, ScD

Affiliation: Research Scientist at the Center for Climate, Health and the Global Environment (C-CHANGE) at Harvard University and President/Owner at NEK Associates LTD, Allston, Massachusetts

Expertise: human health and ecological risk assessment, decision analysis, exposure modeling, risk communication, research translation, systematic review

Education: ScD in Environmental Science, and Risk Management Harvard University; ScM in Environmental Health and Health Policy and Management, Harvard University; 1988 AB cum laude, General Studies, Harvard College,

Experience Summary: Dr. von Stackelberg has over 30 years' experience designing and implementing human health and ecological risk assessments, focused on integrated, risk-based approaches to support sustainable environmental decision making. Since 2006, she has owned her own small consulting firm (NEK Associates LTD) as well as worked as a Research Scientist at the Center for Climate, Health and the Global Environment (C-CHANGE) and the Harvard Center for Risk Analysis (HCRA) at the Harvard T.H. Chan School of Public Health. Prior to that, she spent 15 years at Menzie-Cura and Associates Inc. as Team Leader for the Quantitative Modeling Group (1991-2006). She was Leader of the Research Translation Core of a Superfund Research Program grant (2006-2014). Dr. von Stackelberg is the Area Editor for ecological risk assessment at the journal Risk Analysis (2015-) and serves as a frequent peer reviewer at other journals. She has served on the Board of Directors for the Society for Environmental Toxicology and Chemistry (SETAC; 2014-) and last year began a term as Treasurer (2017-present). She also served as Treasurer for the Society for Risk Analysis (SRA; 2012-2016) and was elected as Fellow of the Society in 2017. She works on emerging methods in risk analysis, use of decision analytic methods and tools, exposure modeling, ecosystem services, and research translation.

Panel Experience: National Academy of Sciences Committee on Interventions to Increase the Resilience of Coral Reefs (2018-); Invited reviewer for U.S. EPA Science to Achieve Results (STAR) grant program related to "Total Environment" (2017); Invited reviewer for U.S. EPA EcoService Models Library (ESML) online database of ecosystem service models (2015); Invited reviewer for the US Department of Agriculture, Agriculture and Food Research Initiative Competitive Grant Program, Water for Agriculture Challenge Area (2015); Invited reviewer for U.S. EPA reports related to ecosystem services (2015); Invited expert to review an Industrial Research Chair (IRC) in Risk Science renewal application on behalf of the Natural Sciences and Engineering Research Council of Canada (2015); Invited reviewer for an assessment of Puget Sound management alternatives (2014-2015); Invited reviewer for A Framework to Guide Selection of Chemical Alternatives for the National Research Council's Board on Chemical Sciences and Toxicology (2014-2015); U.S. EPA STAR grant Human Health and Ecological Risks Associated with Water Reuse peer review panel (2013-2014); U.S. EPA Pathfinder Innovation Projects peer review panel (2013); Chair of the U.S. EPA Board of Scientific Counselors (2012-2015); Member of the U.S. EPA Board of Scientific Counselors (2008-2012).

Calvin C. Willhite

Affiliation: Senior Scientist, McLaughlin Center for Population Health Risk Assessment and Risk Sciences International, Ottawa, Ontario, Canada

Expertise: Toxicology

Education: PhD, Pharmacology, Dartmouth Medical School; MS, Toxicology, Utah State University; BS, Zoology, Utah State University

Experience Summary: Dr. Willhite is a senior scientist with the McLaughlin Center for Population Health Risk Assessment and Risk Sciences International. Dr. Willhite has more than 30 years of experience in toxicology and publishes primarily in developmental toxicology and quantitative structure-activity relationships. Dr. Willhite is a current member of the editorial boards for Toxicology, Toxicology & Applied Pharmacology, the Journal of Toxicology and Environmental Health and he is Guest Editor for the journal Toxicology (2019). Dr. Willhite is retired from the State of California Department of Toxic Substances Control where he conducted human health risk assessments for hazardous waste (1985-2011). Dr. Willhite was an editor and contributor, New York Academy of Sciences Maternal Nutrition and Pregnancy Outcome (1991-1992).

Panel Experience:

Dr. Willhite served on the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) Committee (1987-1995), the U.S. Agency for International Development (AID) Nepal Nutrition Intervention Project (1996), the International Agency for Research on Cancer (IARC) Cancer Chemoprevention Panel (1999), the National Science Foundation International Health Advisory Board (1986-2011), the U.S. EPA's Integrated Risk Information System (IRIS) Hexachlorobutadiene Panel (2002), the National Research Council's Submarine Air Quality (2002-2005) and Acute Exposure Guideline Levels Subcommittees (1998-2005), National Academy of Sciences Smokes and Obscurants (1996), Rocket Emissions (1998), Jet-Propulsion Fuel 8 (2002), Non-Stockpile Chemical Material Program (2005) and Spacecraft Water Exposure and Airliner Cabin Environment Guidelines (2001), the National Toxicology Program Center for the Evaluation of Risks to Human Reproduction (NTP/CERHR) Bromopropane Review Panel (2001), International Life Sciences Institute's Reproductive and Developmental Toxicity Risk Science Panel (2002-2005), the U.S. EPA's National Advisory Committee on Acute Exposure Guideline Levels (AEGLs) (2006-2009), and the National Academy of Sciences Committee on Toxicology (2001-2004). Dr. Willhite's panel experience over the past 5 years includes: National Toxicology Program Level of Concern (LoC) Panel (2017), Environment and Climate Change Canada/Health Canada Screening Assessment International. Classified Substance Grouping Ethanol (2016), Environment Canada, Health Canada Draft Screening Assessment, Petroleum Sector Stream Approach, Natural Gas Condensates (2016), Environment Canada, Health Canada Draft Screening Assessment, Petroleum Sector Stream Approach Liquified Petroleum Gases (LPG) (2013), and U.S. EPA Review Panel TSCA Workplan Chemical Risk Assessment Trichloroethylene (2013).

Tracey J. Woodruff, PhD, MPH

Affiliation: Professor and Director of the Program on Reproductive Health and the Environment, Department of Obstetrics, Gynecology, and Reproductive Sciences, University of California, San Francisco (UCSF)

Expertise: Epidemiology; Environmental Health; Exposure Assessment; Risk Assessment; Systematic Reviews; Perinatal and Child Health;

Education: PhD in Bioengineering, joint program between University of California, Berkeley and San Francisco; MPH in Environmental Health Science, University of California, Berkeley; BS in Electrical Engineering and Computer Science, University of California, Berkeley

Experience Summary: Dr. Tracey Woodruff is professor and director of the Program on Reproductive Health and the Environment, UCSF. She has over 20 years of research and leadership experience in environmental epidemiology, exposure analysis, risk assessment, and systematic reviews of environmental chemicals and related health effects, with expertise on exposures during pregnancy and effects on prenatal and child health. She is the PI of an NIEHS/USEPA funded Children's Environmental Health Center. She has authored numerous scientific publications, government documents and book chapters. She has served as an associate editor for Environmental Health Perspectives (2007-present) and was appointed by the governor of California to serve on the Science Advisory Board of the Developmental and Reproductive Toxicant (DART) Identification Committee (2012-present). Dr. Woodruff has helped develop new environmental health curriculum for students at the UCSF Medical School and has mentored over 40 pre- and postdoctoral students. She was previously at the U.S. EPA where she was a senior scientist and policy advisor in the Office of Policy.

Dr Woodruff served as an advisor on several NIH study sections to review grant applications for NIH funding. She was appointed by the governor to serve on the California Science Advisory Board Developmental And Reproductive Toxicant (DART) Identification Committee (2012-present)

Panel Experience: Dr. Woodruff is a member of the Advisory Board for Environmental Health Perspectives (2007-present). which reviews scientific information to determine if chemicals are a developmental or reproductive toxicant under California Proposition 65. She served as a member of the National Academy of Sciences 2013 committee to review "U.S. EPA's draft paper State of the Science on Nonmonotonic Dose Response."

Ami R. Zota, ScD, MS

Affiliation: Assistant Professor of Environmental and Occupational health at the George Washington University Milken Institute School of Public Health, Washington, District of Columbia

Expertise: Environmental chemical exposure assessment; reproductive and perinatal epidemiology; environmental health disparities; molecular epidemiology

Education: ScD in Environmental Health at Harvard University; MS in Environmental Health at Harvard University; BSPH in Environmental Science and Engineering, University of North Carolina at Chapel Hill.

Experience Summary: Dr. Ami Zota is an Assistant Professor of Environmental and Occupational Health at the George Washington University Milken Institute School of Public Health (GW SPH). She is currently Chair of the Research Committee at GW SPH (2018-present) and serves as a member of the International Society of Exposure Science Publications Committee (2018-present). She also serves as an associate editor for the Journal of Exposure Science and Environmental Epidemiology (2017-present), a member of the editorial review board for Environmental Health Perspectives (2017-present), and a member of the editorial board for Environmental Epigenetics (2017-present). Dr. Zota was chosen as a NIH Early Career Reviewer in 2016 and was recognized as a Pioneer under 40 in Environmental Public Health by the Collaborative on Health and the Environment in 2017. Her research specializes in exposure biology in the context of women's health, using a highly multi-disciplinary approach that integrates exposure sciences, epidemiology, social determinants of health, and molecular biology. Dr. Zota is currently a grant reviewer for the GW SPH Pilot Program (2018-present). She is also a member of the International Society of Exposure Science Publications Committee (2018-present). Dr. Zota has also served as an Ad hoc reviewer for the Harvard T.H. Chan School of Public Health, Kresge Center for Environmental Health Pilot Grant Program (2016, 2018).

Panel Experience: Dr. Zota's experience on federal panels includes: Peer Reviewer for research solicitations for US EPA National Priorities: Per- and Polyfluorinated Substances (2018); Temporary NIH CSR Study Section Member for the Infectious Disease, Reproductive Health, Asthma, and Pulmonary Conditions Study Section (IRAP) (2018); Temporary NIH CSR Study Member for the Kidney, Nutrition, Obesity, and Diabetes Study Section (KNOD) (2017).