ILSI Health and Environmental Sciences Institute (HESI)

2014 HESI Annual Meeting
Speaker Biographies

**Berridge, Brian R., DVM, PhD, DACVP**

Brian Berridge is Director and Head of WW Animal Research Strategy in the Office of Animal Welfare, Ethics and Strategy at GlaxoSmithKline. In that position he leads efforts to advance the scientific impact of animal and non-animal modeling in support of pharmaceutical development. He has held previous positions as a Director of Regulatory & Discovery Pathology at GSK and Principal Research Pathologist at Eli Lilly & Company. Brian is an Oklahoma State University-trained veterinarian with residency and PhD training from Texas A&M University. He is a Diplomate of the American College of Veterinary Pathologists and holds an adjunct Associate Professor position in the Department of Population Health and Pathobiology at North Carolina State University. He additionally teaches cardiovascular toxicology at the University of North Carolina. He is a member of the Executive Board and Board of Trustees for the ILSI Health and Environmental Sciences Institute where he also co-chairs the HESI Cardiac Safety Technical Committee, the Integrated CV Strategies Working Group, and the Translational Preclinical Imaging Technical Committee. Brian also chairs an international effort to harmonize cardiovascular nomenclature in regulatory toxicologic pathology and a CV Specialty Interest Group within the Society of Toxicologic Pathologists.

**Boobis, Alan R. ,OBE, PhD, CBiol, FSB, FBTS**

Prof. Alan Boobis is professor of biochemical pharmacology in the Department of Medicine, Imperial College London and Director of the Public Health England Toxicology Unit. He has been a member of Imperial College London (initially at the Royal Postgraduate Medical School, which merged with the College in 1997) for over 35 years. His main research interests lie in mechanistic toxicology, drug metabolism, toxicity pathway analysis and increasingly over the last 20 years or so, in the application of knowledge in these areas to risk assessment. Prof. Boobis has published over 220 original research papers (H-factor ~60) and until recently was an Editor-in-Chief of Food and Chemical Toxicology. He is a member of a number of international advisory committees, including co-chair of the WHO Mode of Action Steering group, JECFA (veterinary residues - chair) and JMPR (alternating chair). He was a member (1993-1999) and deputy chair (1999-2002) of the UK Advisory Committee on Pesticides. Prof. Boobis was a member (2003-2009) and deputy chair (2009-2012) of the UK Committee on Toxicity, a member of the UK Committee on Carcinogenicity (2003-2012), the EFSA Panel on Contaminants in the Food Chain (2009-2012), and a member (2003-2006) and deputy chair (2006-2009) of the EFSA Panel on Plant Protection Products. Prof. Boobis is a member and a past chairman of the Board of Trustees of the ILSI Health and Environmental Sciences Institute (HESI) and is vice president of ILSI Europe. He is also currently a member of the ILSI Board of Trustees. He is involved in several HESI, ILSI Research Foundation, and ILSI Europe projects. Prof. Boobis co-chairs the HESI RISK21 project. He is a fellow of the Society of Biology and the British Toxicology Society. He has served as president of EUROTOX and received the Merit Award in 2009. Prof. Boobis is a past chair of the British Toxicology Society and received the John Barnes Prize Lectureship in 2013. Recently, he received the Royal Society of Chemistry's Toxicology Award for his work on the human metabolism of carcinogens and his extensive involvement in scientific committees for the UK, the EC, and other international groups. He received an OBE in 2003 for his work on the risk assessment of pesticides.

**Clay, Jason, PhD**

Jason Clay is Senior Vice President, Market Transformation, World Wildlife Fund. He gets things done on a global scale. His ideas are changing the way governments, foundations, researchers, and NGOs identify and address risks and opportunities for their work. He brings people together to improve environmentally sensitive practices in agriculture and aquaculture. Jason's goal is to create global standards for producing and using raw materials, particularly in terms of carbon and water. He has convened industry roundtables of retailers, buyers, producers and environmentalists to reduce the key impacts of

producing soy, cotton, sugarcane, salmon, shrimp, mollusks, catfish and tilapia. "We now have 10 to 25 percent of global production and buyers sitting at the table for each commodity." Jason ran a family farm, taught at Harvard and Yale, worked at the U.S. Department of Agriculture and spent more than 25 years working with human rights and environmental organizations before joining WWF in 1999. His favorite flavor of ice cream is Ben & Jerry's Rainforest Crunch, which he helped create —with sustainably harvested ingredients—after meeting "Ben" at a fundraiser featuring the Grateful Dead.

**DiazGranados, Deborah, PhD**

Dr. Deborah DiazGranados is an assistant professor in the Virginia Commonwealth University (VCU) School of Medicine and an affiliate assistant professor of psychology at VCU. Her expertise includes teams, team leadership, collaboration, and understanding the implications of diversity on team effectiveness. She holds a doctorate in industrial and organizational psychology from the University of Central Florida.

**Guinan, Eva C., MD**

Dr. Eva Guinan received her MD from Harvard Medical School in 1980, followed by a pediatric residency at Children's Hospital and a pediatric hematology-oncology fellowship at Children's Hospital and DFCI. She was appointed associate director of the Bone Marrow Transplant Service in 1990 and directed the program from 1997 through 2005. She assumed a new position in 2005 as the Associate Director of the Center for Clinical and Translational Research. Her own translational research program focuses on the costimulatory blockade as a mechanism of overcoming problems related to allogenicity in transplantation and the amelioration of regimen-related toxicity. Her interests include hematopoietic stem cell transplantation, bone marrow failure disorders, aplastic anemia, myelodysplasia, and regimen-related toxicity.

**Kirch, Rebecca, JD**

Rebecca Kirch is Director, Quality of Life and Survivorship, Cancer Control, American Cancer Society, and is responsible for working collaboratively to provide strategic direction, input, and insight to bridge the Society's survivorship-related research, policy, and program initiatives. Rebecca also serves as a quality cancer care knowledge expert for the Society's advocacy initiatives and activities to improve quality of life and reduce suffering for patients, survivors, and caregivers. Prior to taking on this new role in October 2010, Rebecca was Associate Director of Policy for the American Cancer Society Cancer Action Network (ACS CAN), the Society's advocacy affiliate, responsible for a portfolio covering basic and clinical research policy and improving quality of cancer care and survivorship. Her work has involved particular emphasis on activities to advance pain and palliative care policies and practices for cancer patients, survivors, and their caregivers - efforts that were honored in 2008 with the American Academy of Pain Management's Legislative Policy and Advocacy Award and a Presidential Medal of Honor from the American Pain Foundation. Rebecca has a law degree from Boston College Law School, and practiced seven years in New York State as a litigation attorney specializing in health care and education issues before joining the Society. She graduated from Wells College in 1988 with a B.A. in Biology.

**Lee, Jerry S.H., PhD**

Dr. Jerry Lee serves as the Deputy Director of the National Cancer Institute's (NCI) Center for Strategic Scientific Initiatives (CSSI) within the NCI Office of the Director. In this role, he provides leadership and input in planning, developing, and implementing rapid strategic scientific and technology initiatives that keep the Institute ahead of the scientific curve with respect to potential new exciting areas and discoveries. This may involve direct development and application of advanced technologies, creation of new trans- disciplinary teams, and/or use of available federal mechanisms to forge novel partnerships that emphasize innovation and convergence of scientific disciplines. Specifically, Dr. Lee is responsible for scientific, programmatic, and operational oversight of CSSI's broad scientific portfolio (~$190.2 million in FY12) carried out by more than 40 staff members within offices that include the Office of Cancer Nanotechnology Research (OCNR), Office of Cancer Clinical Proteomics Research (OCCPR), and the Office of Physical Sciences-Oncology (OPSO). Programs developed and launched to date by Center staff includes the Innovation Molecular Analysis Technologies (IMAT), the NCI Alliance for Nanotechnology in Cancer, The Cancer Genome Atlas (TCGA), Clinical Proteomic Tumor Analysis Consortium (CPTAC), Physical Sciences-Oncology

Centers (PS-OC), Provocative Questions (PQ), and Cancer Target Discovery and Development (CTD2) network. These exploratory initiatives focus on the integration of advanced technologies, trans-disciplinary approaches, infrastructures, and standards, to accelerate the creation of publicly available, broadly accessible, multi-dimensional data, knowledge, and tools to empower the entire cancer research continuum for patient benefit. Prior to joining the NCI, Dr. Lee's research experience involved elucidating mechanisms of age-related diseases by combining cell biology, molecular biology, and engineering approaches to understand various cellular reactions to external stimuli. He has co-authored over a dozen papers, three book chapters, and one book on the role of Rho GTPase-mediated nuclear and cellular mechanical responses to fluid flow and 3D culture and demonstrated their potential impact in diseases such as progeria and cancer. He continues to advance understanding in this area by serving as adjunct assistant professor at Johns Hopkins University, where he also earned his bachelor's degree in biomedical engineering and Ph.D. degree in chemical and biomolecular engineering.

**Leshner, Alan I., MS, PhD**

Alan I. Leshner has been Chief Executive Officer of the American Association for the Advancement of Science and Executive Publisher of the journal Science since December 2001. AAAS (triple A-S) was founded in 1848 and is the world's largest, multi-disciplinary scientific and engineering society. Before coming to AAAS, he was Director of the National Institute on Drug Abuse (NIDA) from 1994-2001. One of the scientific institutes of the U.S. National Institutes of Health, NIDA supports over 85 percent of the world's research on the health aspects of drug abuse and addiction. Before becoming Director of NIDA, he had been the Deputy Director and Acting Director of the National Institute of Mental Health. He went to NIMH from the National Science Foundation (NSF), where he held a variety of senior positions, focusing on basic research in the biological, behavioral and social sciences, science policy and science education. He went to NSF after 10 years at Bucknell University, where he was Professor of Psychology. He has also held long-term appointments at the Postgraduate Medical School in Budapest, Hungary; at the Wisconsin Regional Primate Research Center; and as a Fulbright Scholar at the Weizmann Institute of Science in Israel. He is the author of a major textbook on the relationship between hormones and behavior, and has published over 150 papers for both the scientific and lay communities on the biology of behavior, science and technology policy, science education, and public engagement with science. Dr. Leshner received an undergraduate degree in psychology from Franklin and Marshall College, and M.S. and Ph.D. degrees in physiological psychology from Rutgers University. He also holds honorary Doctor of Science degrees from Franklin and Marshall College and the Pavlov Medical University in St. Petersburg, Russia. He is an elected fellow of AAAS, the National Academy of Public Administration, the American Academy of Arts and Sciences, and many other professional societies. He represents AAAS on the U.S. Commission for UNESCO. He is a member of the Institute of Medicine of the National Academies of Science.

**Gilbert Omenn, MD, PhD**

Gilbert Omenn is a former HESI Board Member and was involved with the HESI organization at its initiation. Dr. Omenn is a Professor of Internal Medicine, Human Genetics, and Public Health at the University of Michigan. He served as Executive Vice President for Medical Affairs and as Chief Executive Officer of the University of Michigan Health System from 1997 to 2002. He was formerly Dean of the School of Public Health, and Professor of Medicine and Environmental Health, University of Washington, Seattle. His research interests include cancer proteomics, chemoprevention of cancers, public health genetics, science-based risk analysis, and health policy. He was principal investigator of the beta-Carotene and Retinol Efficacy Trial (CARET) of
preventive agents against lung cancer and heart disease; director of the Center for Health Promotion in Older Adults; and creator of a university- wide initiative on Public Health Genetics in Ethical, Legal, and Policy
Context while at the University of Washington and Fred Hutchinson Cancer Research Center. He served as Associate Director, Office of Science and Technology Policy, and Associate Director, Office of Management and Budget, in the Executive Office of the President in the
Carter Administration. He is the President of the American Association for the Advancement of Science for 2005-2006.

Dr. Omenn is the author of 407 research papers and scientific reviews and author/editor of 17 books. He is a member of the Institute of Medicine of the National Academy of Sciences, the American Academy of Arts and Sciences, the Association of American Physicians, and the American College of Physicians. He chaired the presidential/ congressional Commission on Risk Assessment and Risk Management ('Omenn Commission'), served on the National Commission on the Environment, and chaired the NAS/NRC/IOM Committee on Science, Engineering and Public Policy. He received the John W. Gardner Legacy of Leadership Award from the White House Fellows Association in 2004. Dr. Omenn received his B.A. from Princeton, the M.D., magna cum laude, from Harvard Medical School, and a Ph.D. in genetics from the University of Washington.

**Pastoor, Timothy, PhD, DABT**

Dr. Pastoor obtained his PhD in toxicology from the University of Michigan, is certified by the American Board of Toxicology (DABT), and is a long-standing, active member of the Society of Toxicology. Dr. Pastoor has over 30 years of international experience in fundamental toxicity testing, mode of action research, and human health risk assessment. For the majority of his career, including positions with DuPont, ICI, Zeneca, Novartis, and Syngenta, Dr. Pastoor led toxicology and risk assessment experts in the conduct of safety, health, and environmental studies to assess risk to humans and the environment. In his current role as Principal Scientist for Syngenta, Dr. Pastoor oversees toxicological research projects and product development and is a frequent lecturer on toxicology and risk assessment subjects. Dr. Pastoor has been involved in numerous ILSI-HESI projects. He helped organize the first peroxisome proliferation workshop, was a co-author of the Human Relevancy Framework, and co-chair of the Agricultural Chemical Safety Assessment committee. He is currently co-chairing the RISK21 project and is HESI's vice-president.

**Philbert, Martin, PhD**

Dr. Martin Philbert became dean of the University of Michigan School of Public Health on January 1, 2011, having previously served as senior associate dean for research at the school since 2004. He arrived at UM in 1995 from Rutgers' Neurotoxicology Laboratories, where he was a research assistant professor. He has maintained a continuously federally funded portfolio of basic research activities throughout his career. Most recently his work has been funded by the National Institutes of Health, the Department of Air Force and the National Cancer Institute. At the national level, he is recognized for his expertise in neurotoxicology and experimental neuropathology. Dr. Philbert earned his PhD in Neurochemistry/Experimental Neuropathology in 1987 from London University (England). He is the author of numerous research publications in top peer-reviewed journals, and one book. In 2012, Dr. Philbert was elected to membership in the Institute of Medicine of the National Academy of Sciences and in 2013 he became a Fellow of the Royal Society of Chemistry.

**Price, PhD, Nathan D.**

Nathan Price is Associate Director at the Institute for Systems Biology. He is also an Affiliate Associate Professor in the Departments of Bioengineering and Computer Science & Engineering at the University of Washington, where he advises graduate students as a member of the Graduate College. Prior to moving to ISB, he was an Assistant Professor at the University of Illinois at Urbana-Champaign from 2007-2011, where he continues to hold adjunct appointments in the Department of Chemical and Biomolecular Engineering and the Institute for Genomic Biology. In December 2006, Dr. Price was named one of the inaugural "Tomorrow's Pis" as a "rising young investigator" in systems biology by Genome Technology, and in 2008 was the recipient of the Howard Temin Pathway to Independence Award in Cancer Research from the National Institutes of Health. In 2009, he received the NSF CAREER Award to use system biology approaches to guide genome-scale synthetic biology efforts. In 2010, he received the Young Investigator Award from the Roy J. Carver Charitable Trust for his work to build genomescale biomolecular network models of human glioblastoma (brain cancer). In 2011, he was one of 13 chemical scientists in the country to be named a Camille-Dreyfus Teacher-Scholar by the Dreyfus Foundation. Dr. Price served on the steering committee of the Illinois-Mayo Clinic Alliance for Personalized Medicine from 2010-2011, and currently serves on the National Academies-Institute of Medicine committee to review omics based tests to predict clinical outcome in clinical trials. Dr. Price serves on the scientific advisory board of TetraVitae Bioscience, as well as on the Board of Directors and Scientific Advisory Board of the P4 Medicine Institute. He is also an associate editor of BMC Systems Biology and Biotechnology Journal, as well as a Deputy Editor-in-Chief of PLoS Computational Biology.

**Roberts, Ruth A, PhD, FBTS, ATS, ERT, FRCPath**

Dr. Ruth Roberts is Senior Director of Toxicology at AstraZeneca and visiting Professor at the University of Birmingham, UK. She gained her PhD in Medical Oncology in 1987 before conducting post-doctoral research with the Imperial Cancer Research Fund in London. From 1990 to 2002, she led a research team at Zeneca (now Syngenta) Central Toxicology Laboratory focused on PPARą, apoptosis and the molecular basis of species differences in the response to drugs and chemicals. Her contribution to the fields of cancer biology, carcinogenesis and toxicology was recognised in 2002 when she received the Society of Toxicology (SOT) Achievement Award. In 2002, Ruth moved to France to become Director of Toxicology and Head of Early Safety for Aventis Pharma in Paris where she oversaw many regulatory and investigative toxicology projects. In 2004, Ruth took up a position as Director of Toxicology for AstraZeneca at Alderley Park, UK where she is responsible for pre-clinical toxicology input across the drug discovery and development portfolio. She is a member of the UK Department of Health Committee on Carcinogenesis (COC), past-president of the Carcinogenesis specialty section of SOT and is a member of the executive committees of both the British Toxicology Society and EUROTOX where she also sits on the scientific subcommittee. Dr. Roberts is Vice Chair of the ILSI Health and Environmental Sciences Institute (HESI) Emerging Issues Committee. She has authored over 100 peer-reviewed papers, given over 40 invited lectures/presentations at international conferences, organized many symposia and edited a book entitled Apoptosis in Toxicology.

**Rowlands, J. Craig, PhD, DABT**

Craig Rowlands is a Senior Scientist at The Dow Chemical Company's Toxicology and Environmental Research and Consulting Organization (TERC). He advises Dow businesses on their toxicology and risk assessment needs with a goal towards sustainable chemistry. Dr. Rowlands has a leadership role in the TERC Science and Research activities, directing the TERC Strategic Research Program that focuses on refinement and development of current and future toxicology testing and risk assessment capabilities, and directs his own research program on environmental pollutants and applied research in chemical risk assessment. Dr. Rowlands is an adjunct professor at Michigan State University, Center for Integrative Toxicology, and holds leadership positions in the Society of Toxicology, the American Chemistry Council, and the ILSI Health and Environmental Sciences Institute. Dr. Rowlands completed his PhD in Toxicology at Texas A&M University and performed postdoctoral research in molecular endocrinology at the Karolinska Institute in Stockholm, Sweden. Prior to coming to Dow, Dr. Rowlands worked at the US FDA. Dr. Rowlands is a Diplomate of the American Board of Toxicology (DABT) and a Fellow of the American College of Nutrition (FACN).

**Schoeny, Rita, PhD**

Rita Schoeny is Senior Science Advisor for the US Environmental Protection Agency's Office of Science Policy, Office of Research and Development. She received her BS in biology at the University of Dayton and a PhD in microbiology from the School of Medicine of the University of Cincinnati. After completing a postdoctoral fellowship at the Kettering Laboratory, Department of Environmental Health, she was appointed Assistant Professor in that department of the University of Cincinnati Medical School. Dr. Schoeny has held several adjunct appointments and regularly lectures at colleges and universities on risk assessment. She has given lectures and courses on risk assessment in many areas of the world. Dr. Schoeny joined the US EPA in 1986 where she has held positions including these: Senior Science Advisor, Office of Water; Associate Director of the Health and Ecological Criteria Division of the Office of Science and Technology, Office of Water; and Associate Director for Science NCEA-Cincinnati, Office of Research and Development. Dr. Schoeny was part of the development team that originally launched IRIS. She has been responsible for major assessments and programs in support of several of EPA's legislative mandates including the Safe Drinking Water Act, Clean Air Act, and Food Quality Protection Act. Some examples from water include scientific support for rules on disinfectant by-products, arsenic, microbial contaminants and the first set of regulatory determinations from the Contaminant Candidate List. Dr. Schoeny has published in the areas of metabolism and mutagenicity of PCBs and polycyclic aromatic hydrocarbons; assessment of complex environmental mixtures; health and ecological effects of mercury; drinking water contaminants; and principles and practice of human health risk assessment. She was a lead and coauthor of the Mercury Study Report to Congress and was a principal scientist and manager for Ambient Water Quality Criterion for Methylmercury. She has been the chair of an EPA working group on use of genetic toxicity data in determining mode of action for carcinogens. She participates in many EPA scientific councils as well as national and international scientific advisory and review groups. Recent involvement includes panels on frameworks for human health risk assessment, interpretation of DNA adduct data for risk assessment, evaluation of episodic and less-than-lifetime exposure to carcinogens, new approaches to dose response assessment, and the steering committee for the International Workshop on Genetic Toxicology. She was recently the coordinator of the EPA document on nonmonotonic dose responses in chemicals affecting the estrogen, androgen and thyroid pathways. Dr. Schoeny is the recipient of awards including several US EPA Gold, Silver and Bronze Medals; EPA's Science Achievement Award for Health Sciences; STAA award for publication; the Greater Cincinnati Area Federal Employee of the Year Award; the University of Cincinnati Distinguished Alumnae Award; Staff Choice Award for Management Excellence; and the FDA Teamwork Award for publication of national advice on mercury-contaminated fish.

**Yi, Kun Don (Sue), PhD**

Dr. Sue Yi is a senior toxicologist for Syngenta Crop Protection, LLC, in the department of toxicology and health sciences. She received her BS in chemistry and biology at Texas Christian University and her MS in cardiovascular physiology and PhD in pharmacology and neuroscience at the University of North Texas Health Science Center. Prior to joining Syngenta, Dr. Yi was a research assistant professor at the University of North Texas Health Science Center with a focus on understanding the mechanisms of estrogen- mediated neuroprotection as well as examining race and gender disparities in health outcomes. She continues to hold an adjunct professorship at the university. Since joining Syngenta, Dr. Yi has been responsible for mode of action research for new and existing products, specifically focusing on endocrine and neuroendocrine research. She is the lead Syngenta toxicologist for endocrine-related issues and serves on the advisory board of the Endocrine Policy Forum. She also focuses on developing industry-academic partnerships, including organizing the scientific session on endocrine disruptors at the International Workshop in Neuroendocrinology (Brazil 2013).

**Zaleski, Rosemary, PhD**

Dr. Rosemary Zaleski is Head of the Exposure Sciences Section in the Occupational and Public Health Division of ExxonMobil Biomedical Sciences, Inc. She previously served as Epidemiology Section Head within the same division. She has a PhD in Environmental Sciences from Rutgers University, with over 20 years of experience including environmental fate and effects assessment and exposure modeling. She served as chair of the ILSI Health and Environmental Sciences Institute (HESI) Risk Assessment Methodology Task Group on Chemical Mixtures Assessment. She has contributed to developing exposure approaches for the EU Registration, Evaluation and Authorization of Chemicals (REACH) regulation. Dr. Zaleski completed a term as Councilor of the International Society of Exposure Science (ISES) and is a founding member and past Councilor of the ISES Tri-State Chapter. She served on the Steering Committee of the ExpoFacts project that developed a public database of European exposure factors data, and also on the peer review panels of EPA's Exposure Factors Handbook and EPA's Child Specific Exposure Factors Handbook. Her publications include the areas of child specific exposure assessment, exposure factors, co-exposures and multimedia modeling. She is currently participating on the exposure subteam of the HESI RISK21 project to advance exposure science, and also serves on the exposure sciences review committee of the American Chemistry Council Long Range Research Initiative.

**Zenick, Harold, PhD**

Dr. Harold Zenick is Director, National Health and Environmental Effects Research Laboratory (NHEERL) in the Office of Research and Development in the US Environmental Protection Agency (EPA). Dr. Zenick earned a PhD in Physiological Psychology from the University of Missouri in Columbia, MO. He also completed a Post-Doctoral Fellowship in Toxicology at the University of Cincinnati. Before coming to EPA, Dr. Zenick spent 13 years in academia with the Department of Environmental Health in the University of Cincinnati Medical School, preceded by an appointment at New Mexico Highlands University. Dr. Zenick serves on the Executive Board to the National Toxicology Program and as EPA's liaison to NCER-ATSDR's Board of Scientific Councilors. He chaired two cross-EPA workgroups (Futures of Toxicity Testing, and Biomonitoring). He also served as the US Co-Chair of the Environmental Health Workgroup under the binational US-Mexico Border 2012 Program. He has received numerous awards including being a two-time recipient of the prestigious Presidential Meritorious Executive Rank Award and the ORD Statesmanship and Diversity awards. Dr. Zenick has participated on a number of prominent National and Federal work groups and currently serves as co-chair of federal Pharmaceuticals in the Environment Work Group within the Toxics and Risk Subcommittee under the auspices of the Office of Science, Technology and Policy. Within the Society of Toxicology, he has served as the President of three specialty sections, the most recent being the Occupational and Public Health Specialty Section. Dr. Zenick currently serves as the Chair of the ILSI Health and Environmental Sciences Institute (HESI) Emerging Issues Committee. He has over 100 publications. Dr. Zenick's current interests are in integrating human health and ecological risk assessment, strengthening the linkages between environmental and public health agendas and agencies, and the application of emerging computational, informational and molecule sciences in improving toxicity testing and risk assessment practices.