

**Invitation for Comment on the “Short List” Candidates for the  
EPA Science Advisory Board Dioxin Review Panel**

December 23, 2008 (Updated 1/23/09)

The United States Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a *Federal Register* Notice (Volume 73, Number 200, Pages 61114 – 61115) that it was forming a panel to provide advice on EPA’s reassessment of the health risks from dioxin and related compounds. To form the panel, the SAB Staff Office sought public nominations of recognized experts with specific experience and knowledge in one or more of the following areas: a) epidemiology; b) toxicology (with expertise in cancer, reproductive toxicology, developmental toxicology, immunotoxicology, dosimetry, toxicokinetics, mechanisms of action, or mixtures); c) endocrinology; d) lipid metabolism; e) cardiovascular mechanisms of pathology; f) risk assessment (with expertise in statistics, quantitative uncertainty analysis, or dose-response modeling); and g) exposure assessment (with expertise in bioavailability, weathering, or effects of partitioning in environmental media). Background information on the project and details on the nomination process appeared in the cited notice. The notice is available on the SAB Website at [www.epa.gov/sab/](http://www.epa.gov/sab/).

Based on qualifications and interest of the nominees, the SAB Staff Office identified a list of candidates for the Panel. Brief biographical sketches of these candidates are listed below for comment. We hereby invite comments from members of the public to provide relevant information or other documentation that the SAB Staff Office should consider in determining who should serve on the Committee.

The SAB Staff Office will review all information provided by candidates, any information that the public may provide in response to the posting of information about the candidates on the SAB website, and information gathered by the SAB Staff independently on the background of the candidates. The SAB Staff Office Director makes the final decision about who will serve on the Committee based on all relevant information. For the EPA SAB Staff Office, a balanced committee or panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating a candidate include: a) scientific and/or technical expertise, knowledge, and experience; b) availability and willingness to serve; c) absence of financial conflicts of interest; d) absence of appearance of a lack of impartiality; e) skills working in committees, subcommittees, and advisory panels; and, for the panel as a whole, f) diversity of, and balance among, scientific expertise, viewpoints, etc.

Please provide any comments you may have with respect to the candidates, no later than February 9, 2009. Please make your comments to the attention of Dr. Thomas Armitage, Designated Federal Officer. Emailing comments ([armitage.thomas@epa.gov](mailto:armitage.thomas@epa.gov)) is the preferred mode of receipt.

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## Candidates for the Dioxin Review Panel

### Andersen, Melvin

#### Hamner Institutes for Health Sciences

Dr. Melvin Andersen is Director of Computational Biology Division at The Hamner Institutes for Health Sciences in Research Triangle Park, NC. He has previously held positions in toxicology research and research management in the federal government (Department of Defense and U.S. EPA), served as Vice-President, ICF Kaiser Consulting, and as a Professor of Environmental Health, Colorado State University. He has developed biologically realistic models of the uptake, distribution, metabolism, and biological effects of drugs and toxic chemicals and has applied these physiologically based pharmacokinetic and pharmacodynamic models to safety assessments and quantitative health risk assessments. His current research develops mathematical descriptions of genetic circuitry in the developing and adult organism and evaluates the dose response and risk assessment implications of perturbations of these control processes. His research team is also investigating the applications of genomic studies to understand modes of actions. Over the past 20 years, Dr. Andersen and colleagues have developed short courses in pharmacokinetic modeling, risk assessment and biomonitoring and presented these courses at U.S. and international venues. Dr. Andersen is board certified in industrial hygiene and in toxicology, and a fellow of the Academy of Toxicological Sciences. He has served on numerous National Research Council committees including the Committee on Toxicology, Committee on Toxicological Effects of Mercury, Committee on Risk Assessment Methodology, and the Subcommittee on Pharmacokinetics. He most recently served on the Committee on Toxicity Testing and Assessment of Environmental Agents and was an author of the report: *Toxicity Testing in the 21st Century: A Strategy and A Vision*, and was a member of the U.S. EPA Science Advisory Board Comparative Toxicology Framework Consultative Panel. He earned a B.S. degree from Brown University (Chemistry) and a Ph.D. (biochemistry and molecular biology) from Cornell. Dr. Andersen is an author or co-author of over 300 papers, 45 book chapters, and numerous reports and abstracts. He has received several awards for professional contributions. These awards include the Herbert Stokinger Award (American Conference of Industrial Hygienists, 1988), the Kenneth Morgareidge Award (International Life Sciences Institute, 1989), the George Scott Award (Toxicology Forum, 1993), and the Frank R. Blood (1982), Achievement (1984), and Arnold J. Lehman (2004) Awards from the Society of Toxicology. In June 2002, Dr. Andersen was recognized as a 'highly cited' scientist by the Institute for Scientific Information.

### Anderson, Henry A.

#### Wisconsin Division of Public Health

Dr. Henry A. Anderson holds positions as the State Health Official, State Environmental and Occupational Disease Epidemiologist, and Chief Medical Officer in the Wisconsin Division of Public Health, Department of Health Services, and adjunct professorships at the University of Wisconsin-Madison, Department of Population Health Sciences, and the University of Wisconsin Institute for Environmental Studies, Center for Human Studies. His expertise includes public health; preventive, environmental, and occupational medicine; respiratory diseases; epidemiology; human health risk assessment; and risk communication. Active research interests include: environmental health indicators and disease surveillance, childhood asthma, lead poisoning, reproductive and endocrine health hazards of sport fish consumption, arsenic in drinking water, chemical and nuclear terrorism, occupational and environmental respiratory disease, occupational fatalities, and occupational injuries to youth. Dr. Anderson currently serves on the U.S. EPA Children's Health Protection Advisory Committee and as their liaison to the U.S. EPA Science Advisory Board. He also serves on the U.S. EPA National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances. He was chair of the Environmental Health Committee of the U.S. EPA Science Advisory Board, served on the U.S. EPA Science Advisory Board Executive Committee and is past Chair of the Board of Scientific Counselors for the National Institute of Occupational Safety and Health. He has served on four National Academy of Sciences Committees including Toxicity Testing for Assessment of Environmental Agents. He was a founding member of the Agency for Toxic Substances and Disease Registry Board of Scientific Counselors (1988-1992). He served on the Presidential Advisory Board on Radiation Worker Compensation, the Armed Forces Epidemiology Board, the Hanford Human Health Effects Subcommittee, and the Centers for Disease Control and Prevention (CDC)/National Center for Environmental Health Director's Advisory Committee. He is a fellow of the Collegium Ramazzini and the American Association for the Advancement of Science. He is associate editor of the *American Journal of Industrial Medicine* and serves on the editorial board of *Cancer Prevention International*. Dr. Anderson received his M.D. degree in 1972 from the University of Wisconsin-Madison. He was certified in 1977 by the American Board of Preventive Medicine with a sub-specialty in occupational and environmental medicine and in 1983 became a fellow of the American College of Epidemiology.

## **Bell, David R.**

### **University of Nottingham**

Dr. David R. Bell is a Reader in Molecular Toxicology at the School of Biology, in the University of Nottingham, UK. He holds a B.Sc. (Honors) in Biochemistry with Toxicology from the University of Surrey, and a Ph.D. on cytochrome P450 from the University of London. Dr. Bell's research addresses the mechanisms and relevance of receptor-mediated toxicity, with special interest in peroxisome proliferators and dioxin-like toxicity. In addition to maintaining an active research group, Dr. Bell serves as an independent expert for the Food Standard Agency's Committee of Toxicity of Chemicals in Food, Consumer Products and the Environment, and the European Food Safety Authority's Contact Materials, Enzymes and Flavourings panel. Dr. Bell is a member of the British Toxicology Society and the Biochemical Society. Dr. Bell has published over fifty peer-reviewed articles in Molecular Toxicology, several of which focused on dioxin toxicology. Dr. Bell gave plenary lectures at the NERC POP conference in February 2006 on "Dioxin toxicology" in Birmingham UK, the Toxicological Hazard and Risk assessment conference in October 2006 in Dundee UK, and on "The AhR and developmental dioxin toxicology" at the 7th Xenobiotic Metabolism and Toxicity Workshop of Balkan Countries, Novi Sad, Serbia, in June 2008 "Risk assessment of dietary dioxins".

## **Boyd, Stephen**

### **Michigan State University**

Dr. Stephen Boyd received his B.S. in Chemistry from Central Michigan University in 1975 and his Ph.D. in soil chemistry from Purdue University in 1980. He is currently a University Distinguished Professor at Michigan State University, and has been designated a Highly Cited Researcher by the Institute for Scientific Information (ISI) in the ecology/environmental science area. His research interests lie in environmental chemistry and microbiology, particularly the fate and transport of organics, metals, and pesticides in soil and the remediation of contaminated soil and sediments. Ongoing research programs include sequestration of persistent organic contaminants such as dioxins by clays, bioavailability of sorbed molecules to contaminant degrading bacteria, biodegradation of xenobiotics, dioxin formation on the surfaces of clays, occurrence, oral bioavailability, and human health implications of historic pesticide contamination of soils. In addition, Dr. Boyd has served as an advisor to the Department of Justice/ U.S. EPA (1990-1991, 1993-1994), Department of Justice (2003-2004), and National Institute of Environmental Health Sciences (2007-2008).

## **Brent, Robert**

### **duPont Hospital for Children**

Dr. Robert Brent is the Distinguished Louis and Bess Stein Professor of Pediatrics, Radiology, and Pathology and head of the Environmental and Clinical Teratology Laboratory at duPont Hospital for Children. He is also emeritus chairman of Pediatrics and Professor of Radiology, Pathology and Anatomy at The Jefferson Medical College of Thomas Jefferson University in Philadelphia. He holds an A.B. from University of Rochester, an M.D. from University of Rochester Medical School, and a Ph.D. from University of Rochester, specializing in Radiation Biology and Embryology. Dr. Brent has authored 434 publications and 300 abstracts, including six books and four movies. Dr. Brent has a worldwide reputation as a leader in radiation biology, developmental biology, teratology, genetics and cancer risks. During his career he has personally counseled over 20,000 individuals who are concerned about the risks of radiation exposure, cancer, birth defects, miscarriage and other reproductive and developmental problems. In addition to all of these scholarly activities, he received continuous National Institutes of Health (NIH) and U.S. Department of energy (DOE) funding for his research activities, directed a research institute at Stein Research Center of Jefferson Medical College, Thomas Jefferson University (Philadelphia) and was chairman of the Pediatric Department for 30 years, one of the longest chairmanships in American pediatric history.

## **Buckley, Timothy J.**

### **The Ohio State University**

Dr. Timothy J. Buckley is an associate professor and Chair of the Division of Environmental Health Sciences at The Ohio State University (OSU) College of Public Health. Dr. Buckley received his Ph.D. in Environmental Science from Rutgers University (1991), a Masters of Health Science in Industrial Hygiene from the Johns Hopkins Bloomberg School of Public Health (1986), and B.S. in Chemistry from St. John's University (Collegeville, MN; 1981). Dr. Buckley is a certified industrial hygienist and has been elected to leadership positions among his professional associations including chair of the American Industrial Hygiene Association's Biological Monitoring Committee and Academic Counselor of the International Society of Exposure Analysis. Dr. Buckley has also been an active member of the American Conference of Governmental Industrial Hygienists (ACGIH) since 1986. Dr. Buckley's research expertise is in human exposure assessment as applied in risk assessment and epidemiology. This expertise is formed from 21 years of experience spanning his doctoral work (5 years), followed by five years as a research scientist with U.S. EPA's National Exposure Research Lab, and another twelve years in academia. Prior to his move to OSU, Dr. Buckley was on the faculty at the Johns Hopkins Bloomberg School of Public Health for nine years. Throughout his research career, Dr. Buckley has focused on methods, measurements, and models for assessing human exposure to contaminants in the community and work environments as a basis for assessing the public health threat and developing strategies for prevention. Dr. Buckley's current research is focused on the impact of air pollution on susceptible populations including urban economically disadvantaged communities, inner-city asthmatic children, nursing mothers and their infants, and communities in close proximity to heavily trafficked urban arterials. He has published over fifty peer-reviewed research articles on these and other topics. Dr. Buckley served on the U.S. EPA's Science Advisory Board's (SAB) Exposure and Human Health Committee from 2001 to 2007, he has been an ad hoc member of the U.S. EPA Board of Scientific Counselors (BOSC), he is a member of the Centers for Disease Control and Prevention's (CDC) National Center for Injury Prevention and Control Initial Review Group, and he is an associate editor for *Environmental Health Perspectives*. While at Johns Hopkins he served on the Faculty Advisory Board for the Center for a Livable Future. During his tenure with the U.S. EPA, Dr. Buckley received awards for his role and efforts in the National Human Exposure Assessment Survey (NHEXAS) and the Lower Rio Grande Environmental Exposure Study. His published research was recognized in 1996 with a U.S. EPA Scientific and Technology Achievement Award and again in 1999 by the Walter G. Berl Award given by the Johns Hopkins Applied Physics Laboratory.

## **Carroll, William F.**

### **Occidental Chemical Corporation**

Dr. William F. Carroll, Jr. is currently Vice President, Chlorovinyl Issues for Occidental Chemical Corporation. He is also Adjunct Professor of Chemistry at Indiana University, Bloomington, Indiana. Dr. Carroll holds a B.A. in Chemistry and Physics from DePauw University, Greencastle, Indiana, an M.S. from Tulane University in New Orleans, and a Ph.D. in Organic Chemistry from Indiana University, Bloomington, Indiana. Dr. Carroll's area of expertise is combustion and generation of persistent organic pollutants. He has served on advisory panels for the United Nations Environment Programme (Scientific Workshop on Persistent Organic Pollutants, 1999; and Best Available Techniques/Best Environmental Practices, 2003-2007). He served on the State of California Green Chemistry Science Advisory Panel, 2007-2008. Dr. Carroll is a Past President and 35 year member of the American Chemical Society and a member of its Board, 2004-2006 and 2009-2011. He is a Fellow of the Royal Society of Chemistry, and Chair-Elect of the Council of Scientific Society Presidents.

## **Clapp, Richard**

### **Boston University**

Dr. Richard Clapp is Professor in the Department of Environmental Health at the Boston University School of Public Health and Adjunct Professor in the Department of Work Environment at the University of Massachusetts – Lowell. He holds a B.A. from Dartmouth College (1967) where he concentrated in biology, an MPH from the Harvard School of Public Health (1974), and a D.Sc. from the Department of Epidemiology and Biostatistics at the Boston University School of Public Health (1989). Dr. Clapp received the Research Integrity Award from the International Society for Environmental Epidemiology in 2008 in recognition of his work on cancer in Vietnam veterans, around nuclear facilities and among workers at the IBM company. He has done research on environmental and occupational causes of cancer in the U.S. and South Africa. He previously served as a consultant to the U.S. EPA Science Advisory Board Subcommittee on the Dioxin Reassessment in 1994 and 2000. Dr. Clapp is an Associate Editor of *Environmental Health Perspectives* and an active member of several professional organizations.

## Clewell, Harvey

### Hamner Institutes for Health Sciences

Dr. Harvey Clewell is the Director of the Center for Human Health Assessment at the Hamner Institutes for Health Sciences. Dr. Clewell is a professional research manager with over thirty-five years of experience in environmental quality research, toxicology research, chemical risk assessment, and hazardous materials management. He is a leading expert on the use of tissue dosimetry and mode-of-action information in chemical safety and risk assessment. He has gained an international reputation for his work in the applications of physiologically based pharmacokinetic (PBPK) modeling. He has played a major role in the first uses of PBPK modeling in cancer and non-cancer risk assessments by U.S. EPA, the Agency for Toxic Substances and Disease Registry (ATSDR), the Occupational Safety and Health Administration (OSHA), and U.S. Food and Drug Administration (FDA), for such chemicals as methylene chloride, trichloroethylene, vinyl chloride, and retinoic acid. Dr. Clewell has authored numerous scientific publications, has provided testimony both in civil tort cases and congressional hearings, and frequently provides invited lectures and computer workshops in the areas of pharmacokinetics and risk assessment. He has also served on a number of external peer review panels for U.S. EPA, ATSDR, and Health Canada. Dr. Clewell served for 20 years as an officer in the U.S. Air Force Biomedical Science Corps; his duties included Deputy Director of the Air Force Toxic Hazards Research Unit, Director of Hazardous Materials Safety for the Air Force Aeronautical Systems Center, and consultant to the Air Force Surgeon General on Chemical Risk Assessment. He received a Masters Degree in Chemistry from Washington University, St. Louis, Missouri, and a Ph.D. in Toxicology from the University of Utrecht, the Netherlands. His current research interests include the application of physiologically based pharmacokinetic (PBPK) modeling to the interpretation of human biomonitoring data, the incorporation of genomic dose-response information in quantitative risk assessment, and the application of systems biology methods to understand drug toxicity. Dr. Clewell has previously served on the U.S. EPA's Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panel for CCA Treated Wood Structures and as a peer reviewer for a number of U.S. EPA guidelines, including cancer risk assessment, risk characterization, benchmark dose modeling, and dermal absorption. In his position at the Hamner Institutes for Health Sciences he has performed research for a number of clients, including the American Chemistry Council Long Range Research Initiative (Risk Assessment for Dibutylphthalate; Development of Approaches for Applying PBPK Modeling to the Interpretation of Human Biomonitoring Data), U.S. EPA (Development of PBPK Models for the Interpretation of Biomonitoring Data on N-Methyl Carbamates; Application of PBPK Models for the Interpretation of Biomonitoring Data on Perfluorinated Compounds), the Electric Power Research Institute (EPRI) (Genomic Dose-Response of the Urinary Bladder to Inorganic Arsenic Exposure), the Formaldehyde Council, Inc. (Sensitivity Analysis of a Clonal Growth Model of Formaldehyde Carcinogenicity), the American Forest and Paper Association (PBPK Modeling of Acetaldehyde and Arolein), Bayer CropScience (Development of a PBPK Model for Carbaryl), and 3M (Development of a PBPK Model for PFOA). In his previous position as a principal at ENVIRON International, he performed research for a variety of clients, including the U.S. EPA, Health Canada, International Life Sciences Institute (ILSI), EPRI, American Chemistry Council (ACC), Kodak (methylene chloride), and DuPont (PFOA).

## Cooke, Roger

### Delft University of Technology

Dr. Roger Cooke is Professor of Applied decision theory at the Department of mathematics, Delft University of Technology, and is Chauncey Starr senior fellow for Risk Analysis at Resources for the Future. His work focuses on methodological issues of risk analysis, uncertainty analysis and expert judgment. He has also worked in competing risk, design of reliability data bases, and stochastic processes. He is a member of the European Safety and Reliability Association, and has served on the executive board, serves in the editorial board of Reliability Engineering and System Safety, and on many technical committees of Mathematical Methods for Reliability, Probabilistic Safety and Accident Management, he served as chairman of the Technical Committee on Uncertainty Modeling of the European Safety and Reliability Association, and is a fellow of the society for risk analysis. He founded a masters program, Risk and Environmental Modeling, at the Delft University of Technology where he retains a 30% appointment (<http://dutiosc.twi.tudelft.nl/~risk/>). Dr. Cooke has published four books, (*Belief in science* (in Dutch), 1983, *Experts in Uncertainty*, 1991, and *Probabilistic Risk Analysis, Foundations and Methods* 2001 (with T. Bedford), *Uncertainty Analysis with High Dimensional Dependence Modeling* 2006 (with D. Kurowicka)), edited two books, published 93 articles in international refereed journals, and 116 papers in refereed international conference proceedings and books. The book *Probabilistic Risk Analysis* has been translated into Japanese. Dr. Cooke has been principal investigator on many contract research projects for the Dutch government, the Japanese government, the European Union, the U.S. Nuclear Regulatory Authority, the Swedish Nuclear Inspectorate, the German VGB centralized Databank, the Harvard Center for Risk Analysis, the Dutch Ministry of Transport as well as many companies and laboratories. He played a central role in expert elicitation, dependence modeling and uncertainty propagation in the integrated uncertainty analysis of accident consequence models for nuclear power plants, undertaken jointly by the U.S. Nuclear Regulatory Commission and the European Union. In 2005 Dr. Cooke won the Risk Management Oeuvre Award from the Dutch Association for Reliability. In 2006 he served on panels of the National Academy of Science and on the National Aeronautics and Space Administration's (NASA) Safety Study Team. In 2006-8 he led a mathematical support team on causal modeling for civil aviation and supervised the development of non-parametric continuous-discrete Bayesian Belief Net software. In 2008 he was contracted by the National Institute for Aerospace to use this modeling tool in analyzing the risk of new Merging and Spacing protocols, and was elected fellow of the Society for Risk Analysis.

## Costner, Pat

### International POPs Elimination Network

Ms. Pat Costner serves as Science Advisor to the International Persistent Organic Pollutants (POPs) Elimination Network (IPEN). She holds a B.S. in chemistry and mathematics and an M.S. in organic chemistry with further graduate work in physical organic chemistry. Her areas of expertise include sources of unintentionally produced POPs, particularly dioxins, as well as disposal technologies such as incineration. Ms. Costner was a member of the group assembled by the Intergovernmental Forum on Chemical Safety to develop draft language for a global, legally binding treaty on POPs, the working document for the negotiation of the Stockholm Convention on POPs. She has recently conducted a detailed review, with recommended revisions, of the United Nations Environmental Program's (UNEP) Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases, Edition 2.1. Topics of particular interest in the review are source identification strategies, sources recently identified in the scientific literature and government reports, and emission factors, especially those of open burning processes such as forest fires and open burning of domestic waste. This review and submissions by other members of the Expert Group will be addressed at the upcoming Expert Meeting to Further Develop the Standardized Toolkit for Identification and Quantification of Dioxin and Furan Releases. Ms. Costner has been a member of this Expert Group since its inception in 2002. She was also a member of the Expert Group on Best Available Techniques/Best Environmental Practices. This group prepared "Draft guidelines on best available techniques and provisional guidance on best environmental practices relevant to Article 5 and Annex C." These portions of the Stockholm Convention address unintentionally produced POPs, including dioxins and related compounds.

## Cox, Louis Anthony (Tony), Jr.

### Cox Associates

Dr. Tony Cox is President of Cox Associates, a Denver-based applied research company specializing in quantitative health risk assessment, causal modeling, probabilistic and statistical risk analysis, data mining, and operations research. Since 1986, Cox Associates' mathematicians and scientists have developed and applied computer simulation and biomathematical models, statistical and epidemiological risk analyses, causal data mining techniques, and operations research and artificial intelligence risk and decision models to measurably improve health, business, and engineering risk analysis and decision-making for public and private sector clients. Dr. Cox holds a Ph.D. in Risk Analysis (1986) and an S.M. in Operations Research (1985), both from M.I.T.'s Department of Electrical Engineering and Computer Science. He has an A.B. from Harvard University (1978) and is a graduate of the Stanford Executive Program (1993). He is Honorary Full Professor of Mathematics at the University of Colorado at Denver, where he has lectured on biomathematics, health risk modeling, computational statistics, and causality. Dr. Cox is on the Faculties of the Center for Computational Mathematics and the Center for Computational Biology at the University of Colorado at Denver and is Clinical Professor of Preventive Medicine and Biometrics at the University of Colorado Health Sciences Center, where he has focused on uncertainty analysis and causation in epidemiological studies. Dr. Cox is Area Editor for Mathematical Modeling for *Risk Analysis: An International Journal*, and is a co-founder and Area Editor of the *Journal of Heuristics*. He is an Edelman Laureate of INFORMS, a member of the American Statistical Association (ASA), and a Fellow of the Society for Risk Analysis (SRA). He won the Society for Risk Analysis (SRA) Best Paper Awards in both 2002 and 2003 for work applying uncertainty analysis to evaluate public health risks and benefits of animal antibiotics. In 2007, he won the Society of Toxicology's Outstanding Published Paper in Risk Assessment Award and the Society for Risk Analysis Outstanding Risk Practitioner Award. In 2008, his solution to a challenge on "Statistical Methods to Predict Clinical Response" won an InnoCentive Award. Dr. Cox has taught many graduate and professional courses in risk analysis, decision analysis, forecasting and predictive modeling, data mining, operations research and computational and Bayesian statistics. He has authored and co-authored over 150 journal articles and book chapters on these fields. His most recent books are *Risk Analysis of Complex and Uncertain Systems* (Springer, 2009); *Quantitative Health Risk Analysis Methods: Modeling the Human Health Impacts of Antibiotics Used in Food Animals* (Springer, 2006); and *Risk Analysis: Foundations, Models and Methods* (Springer, 2001). He has over a dozen U.S. patents on applications of artificial intelligence, signal processing, statistics and operations research methods in telecommunications. His current research interests include computational statistical methods for causal inference in risk analysis and data-mining.

## deFur, Peter L.

### Environmental Stewardship Concepts

Dr. Peter L. deFur is president of Environmental Stewardship Concepts (ESC), an independent private consulting firm. He is an Affiliate Associate Professor in the Center for Environmental Studies at Virginia Commonwealth University (VCU) where he conducts research on environmental health and ecological risk assessment. Dr. deFur has served on numerous state and federal advisory committees. Dr. deFur received B.S. and M.A. degrees in Biology from the College of William and Mary, in Virginia, and a Ph.D. in Biology (1980) from the University of Calgary, Alberta. He was a postdoctoral fellow in neurophysiology in the Department of Medicine at the University of Calgary, and an environmental fellow at the American Association for the Advancement of Science (AAAS) in 1989. Dr. deFur held faculty positions at George Mason University and Southeastern Louisiana University before joining the staff of the Environmental Defense Fund (EDF) in Washington, DC. In 1996, deFur formed ESC and accepted a part-time position at VCU. Dr. deFur presently serves as technical advisor to citizen organizations concerning the cleanup of contaminated sites at FUDS, CERCLA and RCRA sites around the country. His projects include the Housatonic River, MA; the Delaware River; Lower Duwamish River, WA; Rayonier site in Port Angeles, WA; Fox River, WI; Portland Harbor, OR and the Spring Valley site in Washington, DC. Many of these sites, and others on which he has worked, are contaminated with PCB's and/or dioxins. Dr. deFur has extensive experience in risk assessment and ecological risk assessment regulations, guidance and policy. He served on the National Academy of Sciences (NAS)/National Research Council (NRC) Risk Characterization Committee that prepared *Understanding Risk*. He served on a number of scientific reviews of U.S. EPA ecological and human health risk assessments, including the Framework for Cumulative Risk Assessment, the assessment for the WTI incinerator in Ohio and U.S. EPA's Ecological Risk Assessment Guidelines. Dr. deFur served on three federal advisory committees for U.S. EPA's Endocrine Disruptor Screening and Testing Program, was chair of the peer review of U.S. EPA's Dioxin Reassessment in 2000, and served on the NRC Board on Environmental Studies and Toxicology from 1996- 1999.

## DeSesso, John

### Noblis

Dr. John DeSesso is Senior Fellow at Noblis (formerly Mitretek Systems). He holds adjunct professorships at Georgetown University School of Medicine, Chicago Medical School, the Graduate School of Public Health at San Diego State University, and the University of North Texas Health Sciences Center. Dr. DeSesso holds a B.A. in Chemistry from Hamilton College, and a Ph.D. in Anatomy and Teratology from the Medical College of Virginia at Virginia Commonwealth University. Dr. DeSesso has published over 260 papers, chapters and reports and has presented at over 200 conferences and symposia on topics including teratology, toxicology, risk assessment, and human health effects of environmental agents. He directs commercially and governmentally funded public interest research efforts on the potential adverse effects of environmental agents. His projects for commercial clients include establishing that exposure to inorganic arsenic contamination by relevant exposure routes does not cause human birth defects, demonstrating that an artificial blood substitute elicits reproductive effects in rodents by a mode of action that does not exist in humans, and developing an assessment strategy for combining data from developmental neurotoxicity and cross-fostering studies in the assessment of pesticide risks. He was the chair of the U.S. EPA/International Life Sciences Institute (ILSI) Work Group on Bioavailability and of the Peer-review Panel for the U.S. EPA Office of Research and Development's Strategy of Children's Health Research Program. He was a member of the Center for Evaluation of Risks to Human Reproduction Expert Panel on Ethylene Glycol and Propylene Glycol and is a Core Member of the U.S. EPA-sponsored Voluntary Children's Chemical Exposure Panel (VCCEP). Dr. DeSesso was employed for 15 years by The MITRE Corporation, where he wrote Health Hazard Assessments for the U.S. EPA Office of Toxic Substances in support of its Pre-Manufacturing Notification Program. For U.S. EPA's Office of Pesticide Programs, Dr. DeSesso analyzed toxicity data submitted for registration of pesticides. For the U.S. EPA Office of Health and Environmental Assessment, he wrote assessment documents concerning the carcinogenicity, toxicology, and reproductive effects of existing chemical substances. For the U.S. Food and Drug Administration (FDA), Dr. DeSesso led a team that assessed the relevance to human health of direct bladder exposure studies conducted in rodents. Prior to joining MITRE in 1981, Dr. DeSesso was Assistant Professor of Anatomy and Cell Biology at the University of Cincinnati College of Medicine. He successfully trained four doctoral students and served on the research advisory committees of eight others. He is active in 14 scientific societies and was elected President of the Teratology Society (1994-95) and of the Mid Atlantic Reproduction and Teratology Association (MARTA; 2001-02). He serves as an Executive Board member of the Federation of American Societies of Experimental Biology (FASEB; 1999 – 2004; 2006 - present). He is a member of the editorial board of *Reproductive Toxicology*. Dr. DeSesso is a frequent contributor to continuing education courses that deal with toxicology and risk assessment. He has provided public commentary regarding scientific issues before Federal agencies, State legislatures and Congressional committees.

## Dourson, Michael

### Toxicology Excellence for Risk Assessment

Dr. Michael Dourson is founder and director of Toxicology Excellence for Risk Assessment (TERA), a nonprofit corporation with a mission to protect public health. TERA develops partnerships among government, industry and other interested groups to address risk assessments of high visibility, such as formaldehyde, perchlorate, and soluble nickel, and cooperative ventures such as the Voluntary Children's Chemical Exposure Program (VCCEP), the International Toxicity Estimates for Risk (ITER) database available at the National Library of Medicine's ToxNet, and the Alliance for Risk Assessment (ARA). Dr. Dourson holds a B.A. in Biology from Wittenberg University, and a Ph.D. in Toxicology from the University of Cincinnati College of Medicine. Prior to founding TERA in 1985, Dr. Dourson worked 15 years for U.S. EPA, holding several leadership roles and winning 4 bronze medals for joint efforts on specific key projects, such as the creation of U.S. EPA's Integrated Risk Information System (IRIS). In 2003, Dr. Dourson was selected for the Society of Toxicology's Arnold J. Lehman award for major contributions that improve the scientific basis of risk assessment. Two of his publications have won paper-of-the-year awards from the Society of Toxicology's Risk Assessment Specialty Section. Dr. Dourson has co-published more than 100 additional papers on risk assessment methods, on use of animal and human data in the assessment of risk, or on dose-response assessments for specific chemicals. He has also co-authored well over 100 government risk assessment documents, made over 100 invited presentations, and chaired over 100 sessions at scientific meetings and independent peer reviews. He has been elected to multiple officer positions in the American Board of Toxicology, the Society of Toxicology (SOT), and the Society for Risk Analysis. Dr. Dourson is a Diplomate of the American Board of Toxicology, and a Fellow with the Academy of Toxicological Sciences (2006). He is also a media resource specialist in risk assessment for the SOT, member on the editorial board of three journals, and vice chair of the NSF International Health Advisory Board.

## **Emond, Claude**

### **University of Montreal**

Dr. Claude Emond is a clinical adjunct professor in the Department of Environmental and Occupational Health at the University of Montreal. He received a B.Sc. in biochemistry from Université du Québec à Montréal in 1987. He received his Master's degree at the University of Montreal in Environmental Health in 1997 and his Ph.D. in Public Health (Toxicology and Human Risk Assessment option) in 2001. Dr. Emond received grants from the U.S. National Research Council, a branch of the National Academies of Sciences (U.S. NRC-NAS), to do postdoctoral studies for 2 ½ years at the U.S. EPA, North Carolina USA from 2001 to 2004. His mentors were Dr. Michael DeVito and Dr. Linda S. Birnbaum. His research and consulting interests address problems in toxicology covering different fields from persistent organics pollutants (POPS), occupational toxicology, and nanotoxicology. Much of his research activities cover the toxicokinetics/dynamic characterizing the mode of action between persistent chemicals with the biological matrices at individual or population base. Dr. Emond's research addresses toxicological human risk assessment issues. He has participated as a peer reviewer for Health Canada, on Toxicological Risk Assessment Associated with Herbicide Spraying Operations, as a consultant on several projects for U.S. Universities and for private Research Institutes. Dr. Emond actively works to understand the mode of action of dioxins and flame retardants and their impact on human health. At the beginning of this year he started an international group in Nanotoxicology called "The International Team in NanoToxicology" ([www.TITNT.com](http://www.TITNT.com)) which includes collaborators from 5 different countries. In addition, as a clinical adjunct professor, Dr. Emond lectures in toxicology at the University of Montreal and supervises students. He is part of a steering committee for a Ph.D. student at Harvard University studying the health effects of dioxins, and a Co-Director of a Ph.D. student in Montreal studying Nanoparticles. He has published several papers and has invited presentations at several international meetings on persistent organic chemicals. Dr. Emond's research contributes to the improvement of health, safety, and environmental assessment/regulation.

## **Eskenazi, Brenda**

### **University of California, Berkeley**

Dr. Brenda Eskenazi is Jennifer and Brian Maxwell Professor of Maternal and Child Health and Epidemiology at the School of Public Health at the University of California, Berkeley. Dr. Eskenazi's research focuses on the effects of environmental exposures to benzene, dioxin, other persistent endocrine disruptors, and pesticides on reproductive, perinatal, neurodevelopment, and children's health. This includes effects of passive and active exposure to cigarette smoke as well as the reproductive and developmental effects of caffeine exposure. Dr. Eskenazi is highly regarded for her groundbreaking work studying the reproductive health risks to women employed by the semiconductor industry in the wafer fabrication process. Dr. Eskenazi was involved in research of the reproductive health effects on women in the maquiladora industries in the U.S. Mexico border. Eskenazi's work on dioxin includes effects of environmental exposures to many aspects of female reproduction. Dr. Eskenazi also is assessing the reproductive health of a population of women heavily exposed to dioxin from an explosion in 1976. Specifically, she is determining whether dioxin exposure causes higher rates of endometriosis. Dr. Eskenazi is also using genetic biomarkers of human sperm to assess the effects of paternal exposure to environmental toxicants on the fetus. Dr. Eskenazi, a Fellow of the American College of Epidemiology, is widely published. In addition, her expertise has allowed her to serve in a number of capacities. Dr. Eskenazi currently serves on the Scientific Advisory Board of the Children's Health Environmental Coalition. Dr. Eskenazi was a contributor to the 1998 Surgeon General's Report on Smoking and Women's Health and for the State of California as a member of the Governor's Scientific Advisory Panel: Developmental and Reproductive Committee for Proposition 65, Toxics Initiative, and on the United States-Vietnam Committee on the Human Health and Environmental Exposures of Agent Orange and Dioxin in Vietnam. She also served on the Study Design Working Group of the National Children's Study, and served for nearly a decade on the State of California's Scientific Advisory Board for the Toxics Initiative (Proposition 65) which aimed to identify chemicals that were reproductive or developmental toxicants.

## Evans, Gregory R.

### Saint Louis University

Dr. Gregory R. Evans is Director of the Institute for Biosecurity and past Director of the Division of Environmental Health of Saint Louis University. He holds a B.A from Hofstra University, an M.P.H. from the Department of Community Health of Saint Louis University, and a Ph.D. in Health Services Research with a concentration in epidemiology from Saint Louis University. Dr. Evans was the primary investigator or project director for several dioxin research projects funded by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Missouri Department of Health. These projects included Times Beach and Quail Run dioxin sites in Missouri. Dr. Evans has published over 120 articles, papers and abstracts on various topics in the environmental and health fields.

## Faustman, Elaine M.

### University of Washington

Dr. Elaine M. Faustman is Professor in the Department of Environmental and Occupational Health Sciences and Director of the Institute for Risk Analysis and Risk Communication in the School of Public Health and Community Medicine at the University of Washington, where she has received the Outstanding Teaching Award. Dr. Faustman received her A.B. in Chemistry and Zoology from Hope College (1976) and her doctorate in Pharmacology/Toxicology from Michigan State University (1980). She took her postdoctoral training in Toxicology and Environmental Pathology in the School of Medicine at the University of Washington. She is the principal investigator of a U.S. EPA and National Institute of Environmental Health Sciences (NIEHS) funded Center for Child Environmental Health Risks Research which is evaluating key mechanisms defining children's susceptibility to pesticides. She is the principal investigator of the Pacific Northwest National Children's Study Center. She also directs the NIEHS and National Science Foundation (NSF)-funded Pacific Northwest Center for Human Health and Ocean Studies. She is an elected fellow of the American Association for the Advancement of Science and the Society of Risk Analysis. She has served as chair for the National Academy of Sciences Committee on Developmental Toxicology and as a member for the NIEHS-National Toxicology Program (NTP) Committee on Alternative Toxicology Methods, the NIEHS-NTP Board of Scientific Counselors, National Academy of Sciences Committee in Toxicology and the Institute of Medicine Upper Reference Levels Subcommittee of the Food and Nutrition Board. She also served on the executive boards of the Society of Toxicology, the Teratology Society, the Society for Risk Analysis, and NIEHS Council. She has served as Associate Editor of *Fundamental and Applied Toxicology* and on the editorial boards of *Birth Defects Research Journal*, *Reproductive Toxicology* and *Toxicology Methods*. Her research includes quantitative risk assessment for non-cancer endpoints, molecular mechanisms of developmental and reproductive toxicity, and *in vitro* and molecular biological methodologies. Dr. Faustman's research expertise also includes development of decision-analytic tools for communicating and translating new scientific findings into risk assessment and risk management decisions.

## Ferson, Scott

### Applied Biomathematics

Dr. Scott Ferson is a senior scientist at Applied Biomathematics ([www.ramas.com](http://www.ramas.com)). His research focuses on developing reliable mathematical and statistical tools for risk assessments and on methods for uncertainty analysis when empirical information is very sparse. He holds a Ph.D. in Ecology and Evolution from the State University of New York at Stony Brook and an A.B. in biology from Wabash College. He is author of *RAMAS Risk Calc Software 4.0: Risk Assessment with Uncertain Numbers* (Lewis Publishers) and has over 100 other scholarly publications, including four books and several software packages, in environmental risk analysis and uncertainty propagation. His research has addressed quality assurance for Monte Carlo assessments, exact methods for detecting clusters in small data sets, back calculation methods for use in remediation planning, and distribution-free methods of risk analysis appropriate for use in information-poor situations. Ferson is an adjunct professor at School of Marine and Atmospheric Sciences at Stony Brook University, and serves on the editorial board of *Human and Ecological Risk Assessment*. He is a member of the Society of Risk Analysis and the Society for Environmental Toxicology and Chemistry (SETAC).

## Fisher, Jeffrey

### University of Georgia

Dr. Jeffrey Fisher is a Professor in the Department of Environmental Health Science, College of Public Health at the University of Georgia (UGA). He joined the University of Georgia in 2000 and served as Department Head of the Department of Environmental Health Sciences from 2000 to 2006. He now serves as Director of the Interdisciplinary Toxicology Program at UGA. Dr. Fisher research interests are in the development and application of biologically based mathematical models to ascertain health risks from environmental and occupational chemical exposures. Dr. Fisher's modeling experience includes working with chlorinated and non-chlorinated solvents, fuels, PCB, pyrethroids and perchlorate. He has developed PBPK models for use in cancer risk assessment, estimating lactational transfer of solvents, understanding in utero and neonatal dosimetry, quantifying metabolism of solvent mixtures and developing biologically motivated models for the hypothalamic-pituitary-thyroid axis in rodents and humans. Dr. Fisher has 20 years of experience in physiological modeling and has trained several graduate students and postdoctoral fellows on the concepts and application of physiological models. He spent most of his career at the Toxicology Laboratory, Wright Patterson AFB, where he was Principal Investigator and Senior Scientist in the Toxics Hazards Division and Technical Advisor for the Operational Toxicology Branch. He was a Visiting Scientist at the Chemical Industry Institute of Toxicology in 1996 and at the NIOSH Taft Laboratory in 1999. During this time, he also served as Adjunct Professor in the Department of Pharmacology and Toxicology at Wright State University. Dr. Fisher has published over 100 papers on pharmacokinetics and PBPK modeling in laboratory animals and humans. He has served on several panels and advisory boards for the DoD, ATSDR, USEPA and non-profit organizations. He also has been a U.S. delegate for the North Atlantic Treaty Organization. Dr. Fisher served on the International Life Sciences Institute Steering Committee, which evaluated chloroform and dichloroacetic acid using EPA-proposed Carcinogen Risk Guidelines. He is Past President of the Biological Modeling Specialty Section of the Society of Toxicology, reviewer for several toxicology journals, and was Co-Principal Investigator on a National Institutes of Health (NIH)-supported workshop on Mathematical Modeling at the University of Georgia in the fall of 2003. He is a member of the National Academy of Sciences subcommittee on Acute Exposure Guideline Levels (AEGs) since 2004 and is a Fellow of the Academy of Toxicological Sciences. He is currently on the editorial boards for the International Journal of Toxicology and the Journal of Toxicology and Environmental Health. Dr. Fisher has a B.S. degree in biology from the University of Nebraska at Kearney, a M.S. degree in biology/ecology from Wright State University, and a Ph.D. in Zoology/Toxicology from Miami University.

## Gasiewicz, Thomas A.

### University of Rochester

Dr. Thomas A. Gasiewicz is Professor and Chair of Environmental Medicine at the University of Rochester Medical Center. He holds a B.S. in Chemistry from Canisius College, a Ph.D. in Toxicology from the University of Rochester, and served as a National Institutes of Environmental Health Sciences (NIEHS) Postdoctoral Fellow in the Center of Toxicology, Department of Biochemistry, of Vanderbilt University. Dr. Gasiewicz has been continuously funded by NIEHS since 1978. One NIEHS grant was funded for 25 years and another is into its 18<sup>th</sup> year of funding. During these years, he has authored or co-authored over 140 peer-reviewed publications and book chapters on environmental health-related issues. Most of these have been focused on the molecular biology of the Ah receptor (AhR) and mechanisms by which the "dioxin-like" chemicals, via this receptor, produce toxicity. These investigations have included pharmacokinetic analyses, detailing biochemical alterations in animals and cultured cells, defining effects on maturation and differentiation stages in cells of the immune system, understanding the chemistry and molecular interactions of ligands with receptor molecules and the primary mechanism of gene regulation, defining receptor phosphorylation and its functionality, using genomic and transgenic technologies, and assessing the effects of these chemicals on human populations. Many of these studies have been carried out in collaboration with other investigators at the University of Rochester Medical Center basic science and clinical departments, and with investigators at other institutions. Dr. Gasiewicz has served on numerous National Institutes of Health (NIH) Study Sections, often reviewing proposals focused on the toxicology of the dioxins and mechanisms mediated by the AhR. In addition, between 1998-2004 he served on the Institute of Medicine, National Academy of Sciences Committee to Review the Health Effects in Vietnam Veterans of Exposure to Herbicides.

## Gaylor, David

### Gaylor and Associates, LLC

Dr. David Gaylor received a B.S. and M.S. degree in Statistics from Iowa State University and a Ph. D. in Statistics from North Carolina State University in 1960. Dr. Gaylor, whose expertise is in the fields of biometry, statistics, and health risk assessment, currently is president of Gaylor and Associates, LLC. He retired from the National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration (FDA), where he served as the principal advisor to the NCTR Director/FDA Associate Commissioner for Science on matters related to the planning, development, implementation and administration of health risk assessment policies reaching across a wide range of FDA's activities. In a prior position with the NCTR, he was Director of the Biometry and Risk Assessment Division where he was responsible for the administration and scientific direction of the Biometry and Risk Assessment program. In that position, he developed experimental protocols and provided statistical analyses of experiments in carcinogenesis, teratogenesis, mutagenesis, and neurotoxicity, and developed techniques to advance the science of quantitative health risk assessment. Dr. Gaylor also serves as an Adjunct Professor of Statistics at the University of Arkansas for Medical Sciences and the University of Arkansas, Little Rock. He is a Fellow of the American Statistical Association and the Society for Risk Analysis, and is a member of the Biometric Society, Society for Regulatory Toxicology and Pharmacology, and the Teratology Society. Dr. Gaylor has served on more than 70 national and international work groups and committees on many aspects of biometry, toxicology, and risk assessment. He is currently a member of the editorial board of four professional journals: *Risk Analysis*, *Human and Ecological Risk Assessment*, *Toxicology and Industrial Health*, and *Regulatory Toxicology and Pharmacology*. Dr. Gaylor has also authored or coauthored more than 160 journal articles, 25 book chapters, and made over 100 presentations at scientific meetings on bio-statistics and a wide range of health risk assessment issues. Dr. Gaylor is well known in his field as an expert in statistics, especially as it relates to risk assessment (RA) issues. During his tenure at NCTR he was considered one of the FDA's experts in the area of biometry and RA. Importantly, he has a wealth of experience in reviewing and using animal data in the RA process. He has a robust publication record in the field including numerous book chapters, served on many government committees and has been active in his specialty professional groups.

## Håkansson, Helen

### Karolinska Institutet

Dr. Helen Håkansson is Professor of toxicology with focus on the health risk assessment of chemicals, and Head of the Risk Assessment unit at the Institute of Environmental Medicine (IMM), Karolinska Institutet (KI), in Stockholm, Sweden. Dr. Håkansson has a broad competence both in experimental and regulatory toxicology with a focus on the hazardous properties of persistent organic pollutants, such as dioxins and PCBs, as well as pesticides and other types of chemicals with endocrine modulating properties that are present in various types of food components. Dr. Håkansson studied Chemistry at the University of Lund, and holds a M.Sc. in Chemical Engineering from the Royal Technical High School (KTH) in Stockholm, a M.Sc. and Ph.D. in Toxicology from Karolinska Institutet. Dr. Håkansson is conducting pioneering research to clarify the role of retinoids in endocrine toxicology associated with endocrine disrupting compounds (EDCs), including environmental pollutants (e.g., high and low affinity AhR ligands such as dioxins, PCBs and polybrominated diphenyl ethers), industrial chemicals, certain pesticides, and pharmaceuticals. Dr. Håkansson has published more than 85 peer-reviewed original papers, and has been the principal supervisor of 7 Ph.D. students and 8 post-doc fellows. Dr. Håkansson has more than 25 years experience in the fields of environmental medicine and regulatory toxicology assessing the hazardous properties of persistent organic pollutants, as well as pesticides and other types of chemicals. She has worked for national and international organizations, including KemI, Swedish EPA, Swedish Food Administration, Swedish Board of Welfare, World Health Organization (WHO) and the European Union (EU). Her major contributions to the international dioxin and PCB risk assessment work include drafting of the International Programme on Chemical Safety (IPCS)/WHO document of PCDDs and PCDFs including participation in the associated expert meetings (1985/1988), drafting the assessment documents and participating in the expert consultation of the Nordic dioxin risk assessment (1987/1988), reviewing the assessment document and participating in the expert consultation of the Nordic PCB risk assessment (1991/1992), drafting the dioxin and PCB-chapters of the health part of the WHO Long Range Transboundary Air Pollutants (LRTAP) evaluation and revision of the WHO TEF-values. At present Dr. Håkansson is coordinator of a European research project, which includes the drafting of an assessment document of nondioxin-like PCBs. Dr. Håkansson has also served as member on the FAO/WHO Joint Meeting on Pesticide Residues (JMPR) panel for several years. In addition, Dr. Håkansson has experience in assessment work related to compounds such as acrylamide, CPs, BFRs, and phthalates.

## Hamilton, Joshua

### Woods Hole Oceanographic Institution

Dr. Joshua Hamilton is a molecular toxicologist in the Bay Paul Center for Comparative Molecular Biology and Evolution at the Marine Biological Laboratory (MBL) in Woods Hole Massachusetts, where he also serves as the MBL's Chief Academic and Scientific Officer. He joined the MBL in June 2008. Previously, he was at Dartmouth College from 1985-2008 where he was a Professor of Pharmacology and Toxicology at Dartmouth Medical School and an Adjunct Professor of Chemistry at Dartmouth College of Arts and Sciences. He was the founding Director of Dartmouth's Center for Environmental Health Sciences and directed two of its federally funded interdisciplinary program projects, and also served as an Associate Director of the Norris Cotton Cancer Center at Dartmouth. He is a member and Project Leader of Dartmouth's National Institutes of Health (NIH) – National Institute of Environmental Health Sciences (NIEHS) Superfund Basic Research Program Project which he also formerly directed from 1997-2008. Dr. Hamilton received a B.S. in biology from Bridgewater College, and an M.S. in genetics and a Ph.D. in toxicology from Cornell University. His current research interests are primarily in the areas of molecular toxicology and toxicogenomics, focusing in particular on the effects of toxic metals, polycyclic hydrocarbons, halogenated hydrocarbons, endocrine disruptors and other environmental agents of concern in the environment on gene expression, and the role of such changes in adverse health effects. Dr. Hamilton's laboratory recently discovered that arsenic can act as a potent endocrine disruptor, blocking steroid hormone mediated signaling at very low doses relevant to U.S. drinking water exposures. He has also done extensive research on mechanisms of chemical carcinogenesis working with arsenic and other metals as well as with organic chemicals such as polycyclic aromatic hydrocarbons, dioxins, PCBs and other persistent organic contaminants. A new collaborative project is applying genomic tools to develop molecular biomarkers for examining effects of toxic metals and other environmental chemicals on aquatic food webs. Dr. Hamilton has published extensively in the scientific literature on these and other research results from his laboratory. He is a member of the Society of Toxicology, the American Association for Cancer Research, the American Chemical Society, and the American Association for the Advancement of Science. He is a regular reviewer for over three dozen journals and has served as an Associate Editor on several journals including *Toxicology and Applied Pharmacology* and *Chemico-Biological Interactions*. He has served as a reviewer for several different NIH study sections, and has served as Chair of a special review panel for NIEHS. Dr. Hamilton was an external reviewer for the National Research Council's recent report, *Arsenic in Drinking Water, 2001 Update* and was a member of the U.S. EPA Science Advisory Board panel reviewing the 2005 Metals Risk Assessment Framework proposal. He is an external reviewer for several university centers or interdisciplinary programs at other universities. He has served as Chair of Dartmouth's Radiation Safety and Environmental Health and Safety Committees. He was a member of New Hampshire's Healthy People 2010 Committee evaluating the role of environmental agents in human health, and is a member of the State of New Hampshire's Biomonitoring Council as well as the City of Manchester New Hampshire's Environmental and Public Health Leadership Council. He is also a founding member of the New Hampshire Arsenic Consortium, composed of scientists from Dartmouth, the State of New Hampshire, the U.S. Geological Survey, and the U.S. EPA working together on arsenic as a public health problem in the northeast.

## Haring-Sweeney, Marie

### National Institute for Occupational Safety and Health

Dr. Marie Haring Sweeney is currently assigned to the Centers for Disease Control and Prevention's (CDC) National Institute for Occupational Safety and Health (NIOSH) as the Chief of the Surveillance Branch in the Division of Surveillance, Hazard Evaluation and Field Studies. The multidisciplinary branch is engaged in the development of public health surveillance tools and methods and conducts studies to identify trends in emerging and known work-related illnesses, injuries and exposures. Dr. Sweeney earned a B.S. degree from Rutgers University, a M.P.H. from the University of Michigan School of Public Health and a Doctorate in Epidemiologic Sciences from the University of Michigan Rackham School of Graduate Studies in Ann Arbor, Michigan. Over her 30 year career at NIOSH as a research epidemiologist, Dr. Sweeney authored more than 100 peer reviewed papers and scientific documents published by the U.S. Government on issues related to workplace safety and health, many of which are related to human health effects of exposure to dioxin-contaminated chemicals. She participated on task forces and consulted with other domestic and bilateral and multilateral international agencies including OSHA, U.S. EPA, World Health Organization (WHO), International Labor Organization (ILO), among others on workplace safety and health issues, including Agent Orange. Currently, Dr. Sweeney is a member of the Scientific Advisory Board of the University of Michigan Dioxin Exposure Study and participates as an official member of the U.S. delegation on the Joint U.S. - Vietnam Advisory Committee on Agent Orange and Dioxin. In July, 2006 Dr. Sweeney returned to the United States after a three year tour as the U.S. Health Attaché to Vietnam. As the representative of the Department of Health and Human Services (HHS) to Vietnam and the health advisor to the U.S. Ambassador and the Embassy community, her primary responsibility was to enhance bilateral relations between HHS and the Ministry of Health of Vietnam. During her tour she was also involved in support of numerous public health-related activities from leading the U.S. Embassy Avian Influenza Task Force (AI) in their effort to develop response plans in the event of a pandemic to sponsoring a course on Development and Management of Scientific Research. Dr. Sweeney brought together many scientists from the U.S. and Vietnam in the hopes of stimulating future collaborations and research. Her multiyear effort to bring together U.S. and Vietnamese partners on the issue of Agent Orange and dioxin culminated in the development of a joint bilateral scientific task force, creation of a functional laboratory for the analysis of dioxins and related compounds and stimulated discussions and project planning for the remediation of contaminated sites in Vietnam. In October 2007, Dr. Sweeney retired from the Commissioned Corps of the United States Public Health as a Captain. She continues her life-long public service as a Civil Servant.

## Hattis, Dale

### Clark University

Dr. Dale Hattis is Research Professor with the George Perkins Marsh Institute at Clark University. For the past three decades he has been engaged in the development and application of methodology to assess the health, ecological, and economic impacts of regulatory actions. His work has focused on approaches to incorporate interindividual variability data and quantitative mechanistic information into risk assessments for both cancer and non-cancer endpoints. Recent research has explored age-related differences in sensitivity to carcinogenesis and other effects, a taxonomy of different non-mutagenic modes of action for carcinogenesis with likely differential implications for age-related sensitivity, physiologically based pharmacokinetic (PBPK) modeling of acrylamide dose in rats and humans, and mechanism-based dose response modeling of carcinogenic effects from ionizing radiation. Current efforts are using PBPK modeling to better assess dose response relationships for human birth weight changes and developmental delays associated with exposure to the insecticide chlorpyrifos during pregnancy. He is a leader in efforts to replace the current system of uncertainty factors for non-cancer effects with distributions based on empirical observations. He is a member of the Clean Air Scientific Advisory Committee (CASAC) panel reviewing U.S. EPA efforts to reassess the National Ambient Air Quality Criteria for nitrogen oxides and sulfur oxides, and for several years he has served as a member of the Food Quality Protection Act Science Review Board. Until recently he has also been a member of the Environmental Health Committee of the U.S. EPA Science Advisory Board. For 2007 he was the Chair of the Dose Response Specialty Group of the Society for Risk Analysis. He has also served as a member of the National Research Council Committee on Estimating the Health-Risk-Reduction Benefits of Proposed Air Pollution Regulations. He has been a councilor and is a Fellow of the Society for Risk Analysis, and serves on the editorial board of its journal, *Risk Analysis*. He holds a Ph.D. in Genetics from Stanford University and a B.A. in biochemistry from the University of California at Berkeley.

## Hauser, Russ

### Harvard University

Dr. Russ Hauser is a Professor of Environmental and Occupational Epidemiology in the Departments of Environmental Health and Epidemiology at the Harvard School of Public Health. His research focuses on the human health risks from exposure to environmental chemicals that alter development and reproductive function through disruption of endocrine signaling. Dr. Hauser, in collaboration with physicians from the Massachusetts General Hospital, is conducting a study on the effects of bisphenol A, phthalates and chlorinated chemicals on male and female reproductive health endpoints. He is also conducting a prospective cohort study on children in Chapaevsk, Russia, where he is investigating the relationship of exposure to dioxins and dioxin-like compounds with growth and pubertal development. He recently began a two-state study in collaboration with researchers from Yale University on genetic and environmental risk factors for testicular germ cell cancer. He has served on two Institute of Medicine (IOM) Committees on Gulf War and Health. Dr. Hauser is an Advisory Board member of *Environmental Health Perspectives*, *Journal of the National Institute of Environmental Health Sciences* and serves as an Associate Editor of the *Journal of Exposure Science and Environmental Epidemiology*. He is a nominated member of the Environmental Health Sciences Review Committee for the National Institute of Environmental Health Sciences. He is a member of The Endocrine Society's Endocrine Disruptors Task Force, Endocrine Society Research Affairs Core Committee. Dr. Hauser has served as the Chair-elect of the Environment and Reproduction Special Interest Group (ERSIG), American Society for Reproductive Medicine. He received an M.D. from Albert Einstein College of Medicine and an M.P.H. and Sc.D. from the Harvard School of Public Health where he completed a residency in occupational medicine. He is board certified in occupational medicine.

## Holsapple, Michael

### Health and Environmental Sciences Institute

Dr. Michael Holsapple is a toxicologist with over twenty-five years of experience. He received his graduate training in Pharmacology and Toxicology from Purdue University, having earned an M.S. in 1978 and a Ph.D. in 1981. From 1983–1994, he served on the faculty at the Medical College of Virginia/Virginia Commonwealth University in Richmond, Virginia. During his academic career, he served as the advisor for eight Ph.D. and M.S. candidates, and as a member of the doctoral dissertation committees for 21 other students. From 1994-2002, Dr. Holsapple worked in the Toxicology, Environmental Research and Consulting Laboratories at the Dow Chemical Company in Midland, Michigan. During his industry career, his responsibilities included leading both the Immunotoxicology and the Respiratory Toxicology groups. Dr. Holsapple is currently the Executive Director of the Health and Environmental Sciences Institute (HESI), the global branch of the International Life Sciences Institute (ILSI). During his time with HESI, Dr. Holsapple has facilitated the organization's emergence as a recognized global leader in advancing the state-of-the-science of safety and risk assessment. Dr. Holsapple has published over one hundred and fifty manuscripts and chapters. In recognition of his contributions to toxicology, Dr. Holsapple received the Society of Toxicology (SOT) Achievement Award in 1992. He served on Council for the SOT from 2005-2007, and on Council for the American College of Toxicology (ACT) from 2003-2006. He was elected a 'fellow' in the Academy of Toxicological Sciences (A.T.S.) in 2006. Dr. Holsapple was elected into the Presidential track of the SOT, and became the Vice President-elect in April, 2008.

## James, Margaret O.

### University of Florida

Dr. Margaret O. James is Professor and Chair of the Department of Medicinal Chemistry, College of Pharmacy, University of Florida. She received her B.Sc. (honours) in chemistry from University College London in 1969 and her Ph.D. in organic chemistry in 1972 from St. Mary's Hospital Medical School, University of London, under the direction of Professor R.T. Williams. After a post-doctoral fellowship in the pharmacology branch of the National Institute of Environmental Health Sciences (NIEHS), North Carolina, she conducted research at the NIEHS satellite laboratory at the Whitney Marine Research Lab., St. Augustine. She joined the faculty of the Department of Medicinal Chemistry at the University of Florida in 1980. With colleagues in other departments, she helped develop an interdisciplinary toxicology graduate program at the University of Florida. Dr. James' research interests are in the biotransformation pathways involved in the formation or detoxification of chemically reactive metabolites of xenobiotics. She is particularly interested in the bioavailability and biotransformation of environmental pollutants whose toxicity is linked to biotransformation. Her research is funded by NIEHS and the National Cancer Institute (NCI) and she previously receiving funding from the Superfund Basic Research Program. Dr. James has served on the Environmental Health Sciences Review panel, National Institute of Environmental Health Sciences (1991-1995), the Toxics Advisory Committee, National Marine Fisheries Service, National Oceanic and Atmospheric Administration (1992 – 1994) and as an ad hoc member of the Xenobiotic and Nutrient Disposition Study Section of the National Institutes of Health (NIH) (2005, 2007). She served as elected secretary of the International Society for the Study of Xenobiotics (2000-2003) and chair of the Pharmaceutical Sciences section of the American Association for the Advancement of Science (2007). She is a member of the editorial boards of *Chemico-Biological Interactions*, *Drug Metabolism and Disposition*, and *Aquatic Toxicology*.

## Kaminski, Norbert

### Michigan State University

Dr. Norbert Kaminski is the Director of the Michigan State University (MSU) Center for Integrative Toxicology. He is a professor in the MSU Department of Pharmacology and Toxicology, and an affiliate faculty member in the MSU National Food Safety and Toxicology Center. Dr. Kaminski is an Associate Editor for the *Journal of Pharmacology and Experimental Therapeutics* and is also on the editorial board for *Toxicological Sciences*, and the *Journal of Immunotoxicology*. Dr. Kaminski holds a B.A. in Chemistry from Loyola University of Chicago, an M.S. in Toxicology from North Carolina State University, and a Ph.D. in Toxicology and Physiology from North Carolina State University. Dr. Kaminski's research is in the general areas of immunopharmacology and immunotoxicology. A major emphasis of his research is on the elucidation of the molecular mechanisms for impairment of signal transduction cascades and gene expression during lymphocyte activation by drugs and chemicals. Specific areas of research include the characterization of the molecular mechanisms responsible for altered B cell function produced by halogenated aromatic hydrocarbons, including dioxins and polychlorinated biphenyls. This research has led to testing the hypothesis that dioxin and dioxin-like compounds suppress antibody responses by impairing B cell differentiation in an aryl hydrocarbon receptor dependent manner. He has served on various scientific advisory committees including the National Academy of Sciences Committee to review the Health Effects of Vietnam Veterans of Exposure to Herbicides, the U.S. Environmental Protection Agency Science Advisory Board for their dioxin reassessment review, the Health Effects task Group for National Science Foundation (NSF) International, and the National Academy of Sciences Committee to review U.S. EPA's Exposure and Human Health Reassessment of TCDD and Related Compounds. Dr. Kaminski presently serves on the Board of Trustees for International Life Sciences Institute (ILSI) Health and Environmental Sciences Institute (HESI). Dr. Kaminski also serves as a member of Council for the Society on Neuroimmune Pharmacology. In addition, he is member of the Society of Toxicology, American Society of Pharmacology and Experimental Therapeutics, and the American Association of Immunologists.

## Koppe, Janna G.

### University of Amsterdam

Dr. Janna G. Koppe is chairman of the Non-Governmental Organization 'Ecobaby,' and a former professor of Neonatology at the University of Amsterdam. The Ecobaby Foundation studies adverse effects of environmental influences in pregnancy on the developing baby *in utero* and later. Dr. Koppe holds an M.D. from the University of Amsterdam, and received a Fullbright Scholarship for studying neonatology at the University of Maryland and in Pittsburgh, Cleveland, Nashville, and Boston. After training in pediatrics Dr. Koppe was involved in developing one of the largest neonatal intensive care units in Europe in the obstetric clinic of the University of Amsterdam. In 1992 she was the president of the 13th European Congress on Perinatal Medicine in Amsterdam. Besides the clinical tasks she was and is involved in studies on effects during pregnancy of anti-epileptic drugs, antenatal steroids, surfactant-replacement (after birth), maternal undernutrition (Dutch Famine 1944-1945), and dioxin exposure *in utero* and during lactation (Amsterdam-Zaandam cohort). In 2003 she became chairperson of the technical working group on neurodevelopment in relation to environmental hazards of the European initiative SCALE, and scientific manager of neurodevelopmental aspects in the European Project Policy Interpretation Network on Children's Health and the Environment (PINCHE). She is also partner as an expert on neurodevelopment in the European Project Health and Environment Network (Henvinet) and partner in the European project Obelix. Obelix addresses endocrine disruption in the perinatal period of several environmental pollutants under which dioxins in relation to obesity and diabetes.

## LaKind, Judy S.

### LaKind Associates

Dr. Judy S. LaKind is President of LaKind Associates, LLC, and an Associate Professor at University of Maryland School of Medicine, Adjunct Associate Professor at Penn State College of Medicine, and Environmental Health Advisor for the Maryland Department of the Environment. Dr. LaKind received her Ph.D. from The Johns Hopkins University, Department of Geography and Environmental Engineering in 1988, her M.S. from the University of Wisconsin, Madison, in Geology in 1984, and her B.A. from The Johns Hopkins University, Department of Earth and Planetary Sciences in 1982. Dr. LaKind is a health and environmental scientist with expertise in strategic risk management, assessment of human health risks, biomonitoring, scientific and technical analysis for regulatory and litigation support, state-of-the-science reviews, and environmental regulatory review. Dr. LaKind has spoken and published extensively on risk-related issues, including children's exposures to environmental chemicals, the implications of uncertainty in the risk assessment process, weighing potential risks and benefits related to chemical use (for example, use of MTBE in gasoline, glycols in de-icing formulations, and chlorination of drinking water for zebra mussel control), the presence of environmental chemicals in human milk, and time-dependence and distributional analysis of exposure. Dr. LaKind has evaluated the use of human health risk assessment in the development of water quality criteria, and has critically analyzed the environmental fate, behavior, and bioavailability of pollutants in the context of setting regulatory criteria. She has developed risk assessments for a variety of urban industrial sites, military bases, and firing ranges, and has utilized state-of-the-science models for predicting blood lead levels in adults and children. Previously, Dr. LaKind was a geologist at the U.S. EPA's Office of Federal Activities, where she was responsible for the evaluation of environmental impact statements and legislative reports. Dr. LaKind has taught graduate level courses at The Johns Hopkins University in risk assessment and aquatic chemistry and serves on the editorial board of the *Journal of Exposure Science and Environmental Epidemiology* and the *Journal of Toxicology and Environmental Health*. Dr. LaKind is a member of the World Health Organization Survey Coordinating Committee for the Global Survey of Human Milk for Persistent Organic Pollutants (POPs), and a former member of Maryland's Children's Environmental Health and Protection Advisory Council and Maryland's Lead Poisoning Prevention Commission.

## Lasley, Bill

### University of California at Davis

Dr. Bill Lasley is Professor Emeritus of Reproductive Medicine and Obstetrics/Gynecology, Schools of Veterinary and Human Medicine at the University of California at Davis. He is the Chief of the Division of Reproductive Biology in the Department of Obstetrics and Gynecology in the School of Medicine and also serves as the Associate Director for the Center for Health and the Environment (CHE), which is an organized center of approximately twenty faculty and eighty staff. The mission of CHE is to investigate environmental factors that contribute to adverse health outcomes in humans. Dr. Lasley holds a B.A. in Life Sciences from California State University, Chico, a Ph.D. in Physiology from University of California, Davis, and held a Postdoctoral Fellowship at the University of California, San Diego. Dr. Lasley was a member of the Executive Committee for the National Institute of Environmental Health Sciences (NIEHS) Center at the University of California at Davis and Chairs the Laboratory Oversight Committee for the Study of Women Across the Nation (SWAN). He was the principal investigator of the NIEHS P-50 Program Project that focused on the effect of dioxin on female reproductive toxicity. Dr. Lasley's primary research interests are to investigate mechanisms of action of reproductive toxicants, to identify and define relevant animal models for studying reproductive toxicants in the laboratory, and to develop methods for assessing reproductive health in non-clinical populations. The development and validation of methods for studying human populations has been a common thread in over 300 peer reviewed publications. Dr. Lasley has served as consultant for both private and governmental groups in the United States and Canada since the mid-1980s.

## Lawrence, B. Paige

### University of Rochester

Dr. B. Paige Lawrence is university professor at the University of Rochester School of Medicine, where she holds appointments in the Departments of Environmental Medicine and Microbiology and Immunology. She earned a B.A. from Skidmore College (1986), where she concentrated in biology and chemistry, and a Ph.D. from the Department of Biochemistry, Molecular and Cell Biology at Cornell University (1993). She received specialized training in toxicology during a post-doctoral fellowship at Oregon State University. Dr. Lawrence's research addresses problems of human health and how our environment influences our health. Much of her work focuses on the impact of pollutants on our ability to fight infections, such as influenza viruses. Other work centers on understanding how signals from the environment affect proper development in early life, and how these developmental changes adversely impact health later in life. She is a member of the Society of Toxicology, American Association of Immunologists, and American Association for the Advancement of Scientists, and currently serves on the Editorial Boards for *Toxicological Sciences*, *Toxicology*, *The Journal of Immunotoxicology*, *The Journal of Toxicology and Environmental Health*, and *The American Journal of Reproductive Immunology*.

## Lewis, Steven

### Integrative Policy and Science, Inc.

Dr. Steven Lewis holds a B.A. in Chemistry (1970) and a Ph.D. in Toxicology (1975) from Indiana University. Over a period of 28 years, he held various technical, consulting and management positions at ExxonMobil Biomedical Sciences, serving as an investigator and advisor on scientific and science-policy issues in occupational and environmental health, and serving as senior on-site health scientist following the oil spill event of 1989. His research and safety assessment activities have focused on assessing potential health risks from exposure to petroleum and chemical carcinogens, toxicants to the nervous system, and chemical hazards to reproductive health. In 2003, he retired from ExxonMobil and founded an independent consulting service, Integrative Policy & Science, Inc. (IPSi). Dr. Lewis provides consulting support in general toxicology, qualitative and quantitative assessment of risk from environmental hazards, science policy, and legislative/regulatory affairs. Dr. Lewis is an Adjunct Professor of Occupational and Environmental Medicine (Robert Wood Johnson Medical School) and a regular lecturer at Raritan Valley (NJ) Community College; he also holds the title of Senior Fellow at the University of Texas (at Dallas). Dr. Lewis has served on the editorial boards of four prestigious journals, has refereed manuscripts for two additional journals, and is currently Associate Editor of *Dose-Response* (formerly, *Nonlinearity in Biology, Toxicology and Medicine*). He has served as peer reviewer for a wide variety of toxicological assessments and reviews (for U.S. EPA, Agency for Toxic Substances and Disease Registry [ATSDR], National Institute for Occupational Safety and Health [NIOSH], and National Cancer Institute [NCI]). Dr. Lewis has served as a consultant to various U.S. EPA science advisory committees, as a member and advisor to the Science Program Committee of the Hamner Institutes for Health Research (formerly, Chemical Industry Institute of Toxicology), as Chairman of the Board of Trustees of TERA/ITER (a not-for-profit organization specializing in health and environmental risk assessment), and as chairman of numerous technical and research panels of the American Chemistry Council, American Industrial Health Council and American Petroleum Institute. Dr. Lewis has extensive experience in facilitating public engagement in environmental issues and decision-making, as well as in the area of risk communication. He recently completed his term as a member of the U.S. National Research Council panel on "Public Participation in Environmental Assessment and Decision-Making." Dr. Lewis is certified by the American Board of Toxicology (1980 to present), and participates actively in the Society for Risk Analysis, the International Society for Regulatory Toxicology and Pharmacology, and the Society of Toxicology.

## Luster, Michael I.

### National Institute for Occupational Safety and Health

Dr. Michael I. Luster is currently a senior advisor for the National Institute for Occupational Safety and Health (NIOSH) in Morgantown, West Virginia where he helps direct the NIOSH genetics research program in molecular epidemiology. He also works as a private consultant in toxicology and is an adjunct professor in the Department of Microbiology/Immunology at West Virginia University. Dr. Luster holds a B.A. in Biology from the University of Massachusetts, an M.S. in Microbiology from Loyola University of Chicago, and a Ph.D. in Microbiology (Immunology) from Loyola University of Chicago. Dr. Luster recently retired as Chief of the Toxicology and Molecular Biology Branch at NIOSH. Prior to joining NIOSH in 1996, Dr. Luster served as Head of the Environmental Immunology and Neurobiology Section at the National Institute of Environmental Health Sciences, National Institutes of Health (NIH) in Research Triangle Park, North Carolina. He has co-authored over 400 publications, holds several U.S. Patents and has co-edited eight books in the area of Immunotoxicology. He is a recipient of the NIH Award of Merit, the Alice Hamilton Award for excellence in occupational safety and health research and the Frank Blood Award from the Society of Toxicology. Dr. Luster has served on the Editorial Board of numerous journals including the *Journal of Immunology*, *Environmental Health Perspectives*, and *Toxicology and Applied Pharmacology* and has served as an ad-hoc member of the Scientific Advisory Boards for the U.S. EPA, U.S. Food and Drug Administration (FDA) and Consumer Product Safety Commission (CPSC) as well as on advisory committees for the World Health Organization (WHO), International Life Sciences Institute (ILSI)/Health and Environmental Sciences Institute (HESI), National Academy of Sciences and World Resource Institute.

## **Maronpot, Robert**

### **National Institutes of Environmental Health Sciences**

Dr. Robert Maronpot received his Doctorate of Veterinary Medicine in 1965 from Michigan State University, an M.S. in nutritional pathology from Michigan State University in 1966, and an M.P.H. from Harvard University in 1972. He is a Diplomate of the American College of Veterinary Pathologists as well as the American Board of Toxicology and has worked over 40 years in experimental pathology with emphasis on animal models of carcinogenesis. Dr. Maronpot previously served as President of the Society of Toxicologic Pathology, serves on several journal editorial boards, and was Editor-in-Chief of Toxicologic Pathology from 2001 to 2004. In addition to over 250 peer-reviewed publications, he has edited a comprehensive text entitled Pathology of the Mouse (1999), co-edited a book entitled Pathology of Genetically Engineered Mice (2000), and has several years of experience in application of imaging technologies to toxicologic pathology. He recently retired from the National Institute of Environmental Health Sciences, National Institutes of Health and the National Toxicology Program where he was Chief, Laboratory of Experimental Pathology.

## **Masten, Scott A.**

### **National Institute of Environmental Health Sciences**

Dr. Scott A. Masten is a Staff Scientist in the National Toxicology Program at the National Institute of Environmental Health Sciences (NIEHS) where he has served as Director of the Office of Nomination and Selection since 2001. Dr. Masten received his Ph.D. in Pharmacology and Toxicology from the University of Florida in 1995. He came to NIEHS in 1995 as a post-doctoral fellow in the Laboratory of Computational Biology and Risk Analysis. His past research efforts focused on biomarkers of human exposure and response to dioxins and other environmental agents. In his present position, Dr. Masten manages the process by which substances are identified and selected for toxicological evaluation by the National Toxicology Program. This involves liaison with federal agencies, the scientific community and the public to identify deficiencies in the toxicological database for environmental substances, directing the preparation of supporting technical documents, coordinating internal and external public reviews, and participating in the design and implementation of complex toxicological research programs. Dr. Masten is a Diplomate of the American Board of Toxicology and has broad expertise in toxicity of chemical agents, toxicology testing strategies, and regulatory science.

## **Mocarelli, Paolo**

### **University of Milano Bicocca**

Dr. Paolo Mocarelli is full professor of Clinical Biochemistry at the University Milano Bicocca Medical School, Milan, Italy. He obtained his M.D. from the University of Milan in 1960 and a Ph.D. in Experimental Pathology in 1969. He was Director of the Post Graduate Specialty School in Clinical Laboratory at the University Milano Bicocca. Dr. Mocarelli was a visiting professor at the Wistar Institute, Philadelphia, USA. He has been collaborating in research on the effects of dioxin on humans with Institutions such as Centers for Disease Control and Prevention (CDC, Atlanta), School of Public Health, University of California, Berkeley (USA), National Institute of Environmental Health Sciences (NIEHS) (USA), National Institute of Health Helsinki and others. Dr. Mocarelli's research addresses problems in science and public policy with regard to medical issues. In the years following graduation he investigated mechanisms of normal and neoplastic proliferation in experimental animals. After the 1976 accident in Seveso, Italy when a large population was contaminated with dioxin, Dr. Mocarelli intensively studied its effect on humans discovering the shift of sex ratio at birth induced by low doses of this toxic substance through the males. He also found that dioxin had a depressing effect on sperm quality after exposure in infancy. He is still monitoring the health of this population especially pointing his attention to women and to the first generation. These studies have been published in various international journals and can help public health regulators in establishing new policies.

## Nagarkatti, Prakash

### University of South Carolina

Dr. Prakash Nagarkatti is the South Carolina Distinguished Professor in the Department of Pathology, Microbiology and Immunology, and Associate Dean, Basic Science at the University of South Carolina (USC) School of Medicine. Prior to joining USC in 2005, Dr. Nagarkatti was the Wazeter Distinguished Professor and Director, Immunotoxicology in the Department of Pharmacology and Toxicology at the Medical College of Virginia, Virginia Commonwealth University. Dr. Nagarkatti received his Ph.D. in Immunology from the Defense Research and Development Establishment, India and pursued post-doctoral research at McMaster University Medical Center, Canada and at the University of Kentucky before joining the faculty in the Department of Biology at Virginia Tech, where he rose to become Full Professor. Dr. Nagarkatti's laboratory has been investigating the effect of dioxin on the immune response for over two decades. His laboratory was instrumental in demonstrating for the first time that dioxin triggers apoptosis in immune cells. Subsequently, dioxin-induced apoptosis has been corroborated and extended by several laboratories all over the world in many species and systems, in addition to the immune system. His laboratory is currently engaged in further elucidating the mechanisms of apoptosis triggered by dioxin. His research on dioxin is currently funded by a grant from the National Institute of Environmental Health Sciences (NIEHS). In addition, Dr. Nagarkatti's laboratory has pursued research in studying the effect of other environmental pollutants, endocrine disruptors and pharmacological agents on their ability to induce immunotoxicity. His research has provided evidence of the concept of "fetal basis of adult disease" by demonstrating how exposure to chemicals during pregnancy alters T cell development in the fetus and how it impacts the immune response and susceptibility to immunological disorders during adult life. Dr. Nagarkatti has more than 125 publications in peer-reviewed scientific journals, the majority in high-impact journals. He has more than 200 scientific presentations at regional, national and international meetings, many of which are invited oral presentations. Dr. Nagarkatti has been the recipient of a total of more than \$18 million extramural funding from National Institutes of Health (NIH), National Science Foundation/U.S. Environmental Protection Agency, American Cancer Society, and other foundation grants. Currently, Dr. Nagarkatti serves as the Principal Investigator (P.I.) on two NIH R01 grants and Co-P.I. on an additional three R01 grants. In addition, Dr. Nagarkatti is P.I. on a \$6 million Center grant on Complementary and Alternative Medicine on Autoimmune and Inflammatory Diseases. He has chaired as well as served as member of more than 20 different NIH study sections as well as on grant review committees for the American Cancer Society, Florida Department of Health, and the U.S. Department of Agriculture (USDA). Dr. Nagarkatti actively participates on several committees in the National Society of Toxicology. He has also chaired scientific sessions and has been a keynote speaker at international and national meetings. Dr. Nagarkatti is currently the Director on an NIH-funded Center for CAM Research on Autoimmune and Inflammatory Diseases. Dr. Nagarkatti has been the recipient of a number of teaching and research awards including the Outstanding Teacher Award, Award from International Congress of Mucosal Immunology, Outstanding Publication of Year Award as well as other awards from the Society of Toxicology, and the North Atlantic Treaty Organization (NATO) Advanced Studies Institute Award.

## Needham, Larry L.

### National Institute of Environmental Health Sciences

Dr. Larry L. Needham has been employed at the U.S. Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health for 33 years and for the last 24 years has been Chief of the Organic Analytical Toxicology Branch. Dr. Needham holds a Ph.D. degree in organic chemistry with a minor in inorganic chemistry from the University of Georgia, and conducted post-doctoral research at Vanderbilt University's Department of Chemistry. Immediately afterwards, he taught 2 years at Auburn University's School of Pharmacy and was a research chemist at GE-plastics in Indiana for 1 year. At CDC, Dr. Needham identifies, prioritizes, plans, and conducts studies involving human exposure to environmental organic toxicants, including dioxins. Studies conducted are those of utmost need in exposure assessment, epidemiology, risk assessment, and other areas of environmental public health. Dr. Needham's laboratory assesses human exposure and collaborates with leading scientists/epidemiologists domestically and internationally in linking the internal dose measurements with potential adverse health outcomes. In the dioxin arena, his dioxin mass spectrometry laboratory has assessed exposure by measuring serum, adipose tissue, and milk concentrations of dioxins and related chemicals in many populations including occupational workers in U.S. (e.g., NIOSH study) and internationally (e.g., The Netherlands); U.S. Vietnam veterans (ground troops, Ranch Hand, chemical corps); residential exposures (e.g., Times Beach, MO; Seveso, Italy; Ufa, Russia; YuCheng; and the general population of the U.S. [TEQ data compiled from National Health and Examination Survey]). In addition to dioxin studies, Dr. Needham's laboratory has also conducted exposure assessment studies on PCBs, other persistent organic pollutants, and nonpersistent chemicals. Dr. Needham has authored or co-authored many publications on these topics among his more than 400 peer-reviewed publications. He was invited and presented dioxin data: at the 1991 Banbury Conference on Biological Basis for Risk Assessment of Dioxins and Related Compounds; at the 1990 Health Effects and Safety of Dioxins and Furans in Karlsruhe, Germany; to the National Academy of Sciences; as a keynote and plenary speaker at several international Dioxin conferences; and also as a representative of the U.S. government in discussions with the Vietnamese on dioxin studies in Vietnam residents. Dr. Needham is one of five permanent members on the International Advisory Board of the annual dioxin meetings. He is co-editor of the journal *Chemosphere: Persistent Organic Pollutants and Dioxins*. Dr. Needham collaborates with others in describing the analytical chemistry measurement process, and the uses and limitations of the data. His team includes a statistician who is expert in study design and data analysis. He then works closely with collaborators in interpreting the data and presenting the findings and conclusions. This is not only true for dioxins and related compounds but also for many other chemicals of environmental public health interest. He and his group have been pioneers in the biomarker field and its application to the field of exposure science as exemplified by his being Past President of the International Society of Exposure Science (ISES); its first Distinguished Lecturer (2005-2007); and recipient of its highest award "The Jerome J. Weslowski Award." Dr. Needham is on the Editorial Board of *Environmental Health Perspectives* and of the *International Journal of Hygiene and Environmental Health*.

## Ozonoff, David M.

### Boston University

Dr. David M. Ozonoff is Professor of Public Health and Chair Emeritus in the Department of Environmental Health at Boston University School of Public Health. He graduated with a B.S. in mathematics from the University of Wisconsin in 1962, from Cornell University Medical College with an M.D. degree in 1967 and from Johns Hopkins School of Hygiene and Public Health with an M.P.H. degree in 1968. He spent one year as a Macy Fellow in the History of Science Department of Harvard University in 1975 and a year as a Mellon Fellow at MIT in 1976. His primary area of research is in environmental epidemiology, where he has conducted extensive studies of communities exposed to hazardous wastes and water contaminated with chlorinated ethylenes. He also works on new mathematical techniques for analyzing epidemiological data. He has been Director of the Boston University Superfund Basic Research Program for the last eight years. He is past-President of the Massachusetts Public Health Association, a Fellow of the Johns Hopkins Society of Scholars and a Fellow of the Collegium Ramazzini. Dr. Ozonoff currently serves on the U.S. EPA's Science Advisory Board's (SAB) Exposure and Human Health Committee. Dr. Ozonoff has served on numerous federal Advisory Committees, including the Advisory Committee for Energy Related Epidemiological Research to the Secretary of the U.S. Department of Health and Human Services (HHS), the Disinfection By-Products Negotiated/Microbial Contamination Rulemaking Committee to the U.S. EPA, several environmentally-related National Research Council (NRC) committees and National Institutes of Health (NIH) grant review committees. He is a Member of the Massachusetts Bioterrorism Preparedness and Response Program Advisory Committee, February 2002 - present. He is on the External Advisory Committees of the Harvard Environmental Health Sciences Center, and the Harvard School of Public Health Environmental Statistics Program, as well as advisory committees on environmental matters to state and local governments.

## Patterson, Donald G.

### AXYS Analytical Services, Ltd. and EnviroSolutions

Dr. Donald G. Patterson Jr. is currently a Business Development Manager for AXYS Analytical Services Ltd. in Sidney, BC, Canada and President of EnviroSolutions Consulting, Inc. His current interests include the development and application of new and novel methods for sensitive, specific, fast, and accurate quantitative analysis for environmentally significant compounds in human tissues. These human biomonitoring methods generally involve the use of rapid automated sample preparation coupled with isotope-dilution high resolution mass spectrometry and various other techniques; such as multidimensional gas chromatography, liquid chromatography, and capillary electrophoresis. Dr. Patterson earned his B.A. degree from the University of Northern Colorado and his Ph.D. in Organic Chemistry from Arizona State University. Following three years of post-doctorate research with Professor Carl Djerassi at Stanford University, he joined the Toxicology Branch at the Centers for Disease Control and Prevention (CDC) in 1979. He was a member of the Senior Biomedical Research Service within the Organic Analytical Toxicology Branch within the Division of Laboratory Sciences at CDC until his recent retirement after 29 years of U.S. Government service. Dr. Patterson's recent research interests have centered on the application of time-of-flight mass spectrometry to human biomonitoring studies by interfacing TOF/MS and high resolution MS to fast gas chromatography and comprehensive multidimensional (GCxGC) gas chromatography. The goal of this research is to dramatically increase the laboratory throughput and sensitivity; thereby reducing the cost of large scale human exposure assessment for epidemiologic studies designed to assess any potential human health effects from exposure to environmentally significant chemicals. Dr. Patterson has applied these methods (in collaboration with State Health Departments, other U.S. Government Agencies, and Government Agencies of other Countries) to a large number of epidemiologic health assessment studies including among others: Agent Orange exposure in Vietnam veteran ground troops; U.S. Air Force Operation Ranch Hand Vietnam Veterans (actually sprayed Agent Orange); Times Beach, Missouri dioxin exposure; dioxin half-life studies in humans; various occupational exposures and cancer mortality; Seveso, Italy dioxin exposure; herbicide sprayers; endometriosis and breast cancer in women; Great Lakes fish eaters exposure; residents exposed to incineration products; and pesticide exposure to farmers and their families. Dr. Patterson has authored and co-authored more than 350 journal articles as well as ten book chapters. He has been a keynote or plenary speaker at a number of international meetings, and has received numerous awards.

## Pavuk, Marian

### Agency for Toxic Substances and Disease Registry

Dr. Marian Pavuk is a physician and chronic disease epidemiologist with more than ten years of experience in design, conduct, and analysis of epidemiologic studies of cancer, diabetes, thyroid, and cardiovascular diseases, with a focus on environmental and occupational exposures to dioxins, polychlorinated biphenyls, and other organochlorines. Dr. Pavuk is the Senior Epidemiologist with the Division of Health Sciences, Agency for Toxic Substances and Disease Registry (Agency for Toxic Substances and Disease Registry/Centers for Disease Control and Prevention (ATSDR/CDC) and previously served as the Scientific Director and Epidemiologist on the Air Force Health Study (AFHS), and as a faculty at the University of Texas School of Public Health in Dallas, Texas. He holds an M.S. in Preventive Medicine and Environmental Health and a Ph.D. in Epidemiology from the University of Iowa College of Public Health, and an M.D. from Comenius University College of Medicine in Bratislava, Slovakia. Dr. Pavuk has first-authored or co-authored 32 peer-reviewed scientific publications, 26 short papers from the Dioxin Symposia, six technical reports, and the chapter on dioxin exposure assessment in a public health textbook since obtaining Ph.D. in Epidemiology in 2000 at the University of Iowa. Dr. Pavuk has presented 72 papers or posters at 37 national and international scientific meetings as well as for the U.S. government, and has been awarded 14 grants or contracts as investigator or co-investigator from, among others, the National Institutes of Health, the Department of Defense, and ExxonMobil. He is currently a peer reviewer for *Chemosphere* as well as the *Journal of Occupational and Environmental Medicine*. Dr. Pavuk has worked on numerous projects in the exposure assessment of dioxins and other organochlorines collaborating with analytical laboratories employing high-resolution mass spectrometry as well as molecular genetics laboratories in the analysis of polymorphisms in biotransformation-regulating genes. Dr. Pavuk currently serves as the ATSDR liaison for the Michigan Department of Community Health and Environmental Quality for the University of Michigan Dioxin Exposure Study.

## Persky, Victoria

### University of Illinois at Chicago

Dr. Victoria Persky is a Professor of Epidemiology in the School of Public Health, University of Illinois at Chicago. She received her undergraduate degree from Radcliffe College, M.D. from Albert Einstein College of Medicine, and completed residencies in internal medicine at University of Alabama in Birmingham and Northwestern University. In addition to her epidemiology research, she practiced medicine part time for 30 years in a community-based health center on the Westside of Chicago. For the last 18 years her research focus has been in environmental epidemiology, with a major focus on endocrine effects of organochlorines. Currently, she is Principal Investigator or Co-Investigator of grants examining the effects of *in utero* environmental modification on the development of asthma; the effects of community-based intervention on morbidity from asthma; associations of PCBs, Dioxins and PBDEs with hormonal levels in consumers of Great Lakes fish; environmental exposures to airborne PCB levels; the effects of low rise demolitions on dust fall lead levels, and a binational pilot study of the effects of migration from Mexico on diet and risk factors for diabetes. She is a past member of the National Institutes of Health (NIH) Infectious, Reproductive, Asthma and Pulmonary Conditions (IRAP) epidemiology study section and the Chicago Asthma Consortium Advisory Board and is a current member of the Board of Mobile C.A.R.E Foundation, the Cook County Lead Prevention Advisory Council and the *Environmental Justice* Journal Editorial Board.

## Petersen, Sandra

### University of Massachusetts, Amherst

Sandra Petersen is a Professor in the Department of Biology, the Acting Director of the Northeast Alliance for Graduate Education and the Professoriate (NEAGEP) and the Associate Graduate Dean for Diversity in Science, Technology, Engineering and Mathematics (STEM) at the University of Massachusetts (UMass), Amherst. Professor Petersen received her Ph.D. degree in Zoology at Oregon State University and post-doctoral training at the University of Maryland Medical School. Before joining the UMass faculty in 1994, she was a faculty member in the Department of Physiology at the University of Maryland Medical School and subsequently in the Department of Anatomy and Neurobiology at the University of Missouri Medical School. Professor Petersen received the University of Missouri Medical School Excellence in Education Award, as well as the Bioscience Outstanding Teacher Award and the College of Natural Science and Mathematics Outstanding Teacher Award at UMass. As Director of NEAGEP and Associate Graduate Dean, she oversees an annual budget of over \$2.5 million and coordinates projects in 16 colleges and universities. These projects are focused on increasing diversity in STEM doctoral programs and in the professoriate. Under her leadership, the number of minority doctoral students in these institutions has more than doubled in the past five years to the current level of nearly 500. By piloting and instituting institution-wide retention strategies, the graduation rate for minorities in NEAGEP has also doubled. Professor Petersen has been continuously funded by the National Institutes of Health (NIH) for over 20 years. She has served on NIH review and site visit panels and has given numerous invited lectures at national and international meetings. Her research interests are in the molecular and cellular mechanisms underlying the sex-specific neuroendocrine control of gonadotropin release, as well as in the mechanisms through which estradiol and dioxin exert opposite effects on the development of sexually dimorphic neural structures.

## Petroff, Brian K.

### University of Kansas

Dr. Brian K. Petroff is currently an Assistant Professor in the University of Kansas School of Medicine. Dr. Petroff holds a B.S. in Animal Sciences, a Ph.D. in Physiology, and a doctorate in Veterinary Medicine from The Ohio State University. He conducted postdoctoral work in reproductive endocrinology at the University of Kansas Medical Center and at the Marine Biological Laboratory in Woods Hole, Massachusetts. Dr. Petroff's research interests include women's cancers (i.e., breast and ovarian cancer) and infertility due to aryl hydrocarbons including dioxins. Dr. Petroff's laboratory focuses upon the prevention of these conditions through the characterization of promising drug targets in human and animal chemoprevention trials. Dr. Petroff's research efforts include characterization and alleviation of the loss of female fertility in polluted environments, the development of animal models of women at high risk for breast and ovarian cancer and the use of proteomic, RNA and laser capture microdissection technologies to assess early markers of risk for breast and ovarian cancer. A novel focus of both Dr. Petroff's infertility and cancer chemoprevention work concerns the role of stem cells in normal and precancerous tissue. Additionally, Dr. Petroff directs the developmental research in the Breast Cancer Prevention Center, particularly the testing of promising cancer chemopreventives in human clinical trials.

## Pongratz, Ingmar

### Karolinska Institutet

Dr. Ingmar Pongratz is a Group Leader of a research group of ten students and post-doctorate students in the field of molecular biology with special interest in studies on endocrine disruption in the Department of Molecular Biology Unit at the Karolinska Institutet in Stockholm, Sweden. Dr. Pongratz is Vice-Coordinator with practical and strategic responsibility for the CASCADE Network of Excellence, which is a European Union-funded research, training and dissemination network composed of 25 different research groups from 10 Countries. Dr. Pongratz has authored or co-authored several papers on dioxin, including “The bHLH-PAS protein ARNT functions as an Estrogen receptor co-activator” and “The transcription factor ARNT functions as an estrogen receptor beta selective co-activator, and its recruitment to alternative pathways mediates anti-estrogenic effects of TCDD.”

## Portier, Christopher

### National Institute of Environmental Health Sciences

Dr. Christopher Portier is currently Associate Director of the National Institute of Environmental Health Sciences (NIEHS), Director of the Office of Risk Assessment Research at the NIEHS, and leads the Environmental Systems Biology (ESB) Research Group within the Laboratory of Molecular Toxicology. As Associate Director, Dr. Portier organizes and coordinates all research activities related to risk assessment both within the NIEHS and outside of the NIEHS with grantees and institutional collaborators. As Head of ESB, Dr. Portier conducts research into quantifying and modeling the interactions of mammalian systems with environmental agents. Previously, Dr. Portier was Director of the Environmental Toxicology Program (ETP) at the NIEHS and Associate Director of the National Toxicology Program (NTP). Dr. Portier received his Ph.D. in 1981 from the University of North Carolina in biostatistics. Dr. Portier is an internationally recognized expert in the design and analysis of toxicology data and in risk assessment methodology. He has published over 150 peer-reviewed scientific manuscripts and over 50 book chapters/reports covering such diverse topics as risk assessment, statistics, cancer biology, immunology, development, genetically modified foods and genomics. He has received numerous awards including the Spiegelman Award from the American Public Health Association and the Outstanding Practitioner of the Year Award from the Society for Risk Analysis. Dr. Portier has aided in the development of risk assessment guidelines for both national (U.S. EPA, U.S. Food and Drug Administration [FDA]) and international (Organization for Economic Co-operation and Development [OECD], International Programme on Chemical Safety [IPCS], International Agency for Research on Cancer [IARC], Australian Government, Korean Government, Japanese Government) authorities and has either directed or contributed significantly to numerous risk assessments, most notably those for dioxins (U.S. EPA, World Health Organization [WHO]/IPCS), aflatoxins (FDA, Food and Agriculture Organization of the United Nations/IPCS) and electromagnetic fields (U.S. Department of Energy/NIEHS). In cooperation with the U.S. State Department, Centers for Disease Control and Prevention [CDC] and U.S. EPA, Dr. Portier has led efforts by the U.S. Government to begin research on the health effects of Agent Orange in Vietnam. He has served as an advisor to the Finnish Academy of Sciences on the Centers of Excellence Research Program and a member of a number of WHO/IARC scientific committees. In the last 2 years, Dr. Portier has been invited to speak at over 50 scientific conferences including international meetings in Germany, France, Italy, Finland, Switzerland and Canada.

## Rhomberg, Lorenz R.

### Gradient Corporation

Dr. Lorenz R. Rhomberg is a Principal at Gradient Corporation, a Cambridge Massachusetts environmental consulting firm, where he specializes in critical review of toxicological information, human health risk assessment, and science policy issues for environmental and consumer chemical exposures. Before joining Gradient he was on the faculty of the Harvard School of Public Health. From 1984-1994 he was a risk assessor at the U.S. Environmental Protection Agency in Washington, D.C. Dr. Rhomberg earned his Ph.D. in population biology from the State University of New York at Stony Brook and an Honours B.Sc. in biology from Queen's University in Ontario. His interests lie in methodology and science policy for quantitative risk analysis, including dose-response modeling, pharmacokinetic modeling and probabilistic methods with special emphasis on cross-species extrapolation, chlorinated solvents and endocrine active agents. Dr. Rhomberg has served on several Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Scientific Advisory Panels, on several U.S. National Academy of Sciences (NAS) committees, and numerous review and advisory panels sponsored by government, trade associations, and professional societies. He has been invited to address several other NAS panels on scientific issues, including the panels producing the National Research Council (NRC) reports, *Toxicity Testing in the 21<sup>st</sup> Century*, *Scientific Review of the proposed Risk Assessment Bulletin from the Office of Management and Budget*, and the recent *Science and Decisions: Advancing Risk Assessment*. He was on the 2000 U.S. EPA Dioxin Peer Review panel. He currently sits on the NRC's Standing Committee on Risk Assessment Issues and Reviews, for which he organized a workshop on receptor-mediated toxicity and its effect on dose-response analysis. He is author/editor of several books and more than 60 articles on risk analysis topics. He is a member of several scientific societies, including the Society of Toxicology and the Society for Risk Analysis, for which he is a past Councilor and a past President of the New England Chapter.

## Rose, Martin

### Central Science Laboratory, UK

Dr. Martin Rose works for the UK Government at the Central Science Laboratory in York, UK (part of the Department for Environment, Food and Rural Affairs). Dr. Rose studied Chemistry at the University of East Anglia, Norwich where he received his B.Sc, M.Sc., and Ph.D. Dr. Rose studied migration of chemicals from plastic packaging into food and helped establish the UK's first laboratory for measuring dioxins in food and other biological/environmental samples in the 1980's. From 1990-1999 Dr. Rose worked on veterinary drug residues with particular interests in method development and the effects on residues of cooking and storage (post-mortem metabolism). From 1999 to the present, Dr. Rose returned to research dioxins and other environmental contaminants, including emerging contaminants (organofluorine compounds such as PFOS and brominated organic contaminants such as flame retardants). Dr. Rose specializes in the application of analytical chemistry to multi-disciplinary research projects looking at aspects such as environmental pathways, remediation, risk assessment methodologies, emergency response, bioanalytical methods, ecotoxicology, reproductive toxicology and identification and prioritization schemes for emerging contaminants.

## Rozman, Karl

### University of Kansas

Dr. Karl Rozman is a professor of Toxicology and Pharmacology at the University of Kansas Medical Center. Dr. Rozman is a toxicologist with broad experience in toxicology, kinetics, and the adverse effects of exposure to chemicals. Dr. Rozman received his academic training at the University of Innsbruck, obtaining a Ph.D. in Organic and Pharmaceutical Chemistry. Dr. Rozman has been the primary investigator of major research programs since 1978 and has published over 150 peer-reviewed articles, a similar number of abstracts, and has contributed over twenty book chapters on various aspects of toxicology. Dr. Rozman served on the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value Committee for several years and was the TLV-Liaison to the German MAK Kommission. Dr. Rozman has served as a consultant to the Committee on Toxicology of the National Research Council and other Committees in the National Academy of Sciences, and various governmental and industrial organizations.

## Schechter, Arnold

### University of Texas Health Science Center Houston

Dr. Arnold Schechter is Professor of Environmental and Occupational Health Sciences at the University of Texas School of Public Health at Dallas. Dr. Schechter holds a B.A. and a B.S. from the University of Chicago, an M.D. from Howard University Medical School, and an M.P.H. from Columbia University School of Public Health. Dr. Schechter has researched dioxins and Agent Orange in the U.S. and in Vietnam since 1984 and published over 100 articles in peer reviewed scientific journals on dioxin related topics, exposure, and epidemiology. Major findings of Dr. Schechter's research include the first U.S. demonstration of blood and fat tissue congener specific dioxin and dibenzofuran patterns for exposure assessment and correlation between environmental and blood and fat congener levels, and findings that TCDD is currently still elevated in Vietnamese milk, blood, food, and some parts of the environment but not in most locations. He was among the first to report dioxins are present in all Americans tested, not only specially exposed persons. He is coauthor of Ranch Hand publications showing an association between elevated TCDD blood levels and prostate and skin cancers in Vietnam veteran sprayers of Agent Orange. His research has also found that food is still contaminated in some parts of Vietnam from Agent Orange and can be a current source of TCDD intake. He edited the first and second editions of the reference text, *Dioxins and Health*, published by Plenum and John Wiley and Sons (2003), respectively. He edited the Environmental Sections of the 13th and 14th Editions of Maxcy Rosenau Last's *Public Health and Preventive Medicine*. Recently, he began studying PBDEs and has found that PBDEs were in all samples measured of U.S. breast milk and blood, the highest levels worldwide in humans are in the U.S., that elevated contamination of BDE 209 and other PBDEs can be found in house dust and in household drier lint as well as computer cases, and that PBDEs are found in all fish, dairy and meat products, and low levels in most fruit and vegetables in the U.S. He reported decreasing dioxins and PCBs in Americans and increasing PBDEs over 3 decades in the US.

## Silverstone, Allen

### State University of New York Upstate Medical University

Dr. Allen Silverstone is a Professor of Microbiology and Immunology at State University of New York (SUNY) Upstate Medical University, and an Adjunct Professor in Environmental Medicine at the University of Rochester School of Medicine. Dr. Silverstone holds a B.S. in Organic Chemistry from Reed College, Portland, Oregon and a Ph.D. in Microbiology from Massachusetts Institute of Technology (MIT), and has conducted post-doctoral studies in RNA Polymerase Genetics at the Microbial Genetics Research Unit in Edinburgh, Scotland, and in Immunology and Leukemia at the MIT Center for Cancer Research in Cambridge Massachusetts. Dr. Silverstone is currently researching the protocol for immunophenotyping for KCI Protocol #ISP-07-026. The major goal of this project is to monitor the specific dynamics of leukocyte populations, including particular regulatory populations, as potential valuable markers in determining whether the progression to fatality from sepsis can be avoided. Dr. Silverstone currently serves on the steering committee of the Agency for Toxic Substances and Disease Registry (ATSDR)-funded project of the Anniston Environmental Health Consortium, which is investigating the long term health consequences of high levels of environmental PCB exposures in Anniston, AL. Dr. Silverstone recently completed researching the effect of TCDD on T lymphocyte differentiation. This grant (on which Dr. Silverstone has a subcontract) seeks to identify the specific target cells and molecular alterations associated with 2,3,7,8 Tetrachlorodibenzo-p-dioxin inhibiting or modulating T cell and hemopoietic stem cell function. The subcontract work involves microarray analysis of gene expression in the stem cell compartments for thymocyte differentiation, and correlating this analysis with effects on cell cycle that have already been identified. Dr. Silverstone has served as an author or co-author on over thirty peer-reviewed articles and publications.

## Small, Mitchell

### Carnegie Mellon University

Dr. Mitchell Small is the H. John Heinz III Professor of Environmental Engineering at Carnegie Mellon University (CMU). He joined the Departments of Civil and Environmental Engineering and Engineering & Public Policy (EPP) at CMU in 1982, following completion of his Ph.D. in Environmental and Water Resources Engineering at the University of Michigan. Professor Small's research involves mathematical modeling of environmental systems, risk assessment and decision support. Current projects involve the modeling of drinking water distribution systems to detect accidental or intentional contamination; modeling geologic sequestration of CO<sub>2</sub> to determine the best combination of monitoring devices needed to verify that sequestered CO<sub>2</sub> is remaining underground, and the development of decision support tools for ecosystem management with multiples stakeholders and objectives. Dr. Small has served as a member of the U.S. EPA Science Advisory Board (SAB) and has been a member of a number of U.S. National Research Council committees addressing issues of environmental risk assessment and management. He is currently a member of the U.S. Army Corps of Engineers External Review Panel for the Louisiana Coastal Protection and Restoration Project, is a Fellow and current Secretary of the Society for Risk Analysis, a feature columnist for the *Journal of Industrial Ecology*, and serves as an Associate Editor for the journal *Environmental Science & Technology*, with particular responsibility for the environmental modeling and policy analysis sections of the publication.

## Steenland, Kyle

### Emory University

Dr. Kyle Steenland is a Professor in the Department of Occupational Environmental Health in the Rollins School of Public Health, Emory University. Dr. Steenland holds a B.A. in History from Stanford University, an M.A. in American Studies and a Ph.D. in History from State University of New York at Buffalo, an M.S. in Mathematics (statistics) from University of Cincinnati, and an M.S. and Ph.D. in Epidemiology from University of Pennsylvania. Dr. Steenland's research focuses on epidemiologic methods and risk assessment, quality of life among cancer patients, neurodegenerative diseases, and studies of the health effects of a chemical which has contaminated drinking water in West Virginia and Ohio. Dr. Steenland's recent methods work has involved a review of attributable fractions and other measures of public health burden, and a Monte Carlo sensitivity analyses to adjust for confounders for which there is limited information. Dr. Steenland's quality of life work has focused on interviewing prostate cancer patients in rural Southwest Georgia to determine why they choose specific treatments and to determine what factors predict a more favorable quality of life under these treatments. Dr. Steenland recently completed a study on screening for the occurrence of mild cognitive impairment (MCI) and dementia among Emory patients, and is working on a pilot study of screening for neurodegenerative disease in Costa Rica. Several large projects are underway to study the possible health effects of a fluorocarbon called PFOA on community residents in West Virginia. Dr. Steenland also works on a Fogarty program grant to train students in Chile and Peru in environmental health. Dr. Steenland has served as an author or co-author on over thirty peer-reviewed articles and publications. Several publications focused on dioxin research, including dioxin exposure-response analyses and risk assessment; Developments since the 1997 International Agency for Research on Cancer (IARC) classification of dioxin as a human carcinogen; and Risk assessment for 2,3,7,8-*p*-dioxin (TCDD) based on an epidemiologic study.

**Sweeney, Anne****Commonwealth Medical College**

Dr. Anne Sweeney is Professor of Epidemiology at the The Commonwealth Medical College in Scranton, PA, and formerly served as Assistant and Associate Professor at Michigan State University, University of Texas, and Texas A&M University. Dr. Sweeney holds a B.S. in Nutrition from Marywood College, Scranton, PA; and an M.P.H. and Ph.D. in Epidemiology from University of Pittsburgh. Dr. Sweeney is an author or co-author of over thirty peer-reviewed articles and publications, including “The Reproductive Epidemiology of Dioxins,” “Reproductive Health, Serum Dioxin, and P450 Genes in Vietnam Veterans,” “2,3,7,8-tetrachlorodibenzo-p-dioxin and reproductive effects,” and “Paternal Blood Dioxin, CYP1A1 and Neural Tube Defects in Children of Vietnam Veterans.” Dr. Sweeney’s current research includes “Determinants of Male and Female Fecundity and Fertility”, and “Effects of Aspirin in Gestation and Reproduction Clinical Trial.” Dr. Sweeney was a member of U.S. EPA’s Scientific Advisory Board Environmental Health Committee, and is a member of the U.S. EPA’s Science Advisory Board Panel on Acrylamide. Previously, Dr. Sweeney chaired the National Institute of Child Health and Human Development Concept Review for Determinants of Male and Female Fecundability, and was a member of the Institute of Medicine's Gulf War and Health Study expert panel on the health effects of pesticides. In addition, Dr. Sweeney previously served as a member of the U.S. EPA’s 1993 Dioxin Peer Review Panel, and co-chaired a special session on “Cancer and Dioxin” at the International Dioxin 2000 meeting.

**Tohyama, Chiharu****University of Tokyo**

Dr. Chiharu Tohyama is Professor of Laboratory of Environmental Health Sciences, Center for Disease Biology and Integrative Medicine, Graduate School of Medicine of the University of Tokyo. After graduating from the University of Tokyo, he obtained his Ph.D. in toxicology from the University of Rochester in 1981. He started his professional career as a researcher at the National Institute for Environmental Studies, Tsukuba, Japan, and served as Director of the Environmental Health Sciences Division from 1994 until 2004 until his transfer to the university. His research interests range from basic research on the elucidation of molecular mechanism of toxicities to health risk assessment, focusing upon dioxins, environmental endocrine disruptors and heavy metals. He also serves as a member or temporary adviser for various expert committees of risk assessment of chemicals including dioxins at World Health Organization, Joint Expert Committee of Food Additives and Contaminants (JECFA), the Ministry of the Environment and Food Safety Commission, Japan.

## Van den Berg, Martin

### Utrecht University

Dr. Martin van den Berg is a Full Professor in Toxicology (also Chair at the Veterinary Faculty), and deputy director of the Institute of Risk Assessment Sciences (IRAS) of the University of Utrecht, the Netherlands and head of the Toxicology Division of IRAS. Dr. van den Berg is a graduate of the University of Amsterdam (Supervisor Professor Dr. Otto Hutzinger, 1986) with an M.Sc. and a Ph.D. in Environmental and Toxicological Chemistry. Professor van den Berg's current areas of research include: toxicokinetics, metabolism and reproductive and interactive effects of halogenated polyaromatics; interactive effects of xenobiotics and phytochemicals on steroid hormone synthesis and metabolism, and their relation to hormone dependent tumors; and development of *in vitro* assays to detect endocrine disruptors. These studies are done with mammals, birds and fish as well as in *in vitro* systems. The results of Dr. van den Berg's scientific work and that of his research group have been published in more than 240 scientific articles and papers. Many of these articles have been published in the top 10 percent journals in the field of toxicology such as *Toxicology and Applied Pharmacology*, *Toxicological Sciences*, and *Environmental Health Perspectives*. Dr. van den Berg's research group consists of one assistant professor, five to seven Ph.D. students and one to two technicians, annually. Dr. van den Berg is also appointed as an honorary professor in environmental toxicology at the University of Queensland (Brisbane) and an adjunct professor at the Asean Institute of Technology/Royal Chulabhorn Research Institute in Bangkok. In autumn 2006 Dr. van den Berg received an honorary doctorate from the University of Umea, Sweden for his research on dioxin-like compounds. Dr. van den Berg is connected to several national and international organizations which are involved with the (eco)toxicological risk assessment of dioxins, PCBs and other persistent organohalogen compounds. He is an appointed member of the Health Council of The Netherlands and chaired and served on several of its committees. He is also director of the World Health Organization (WHO) Collaborating Centre for Research on Environmental Health Risk Assessment, which is based at IRAS (Utrecht University) and a collaboration with the Dutch National Institute of Public Health and Environmental Protection (RIVM, Bilthoven). During the last five years he has been acting as an advisor on many WHO, European Union (EU) and U.S. committees that are dealing with the (environmental) health effects of dioxins, PCBs and endocrine disruptors or the use of bioassays for rapid screening techniques. Dr. van den Berg is member of the Society of Toxicology (U.S.) and the Dutch Society of Toxicology. Within the Dutch Society of Toxicology he has been a member of the registration committee for toxicologists for seven years and he was recently elected incoming president. From 2004-2007 Dr. van den Berg served as the only European member of the program committee of the Society of Toxicology in the U.S.

## **Vanden Heuvel, John P.**

### **The Pennsylvania State University**

Dr. John P. Vanden Heuvel is a Professor of Molecular Toxicology and Co-Director, Center for Excellence in Nutrigenomics, at Pennsylvania State University. Dr. Vanden Heuvel is also co-owner and Chief Scientific Officer of Indigo Biosciences, Inc., in State College, Pennsylvania. Dr. Vanden Heuvel holds a B.S. in Pharmacology/Toxicology, and a Ph.D. in Toxicology from the University of Wisconsin-Madison. Dr. Vanden Heuvel conducted post-doctoral work at the National Institutes of Environmental Health Sciences (NIEHS) in Biochemical Toxicology. Dr. Vanden Heuvel is currently researching Biochemical Characterization of PPAR; BOLD (Beef as part of an Optimal Lean Diet) Effects on Established and Emerging Cardiovascular Disease (CVD) Risk Factors: A Comparison to Pharmaceutical Treatments; Effects of walnut oil and extracts on adipocyte/breast cancer epithelial communication; Postprandial Effects of Walnut Components vs. Whole Walnuts on Oxidative Stress, Inflammation, Platelet Function and Endothelial Function in Volunteers with Moderate Hypercholesterolemia; and Combination of low-dose antiestrogens with omega-3 fatty acids for prevention of hormone-independent breast cancer.

## **Walker, Mary K.**

### **University of New Mexico**

Dr. Mary K. Walker is a Professor of Pharmacology and Toxicology at the University of New Mexico Health Sciences Center, College of Pharmacy, and also a Regents Professor at the University of New Mexico. She obtained two B.S. degrees from the University of Wisconsin-Madison (1984); one in Wildlife Ecology and the other in Agricultural Journalism; and a Ph.D. in Environmental Toxicology also from the University of Wisconsin-Madison (1991). Her doctoral research investigated the impact of dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin, TCDD) and related environmental chemicals in the Great Lakes on lake trout reproduction and early life stage survival, and her results contributed to the conclusion that these chemicals were a causative factor in the extinction of lake trout in Lake Ontario. Dr. Walker's current research investigates the toxicological effects of dioxin on the cardiovascular system. Her early studies investigated the cardiovascular structural birth defects and functional deficits resulting from fetal exposure to these chemicals, while more recently her work focuses on the mechanisms by which these chemicals can cause cardiovascular disease in adulthood, such as high blood pressure and cardiac enlargement. This research has led to her more fundamental studies on the role of specific genes that are altered by dioxin exposure in cardiovascular physiology and disease pathology. Her research utilizes a wide variety of genetically modified mice and currently she is completing a sabbatical at the University of Iowa (2009) on the design and development of transgenic mouse models for studying the pathogenesis of hypertension. She has served as a member of the National Academies of Science, Institute of Medicine review panel on the Health Effects in Vietnam Veterans of Exposure to Herbicides (2006) and is recognized as a Fellow of the American Heart Association (2007).

## **Weiss, Bernard**

### **University of Rochester**

Dr. Bernard Weiss is Professor of Environmental Medicine at the University of Rochester School of Medicine and Dentistry, where he has been a member of the faculty since 1965. Dr. Weiss is also a member of its Environmental Health Sciences Center and Center for Reproductive Epidemiology. Dr. Weiss holds a B.A. in psychology from New York University, and a Ph.D. in psychology from University of Rochester. Before coming to Rochester, Dr. Weiss served on the faculty of the Johns Hopkins School of Medicine, and, earlier, held an appointment at the U.S. Air Force School of Aviation Medicine. Dr. Weiss has served as a member of many committees and panels devoted to toxicology and environmental health, including those organized by the U.S. Environmental Protection Agency's Science Advisory Board, and the National Academy of Sciences. Dr. Weiss is especially concerned with risk assessment issues arising from the effects of environmental chemicals on brain development and brain aging, and with the role played by sex differences. Dr. Weiss is the editor or co-editor of seven books and monographs and author or co-author of over 200 articles. Dr. Weiss's special interests and publications lie primarily in areas that involve chemical influences on behavior; these include the neurobehavioral toxicology of metals such as lead, mercury and manganese; endocrine disrupters such as dioxin; solvents such as toluene and methanol; plasticizers such as phthalates; and air pollutants such as ozone. Dr. Weiss's current research projects, both supported by the National Institute of Environmental Health Sciences (NIEHS), examine the combined effects of mercury vapor and methylmercury on brain development, and explores the effects of phthalate plasticizers on brain sexual differentiation.