

**Invitation for Public Comment on the List of Candidates for the  
EPA Science Advisory Board  
Libby Amphibole Asbestos Review Panel  
August 9, 2011**

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a *Federal Register* Notice (Volume 76, Number 103, Pages 30939 – 30940) published on May 27, 2011, that it was forming an *ad hoc* Panel under the auspices of the SAB to review EPA's draft Toxicological Review of Libby Amphibole Asbestos. To form the Panel, the SAB Staff Office sought public nominations of nationally recognized and qualified experts in one or more of the following areas, particularly with respect to asbestos: mineralogy, industrial hygiene, air sampling and detection methods, exposure assessment, occupational medicine, pulmonary medicine, radiology on asbestos related disease, pulmonary pathology, epidemiology, toxicology, statistical modeling, risk assessment, and uncertainty analysis.

The SAB Staff Office has identified 62 candidates based solely on their relevant expertise and willingness to serve. **We hereby invite public comments on the attached List of Candidates for consideration by the SAB Staff Office in the formation of this Panel. Comments should be submitted to Dr. Diana Wong, Designated Federal Officer, no later than August 30, 2011. E-mailing comments ([wong.diana-M@epa.gov](mailto:wong.diana-M@epa.gov)) is the preferred mode of receipt. Please be advised that public comments are subject to release under the Freedom of Information Act.**

The SAB Staff Office Director will make the final decision about who will serve on the Panel based on all relevant information. This will include a review of the confidential financial disclosure form (EPA Form 3110-48), relevant information gathered by staff, and public comments. For the EPA SAB Staff Office, a balanced 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 advisory committees and panels; and f) for the panel as a whole, diversity of scientific expertise and viewpoints.

## **Asbestos Committee for IRIS Libby Amphibole Asbestos Review Panel**

### **Abraham, Jerrold**

#### **State University of New York- Upstate Medical University**

Dr. Jerrold Abraham is a Professor of Pathology and Director of Environmental and Occupational Pathology. He has been involved in asbestos research and diagnosis since 1972. He has a BS degree in Life Sciences from MIT (1966) and an MD from University of California at San Francisco (1970). His experience has included routine diagnosis and analytical electron microscopy of asbestos and other fibers and non-fibrous particulates. He has served on asbestos-related committees for the American Thoracic Society, the College of American Pathologists, NIOSH, ATSDR. He has been the principal investigator of EPA supported epidemiologic research. He has over 100 publications and his research has been supported by NIH, EPA, California Air Resources Board and the American Lung Association. He is on the Editorial Board of Archives of Environmental Health.

### **Balmes, John R.**

#### **University of California**

Dr. John Balmes is a Professor of Medicine at the University of California, San Francisco (UCSF) where he is the Chief of the Division of Occupational and Environmental Medicine at San Francisco General Hospital (SFGH), Director of the Human Exposure Laboratory of the Lung Biology Center, and the Principal Investigator of the UCSF Pediatric Environmental Health Specialty Unit. He is also Professor of Environmental Health Sciences at the University of California, Berkeley where he is the Director of the Northern California Center for Occupational and Environmental Health and the Center for Excellence in Environmental Public Health Tracking. Dr. Balmes received his BA from the University of Illinois (Urbana) in 1972. He received his MD from the Mount Sinai School of Medicine of the City University of New York in 1976. He completed a Residency in Internal Medicine at the Mount Sinai Hospital at New York City in 1979 and a fellowship in Pulmonary Medicine with additional training in occupational medicine in 1982. He is board-certified in Internal Medicine and Pulmonary Medicine and actively practices pulmonary and critical care medicine at SFGH. Dr. Balmes leads a research program involving the respiratory effects of ambient air pollutants. In his laboratory at UCSF, he conducts controlled human exposure studies of the acute effects of ozone and other pollutants. At UC Berkeley, he collaborates in epidemiological studies of the chronic effects of air pollutants. He has published over 160 papers or chapters on occupational and environmental respiratory disease-related topics with many of these dealing with the potential health effects of ambient air pollutants, especially ozone. Dr. Balmes' expertise in the health effects of ambient air pollutants has been recognized by multiple awards including the following: an Environmental/Occupational Medicine Academic Award from the National Institute of Environmental Health Science (1991-1996); the Clean Air Research Award from the American Lung Association of San Francisco and San Mateo in 1997; and the Clean Air Award from the American Lung Association of California in 1999. Dr. Balmes currently serves as a member of the Research Screening Committee of the California Air Resources Board (CARB) and was a member of the Air Quality Advisory Committee of the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency from 1992-2004. He has served the U.S. Environmental Protection Agency in many capacities. In 1992, he served on the Clean Air Scientific Advisory Committee Oxides of Nitrogen Review Panel and was invited to participate in a Workshop on Health Issues on Air Quality Criteria for Ozone and Related Photochemical Oxidants. He contributed to the writing of the Air Quality Criteria Document for Ozone in 1993-1994. He was a Consultant Reviewer of the Air Quality Criteria Document for Particulate Matter in 1995, was invited to participate in a Workshop on Asthma and the Environment in 1996, and was a Consultant Reviewer of the Air Quality Criteria Document for Ozone in 2003. In addition, he served as a consultant advisor regarding epidemiologic research on the health effects of ozone to the Health Effects Institute from 1990-1992. Dr. Balmes is on the editorial board of the International Journal of Occupational and Environmental Health and is an active reviewer for multiple clinical and environmental health journals, including the New England Journal of Medicine, JAMA, the American Journal of Respiratory and Critical Care Medicine, the European Respiratory Journal, Occupational and Environmental Medicine, and Environmental Health Perspectives. Dr. Balmes is a member of multiple professional societies and organizations, including the American and California Thoracic Societies, the American College of Chest Physicians, the American College of Occupational and Environmental Medicine, the Society for Occupational and Environmental Health, and the International Society for Environmental Epidemiology. He was Chair of the Environmental and Occupational Health Scientific Assembly of the American Thoracic Society in 1997-1999 and President of the California Thoracic Society in 2001-2002.

## **Barlow,Christy**

### **Chemrisk LLC**

Dr. Christy Barlow is a toxicologist with extensive experience designing and conducting pharmacology and environmental toxicology and pathology studies. She earned a Ph.D. in Cell and Molecular Biology at the University of Vermont and a B.S. in Biology at Eckerd College. She was awarded a NIEHS pre-doctoral fellowship for her graduate work. As a doctoral student, Dr. Barlow was involved in several research projects aimed at understanding the role of oxidative stress-mediated signaling pathways (e.g., CREB) and their relationship to the development of asbestos-induced apoptosis. As part of this research, she performed both in vitro and in vivo studies employing advanced biochemical, molecular, and cellular biology techniques. After completing her dissertation work, Dr. Barlow was awarded an NIH postdoctoral fellowship at the University of Wisconsin at Madison to examine the role of the newly discovered oxidant-regulated poly(A) polymerase, Star-PAP. She worked to elucidate the mechanism by which Star-PAP controls expression of its select target mRNA. Since completion of her post-doctoral research, Dr. Barlow has joined ChemRisk, LLC as a Health Scientist. She has provided technical and litigation support on a variety of projects assessing the health effects associated with exposure to a range of chemicals. Specifically, Dr. Barlow has completed a large number of evaluations assessing the risk of disease associated with asbestos exposures in numerous occupational and environmental settings. This work has included comprehensive historical state-of-the-science assessments and evaluations of some of the critical factors impacting asbestos toxicology (e.g., fiber type, fiber dimension, and fiber dose). In total, Dr. Barlow has published eight peer-reviewed manuscripts, one of which describes her work related to asbestos. She is a full member of the Society of Toxicology.

## **Berman,Wayne**

### **Aeolus, Inc.**

Dr. D. Wayne Berman holds a Ph.D. in physical chemistry from the California Institute of Technology and has 30 years experience providing innovative solutions to complex environmental problems for a variety of government and private institutions. He began his career in the environmental field as a member of the group at Clement Associates who pioneered procedures used to perform site risk assessments under the Federal Superfund Program. Many of these procedures are in common use today. In addition to exposure and risk assessment, Dr. Berman has amassed extensive experience in strategic planning, chemical fate and transport, statistics, site investigation, investigation planning and design, feasibility study, chemical process analysis, sampling and analytical method development, data quality analysis, data quality objectives development, regulatory compliance, quality assurance program development and risk communication. Dr. Berman is also a recognized expert in the measurement of asbestos in environmental media, the environmental fate and transport of asbestos, and the assessment of asbestos-related risks. He has published and presented extensively on these topics. Dr. Berman managed and served as the principal investigator on a \$1.2 million project for the EPA to develop a mutually consistent set of sampling and analysis methods for the determination of asbestos in environmental media and a companion protocol for assessing asbestos-related risks. Results from this study include the development and publication of an air method and companion technical background document, a soil-bulk method, and a protocol for assessing asbestos-related risks, the latter of which was favorably reviewed by an expert panel during a EPA-sponsored peer-review consultation. These publications have since been supplemented with publications in the peer-reviewed literature involving further refinements and validation of the risk protocol and performance testing of the soil-bulk method. Dr. Berman has also published on a variety of other asbestos-related topics. Dr. Berman has also served as an invited expert on the following panels: the Expert Advisory Panel for a University of Minnesota Study of Environmental Particulates on the Mesabi Iron Range, 2007 - present; the Southdown Study Expert Group (N.J. Department of Environmental Protection/U.S. Environmental Protection Agency) 1999-2002; the State of California Asbestos Task Force, 1998-1999; the National Asbestos Task Force (U.S. Environmental Protection Agency) 1989-1995.

## **Black,Bradford**

### **Center for Asbestos Related Disease**

Dr. Black has been the Medical Director for the Center for Asbestos and Related Disease in Libby, Montana since year 2000. He received his B.S. degree in Chemistry at the U. of Kansas and his M.D. from the University of Kansas School of Medicine. Dr. Black completed 2 years of his Pediatrics residency at Children's Mercy Hospital in Kansas City, MO and received his PL-3 in Pediatrics from the University of Utah in 1977. Board certification was completed in 1979. Dr. Black's clinical experience from 1977-1999 included pediatric practice in partnership with internal

medicine and family practice, and emergency medicine. Beginning in 2000, he has provided pulmonary evaluation and care to a population with significant Libby Amphibole exposure. His work has expanded into research leading to an association with pulmonologists and occupational medicine specialists from multiple academic centers around the U.S. Dr. Black's areas of expertise include the diagnosis and treatment of asbestos related disease, public health impacts of Libby Amphibole, and the toxicology of asbestos. Dr. Black has been involved in numerous research projects related to health effects and toxicity of asbestos and rural public health policy models. He is currently holds adjunct professorship at Mt.Sinai Medical School. He serves on several Boards and Committees involved in health issues related to asbestos exposure in addition to serving as the Lincoln County (Montana) Health Officer since 1984.

### **Bonner,James**

#### **North Carolina State University**

James Bonner is a Tenured Associate Professor in The Department of Environmental and Molecular Toxicology at North Carolina State University. He received his PhD in Physiology from Mississippi State University in 1987 and completed his postdoctoral training at the National Institute of Environmental Health Sciences (NIEHS). In 1990 he became a Staff Fellow and in 1993 he became a Group Leader in the Laboratory of Respiratory Biology at NIEHS. In 2004, he joined The Hamner Institutes for Health Sciences as a Principal Investigator and Director of The Hamner's Program in Nanotoxicology. Dr. Bonner joined NC State University in 2007 where he teaches graduate level toxicology courses, mentors graduate students and postdoctoral fellows, and directs an NIH-funded research program in respiratory biology. He has over 20 years of experience in molecular toxicology and lung disease pathogenesis. His research focuses on the molecular mechanisms of lung fibrosis and asthma caused by environmental agents such as metals and nanoparticles. Dr. Bonner has published review articles on mechanisms of lung fibrosis, and over 75 peer-reviewed research articles, including publications in The Journal of Clinical Investigation, The Journal of Immunology, and Nature Nanotechnology. He has also published several textbook chapters on Respiratory Toxicology that are currently used for teaching at NC State. Dr. Bonner has been an invited lecturer at numerous scientific venues, including The London Matrix Group, The Aspen Lung Conference, and The International Colloquium on Lung and Airway Fibrosis.

### **Broaddus,V. Courtney**

#### **University of California San Francisco**

Dr. Broaddus is a Professor of Medicine at the University of California San Francisco, where she is also the Chief of the Division of Pulmonary and Critical Care Medicine at San Francisco General Hospital. She obtained a bachelor's of science degree (summa cum laude) from Duke University and obtained her medical degree and completed her Internal Medicine Residency at the University of Pennsylvania. She completed a clinical and research fellowship in Pulmonary and Critical Care Medicine at the University of California San Francisco. Her research focuses on the pleural space and its major toxin, asbestos, with major interest in the resultant asbestos-induced tumor, mesothelioma. Her areas of expertise involve the interaction of asbestos with mesothelial cells, pleural physiology and pathophysiology, apoptosis and mesothelioma. She has served on advisory committees, most recently the NIEHS Workshop on Asbestos Mechanism of Action and was the lead author on the workshop report entitled "Non-neoplastic and neoplastic pleural endpoints following fiber exposure".

### **Brody,Arnold**

#### **North Carolina State University**

Arnold R. Brody, Ph.D. received a B.S. degree in Zoology at Colorado State, aM.S.in Anatomy at the Univ. of IL and a Ph.D. in Cell Biology at Colorado State. After three years of post-doctoral study at Ohio State Univ., he was an Assistant Professor in the Pathology Dept. in the Medical School at the Univ. of Vermont where he began a series of ultrastructural studies on human interstitial lung fibrosis. While at UVM, he worked with Dr.Chris Wagner, thus introducing him to the world of asbestos-related pathology. For the following 15 years, Dr. Brody was the head of the Lung Pathology Laboratory at the National Institute of Environmental Health Sciences. There, he published dozens of papers on the fundamental mechanisms that explain asbestos fiber deposition and consequent lung injury. In 1993, Dr. Brody accepted a position as a full tenured professor at the Tulane Univ. Medical School in New Orleans and was promoted to Vice Chair of theDept.in 1999. At Tulane, he published numerous papers on the mechanismsthrough which asbestos activates genes that control cell growth. Currently, he is a Professor in the Dept. of Molecular Biomedical Sciences at North Carolina State Univ. in Raleigh. His most recent papers describe growth factors released by human and mouse mesenchymal stem cells and the nature of cancer stem cells identified in human

mesothelioma cell lines. Dr. Brody is invited to lecture at universities and conferences worldwide, and he serves on editorial boards of multiple peer-reviewed journals.

### **Cavallari, Jennifer**

#### **Harvard School of Public Health**

Dr. Jennifer Cavallari is a research associate in the Department of Environmental Health at Harvard School of Public Health. She holds a B.S. in Chemistry from the University of Connecticut (1997), and an M.S. (2004) and Sc.D. (2007) in Environmental Health from Harvard School of Public Health. She is also a certified industrial hygienist. Dr. Cavallari has published 18 articles in peer-reviewed journals and a book chapter on Epidemiology. Dr. Cavallari is an expert in occupational and environmental exposure assessment and occupational and environmental epidemiology. She has taken an active role on numerous exposure and health studies, including characterizing polycyclic aromatic hydrocarbon exposures in asphalt paving and examining the cardiovascular health effects from occupational and environmental particulate matter exposures. Dr. Cavallari uses her skills in exposure assessment and industrial hygiene to evaluate exposure pathways including inhalation and dermal exposure routes. Her expertise is in exposure assessment for epidemiology and identification of exposure-response relationships.

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

#### **Cox Associates**

Dr. Tony Cox is President of Cox Associates ([www.cox-associates.com](http://www.cox-associates.com)), a Denver-based applied research company specializing in quantitative health risk assessment, causal modeling, probabilistic and statistical risk analysis, data mining, and operations research. Dr. Cox holds a Ph.D. in Risk Analysis (1986) and an S.M. in Operations Research (1985), both from M.I.T. He has an AB from Harvard University (1978) and is a graduate of the Stanford Executive Program (1993). He is a member of the National Academies' Board on Mathematical Sciences and Their Applications (BMSA), and 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, is a co-founder and Area Editor of the Journal of Heuristics, and is on the Editorial Board of the International Journal of Operations Research and Information Systems. 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's most recent books are Risk Analysis of Complex and Uncertain Systems (Springer, 2009) and the Wiley Encyclopedia of Operations Research and Management Science (Wiley, 2011), which Dr. Cox co-edited and contributed to. He has over a dozen U.S. patents on applications of artificial intelligence, signal processing, statistics and operations research methods.

### **Egilman, David**

#### **Brown University**

Dr. David Egilman, MD, MPH, is a clinical associate professor in the Department of BioMed Community Health at Brown University. He completed residencies in Internal Medicine (board certified) and Preventive-Occupational Medicine (board certified) in addition to the National Institutes of Health Epidemiology Training Program. Dr. Egilman has published widely on issues of occupational health and safety, including scientific methodology and epidemiology concerning asbestos, with special attention to fiber type and low-dose risk. His current research includes the history and practice of warnings; epidemiology of medicine; occupational safety in the asbestos, petrochemical, and flavoring industries; consumer safety and tobacco and pharmaceutical products. Dr. Egilman's teaching at Brown has included the history of medical ethics and the duty to warn; the history of the development of knowledge of the health effects of asbestos including corporate knowledge; the history of the development of government regulations on occupational and environmental safety; and the history of the development of product warnings. Dr. Egilman is the founder and chair of the board of the non-profit organization, Global Health through

Education Training and Service. He has served as a member of the board of the Citizens for Responsible Care and Research, the Committee on Health Based Exposure Limits to Toxic Substances (American Public Health Assoc.), the Rhode Island Committee for Health Rights in Central America, and the Board of Directors of the Brown Medical Association. Dr. Egilman frequently is asked to serve as an expert witness by both plaintiffs and defendants in asbestos litigation. He also has been retained by several companies to consult on asbestos and occupational health.

### **Everitt, Jeffrey**

#### **GlaxoSmithKline Pharmaceuticals**

Dr. Jeffrey Everitt is the Worldwide Director of Comparative Biology & Medicine in the Department of Laboratory Animal Sciences at GlaxoSmithKline Pharmaceutical R&D. He also serves on the adjunct faculty in the Department of Pathology and Laboratory Medicine at the UNC School of Medicine in Chapel Hill, N.C. and in the College of Veterinary Medicine at North Carolina State University in Raleigh, NC. Dr. Everitt received his D.V.M. from Cornell University (1977) and completed a residency in pathology at the University of Pennsylvania (1980). Prior to assuming his position at GlaxoSmithKline in 2002, Dr. Everitt spent over 17 years on the senior scientific staff of the CIIT Centers for Health Research (formerly the Chemical Industry Institute of Toxicology) where he led a multidisciplinary program that studied the health effects of inhaled particulate. Throughout his professional career, Dr. Everitt has been active in numerous professional societies, including service on the Executive Council of the Society of Toxicologic Pathology, and on the Council of the Inhalation Specialty Section and the Toxicologic and Exploratory Pathology Specialty Section of the Society of Toxicology. Dr. Everitt is a Diplomate of the American College of Veterinary Pathologists and a Diplomate of the American College Laboratory Animal Medicine. He has been a member of National Toxicology Program pathology working groups since 1985 and has served as a consultant in toxicologic pathology to numerous academic, industrial, and governmental organizations including NIH, USEPA, NIEHS, IARC, NTP, and ILSI. Dr. Everitt's research interests include experimental and toxicologic pathology of the lung and kidney, particle-induced lung disease, and the development of animal models of human disease.

### **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. Dr. 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).

### **Finkelstein, Murray**

#### **University of Toronto**

Dr Finkelstein is one of Canada's foremost experts on the epidemiology of asbestos disease. In 2008, he retired after 30 years employment as a Medical Consultant at the Ontario Ministry of Labour. Dr Finkelstein has Faculty appointments as Associate Professor in the Program in Occupational Health and Environmental Medicine at McMaster University and as Assistant Professor in the Department of Public Health Sciences at the University of Toronto. He is presently a Research Scholar in the Department of Family and Community Medicine at the University of Toronto. Dr Finkelstein has designed, conducted, and published numerous studies on the health effects of occupational exposure to asbestos including: studies of mortality among workers receiving workers' compensation for asbestosis; radiographic abnormalities, lung function abnormalities, and mortality among asbestos-cement workers; and, studies of asbestos insulators, friction materials manufacturers, asbestos insulation manufacturers, electrical conduit manufacturers, refinery workers, and construction workers. He was invited to appear as a witness before the Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario, and his research and opinions were widely cited in the Royal Commission Report. He was also invited by Professor Irving

Selikoff, of the Mt Sinai School of Medicine in New York, to participate in the Collegium Ramazzini's deliberations on radiographic asbestosis and to participate in the New York Academy of Sciences conference on Asbestos Exposure: The Third Wave. Dr Finkelstein is a tutor in evidence-based medicine for the College of Family Physicians of Canada. He has prepared systematic reviews for the Ontario Workplace Safety and Insurance Board and for WorkSafeBC, the British Columbia workers' compensation board. His systematic review of the relations between asbestos exposure and lung cancer risk led to regulatory changes in British Columbia.

### **Frank, Arthur**

#### **Drexel University**

Dr. Frank is an M.D. graduate of the Mount Sinai School of Medicine (1972) and holds a Ph.D. in Biomedical Sciences from the City University of New York (1977). Board Certified in both internal medicine and occupational medicine, Dr. Frank has been especially interested in occupational cancers, occupational lung disease, and issues of agricultural safety and health. Having trained at Mount Sinai, a world leading institution in the study of asbestos-related diseases, Dr. Frank has spent more than four decades working on asbestos-related issues, in settings ranging from cell and organ culture studies, whole animals, human populations, and social issues related to exposure. In addition to extensive work among U.S. populations, Dr. Frank has been engaged in asbestos-related issues in such diverse settings as Brazil, China, India, Israel and Thailand. While still engaged in clinical medicine and clinical research Dr. Frank has spent much of his career as an educator. He has served on the faculties of the Mount Sinai School of Medicine, the University of Kentucky College of Medicine where he chaired the Department of Preventive Medicine and Occupational Health the University of Texas System where he served as Vice President for Medical Education at the Health Center at Tyler. Currently Dr. Frank serves as Professor of Public Health and Chair of the Department of Environmental and Occupational Health at the Drexel University School of Public Health. He is also a Professor of Medicine in the Drexel University College of Medicine. The recipient of National and International awards and recognition, Dr. Frank has also served on the Board of Scientific Counselors at NIOSH as well as the CDC National Center for Environmental Health, and has advised OSHA, the EPA and the National Academy of Sciences. He has lectured extensively throughout the world and advised about topics related to his long-standing research interests. He has served on the editorial and review boards of numerous peer reviewed journals.

### **Gamble, John**

#### **Calderon Consulting Firm**

Dr. Gamble received his Phd in Environmental Science and Industrial Hygiene at the University of North Carolina School of Public Health in Chapel Hill, NC in 1975. This was a period when the SPH was investigating the health status of workers in the rubber industry. Subsequently he was Epidemiology Section Chief in NIOSH at Morgantown, WV studying health among miners and workers exposed to diesel exhaust, sulphuric acid, coal and industrial talc. He worked at ExxonMobil Biomedical Sciences Inc studying primarily asphalt and air pollution. Currently he is working as a consultant and conducting literature research on issues including asbestos, non-asbestiform amphiboles, diesel exhaust, silica, coal. He served as industry observer at IARC Monographs 68 and 100C and has chapters on Occupational Epidemiology in 3 different editions of Pattys Industrial Hygiene. He has authored about 100 research articles and book chapters.

### **Glenn, Robert**

#### **Glenn Consulting Group, LLC**

Mr. Bob Glenn is a principal with the Glenn Consulting Group which specializes in occupational lung diseases and the health effects of mineral dust exposures. His professional training is in the field of industrial hygiene, and he is a CIH. He holds a B.S. from Clemson University and an MPH from the University of Minnesota. He has published articles on the dust-related diseases and is often invited to speak at scientific meetings on silicosis prevention. He has served as an adviser to the World Health Organization and the Pan American Health Organization. He is a past member of the Editorial Boards of the American Industrial Hygiene Association Journal and Applied Occupational and Environmental Health. Bob represents clients in public policy matters before OSHA and MSHA. Bob served as President and Chief Executive Officer of the Industrial Minerals Association (IMA-NA), a trade association representing the interests of the industrial minerals industry, and the National Industrial Sand Association (NISA) for over 15 years. The IMA-NA was founded in 2002 under Bob's guidance in collaboration with the leadership of the industrial minerals industry. In 1998 he retired as a commissioned officer in the U.S. Public Health Service where he served as Director of the Division of Respiratory Disease Studies of NIOSH. In this capacity, he directed a staff of

physicians, epidemiologists, industrial hygienists, and biological scientists conducting occupational lung disease research. Bob began his career in the U.S. Army where he served in Vietnam and was later involved in the demilitarization of chemical warfare agents.

## **Gronewold, Andrew**

### **National Oceanic and Atmospheric Administration**

Andrew Gronewold, Ph.D., P.E. is a research scientist with NOAA's Great Lakes Environmental Research Laboratory (GLERL) in Ann Arbor, Michigan. His research focuses on advancing novel tools for quantifying uncertainty and variability in environmental models and data and propagating both into risk-based human health and environmental resource management decisions. His research emphasizes the potential advantages of incorporating probability theory and Bayesian statistics into conventional modeling paradigms, and the importance of robust model skill assessment when considering the relative significance of different model forecasts. Dr. Gronewold conducted his graduate research at the Nicholas School of the Environment at Duke University under the guidance of Drs. Kenneth Reckhow (Environmental Science and Policy) and Robert Wolpert (Statistical Science), and received his undergraduate degree from Cornell University's School of Civil and Environmental Engineering. Prior to joining NOAA, Dr. Gronewold spent several years in the environmental consulting industry as a professionally licensed engineer focusing on watershed and water resources management planning, and he completed a post-doctoral fellowship within USEPA's Office of Research and Development. Dr. Gronewold currently serves on several advisory committees, including those for the Great Lakes Rivermouth Collaboratory, the Council for Great Lakes Industries, and the Upper Midwest and Great Lakes Landscape Conservation Cooperative.

## **Gunter, Mickey**

### **University of Idaho**

Dr. Mickey E. Gunter is currently a Professor of Mineralogy and department Chair of Geological Sciences at the University of Idaho in Moscow, Idaho. He is also a Marsh Professor-at-Large at the University of Vermont in Burlington, Vermont. He received a BS in Geology from Southern Illinois University in 1979 and an MS (1982) and PhD (1987) in Geological Sciences from Virginia Tech in Blacksburg, Virginia. He has been a visiting professor at Kyoto University in Japan, University of Rome in Italy, and the University of Bern in Switzerland. He has published approximately 90 papers in refereed scientific journals, made presentations at over 40 professional meetings, given over 70 public seminars, and received over 50 research grants. In 2008 he developed, in collaboration with Prof. M.D. Dyar of Mt. Holyoke College, a new college-level mineralogy textbook (<http://www.minsocam.org/MSA/DGTtxt/>) with accompanying interactive DVD which to date has been used in over 20% of the colleges in the US that teach mineralogy. He has taught over 80 classes to approximately 6,500 students from freshman to PhD level.

His awards include being the recipient of University of Idaho's outstanding teaching award in 1998, a faculty recognition award from the UI student-athletes in 1999, a Faculty excellence award from the UI ROTC in 1998 and 2008, being voted a "most popular faculty member" by the UI students in 2001-2002, and recently having the new mineral "gunterite" named in his honor. He was elected a fellow in the Mineralogical Society of America (MSA) in 1999 and also was selected by the same society as a distinguished lecturer in 2002-2003. More recently he was elected councilor for MSA serving in that role from 2003-2006, and then elected as secretary and a member of the society's board of directors (2007-2011). His research interests are in optical mineralogy, amphibole and zeolite crystallography and crystal chemistry, and characterization of mineral dusts; the latter occupying the majority of his efforts at this time, as evidenced by his recent publications and guests lectures, serving on advisory committees, and working with industrial groups. More specifically to this project, 15 of his refereed publications have dealt with characterization of minerals associated with the former vermiculite mine near Libby, Montana (for examples see: <http://ammin.geoscienceworld.org/cgi/content/full/91/8-9/1448> or <http://ammin.geoscienceworld.org/cgi/content/full/94/5-6/837> or [http://www.minsocam.org/msa/ammin/AM\\_Preprints\\_OA/3800GunterPreprintAugOA.pdf](http://www.minsocam.org/msa/ammin/AM_Preprints_OA/3800GunterPreprintAugOA.pdf)). Also, he has collected samples at the former mine in 1999 and 2009, and visited the area numerous times over the past 11 years.

## **Guthrie, George**

### **US Department of Energy**

Dr. George Guthrie is a mineralogist/geochemist and leads the geological and environmental sciences focus area for the National Energy Technology Laboratory (NETL). Dr. Guthrie received his AB in geology (Harvard, 1984) and



PhD in mineralogy/crystallography (Johns Hopkins, 1989). He joined Los Alamos National Laboratory as a Director's-funded postdoctoral fellow in 1989 and became a staff member in 1992 before joining NETL in 2008. His research interests include the geochemistry of mineral-fluid interactions using techniques such as electron microscopy, diffraction methods, and computer modeling. He is particularly interested in environmental challenges, including geochemical evolution of cement-based composite, health effects of inhaled minerals, and CO2 sequestration. Dr. Guthrie is a fellow in the Mineralogical Society of America and received an R&D100 Award for work on the geochemistry of concrete. He is author or co-author on more than 40 peer-reviewed publications, editor of one book, and co-author on 2 patents. Dr. Guthrie recently served on an IOM committee charged with assessing the causal association between various cancers and asbestos.

### **Harris, John**

#### **LabCor Portland, Inc**

Mr. John Harris attended the University of Texas at Austin and received a BA degree in Microbiology in 1975. He was employed at the Texas Department of Health in Austin, Texas as a microbiologist in 1975. He worked at that capacity until 1978 when he began his career in electron microscopy as a transmission electron microscopy (TEM) analyst. After earning his masters degree in Biomedical Sciences from the University of California at Berkeley in Public Health in 1984, he became involved with asbestos identification in 1988 as a TEM Lab Manager with the RJ Lee Group in Berkeley, California. He promoted to TEM Lab Manager at PHH, Inc. of Seattle, Washington in 1991 and purchased the company in 1992 with two other partners. Under his direction, the new company, LabCor, Inc., quickly became an established and recognized laboratory for asbestos analysis. In 2006, he began a second company, LabCor Portland, Inc., which continues providing expert analysis services to the asbestos community. He has a wide and varied experience in the preparation and analysis of all sample matrices requiring asbestos and non-asbestos identification. His interest is to improve analytical parameters within current ISO asbestos methods so that risk assessors have more accurate, useful information from the laboratory in order to make risk-related decisions.

### **Hei, Tom**

#### **Columbia University Medical Center**

Dr. Tom K. Hei is currently Professor and Vice-Chairman of Radiation Oncology in the College of Physicians and Surgeons and Professor of Environmental Health Sciences in the Mailman School of Public Health at Columbia University Medical Center. Dr. Hei's research focuses on basic mechanisms of radiation and environmental cancer using both human epithelial cell lines as well as animal models. His lung cancer program has studies related to asbestos fibers, arsenic and radon, seemingly diverse physical and chemical carcinogens that all involve a free radical component. His laboratory was the first to demonstrate that asbestos is a genotoxic carcinogen in mammalian cells and induces mainly deletions and that mitochondrial damages are essential in mediating the genotoxic response. His laboratory has made seminal contributions in understanding the mechanism of asbestos carcinogenesis with the identification that the TGFBI gene has tumor suppressor function. Dr. Hei was a panel member of the Institute of Medicine in reviewing the NIOSH Roadmap for Research on Asbestos Fibers and Other Elongate Mineral Fibers. He was a team leader in writing the report on the genotoxic mechanism of asbestos fibers commissioned by the NIEHS / EPA and the final report is due out in the summer of 2011. Dr. Hei's has many years of experience in mentoring doctoral, medical, clinical radiation oncology residents and postdoctoral research fellows, many of whom are now leaders in their own field around the world.

### **Herrick, Robert**

#### **Harvard University**

Dr. Robert Herrick's educational background includes a BA degree in chemistry from the College of Wooster, an MS in Environmental Health Science from the University of Michigan, and a Doctor of Science in Industrial Hygiene from the Harvard School of Public Health. He is certified in the comprehensive practice of industrial hygiene. His research interests are centered on the assessment of exposure as a cause of occupational and environmental disease. He has conducted research on the development of methods to measure the biologically active characteristics of reactive aerosols, and on studies of work processes in the construction and foundry industries to develop task-based models to identify and control the primary sources of worker exposures. Dr. Herrick is Past Chair of the American Conference of Governmental Hygienists (ACGIH), and Past President of the International Occupational Hygiene Association. Prior to joining the faculty at the Harvard School of Public Health, Dr. Herrick spent 17 years at the National Institute for Occupational Safety and Health (NIOSH) where he conducted occupational health research.

## Holian,Andrij

### University of Montana

Dr. Holian received his bachelor's degree from Bowling Green State University (Ohio) in 1971 in Chemistry and doctorate from Montana State University, Department of Chemistry in 1975, and held a position as post-doctoral fellow at University of Pennsylvania, Dept. of Biochemistry and Biophysics from 1975-1979. He joined the faculty in the Department of Medicine at the University of Pennsylvania in 1979 then moved to the University of Texas Houston Health Science Center (UTHHSC) in 1984, Department of Medicine. He was promoted to Professor of Medicine at UTHHSC and held a joint appointment at the School of Public Health in Toxicology. He organized the interdisciplinary toxicology program at UTHHSC in 1989 and was Co-Director of the Toxicology Program and Director of the joint Texas Southern University/UTHHSC Toxicology Training Program supported by the National Institutes of Health. He was Director of Research of the Mickey Leland National Urban Air Toxics Research Center from its inception in 1990 till 2000. In July, 2000 he became the first Director of the Center for Environmental Health Sciences (CEHS) at The University of Montana and is the director of the toxicology graduate program. He has over 120 publications in his primary research interests of determining the mechanisms of the development of lung inflammation, fibrosis and asthma in response to particles, including nanoparticles. He has been an active member of the SOT since 1988 and has been president of the Gulf Coast SOT and the Pacific Northwest SOT. He has served on numerous review panels for NIH, EPA, NIOSH and other agencies.

## Kane,Agnes

### Brown University

Dr. Kane is Professor and Chair of the Department of Pathology and Laboratory Medicine at Brown University. She received her B.A. degree from Swarthmore College and her M.D. and Ph.D. degrees for Temple University School of Medicine. She is board-certified in anatomic pathology and has studied murine models of asbestos-induced disease. She has served as scientific advisor and invited participant in workshops on fiber toxicology and nanotechnology for NIOSH, US EPA, NAS, IOM, NTP, and ILO and has participated in three IARC Working Groups on the Evaluation of Carcinogenic Risks to Humans. She is the Director of the Training Program in Environmental Pathology at Brown University, now in its 19th year. Her research focuses on the potential health effects of environmental and occupational exposure to asbestos fibers, mixed dusts, and nanomaterials. Her laboratory has developed a murine model of asbestos-induced malignant mesothelioma that reproduces the morphologic and molecular characteristics of the human disease. This murine model was used to develop new strategies for prevention and treatment of asbestos-related cancer. Dr. Kane collaborates with Dr. Robert Hurt in the School of Engineering to identify the physical and chemical parameters of engineered nanomaterials relevant for toxicity. Adverse human health effects due to occupational and environmental exposure to nanomaterials are a major concern and a potential threat to their successful commercialization and biomedical applications. All nanoscale materials have high surface areas that can provide a vehicle for adsorption and transport of chemicals and metals in the lungs, where they can catalyze surface redox reactions resulting in oxidant stress, inflammation, and possibly cancer. Carbon nanotubes are a major concern due to their physical similarities with asbestos fibers: geometry, high aspect ratio and surface reactivity, and biopersistence. Dr. Kane has developed in vitro screening assays as alternatives to chronic inhalation assays potential toxicity and carcinogenicity of nanomaterials.

## Kim,Nancy K.

### Health Research, Inc.

Dr. Nancy Kim is affiliated with Health Research Incorporated (HRI), which is a not-for-profit corporation affiliated with the New York State Department of Health (DOH) and the Roswell Park Cancer Institute (RPCI). She held a number of positions in the Center for Environmental Health in the New York State Health Department before retiring in April 2009, and continues to work there post retirement, part time, on several priority projects. She is also an adjunct associate professor in the Department of Environmental Health Sciences in the School of Public Health at the State University of New York at Albany. Dr. Kim holds a B.A. in Chemistry from the University of Delaware (1964), and an M.S. (1966) and Ph.D. (1969) in Chemistry from Northwestern University. Her primary professional interest is in chemical risk assessment and exposure assessment. Dr. Kim was Interim Director of the Center that provides environmental epidemiological, toxicological, and risk assessment expertise in support of environmental health and protection programs. Most of her tenure at the Department of Health involved serving as the Director of the Division of Environmental Health Assessment. This Division has the primary responsibility for assessing the potential risk for

adverse health effects from exposure to toxic substances and to study, monitor and evaluate the effects of exposure to them in homes and communities. Dr. Kim's recent panel memberships include: a) The National Academies, Board on Environmental Studies and Toxicology, Member of the Committee on Assessment of the Health Implications of Exposure to Dioxins, September 2004 to summer 2006, b) The National Academies, Water Science and Technology Board, Member of the Committee on Water System Security Research, December 2004 to December 2006, c) The National Academies, Water Science and Technology Board, Member of the Committee on USGS Water Resources Research, Committee on the United States Geological Survey's National Water-Quality Assessment (NAWQA) Program, March 2009 to February 2011, and d) U.S. Environmental Protection Agency's Scientific Advisory Board, 2009-2012.

### **Kradin, Richard**

#### **Massachusetts General Hospital**

Dr. Kradin is a board certified pulmonologist and pathologist who practices actively in both areas as Associate Physician and Associate Pathologist at the Massachusetts General Hospital and as Associate Professor at Harvard Medical School. He has been the recipient of numerous NIH grants and has established expertise in asbestos-related disorders both benign and malignant. He serves as a member of the Occupational Health Unit at the MGH and is Director of an annual post-graduate course at Harvard on Asbestos-Related Diseases.

### **Krebs, William**

#### **Industrial Health Sciences, Inc.**

Dr. Krebs has been involved with asbestos issues since the early 1960s and did his doctoral research at the University of Michigan in this area. After joining General Motors, in addition to his regular duties with industrial hygiene, Dr. Krebs became involved with and had responsibility for many facets of GM's worldwide use of asbestos. Dr. Krebs was one of the "early folks" who had first hand knowledge with the mining, manufacture, and use of asbestos-containing products. His experience and opportunity to work with employees in asbestos operations as well as working with asbestos-products used or serviced on a day-to-day basis would be a valuable asset to the SAB. After retiring from GM Dr. Krebs interest in this area has continued with his work with the transportation industry through his current company, Industrial Health Sciences, Inc.

### **Kriebel, David**

#### **University of Massachusetts at Lowell**

Dr. David Kriebel received his master's degree in physiology (1983) and doctorate in epidemiology (1986) from the Harvard School of Public Health. He did post-doctoral work on exposure assessment for epidemiology with Dr. Tom Smith at the University of Massachusetts Medical Center, and spent a year as a scholar in residence at the Center for the Study and Prevention of Cancer in Florence, Italy on a Fulbright Fellowship. Since 1988, he has been on the faculty of the Department of Work Environment, University of Massachusetts Lowell, and he currently holds the rank of Professor and Chair. Dr. Kriebel is also the Co-Director of the Lowell Center for Sustainable Production, which collaborates with industries, government agencies, unions, and community organizations on the redesign of systems of production to make them healthier and more environmentally sound. Dr. Kriebel's research focuses on the epidemiology of occupational injuries, cancer, and non-malignant respiratory disease. He has published on various aspects of epidemiologic methods, particularly on the use of quantitative exposure data in epidemiology. He has been active in developing dosimetric models to better understand the effects of aerosols on the lungs. He teaches introductory and advanced courses in epidemiology, risk assessment, and research synthesis.

### **Langer, Arthur M.**

#### **City University of New York**

Dr. Langer is Science Professor in the Ph.D. Program in Earth and Environmental Sciences, Graduate School and University Center of the City University of New York. He is also a Research Associate in the Department of Earth and Planetary Sciences in the American Museum of Natural History. Dr. Langer received his Ph.D. in mineralogy from Columbia University in 1965 at which time he was recruited by Dr. Irving J. Selikoff to join his newly formed Division of Environmental Medicine, Department of Medicine, Mt. Sinai Hospital. The unit eventually morphed into the Environmental Sciences Laboratory (ESL) a unit of the Department of Community Medicine in the Mt. Sinai School of Medicine (MSSM). This laboratory became recognized as one of the world leaders in asbestos research

during this time. Dr. Langer was promoted through the academic ranks and eventually became the Associate Director of the ESL responsible for laboratory studies. He remained in that unit until 1986 when he joined the Center for Polypeptide and Membrane Research where he studied chemical functionalities on the surfaces of minerals and their communication with cell membrane receptors. Dr. Langer left the MSSM in 1989 when he relocated his laboratory to a City University campus. He has served as director of his own laboratory as well as Director of the Applied Sciences Coordinating Institute, a university consortium. Dr. Langer has 250 contributions to the scientific and medical literature pertaining to asbestos and other mineral dusts, their properties, their characterization in human tissues and the environment, and their causal role in human disease. Dr. Langer has published in the fields of asbestos air pollution, asbestos and other mineral particles in human tissues, asbestos exposure and risk analysis, and asbestos in the workplace. He has published on instrumental methods of characterization of fibrous particles and distinguishing between asbestos and cleavage fragments. Dr. Langer was among the first recipients of a Career Development Award from the National Institute of Environmental Health Sciences. He is a Fellow of a number of professional organizations in his field. He has achieved international recognition in his field and has served on editorial boards of numerous journals and has critiqued papers for dozens of scientific and medical journals. He has served on numerous panels and committees among government agencies here in the United States, acted as a consultant to many foreign governments, advised many international unions and corporations regarding mineral dust exposure and disease, and has served on numerous committees at the International Agency for Research on Cancer, WHO, and the International Program on Chemical Safety, WHO. These latter two agencies involved assignments concerning monograph writing on the biological potential of the different asbestos fiber types, forms of crystalline silica, talc, sepiolite and palygorskite, and zeolite minerals.

### **Lippmann, Morton**

#### **New York University School of Medicine**

Dr. Lippmann is a Professor of Environmental Medicine at the New York University (NYU) School of Medicine, where he has been a faculty member since 1967. He holds a Ph.D. (NYU, 1967) in Environmental Health Science, an S.M. (Harvard University, 1955) in Industrial Hygiene, and a B.Ch.E. (The Cooper Union, 1954) in Chemical Engineering. He has been the recipient of awards from ACGIH (Stokinger and Meritorious Achievement), AIHA (Cummings), AAAR (Sinclair), AAIH (Smythe), and SOT (Career Achievement in Respiratory and Inhalation Toxicology). Much of this research has been focused on exposure to, and the health effects of, particulate matter (PM) in ambient air, and on specific airborne agents, notably ozone, sulfuric acid, and asbestos. Dr. Lippmann is a past Chairman of: the ACGIH (1982-1983); past President of the International Society of Exposure Analysis (1994-1995); past chair of the EPA Science Advisory Board's Executive Committee (2000-2001); EPA's Advisory Committee on Indoor Air Quality and Total Human Exposure (1987-1993); EPA's Clean Air Scientific Advisory Committee (1983-1987); and of the NIOSH Board of Scientific Counselors (1991-1993). He has been Chair of the External Scientific Advisory Committee of the Children's Health Study of air pollution effects in Southern California at USC (1993-2003). He currently serves as Chair of the External Scientific Advisory Committees of the study of the inhalation toxicology of complex air pollutant mixtures at the National Environmental Respiratory Center in Albuquerque (1997-2011), and the EPA-Supported PM Health Effects Research Center at Harvard (2006-2011). He has also chaired National Research Council committees on: the Airliner Cabin Environment and the Health of Passengers and Crew; and on Synthetic Vitreous Fibers, and served on NRC Committees on: Measurement and Control of Respirable Dust in Mines; Indoor Pollutants; Toxicity Data Elements; and In-Vivo Toxicity Testing of Complex Mixtures. His publications include over 330 research and review papers in the scientific literature and two reference texts on environmental health science.

### **Louis, Thomas**

#### **Johns Hopkins University Bloomberg School of Public Health**

Thomas A. Louis, PhD is Professor of Biostatistics, Johns Hopkins Bloomberg School of Public Health. He earned his PhD in Mathematical Statistics from Columbia University, followed by positions as Assistant Professor of Mathematics, Boston University; Associate Professor of Biostatistics, Harvard School of Public Health; Professor and Head of Biostatistics, University of Minnesota School of Public Health; Senior Statistical Scientist, Rand. Research includes risk assessment; environmental and public policy; Bayesian methods, the analysis of longitudinal data in both experimental and observational studies, genomics. Current applications include genome-wide association study (GWAS), accommodation of genotype uncertainty, assessing the health effects of airborne particulate matter, clinical trials on the treatment of Uveitis and behavioral interventions to reduce obesity. He has published over 250 articles,

books/chapters, monographs and discussions. Professor Louis is an elected member of the International Statistical Institute, a Fellow of the American Statistical Association and of the American Association for the Advancement of Science. From 2000 through 2003, he was coordinating editor of The Journal of the American Statistical Association and is currently a co-editor of Biometrics. He has served as president of the Eastern North American Region of the International Biometric Society (IBS) and President of the IBS. He has chaired the ASA section of Bayesian Statistical Science and is chair-elect of the AAAS Statistics Section. From 2000-2005, he served on the Health Review Committee of the Health Effects Institute and is currently a member of the Board of Scientific Counselors, NIH/NIEHS. National Academy panel and committee service includes the Committee on National Statistics, the Committee on Applied and Theoretical Statistics, the Panel on Estimates of Poverty for Small Geographic Areas, the Panel on Formula Allocation of Federal and State Program Funds (chair), the Board of the Institute of Medicine's Medical Follow-up Agency, the IOM Panel to Assess the Health Consequences of Service in the Persian Gulf War, the Committee on the use of Third Party Toxicity Research and the Standing Committee on Risk Assessment.

## **Madl, Amy**

### **Chemrisk LLC**

Dr. Amy Madl is a board certified toxicologist with over 12 years of professional experience in sampling and analysis, toxicology, and exposure and risk assessment for airborne chemicals, including particulate matter, mineral fibers, and engineered nanoparticles. She is currently a Senior Principal Health Scientist at ChemRisk, LLC and a Research Associate with the University of California, Davis. She earned a Ph.D. in Pharmacology and Toxicology, an M.S. in Pharmacology and Toxicology, and a B.S. in Biochemistry all from the University of California, Davis. Dr. Madl is a member of a number of professional organizations, including the SOT, ACGIH, AIHA, ISES, and SRA, and has served as elected Councilor of SOT's Inhalation and Respiratory Specialty Section and as Chair of AIHA's Toxicology Committee. In 2009, she served as a peer reviewer on the subcommittee "Extrapolation of Environmental Exposure Levels (Low-Dose, Sporadic, High-Dose) to Health Effects" for the NIEHS workshop and report on "A Science-Based Examination of the Mode of Action of Asbestos and Related Mineral Fibers". In addition, in 2011, she served as a peer reviewer for Health Canada on the "Guidance on the Assessment of Human Health Risks Posed by Substances Present in Indoor Dust and the Derivation of Dust Screening Concentrations in Residential Environments that may be Impacted by Contaminated Sites". Dr. Madl has focused her academic and consulting career in the field of inhalation toxicology. She specializes in toxicology, air pollution, quantitative exposure reconstruction and risk assessment of airborne compounds in occupational and residential settings. Her experience includes investigating the health effects of exposure to a variety of compounds, including diesel exhaust, PM2.5, beryllium and other metals, benzene, oxidant gases, petroleum products, and asbestos, as well as irritants and sensitizers. Notable contributions that Dr. Madl has made to the field of occupational toxicology includes research on the exposure-response relationship between airborne beryllium and the prevalence of beryllium sensitization and chronic beryllium disease among manufacturing workers, characterization of historical exposures to airborne asbestos during gasket, packing, and brake repair activities, and investigation of consumer and industrial exposures to volatile organic compounds. Dr. Madl has published over 50 abstracts, book chapters, and peer-reviewed papers on various occupational and environmental exposure, toxicology, and risk-related topics. In addition, Dr. Madl has served as a Principal Investigator for research funded by the University of California Toxic Substances Research & Teaching Program and is currently serving as a Co-Investigator for research grants funded by the National Institute of Environmental Health Sciences (NIEHS). In this research, she has focused on the toxicological effects of inhaled engineered nanoparticles (i.e., carbon nanotubes) and the patterns of regional and local cellular injury, particle fate and transport, and expression of markers of oxidative stress in relation to different chemical and size compositions. These research efforts have involved comparing the relative effects of engineered and incidental nanoparticles (e.g., carbon nanotubes, carbon black) and mineral fibers (e.g., crocidolite).

## **Marom, Edith**

### **University of Texas**

Dr. Marom received her MD degree from Sackler School of Medicine, Tel Aviv University, completed her residency in diagnostic imaging in Rabin Medical Center, and followed by a chest imaging fellowship at Duke University Medical Center. Dr. Marom worked at Duke as an attending until 2002, where she was involved in the interpretation of many interstitial lung disease cases, as Duke served as a major lung transplantation site. She then moved to MD Anderson in 2002 to further her interest in cancer imaging. Her research interests and accomplishments are mainly related to neoplastic diseases in the thorax. These relate to (1) the use of imaging, particularly F-18

fluorodeoxyglucose (FDG)-PET, in the evaluation and staging of lung and esophageal cancer and malignant mesothelioma and (2) complications associated with treatment of cancer, and 3) pitfalls in PET-CT interpretation, and in particularly related to treatment follow-up. Her interest in the use of FDG-PET oncologic imaging began in 1997 at Duke University when it became clear that this functional modality had the potential to non-invasively stage thoracic malignancies. As this new imaging modality evolved, she had the opportunity to collaborate with colleagues from radiology, surgery, and oncology to evaluate the role of PET in the staging of non-small-cell lung cancer. This collaboration resulted in numerous publications, but of most importance was the prospective study, assessing the accuracy of PET imaging in the staging of non-small-cell lung cancer which has been cited since then in 218 articles. After moving to MD Anderson Cancer Center, and with the collaboration with medical oncologists and surgeons, further research into the use PET imaging in esophageal cancer and mesothelioma was accomplished. In addition to studying the use of PET in the staging of thoracic malignancies, Dr. Marom has also concentrated on the pitfalls of imaging with PET-CT, improving methodology in measuring the standardized uptake value (SUV) of FDG in tumors to assess treatment response, both point measurements and volumetric measurements. As a result of these experiences, coupled with her daily work at Duke University medical center involving interstitial lung disease, and as a result of her work in a major cancer center involved in numerous tumor measurement studies, she has gained a deeper understanding in how small differences in the response rate can affect the outcome of Phase I and II clinical trials, and how important it is that the criteria used to make this determination are meaningful and consistent. Dr. Marom believes that the fact that she is a dedicated chest radiologist with an in depth understanding of interstitial lung disease, coupled with her knowledge of mesothelioma diagnosis, and experience in evaluating mesothelioma response will ensure the successful completion of the task of the EPA Science Advisory Board Libby Amphibole Asbestos Review Panel.

## **Marty, Melanie**

### **California Environmental Protection Agency**

Melanie Marty, Ph.D., is Chief of the Air Toxicology and Epidemiology Branch, Office of Environmental Health Hazard Assessment, California Environmental Protection Agency. Dr. Marty received her Ph.D. from the University of California, Davis in Pharmacology and Toxicology. As Branch Chief, she functions as OEHHA's Lead for risk assessment in the Criteria Air Pollutant program, Air Toxics Hot Spots program and the Toxic Air Contaminant program in Cal/EPA. Her Branch is responsible for the scientific documents developed under California statutes relating to health impacts from air pollution, and which serve as the basis for regulation in the state of California. These include quantitative risk assessments for cancer and noncancer health impacts from air toxics, and recommendations for California's Ambient Air Quality Standards. Her group is also responsible for developing long-term strategies to address key risk assessment issues, including those related to: children's environmental health and early-life exposure to air pollutants; use of mechanistic data in risk assessment of both carcinogens and noncarcinogens; and valuation and refinement of use of uncertainty factors in noncancer risk assessment. Dr. Marty is also one of the Leads for OEHHA on the California Green Chemistry initiative, including developing regulations for OEHHA's mandates under SB 509. She has authored/ co-authored numerous articles and publications relating to environmental risk assessment, including evaluation of children's health risks. Dr. Marty has served on a number of EPA peer review committees and was the Chair of the U.S.EPA's Children's Health Protection Advisory Committee from 2001-2009. Dr. Marty is also an Adjunct Assistant Professor at the University of California, Davis, Department of Environmental Toxicology. She is a member of the Society of Toxicology, NorCal SOT, and the Genetic and Environmental Toxicology Association of NorCal.

## **McClellan, Roger**

### **Independent Consultant**

Dr. Roger O. McClellan received his DVM from Washington State University in 1960 and has more than 4 decades of experience in the fields of inhalation toxicology and risk assessment. He is the author of more than 350 papers and edited 10 books in these fields including the 2 leading texts on inhalation toxicology/respiratory toxicology. He is a Diplomate, by examination, of the American Board of Toxicology and American Board of Respiratory Toxicology and a Fellow of the Academy of Toxicological Sciences and Society for Risk Analysis. He currently is, or has been, an adjunct faculty member at 10 major research universities. Dr. McClellan is an elected member of the Institute of Medicine of the National Academy of Sciences. Dr. McClellan currently works as an Advisor in Inhalation Toxicology and Human Health Risk Analysis from his home office in Albuquerque, NM. He divides his time between pro bono service and work for fee for service clients in government and the private sector. Dr. McClellan has served on

numerous NRC Committees including Committee on Toxicology (Chair for 7 years), Committee on Environmental Justice, and the Committee that prepared "Science and Judgment in Risk Assessment." Dr. McClellan has served on numerous EPA Advisory Committees from the founding of EPA to the present under every EPA Administrator including: Chairing Environmental Health Committees and Clean Air Scientific Advisory Committee and the committees that reviewed the Cancer Risk Assessment Guidelines promulgated in 1986 and proposed for promulgation in 2003. He has served on previous CASAC panels reviewing each of the Criteria Pollutants including ozone. Dr. McClellan is currently serving on an Advisory Committee to the CDC Center for Environmental Health Research and on the DOE's Biological and Environmental Research Advisory Committee. Dr. McClellan is a strong proponent of integrating information from multiple sources: epidemiological studies, controlled human exposure investigations, laboratory animal bioassays and mechanistic investigations to assess human health risks. His expertise in inhalation toxicology, inhalation dosimetry modeling, carcinogenesis, comparative medicine, biologically-based dose-response modeling, and quantitative risk assessment are directly relevant to review of the science base for ozone.

### **McConnell, Ernest E**

#### **ToxPath, Inc.**

Dr. McConnell is president of ToxPath, Inc., a private consulting firm in Raleigh, NC. He received his DVM from the Ohio State University, a MS in pathology from Michigan State University, and completed a residency in comparative pathology at the Armed Forces Institute of Pathology, Walter-Reed Army Medical Center. He spent 13 years in the United States Air Force and 14 in the US Public Health Service. Gene's positions in the government included an assignment at the Veterinary Research Institute, Onderstepoort, South Africa, Aerospace Medical Research Lab., Wright-Patterson Air Force Base, Ohio and National Institute of Environmental Health Sciences (NIH), where he was Chief of the Chemical Pathology Branch and Director of the Division of Toxicology Research and Testing (National Toxicology Program). He is a diplomate of the American College of Veterinary Pathologists and the American Board of Toxicology, of which he is a past president. He has been a member of numerous national and international forums dealing with toxicology and pathology, including the National Academy of Sciences, Chair of the EPA Science Advisory Panel (FIFRA), panel member on International Agency for Research on Cancer monographs and various panels of the World Health Organization. He is the author of over 300 peer-reviewed publications. His research has focused on the design and interpretation rodent bioassays of various toxicants, especially the pathology caused by various natural and man-made fibers.

### **Meeker, Gregory**

#### **US Geological Survey**

Gregory Meeker is a research scientist at the U.S. Geological Survey in Denver, Colorado and a Co-Project Chief for the USGS Minerals and Health Project. His current research focuses on detailed studies of the mineralogy and morphology of fibrous and asbestiform amphiboles with emphasis on those that triggered a major EPA Superfund action in Libby, Montana. Mr. Meeker recently served as a member of the National Academy of Sciences, Institute of Medicine committee to review the NIOSH roadmap for asbestos research. In 2008, he testified before the U.S. House of Representatives, Subcommittee on Environment and Hazardous Materials regarding asbestos mineralogy and nomenclature. Mr. Meeker was a principle investigator in the USGS study of the dusts generated by the collapse of the World Trade Center and served as a member of the EPA World Trade Center Expert Technical Review Panel. Other recent investigations include studies of particulate material in lung tissue, studies of naturally occurring asbestos in California, and environmental studies of sedimentary materials deposited as a result of Hurricane Katrina. Mr. Meeker's research interests involve the application of microscopy and microanalysis to the fields of environmental and medical geology, geochemistry, mineralogy, volcanology, and planetary geology. Mr. Meeker is a Past President of the Microbeam Analysis Society, and has twice been a National Tour Speaker for that organization. Mr. Meeker holds a Master of Science degree in geology from California State University, Los Angeles.

### **Neuberger, John**

#### **University of Kansas**

Dr. Neuberger is a Medical School Professor and epidemiologist with a principal interest in environmental causes of cancer. Currently he teaches a core MPH course in Environmental Health and an advanced MPH course on Cancer Epidemiology. His background includes a Bachelor of Mechanical Engineering Degree from Cornell University, a Masters Degree in Business Administration from Columbia University, and Masters and Doctoral Degrees in Public Health from Johns Hopkins University. Dr. Neuberger's research interests include residential radon exposure and lung

cancer and the cause(s) of brain cancer. Previously he worked with Dr. Irving Selikoff of the Mount Sinai School of Medicine on his studies of asbestos exposure in insulation workers and the subsequent risk for various cancers. Although he is no longer directly involved with the Mount Sinai group, he has maintained an active interest in the cancer causing aspects of asbestos exposure. Dr. Neuberger is a member of the Brain Tumor Epidemiology Consortium and is the Director of Continuing Education for the Epidemiology Section of the American Public Health Association (APHA). He is Vice-Chair of APHA's Education Board and serves on the U.S. Environmental Protection Agency's Total Coliform Rule/Distribution System Advisory Committee. At the local level he is very active in providing city councils with information pertaining to the health effects of second hand smoke exposure.

## **Newman, Lee**

### **University of Colorado**

Lee S. Newman, M.D., M.A., FCCP, FACOEM is Professor of Environmental and Occupational Health and Professor of Epidemiology, in the Colorado School of Public Health, Director of the NIOSH-funded Mountain and Plains Education and Research Center, and Professor of Medicine in the Division of Allergy and Clinical Immunology and Division of Pulmonary Sciences and Critical Care Medicine in the School of Medicine at the University of Colorado, Anschutz Medical Campus (Aurora, CO). He is CEO of Axion Health, Inc., a health informatics company (Denver, CO). Dr. Newman received a BA in psychology from Amherst College (Amherst, MA) and a MA in social psychology from Cornell University Graduate School of Arts and Sciences (Ithaca, NY). He earned his MD from Vanderbilt University School of Medicine (Nashville, TN) and completed his internship and residency in Internal Medicine at Emory University School of Medicine (Atlanta, GA), and his pulmonary fellowship at the University of Colorado Denver/National Jewish Health (Denver, CO), which included three years post-doctoral research in both Immunology and Occupational Medicine. He joined the faculty of National Jewish and the University of Colorado in 1987. From 1996 – 2005, he served as Chair of the Division of Environmental and Occupational Health Sciences at National Jewish Health, prior to accepting his current position at the University of Colorado. For 20 years, his pulmonary medicine practice focused on the diagnosis, management and prevention of occupational and environmental lung disorders and granulomatous diseases, especially interstitial lung diseases related to work, including chronic beryllium disease, asbestos-related lung conditions, silicosis, and other dust-induced pulmonary disorders. Dr. Newman conducts research and teaches environmental and occupational health in the Colorado School of Public Health. His clinical research, epidemiologic studies, and immunotoxicology laboratory research focus on the immune basis of granulomatous and fibrotic disorders, mechanisms of fibrosis, mechanisms of asbestos carcinogenesis, metal immunotoxicology, the relationship between genetics and environmental exposures, as well as translational studies of the clinical, laboratory, pathologic, and radiologic methods of diagnosing lung disorders. He is the author of more than 145 peer-reviewed publications and more than 100 scholarly reviews, chapters, and white papers. Dr. Newman consults for government agencies, corporations, labor organizations and community and employee groups. This has included consultation for the U.S. Department of Energy (DOE) and its contractors, the Department of Labor (DOL), the Food and Drug Administration (FDA) as a member of the Pulmonary and Allergy Drug Advisory Committee (PADAC), National Institutes of Health (NIH) special emphasis panels and study sections, the Centers for Disease Control (CDC), National Institute for Occupational Safety and Health (NIOSH), U.S. EPA peer review panel for IRIS Toxicologic Review of Beryllium and Compounds (cancer evidence), among others. He is a Fellow of the American College of Occupational and Environmental Medicine, Fellow of the American College of Chest Physicians, and Fellow of the prestigious Collegium Ramazzini. He is board certified in Internal Medicine and in Pulmonary Medicine.

## **Ortiz, Luis**

### **University of Pittsburgh**

Luis A. Ortiz, MD is an Associate Professor and Director of the Division of Occupational and Environmental Medicine at the Department of Occupational and Environmental Health at the School of Public Health at the University of Pittsburgh. He also has a secondary appointment in the Division of Pulmonary Allergy and Critical Care Medicine at the University of Pittsburgh. Dr. Ortiz earned his medical degree from the Universidad Pontificia Bolivariana in Medellín, Columbia and completed his residency at Tulane University Medical Center. He completed his fellowship in pulmonary and critical care medicine at the University of Texas' Health Science Center and MD Anderson Cancer Center in Houston. Doctor Ortiz is a pulmonologist who directs the Division of Occupational and Environmental Medicine at the University of Pittsburgh. Doctor Ortiz focuses his research on mechanisms that mediate the development of lung fibrosis. In particular, his laboratory has contributed to this field with the development of mouse models of pulmonary fibrosis (upon administration of bleomycin or silica) and most recently



with the concept that bone marrow derived stem cells (MSCs) are fundamental contributors to the repair of the injured lung. Dr. Ortiz is a member of several professional organizations including the American Thoracic Society and the European Respiratory Society, and he is a fellow in the American College of Chest Physicians. He has authored more than 50 journal articles, abstracts and book chapters, and has made more than 50 presentations nationally and internationally. Dr. Ortiz has a long-standing interest in research and management of environmentally induced lung disease, idiopathic as well as secondary pulmonary fibrosis.

### **Paustenbach,Dennis**

#### **Chemrisk LLC**

Dr. Dennis Paustenbach is a board-certified toxicologist and industrial hygienist with nearly 30 years of experience in ecological and human health risk assessment, environmental engineering, industrial and environmental toxicology, and occupational health. He currently is the President of ChemRisk, LLC, a consulting firm of about 70 professionals specializing in human and ecological risk assessment and risk analysis of consumer products, contaminated sites, pharmaceuticals, and medical devices. Dr. Paustenbach earned a Ph.D. in Environmental Toxicology from Purdue University, an M.S. in Industrial Hygiene from the University of Michigan, and a B.S. in chemical engineering; as well as two honorary doctoral degrees (one from Purdue University and the other from the Rose-Hulman Institute of Technology). He has held numerous positions in the AIHA, SOT, SRA, ACGIH, SETAC, ISEA, and other professional organizations, many of which have presented him with various national awards and honors. He has served on a variety of Science Advisory Panels, including the EPA's Board of Scientific Counselors Executive committee from 2008-2011, NIOSH's Epidemiology, Exposure Assessment and Lab Medicine Methods in Occupational Health panel in 2007, the CDC's Advisory Committee to the Director, National Center for Environmental Health from 2002-2006, the Vietnam-United States Scientific Delegation on Human Health and Environmental Effects of Agent Orange/Dioxin in 2002, and the EPA-sponsored Science Advisory Panel to address the risks of dusts in buildings (asbestos and dioxins) near the World Trade Center in 2002.

### **Pennell,Michael**

#### **Ohio State University**

Dr. Michael L. Pennell is an Assistant Professor in the Division of Biostatistics in the College of Public Health at the Ohio State University. Dr. Pennell received his Ph.D. in Biostatistics in 2006 from the University of North Carolina at Chapel Hill where he was funded by a training grant in Environmental Biostatistics from the National Institute of Environmental Health Sciences. The primary focus of Dr. Pennell's graduate research was on the statistical analysis of environmental health data. In his Masters thesis, he performed a multivariate analysis of water quality data from the town of Chapel Hill in order to identify dates and locations with outlier concentrations of fecal coliform bacteria and total suspended solids. In his dissertation research, Dr. Pennell developed a Bayesian semiparametric method for analyzing data from studies of palpable tumors and a Bayesian nonparametric method for determining the Lowest Observed Adverse Effects Level (LOAEL) in a dose-response study; both papers were published in the journal Biometrics. At Ohio State, Dr. Pennell has remained engaged in environmental health in both his research and teaching. Since arriving at OSU, he has been a co-Investigator on a grant entitled "Threshold regression methodology for cancer risk assessment." Threshold regression is an alternative to the commonly used Cox proportional hazards model for survival data which models a subject's health using a latent stochastic process that fails once it hits a threshold value. Not only is it a biologically plausible model for modeling time to cancer-related death, but it also allows exposure effects to vary with time and can accommodate different exposure durations across subjects. Currently, Dr. Pennell is working on threshold regression models motivated by data from two year carcinogenicity studies performed by the National Toxicology Program and by data on diesel exhaust exposure of railroad workers. Dr. Pennell is also extending his dissertation research to develop a nonparametric Bayesian method for estimating the benchmark dose from quantal response data. The past three years, Dr. Pennell has provided guest lectures on dose response modeling in the environmental risk assessment course offered by the College of Public Health. He has also developed a course entitled "Statistical Methods in Toxicological Risk Assessment," which he hopes to teach in the near future.

### **Peto,Julian**

#### **London School of Hygiene and Tropical Medicine**

Professor Julian Peto holds the Cancer Research UK Chair of Epidemiology at the London School of Hygiene & Tropical Medicine. From 1969 to 1974 he worked as a statistician at Edinburgh University, the Institute of Psychiatry

and the Medical Research Council's T.B. Unit. In 1974, he joined the Imperial Cancer Research Fund Cancer Epidemiology and Clinical Trials Unit in Oxford, where he worked as a research scientist with Sir Richard Doll. In 1983, he was appointed to the Cancer Research UK (formerly CRC) Chair of Epidemiology at the Institute of Cancer Research. He moved to the London School of Hygiene & Tropical Medicine in 2004. Professor Peto and his colleagues carry out epidemiological studies and genetic research on various cancers. His work has included studies on asbestos and other occupational carcinogens, childhood cancers, oral contraceptives and breast cancer, the natural history of human papillomavirus (HPV) infection and cervical cancer, particularly in relation to screening, and the genetics of breast cancer. He has also been involved in many randomized studies of cancer treatment.

## **Pinkerton, Kent**

### **University of California at Davis**

Dr. Pinkerton is a Professor of the Department of Pediatrics in the School of Medicine and Professor of Anatomy, Physiology and Cell Biology in the School of Veterinary Medicine at the University of California, Davis (UCD). He is also the Director of the Center for Health and the Environment, Associate Director of the Western Center for Agricultural Health and Safety at UC Davis, and Associate Director of the San Joaquin Valley Aerosol Health Effects Center. Dr. Pinkerton received his B.S. in Microbiology with a minor in Chemistry from Brigham Young University in 1974; his M.S. in Pathology from Duke University in 1978; and his Ph.D. in Pathology from Duke University in 1982. He was a Research Associate in the Division of Allergy, Critical Care and Respiratory Medicine at Duke University Medical Center in 1982, and he remained at Duke University until 1986 as an Assistant Medical Research Professor in the Department of Pathology. Dr. Pinkerton began teaching at UCD in 1986. Dr. Pinkerton's research has focused on the respiratory system and health. General themes addressed: (1) mechanisms of particulate toxicity, (2) effects of oxidant gases on lung injury and repair, (3) effects of environmental pollutants on lung development and immune responses during perinatal life, (4) mechanisms of tobacco smoke-induced lung inflammation and (5) diet, chemotherapeutic agents and inhibitors of inflammation to reduce tumor risk in an animal model of tobacco-induced lung disease. He has published over 160 articles in peer-reviewed, scientific journals, texts, and encyclopedias on those subjects. Dr. Pinkerton has served on numerous advisory committees and other professional societies. He is a member of the American Association for the Advancement of Science, the American Association of Veterinary Anatomists, the American Thoracic Society, the Microscopy Society of America, and the Society of Toxicology. Between 2000 and 2005, Dr. Pinkerton served as a consultant to the Southern California Particle Center and Supersite (SCPCS), a consortium of scientists for UCLA, USC, Caltech, Rancho Los Amigos, UC Irvine and UC Riverside (and not UC Davis) to study the health effects of airborne particles. From 2002-2003, he was a member on the Admissions Advisory Council for the School of Veterinary Medicine at UC Davis, and from 2002 to 2005, he served as the Chair for the Regents' Scholarship Advisory Committee. In 2004 and 2005, he also became the Program Chair-Elect of the Environmental and Occupational Health Assembly for the American Thoracic Society. Dr. Pinkerton continues to be a member of the Chemical Safety Advisory Committee, Environmental Health & Safety, at UC Davis; serves on the Editorial Board for the Journal of Inhalation Toxicology; member of the Nanoscience and Nanotechnology Steering Committee; and member of Academic Planning – Public Health Initiative Workgroup at the School of Veterinary Medicine, UC Davis. Beginning in 2007, Dr. Pinkerton will also serve as the Assembly Chair of the Environmental and Occupational Health Assembly for the American Thoracic Society.

## **Price, Bertram**

### **Price Associates, Inc.**

Dr. Bertram Price is president and principal scientist at Price Associates, Inc, a risk assessment and statistical analysis consulting firm he established in 1987. He received a BA in Mathematics from Wittenberg University (Springfield, OH) and a PhD from the Ohio State University Department of Mathematics with a specialty in Mathematical Statistics. He designs and conducts statistical studies and develops mathematical/statistical models addressing environmental and occupational health risks. He serves on the Science Advisory Panel of the Leland National Urban Air Toxics Research Center and was an invited peer reviewer for EPA's An Inhalation Exposure and Risk Assessment of Ambient Air Pollution from the World Trade Center Disaster, The Fort Worth Method for Building Demolition - Alternative to the Asbestos NESHAP Demolition Requirements, and World Trade Center Indoor Assessment: Selecting Contaminants of Potential Concern, and Setting Health-Based Benchmarks, and a panel member on EPA's workshops for a Proposed Protocol to Assess Asbestos-Related Risk. His current research interests include health risk assessment associated with low-level exposure to occupational and environmental contaminants and causal inference in the presence of multiple risk factors.

## **Redlich, Carrie**

### **Yale University**

Carrie A. Redlich, MD, MPH is Director of the Yale Occupational and Environmental Medicine Program and Professor of Medicine (Occupational and Environmental Medicine and Pulmonary and Critical Care) at Yale University School of Medicine. She is a graduate of Williams College (BA) and Yale University School of Medicine (MD and MPH), and is a board certified physician in Occupational and Environmental Medicine, Internal Medicine and Pulmonary Diseases. Her research, practice and teaching have focused on occupational lung diseases, including asbestos-related diseases, work-related asthma and isocyanate asthma. Dr. Redlich has authored numerous research manuscripts and scholarly publications, including co-editor of the Textbook of Clinical Occupational and Environmental Medicine. She has received research funding from organizations including the National Institute of Occupational Safety and Health (NIOSH), the NIH, and the American Lung Association. Dr. Redlich has served on a number of advisory boards and committees including: the National Research Council / National Academy of Sciences (Beryllium Alloy Exposures), NIOSH (Study Section, NORA, External Review), Institute of Medicine / National Academy of Sciences (Gulf War and Health); the NIH (NHLBI and NIEHS), the US Food and Drug Administration (Pulmonary Advisory Committee), and the American Thoracic Society (Environmental and Occupational Health Assembly). She has received a number of awards including Best Doctors in New York (Pulmonary Medicine, Occupational and Environmental Lung Diseases).

## **Ryan, P. Barry**

### **Emory University**

Dr. P. Barry Ryan is Professor of Exposure Science and Environmental Chemistry in the Department of Environmental Health, Rollins School of Public Health, Emory University. He is jointly appointed in the Department of Chemistry at Emory University. Prior to joining the faculty at Emory in 1995, he was on the faculty at Harvard School of Public Health. He received a BS in Chemistry from the University of Massachusetts, an MS in Physical Chemistry from the University of Chicago, and PhD in Computational Chemistry from Wesleyan University. He has been active in the exposure assessment field for over 25 years publishing in excess of 100 peer-reviewed manuscripts and book chapters and making over 190 presentations of his work to the scientific community. His work has included both cross-sectional and longitudinal studies of community-based exposure for multiple pollutants in multiple media. Dr. Ryan is Principal Investigator of a retrospective study of exposure to perfluorooctanoic acid in a large area surrounding a manufacturing facility using this compound. Recently, he began work assessing exposure to pesticides experienced by individuals in a community in Northern Thailand. In addition, he is Co-Principal Investigator and Co-Investigator on three separate Formative Research projects associated with the National Children's Study. Recent work completed by Dr. Ryan's group includes a U.S. EPA-funded STAR Grant designed to assess the effectiveness of biological markers of exposure to organophosphate and pyrethroid pesticides and a study of the impact on the surrounding community of airport emissions of various airborne compounds. Dr. Ryan is a member of the Executive Committee of the Emory/Battelle/ Morehouse consortium for the National Children's Study. He was Principal Investigator on the U.S. EPA funded longitudinal study of exposures to pollutants known as the National Human Exposure Assessment (NHEXAS) - Maryland study, and was Co-Principal Investigator of a study on health-compromised individuals assessing the impact of particulate matter exposure on heart rate variability, and Co-Principal Investigator on a study of the impact of air pollution exposure on hiker lung-health in the Great Smoky Mountain National Park. Dr. Ryan is a member of the Board of Scientific Counselors for U.S. EPA's Office of Research and Development and a member of the US EPA Science Advisory Board Sub-Committee on Exposure and Human Health. Dr. Ryan also completed a four-year term on the Federal Advisory Committee for the National Children's Study being undertaken by the National Institutes of Health. He has served on numerous advisory panels for the U.S. EPA, most recently as the Chair of the external evaluation committee on the Draft Exposure Factors Handbook update and on the FIFRA SAP on Chlorpyrifos PBPK-Cares Modeling Review. Dr. Ryan has also served on several National Academy of Science panels.

## **Salmon, Andrew G.**

### **California Environmental Protection Agency**

Dr. Salmon has worked for the State of California on public health risk assessment for the past twenty-three years. He is currently Chief of Office of Environmental Health Hazard Assessment (OEHHA)'s Air Toxicology and Risk Assessment Section, which undertakes chemical-specific risk assessments for the Air Toxics Hot Spots and Toxic Air

Contaminant (TAC) programs. We recently completed our revision of the Hot Spots cancer and non-cancer risk assessment guidelines to reflect current concerns for infants' and children's health, and have finalized several Reference Exposure Level (non-cancer) assessments using these new guidelines. Other recent projects completed include the health effects volume of Environmental Tobacco Smoke TAC report, and several cancer risk assessments for the Hot Spots program. We have ongoing collaboration with California's Department of Toxic Substances Control and US EPA's Region 9 on issues relating to naturally occurring asbestos in California. Dr. Salmon has served as a peer reviewer for a number of documents for US EPA, ATSDR and CPSC. He served the NRC's committee for guidelines on submarine contaminants, and has made invited presentations to National Academies committees including most recently the IOM Committee on Modified Risk Tobacco Products. He was a member of the Canadian Expert Panel on Tobacco Smoke and Breast Cancer Risk (April 2009). Before joining the State of California's scientific staff, Dr. Salmon was a toxicology lecturer in the occupational health department at the London School of Hygiene and Tropical Medicine. Before that he held research positions with the University of California (Lawrence Berkeley Laboratory - Chemical Biodynamics), ICI Central Toxicology Laboratory (Macclesfield, U.K.) and University College Hospital Medical School (London, U.K). He holds a first degree in biochemistry and a doctorate from Oxford University, U.K..

### **Schenker, Marc**

#### **University of California, Davis**

Dr. Schenker is Professor of Medicine and Public Health at the UC Davis School of Medicine, with over 30 years of experience in medicine and public health. He received his B.A. degree from the University of California at Berkeley, and his M.D. degree from the University of California at San Francisco. He completed his residency in Internal Medicine and his fellowship training in Pulmonary Disease in Boston (New England Medical Center and Harvard) and then went on to complete training in Epidemiology and Occupational Medicine at the Harvard School of Public Health and the Channing Laboratory, receiving the M.P.H. degree in 1980. After serving on the faculty of Harvard Medical School and the Brigham and Women's Hospital, he moved to Davis in 1983 to begin the occupational medicine program. Dr. Schenker is the founding director of the Davis Center for Occupational and Environmental Health, the Western Center for Agricultural Health and Safety and the Migration and Health Research Center. He is co-director of the Center of Expertise on Migration and Health of the UC Global Health Institute. Dr. Schenker's specialty is occupational and environmental disease. He is board certified in internal medicine, pulmonary disease and occupational health. He conducts epidemiologic research and teaches in these areas, with a particular focus on lung disease, reproductive hazards, and the health of immigrants and farm working populations. Dr. Schenker has published over 150 scientific manuscripts and 5 textbooks. He has conducted work on occupational health hazards in the U.S. and Latin America, and has worked on global health committees and programs with collaborators around the world. His research addresses numerous health hazards in the agricultural environment, semiconductor industry and other workplaces. Dr. Schenker's research has focused on a wide range of occupational and environmental health hazards. He has studied many causes of respiratory disease and lung cancer, including diesel exhaust, asbestos, and silica. Most recently he has investigated numerous health hazards in the agricultural environment, including respiratory disease, injuries, reproductive hazards, and toxic effects of pesticides and other agricultural chemicals. He teaches at the undergraduate, graduate and professional school levels as well as in a wide range of continuing education and professional forums.

### **Sentz, Kari**

#### **Los Alamos National Laboratory**

Dr. Kari Sentz is currently a scientist in the Risk Analysis and Decision Support Systems Group at Los Alamos National Laboratory. Dr. Sentz holds a Ph.D. in Systems Science, an M.S. in Systems Science, an M.A. in Linguistics, and a B.A. in Biology and History. Dr. Sentz has worked at both Los Alamos and Sandia National Laboratories since 2000 in generalized probability theories, text mining, system risk and reliability, probabilistic graphical modeling, and game engineering. Her research interests include uncertainty quantification under weak informational states, Bayesian networks and probabilistic decision networks, credal networks, and multi-agent influence diagrams.

### **Sheppard, Elizabeth A. (Lianne)**

#### **University of Washington**

Dr. Elizabeth A. (Lianne) Sheppard is a Research Professor in the Department of Biostatistics, and the Department of Occupational and Environmental Health Sciences, University of Washington. She holds a Ph.D. (1992) in Biostatistics

from the University of Washington. Her scientific interests include estimating the health effects of occupational and environmental exposures, air pollution health effects, observational study design, and group information in observational studies. She collaborates on several occupational and environmental health studies, including the MESA Air study. Her statistical methods research addresses the role of exposure and study design in estimating health effects from observational studies.

### **Southard,Randal**

#### **University of California at Davis**

Dr. Randal Southard received a B.S. in biology and M.S. in soil science from Utah State University in Logan, and earned his Ph.D. in soil science from North Carolina State University in Raleigh. He became affiliated with UC Davis in 1983. As a soil science professor and soil scientist in the Department of Land, Air and Water Resources, he conducts research on soil genesis, morphology and classification; soil-geomorphic relations; and soil mineralogy. Some of his most recent research focuses on the mineralogy and health effects of agricultural dust, weathering of serpentinite rocks, and the effects of soil mineralogy and weathering on potassium fixation and silica chemistry. Dr. Southard teaches courses in introductory soil science, environmental science, pedology, and field studies of soils and co-authored the textbook Soil Genesis and Classification. He was vice-chair of soils and biogeochemistry in the Department of Land, Air and Water Resources prior to his service as Associate Dean from 1999-2009. Dr. Southard has served as Chair of the Western Regional Coordinating Committee on Soil Survey and President of the Western Society of Soil Science, and is active with the National Cooperative Soil Survey. He was a member of the Board of Directors of the Soil Science Society of America from 2005-2008 and is an elected Fellow of that society. He also served as the campus representative to the Council of Environmental Deans and Directors.

### **Stayner,Leslie**

#### **University of Illinois**

Dr. Leslie Stayner is currently a Professor of Epidemiology in the Division of Epidemiology and Biostatistics at the University of Illinois' School of Public Health in Chicago. Previously he worked at the National Institute for Occupational Safety and Health for nearly 25 years and in his last position was the Chief of their Risk Evaluation Branch. Dr. Stayner is well recognized nationally and internationally in the area of Occupational and Environmental Epidemiology. He has approximately 100 scientific papers and book chapters. His research interests are primarily on occupational and environmental cancer, and epidemiologic methods particularly with regard to quantitative risk assessment. He has been involved in conducting research on cancer and exposure to asbestos, 1,3-butadiene, formaldehyde, diesel exhaust, hexavalent chromium, cadmium, silica and ethylene oxide. He has served or is serving as an advisor to numerous agencies including ATSDR, EPA, NRC, OSHA, MSHA and the WHO. He has also worked as a Visiting Scientist with the International Agency for Research on Cancer (IARC) in Lyon France and has participated in numerous of their monograph meetings. He has most recently completed a six month sabbatical with the Center for Environmental Epidemiology (CREAL) in Barcelona, Spain.

### **Stewart,Patricia**

#### **Stewart Exposure Assessments, LLC**

Dr. Stewart received her BA in biology in 1972 from Boston University, her MS in industrial hygiene from University of Cincinnati in 1974 and her PhD in industrial hygiene from Johns Hopkins University in 1994. She worked as an OSHA compliance officer from 1974-1977 and then moved to OSHA's National office. In 1982 she went to the National Cancer Institute where she remained until she retired in 2006. Currently, she is a consultant to both NCI and the NIEHS. At NCI Dr. Stewart supported occupational epidemiology studies by assessing past exposures. She has assessed a wide variety of exposures. Her research included developing methods to improve exposure assessment methods in epidemiologic studies. She has been a member of American Conference of Governmental Industrial Hygienists (ACGIH) since 1974 and served on the Board of Directors. Dr. Stewart has served on the organizing committee of several exposure assessment conferences and on various governmental and international committees including the International Agency for Research on Cancer. She has served as a reviewer for numerous occupational health journals and has over 160 publications. In 2010, she received the ACGIH Meritorious Award.

## van Wijngaarden, Edwin

### University of Rochester

Dr. Edwin van Wijngaarden is Associate Professor of Community and Preventive Medicine, Environmental Medicine, and Dentistry at the University of Rochester School of Medicine and Dentistry, Rochester, NY. He is Chief of the Division of Epidemiology and Director of the Undergraduate Public Health-related Programs. Dr. van Wijngaarden received a MSc in Environmental Sciences from Wageningen University in The Netherlands (1998), and a PhD in Epidemiology from University of North Carolina at Chapel Hill (2002). His research is focused primarily on the potential effects of occupational and environmental exposures (methyl mercury, lead, and pesticides) on nervous system outcomes in children and older adults, including behavioral and cognitive development, mental disorders, and dementia and related disorders. Dr. van Wijngaarden is a member of the American College of Epidemiology (ACE), International Society for Environmental Epidemiology (ISEE), American Public Health Association (APHA), and Society for Epidemiologic Research (SER). He is an Associate Editor for the scientific journal Neurotoxicology and serves on the editorial board of International Archives of Occupational and Environmental Health. He is currently a member of the Publications Committee of ACE, and has served as peer reviewer for more than 20 scientific journals. He was a Scientist Reviewer for NIOSH NORA Peer Review, Panel C (Epidemiology and Surveillance, FY2010) and an external peer reviewer of the NIOSH Criteria Document Update: Occupational Exposure to Hexavalent Chromium (NIOSH Docket Number 144).

## Walker, Katherine

### Health Effects Institute

Dr. Katherine D. Walker is a senior staff scientist at the Health Effects Institute in Boston MA. She is an environmental health scientist with 20 years of experience in public health risk assessment and its application to the regulatory process. Dr. Walker has been responsible for numerous risk analyses spanning a wide range of topics including cancer risks of volatile organic chemicals in drinking water, public health and environmental risks of hazardous (chemical and nuclear) waste sites, the cost effectiveness of risk management decisions at hazardous waste sites, and implications of pesticide exposure profiles for regulatory decisions, among others. Dr. Walker specializes in the analysis of uncertainty in human exposures and health risks. In her most recent work in this area, Dr. Walker has served as the senior scientific consultant on EPA's pilot and expanded studies on the use of expert judgment elicitations to characterize uncertainty in the concentration response relationship between PM<sub>2.5</sub> and mortality. Her doctoral research at Harvard School of Public Health involved the elicitation of probabilistic expert judgments from benzene exposure assessment experts about both the variability and uncertainty in ambient, indoor, and personal exposures to benzene. Her study was one of the first studies of subjective expert judgment to assess quantitatively the quality, or calibration, of the experts' judgments about uncertainty using monitoring data collected as part of the USEPA National Human Exposure Survey (NHEXAS) on the same benzene distributions the experts were asked to predict. She holds a Sc.D. in Environmental Health Sciences from the Harvard School of Public Health. She has served as the chair of the exposure assessment specialty group for the Society for Risk Analysis (SRA) (2004-5) and as a member of SRA's Conference and Workshops Committee (2005 to present).

## Webber, James

### New York State Department of Health

Dr. James Webber received a BS in Biology from Wheaton College, an MS in Zoology from Michigan State University, and a PhD in Environmental Health & Toxicology from the State University of New York (SUNY) at Albany. He started the Asbestos Laboratory within the New York State Department of Health (NYSDOH) in 1979 and has developed many methods for analysis of asbestos in the environment. His multi-disciplinary research provided the first reconstruction of airborne asbestos concentrations from the mid 1800s to the present. He has published more than two dozen peer-reviewed papers and several invited chapters on asbestos analysis and has presented papers at more than 50 conferences. In addition to his duties as a Research Scientist with NYSDOH, Dr. Webber serves as an Assistant Professor in State University of New York at Albany's School of Public Health. Recognition of Dr. Webber's expertise in asbestos analysis is evidenced by his appointment to and participation on national and international panels and committees: Lead Peer Reviewer – EPA's Alternative Asbestos Control Method (2007); Lead Peer Reviewer – Environmental Protection Agency's World Trade Center Dust Screening Study (2005); Panel Member – Development of Environmental Protection Agency's Vermiculite Attic Insulation Method (2003-2004); Panel Member – NIOSH Research Roadmap on Asbestos; Technical Expert (Airborne and Bulk Asbestos) - National Institute of Science and

Technology's National Voluntary Laboratory Accreditation Program (1988 - Present); Secretary - United States Technical Advisory Group to the International Standards Organization Technical Committee (ISO TC) 146 Air Quality (2002 - Present); United States Delegate - ISO TC 146/SC 3/WG 1 (Ambient Air) Determination of Asbestos Fibre Content (2002 - Present); United States Delegate - ISO TC 146/SC 6/WG 4 (Indoor Air) Asbestos - Mineral Fibres (2002 - Present); Chair - ASTM International Committee D22 Air Quality; Secretary - ASTM International Subcommittee D22.07 Asbestos Sampling and Analysis (2000 - 2006); and Secretary - ASTM International Committee D22 Air Quality; Board Member - American Industrial Hygiene Association Proficiency and Analytical Testing Board (2005-Present); Chair of the (triennial) ASTM International Johnson Conferences on Asbestos (2002, 2005, 2008, 2011); Chair of the ASTM International Michael E. Beard Conference on Asbestos Analysis (2010); Session Chair of the World Asbestos Conference (2010).

## **Weill, David**

### **Stanford University**

Dr. David Weill is a Professor of Medicine in the Division of Pulmonary and Critical Care Medicine at Stanford University Medical Center. He is the Director of the Stanford Center for Advanced Lung Disease which includes the clinical care and study of patients with interstitial lung disease, emphysema, and cystic fibrosis. Dr. Weill also directs the Lung and Heart-Lung Transplant Program at Stanford. He has authored numerous publications on various aspects of lung disease and recently published a paper examining exposure, radiographic changes, and lung function in Libby, Montana. In addition, Dr. Weill has testified in the United States Senate on two occasions and in the Texas State Legislature regarding various aspects of asbestos related diseases.

## **Woskie, Susan**

### **University of Massachusetts at Lowell**

Susan R. Woskie, Ph.D., is a professor in the Department of Work Environment, School of Health and Environment, at the University of Massachusetts at Lowell. Dr. Woskie is director of the Occupational and Environmental Hygiene Program and the Biological and Laboratory Safety Certificate Program. Her research has focused on exposure assessment for epidemiologic studies in a variety of industries and environments. Dr. Woskie is also interested in biomarkers of exposure, statistical modeling of exposure determinants and developing methods to integrate total exposure assessment into epidemiology and risk assessment. Dr. Woskie serves on the editorial board of the American Journal of Occupational and Environmental Hygiene and has served on a number of government advisory panels including the NCI/NIEHS/EPA Agricultural Health Study, several National Academy of Science Institute of Medicine Committees focused on the Health Effects in Vietnam Veterans Exposed to Agent Orange and several National Toxicology Program Center for the Evaluation of Risks to Human Reproduction panels. She received her M.Sc. in environmental health/industrial hygiene at the Harvard School of Public Health and her Ph.D. in biomedical science/industrial hygiene from Clark University.

## **Wylie, Ann**

### **University of Maryland**

Dr. Ann Wylie is Professor of Geology and Assistant President and Chief of Staff of the University of Maryland. She graduated from Wellesley College, Massachusetts, with a BA degree in geology and from Columbia University, New York, with a PhD in economic geology and mineralogy. She has published widely in mineralogy, including the mineralogy of amphibole, asbestos, talc, and other minerals used in commerce. Her research includes the use of optical mineralogy, x-ray diffraction, and electron microscopy in identification, measurement, and characterization minerals and mineral particulates associated with human disease. She served on the US Department of Education Task Force on Asbestos in Schools, as an expert panel member for EPA's Superfund Bulk Asbestos Method, and most recently on the IARC Monograph Work Group on talc, carbon black and titanium dioxide. She is a fellow of the Geological Society of America and a member of the Mineralogical Society of Canada, the American Geophysical Union, the AAAS, and the Geological Society of Washington.

## **Zhou, Haibo**

### **University of North Carolina at Chapel Hill**

Dr. Zhou is professor of biostatistics at UNC Chapel Hill. He also serves as biostatistics core director for the Center for Environmental Medicine, Asthma and Lung Biology. He is fellow of American statistics association. Dr. Zhou is an

expert in environmental statistics, outcome dependent sampling design, children's health study, chronic obstructive pulmonary disease and pulmonary diseases, fertility studies, survival analysis, missing data, comparative studies. He received his PhD in statistics from University of Washington in 1992.