

**Invitation for Comments on the “Short List” Candidates
for the
SAB Estimation Programs Interface (EPI) Suite Review Panel**

The EPA Science Advisory Board Staff Office announced in a *Federal Register* notice (Volume 70, Number 19; Pages 4846-4847) that the SAB will review the EPA’s Office of Pollution Prevention and Toxics software for estimating physical, chemical, and environmental transport properties from chemical structure known as the Estimation Programs Interface Suite or EPI Suite. The review will be conducted by an *ad hoc* panel, known as the EPI Suite Review Panel. The SAB Staff Office sought public nominations of individuals with expertise in environmental chemistry and engineering; pollution prevention; deciding whether or not to go into production with a chemical; development of estimation models, such as QSARs that predict properties, effects and fate of chemicals from structure; and application of EPI Suite or similar tools. Additional background information on the project and details on the nomination process appeared in the cited notice. The notice is available at the SAB Web site at www.epa.gov/sab.

The SAB Staff Office has reviewed and identified 45 candidates to serve on this panel, based on relevant expertise and willingness to serve. Brief biographical sketches of candidates on the “Short List” are provided below for comment. We invite comments from the public that provide relevant information for the Staff Office to consider in evaluating the “Short List” candidates.

The SAB Staff Office Director, in consultation with SAB leadership, as appropriate, makes the final decision about who will serve on the panel. The SAB Staff completes its review of information regarding conflict of interest, possible appearance of impartiality, and appropriate balance and breadth of expertise needed to address the charge. The SAB Staff Office reviews: all information provided by candidates; information that the public may provide in response to the posting of information about the prospective panel on the SAB website during the “Short List” phase; and information gathered by SAB Staff independently on the background of each candidate.

Please provide any comments you may have with respect to the “Short List” candidates no later than October 12, 2005. Please address your comments to the attention of Ms. Kathleen White, Designated Federal Officer. E-mailed comments (white.kathleen@epa.gov) are preferred.

Estimation Programs Interface (EPI) Suite Review Panel

Viney Aneja

Viney Aneja, Ph.D. is a Professor in the Department of Marine, Earth and Atmospheric Sciences at North Carolina State University where he received his M.S. and Ph.D. in chemical engineering. Dr. Aneja has conducted research on natural emissions of nitric oxide and ammonia from agricultural fields and demonstrated their roles in ozone formation and gas-to-particle conversion. His research on peroxyacetyl nitrate, hydrogen peroxide, nitric acid, sulfur dioxide, ozone, and oxides of nitrogen in the North Carolina mountains has clarified the impact of these compounds on the formation of acid rain and on the damage to trees at high elevation. Since 2001 he has served as the Program Scientist and Principal Investigator of the "An Integrated Study of the Emissions of Ammonia, Odor and Odorants, and Pathogens and Related Contaminants from Potential Environmentally Superior Technologies for Swine Facilities" funded by the Animal and Poultry Waste Management Center/Smithfield Foods. Prior to 2001, Dr. Aneja served as the Science Team leader for the State of North Carolina's Atmospheric Nitrogen Compounds: Emissions, Transport, Transformation, Deposition, and Assessment on agricultural air quality and intensively managed agriculture. From 1995 to 2000 Dr. Aneja served as the Program Scientist and Principal Investigator on projects funded by the National Science Foundation (NSF) and the Environmental Protection Agency (EPA) Project NOVA (Natural emissions of Oxidant precursors: Validation of Techniques and Assessment). For his outstanding achievements in air pollution research, Dr. Aneja has been honored by the Air and Waste Management Association. More recently, Dr. Aneja was the project director on a major U.S. Department of Agriculture research grant entitled "Characterization and Fate of Ammonia and Hydrogen Sulfide from Animal Feeding Operations: Their Emissions, Transport, Transformations, Deposition and Impact on Fine Particulate Matter." See <http://www.meas.ncsu.edu/faculty/aneja/aneja.htm> for a list of Dr. Aneja's selected publications.

Subhash Basak

Subhash Basak, Ph.D. is Senior Research Associate in the Center for Water and the Environment at the University of Minnesota Duluth. Dr. Basak earned his BA, MS (biochemistry), and Ph.D. (biochemistry) at the University of Calcutta. Dr. Basak's research interests include biochemistry of the brain and of pesticides, analytical biochemistry, the development of topological descriptors for structure activity relationships, and quantitative structure activity relationship studies using physicochemical and topological descriptors. He is a member of the International Society for Mathematical Chemistry, International Association for Mathematical and Computer Modelling, American Chemical Society, and New York Academy of Sciences. A complete list of Dr. Basak's publications may be found at <http://wyle.nrri.umn.edu/Basak/Publications.html>. His most recent research concerns Integration of biodescriptors and chemodescriptors for predictive Toxicology funded by the US Air Force Office of Scientific Research.

Deborah H. Bennett

Deborah H. Bennett, Ph.D. is Assistant Professor of Environmental and Occupational Health in the Department of Public Health Sciences at the University of California Davis. She received an M.S. and Ph.D. in Mechanical Engineering from the University of California, Berkely and a B.S. in Mechanical Engineering from the University of California, Los Angeles. Her research focuses on the fate, transport, and exposure to chemicals in a multimedia environment within the context of environmental risk assessment. Current research interests fall into three areas: development of an indoor fugacity model to assess exposures resulting from indoor releases of pesticides and other organic compounds; exposure to Hazardous Air Pollutants (HAPs) in various indoor microenvironments through modeling and monitoring; and methods for quantifying, and uses for, the Intake Fraction of compounds. The Intake Fraction is the integrated incremental intake of a pollutant released from a source or source category and summed over all exposed individual per unit of emitted pollutant. She has also developed methods for quantifying the spatial range and temporal persistence of organic pollutants in a multimedia environment, a classification system for persistent pollutants and evaluated the use of long range transport models in the context of regulatory decisions through a model comparison. A list of Dr. Bennett's publications may be found at: <http://phs.ucdavis.edu/Faculty/Bennett.php>.

Terrie Boguski

Terrie Boguski is currently a Program Manager in the Center for Hazardous Substances Research at Kansas State University. She holds a B.S. in Chemical Engineering from the University of Oklahoma and a M.S. in Environmental Engineering from the University of Kansas. Ms. Boguski has supervised and participated in research for the study of malodorant chemicals, environmental effects of chemicals used in various nonlethal weapons, toxicity of chemicals and estimation of physical and chemical properties. Ms Boguski has participated in reviewing proposals for EPA in the field of Life Cycle Assessment (1997), and is a former member of AIChE, SAE, SETAC, SWE, and other organizations. Funding for Ms. Boguski's employment with Kansas State University is primarily provided by a contract with the U.S. Marine Corps. and a grant from the U.S. EPA.

Thomas Calloway

Thomas Bond Calloway, Jr. is a Research Manager at the Savannah River National Laboratory in South Carolina. Mr. Calloway has been involved in the field of nuclear waste treatment for over 20 years. He has participated in development, design and operation of the Defense Waste Processing Facility, the world's largest radioactive waste vitrification plant. Mr. Calloway is a graduate of chemical engineering from Auburn University and has authored numerous external publications on fundamental properties and modeling of nuclear waste. Mr. Calloway's specific expertise lies in the field of process chemical modeling and the associated experimentation needed to underpin commercial thermodynamic process modeling software. Mr. Calloway's research group is involved in measuring basic chemical and physical properties that are used to augment existing commercially available property databases and calculating the fate and transport of individual organic and inorganic species in nuclear waste processes. As a result of Mr. Calloway's efforts, SRNL jointly won a R&D 100 award along with MIT(Lead) and Pacific Northwest National Laboratory for development of the MilliWave Viscometer.

John Carbone

John P. Carbone, Ph.D. has served as Senior Scientist since 1991 in the Toxicology Department of the Rohm and Haas Co., one of the world's largest manufacturers of specialty chemicals. In 1982, Dr. Carbone received his Ph.D. in endocrine physiology in where his graduate research focused on PCB and PBB effects on thyroid and adrenal function. After a postdoctoral fellowship at Thomas Jefferson University Hospital, Dr Carbone joined the faculty of Thomas Jefferson University Medical School. Dr. Carbone's work in environmental risk assessment has focused on exposure analysis, specifically fate and transport modeling of chemicals in the environment. Dr Carbone participated in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Environmental Modeling Task Force where he led the development and implementation of an uncertainty analysis approach for a multiparametric fate and transport model, the Pesticide Root Zone Model. Dr. Carbone is a member of the Society for Environmental Toxicology and Chemistry and serves on the editorial board of *Environmental Toxicology and Chemistry*. Dr. Carbone also works with the Alkylphenol Ethoxylates Research Council.

Robert Chinery

Robert L. Chinery is a Environmental Research Scientist in the Environmental Protection Bureau in the New York State Department of Law. Mr. Chinery is licensed as a professional engineer in the state of New York and holds a M.S. in environmental engineering from Rensselaer Polytechnic Institute. Mr. Chinery's research includes carbon dioxide removal technology, fate and toxicity testing requirements of pesticides, and geospatial analysis of environmental data.

Christina E. Cowan-Ellsberry

Christina E. Cowan-Ellsberry, Ph.D. is a Principal Scientist in the Environmental Sciences Department of Procter & Gamble Company in Cincinnati, OH. Dr. Cowan-Ellsberry has worked in the area of environmental fate and risk assessment for over 25 years. She has conducted fate studies and developed models for predicting the fate of both inorganic and organic chemicals in the environment. Most recently, she has been involved in conducting and participating in workshops focusing on the use of multi-media models in environmental fate assessment, the development of environmental risk assessment guidelines, the application of uncertainty analysis in ecological risk assessment, the use of monitoring data in environmental risk assessment, and the evaluation of persistence and long-range transport potential for chemicals. Dr. Cowan-Ellsberry has also served as a technical representative for industry to the US-EPA's Endocrine Disrupter's Priority Setting workshop, Environment Canada's "Categorization and Screening of the DSL" project, and numerous international panels including the OECD's Environmental Exposure Task Force, the OECD working group for developing an internationally harmonized classification scheme for hazardous to the Aquatic environment, and both the NAFTA Commission for Environmental Cooperation and the UNEP Criteria Expert Groups for developing the criteria and process for identifying candidate persistent, bioaccumulative and toxic substances for international management. Dr. Cowan-Ellsberry hold one U.S. patent and has authored or co-authored over 50 scientific papers, 3 book chapters and 2 books.

John C. Crittenden

John C. Crittenden, Ph.D. is Richard Snell Presidential Chair of Civil and Environmental Engineering at Arizona State University. He received a B.S. in Chemical Engineering and was awarded M.S. and PhD in Civil and Environmental Engineering by the University of Michigan. He is a member of the National Academy of Engineering. Dr. Crittenden's research has been focused on the following two themes: (1) urban environment and sustainability; and (2) applications and risk assessment of nanomaterials. Dr. Crittenden has directed over 36 research projects; and, in recognition of Dr. Crittenden's contributions to engineering, he was elected to the National Academy of Engineering in 2002. A complete list of Dr. Crittenden's awards and selected publications may be found at: <http://www.fulton.asu.edu/civil/Environmental/Faculty/crittenden.htm>.

Albert R. Cunningham

Albert R. Cunningham, Ph.D. is an Assistant Professor of Environmental Studies at Louisiana State University. Dr. Cunningham's received a Ph.D. from the University of Pittsburgh in Environmental and Occupational Health. Dr. Cunningham's research interests are concentrated in two areas of toxicology: first, molecular toxicology and chemical carcinogenesis, and, second, the use and development of computational methods and structure-activity relationship modeling in toxicology. The modeling aspect of his work includes computational and statistical techniques incorporating both 2- and 3-dimensional molecular analyses to investigate the relationships and molecular interactions between chemicals and biological targets. Dr. Cunningham has received a five year grant (2001-2006) from the Department of Defense Breast Cancer Research Program to investigate the mechanism of action and identification of breast carcinogens by computational analysis of female rodent carcinogens. Dr. Cunningham has a second grant (2005-2008) from the Department of Defense for identification of pharmacophores through differential toxicity analysis of estrogen receptor positive and negative cell lines.

Joseph DePinto

Joseph DePinto, Ph.D. is a senior scientist at Limno-Tech, Inc. He received his Ph.D. in Environmental Engineering in 1975 from the University of Notre Dame. Dr. DePinto has been a part of the Great Lakes research community for 27 years involved with research on nutrient eutrophication, toxic chemical exposure and bioaccumulation analysis, contaminated sediments, ecosystem structure and functioning, and watershed modeling. Prior to employment with Limno-Tech he was a Full Professor in the Department of Civil, Structural and Environmental Engineering, and Director of the University-wide Great Lakes Program at the University at Buffalo. Recent projects include development and application of an integrated exposure model for PCBs in Green Bay, Lake Michigan; investigation of nutrient cycling/food web interactions in Lake Ontario through the development of a model that couples nutrient-phytoplankton relationships with a complex food web bioenergetics model; leading a team of scientists and engineers at the University at Buffalo in the development of a Geographically-based Watershed Analysis and Modeling System (GEO-WAMS), a Modeling Support System that coupled a Geographic Information System (ARC-INFO) with existing and newly developed watershed and water quality models; application of sediment and contaminant mass balance models to evaluate remediation of contaminated sediments in a number of river systems, and development of methods for spatial and temporal interpolation of atmospheric data collected as part of the EPA-Lake Michigan Mass Balance Study. Dr. DePinto serves on the Board of Directors of the International Association for Great Lakes Research, and is Associate Editor of the *Journal of Great Lakes Research*.

Miriam Diamond

Miriam Diamond, Ph.D. is a Professor in the Department of Geography at the University of Toronto. Dr. Diamond received her Ph.D. in chemical engineering at the University of Toronto. Dr. Diamond's work involves mathematical modelling, analytical chemistry, lab studies, field studies, and information management. Her research is motivated by the need to develop defensible strategies to improve environmental quality in systems subject to anthropogenically elevated contaminant inputs. Dr. Diamond focuses on aquatic systems (air, water and sediment) and multimedia movement (air, water, soil, sediment, vegetation and impervious surfaces), specifically, in urban areas. Selected publications of Dr. Diamond's may be found at <http://www.geog.utoronto.ca/info/faculty/Diamond.htm>.

William J. Doucette

William J. Doucette, Ph.D. is a professor at Utah State University with appointments in the Department of Civil and Environmental Engineering, Utah Water Research Laboratory, and Center for Environmental Toxicology. He has BS and MS degrees in chemistry and a PhD in Aquatic Chemistry from the University of Wisconsin-Madison. Dr. Doucette has been an Environmental Chemistry Editor for the *Journal of Environmental Toxicology and Chemistry* since 1999 and serves on the Solid and Hazardous Waste Control Board for the State of Utah. He has also worked as an environmental chemist for Eli Lilly in Greenfield, IN and at the US EPA's Environmental Research Laboratory in Duluth, MN. Dr. Doucette's research has focused on the fate and behavior of organic contaminants in the environment, with emphasis on phytoremediation, the uptake of industrial chemicals into edible plants, the measurement and prediction physical-chemical properties using Quantitative Structure Property Relationships (QSPRs), and the environmental fate of pharmaceuticals. A list of recent publications of Dr. Doucette's may be found at: <http://www.engineering.usu.edu/uwrl/www/faculty/doucette.html>.

David Dzombak

David A. Dzombak, Ph.D. is professor of civil and environmental engineering at Carnegie Mellon University, a registered professional engineer in Pennsylvania, and a diplomate of the American Academy of Environmental Engineers. He holds a Ph.D. in civil-environmental engineering from the Massachusetts Institute of Technology. The emphasis of his research is on water and soil quality engineering, especially the fate and transport of chemicals in subsurface systems and sediments, wastewater treatment, in situ and ex situ soil/sediment treatment, hazardous waste site remediation, and abandoned mine drainage remediation. Dr. Dzombak has served on the National Research Council Committee on Bioavailability of Contaminants in Soils and Sediments and on various research review panels for the Department of Defense, Environmental Protection Agency, National Institute of Environmental Health Sciences, and the National Science Foundation. He has also served on the Board of Directors and as an officer of the Association of Environmental Engineering and Science Professors; as chair of committees for the American Academy of Environmental Engineers, American Society of Civil Engineers, and Water Environment Federation; and on advisory committees for various community and local government organizations and for the Commonwealth of Pennsylvania. Dr. Dzombak was elected a fellow of the American Society of Civil Engineers in 2002. Other recent awards and honors include the Professional Research Award from the Water Environment Association of Pennsylvania in 2002, an Aldo Leopold Leadership Program Fellowship by the Ecological Society of America and the David and Lucile Packard Foundation in 2000, and the Jack Edward McKee Medal from the Water Environment Foundation in 2000. Dr. Dzombak's publications are listed in: <http://www.ce.cmu.edu/~dzombak/pubs.html>.

T. Taylor Eighmy

Taylor Eighmy, Ph.D. is a Research Professor of Civil Engineering at the University of New Hampshire (UNH). He received his B.S. in Biology from Tufts University in 1980, his M.S. in Civil Engineering from UNH in 1983, and his Ph.D. in Engineering (Civil) from UNH in 1986. Dr. Eighmy directs the Environmental Research Group (ERG), an applied environmental engineering and environmental science research center at UNH. He also directs the Recycled Materials Resource Center (RMRC), a partnership with the Federal Highway Administration, promoting the wise use of recycled materials in highway construction. He presently serves on the Advisory Board of the New Hampshire Estuaries Project, a partnership between the New Hampshire Office of State Planning and the U.S. EPA's National Estuaries Program. He also serves on the National Steering Committee of the U.S. DOE's Combustion Byproduct Recycling Consortium. Formerly, he was appointed to and served on the New Hampshire Waste Management Council (1988-1995), a waste adjudicatory and rule making authority. He was a member of the International Ash Working Group (IAWG), sponsored by the International Energy Agency, and coauthored the treatise "Municipal Solid Waste Incinerator Residues" with his IAWG colleagues. He received the UNH Excellence in Research Award in 1997. He has research interests in recycled materials characterization and beneficial use, chemical speciation, environmental chemistry of leaching behavior, spectroscopic surface analysis, applied geochemistry, reactive barriers, and environmental microbiology. Dr. Eighmy's present research focus is on contaminant leaching and leaching modeling, use of surface spectroscopies to characterize surfaces where leaching first occurs, contaminant fate and transport in beneficial use scenarios within the highway environment, phosphate stabilization of wastes, use of phosphate-based reactive barriers (both permeable and impermeable) for waste containment, and geochemical and microbial characterization of microfracture surfaces in TCE-contaminated bedrock. A full description of Dr. Eighmy's research projects and selected publications may be found at:

<http://www.unh.edu/erg/faculty/Eighmy/>.

Michael John Ellenbecker

Michael John Ellenbecker, Sc. D. is Professor of Industrial Hygiene and Director of the Department of Work Environment at the University of Massachusetts Lowell. He received the Sc.D and M.S. from Harvard University in Environmental Health Sciences after earning an MS (University of Wisconsin) and BEE (University of Minnesota) in Electrical Engineering. Dr. Ellenbecker's research activities include development of techniques to reduce the use of toxic chemicals; development of software-based health and safety tools; evaluation of exposures of former DOE workers; development of sampling protocols for thermal emissions from plastics processing operations; characterization and control of indoor air pollution sources; characterization of emissions from residential coal and wood stoves. Recent research funding for Dr. Ellenbecker has been provided by the Environmental Protection Agency, the National Institute for Occupational Safety and Health, the Oil, Chemical and Atomic Workers' Union, National Institute for Occupational Safety and Health; National Science Foundation, and the "Toxics Use Reduction Institute" of the Commonwealth of Massachusetts. More information on Dr. Ellenbecker's work with the Toxics Use Reduction Institute may be found at <http://www.turi.org/content/content/view/full/1606/>.

Thomas W. Engle

Thomas W. Engle, Ph.D. recently retired from Bayer Environmental Science and is currently working as a private consultant. His research interests have focused on the use of statistical and molecular models to understand and predict biological activity, fate, and safety of experimental and commercial agricultural chemicals. Dr. Engle received his Bachelor of Science degree in Chemistry from Rose-Hulman Institute of Technology and his Ph.D in Medicinal Chemistry from State University of New York at Buffalo. After several years of post doctoral research with anti-cancer compounds, Dr. Engle began working with agricultural chemicals. During his career he worked in agricultural research groups for Union Carbide Agricultural Products, Rhone-Poulenc Ag Company, Aventis Corp., Bayer Crop Science, and Bayer Environmental Science. In these roles, he used molecular modeling and numeric/statistical methods to investigate relationships between chemical structures, physicochemical parameters, physical properties, biological efficacy, biological/environmental fate, and mammalian safety. He developed predictive models for Carbamates, Benzoylureas, Pyrethroids, Phenylpyrazoles, Gaba-ergic, Neonicotinyl and novel classes of insecticides, and Urea, Sulfonylurea, Phenoxyacetic acid, Isoxazole, Phosphonate and novel classes of herbicides/plant growth regulators. These models were used to guide corporate synthesis and compound acquisition programs toward more efficacious products with reduced human and environmental risks. Each of these areas has involved modeling inherent biological activity at receptor sites, potential adsorption, distribution, metabolism, and excretion in humans, insects/arachnids and plants, soil and foliar availability of formulations, soil mobility, potential for contaminating ground and surface water, and environment fate. Dr. Engle has led a number of international projects to design and implement data acquisition systems and corporate databases of chemical structures, physical, and biological data, and to merge and harmonize databases containing over tens of million compounds for multiple multinational corporations.

Kurt Enslein

Kurt Enslein is President of Enslein Research, Inc. His education includes studies in mathematics, optics, chemistry, computer programming and biomedical engineering at various institutions in US. His interests include applications of quantitative structure activity relationships (QSAR) in predicting chemical toxicity, the reliability of such predictions, predictive metabolism, and the use of predictive toxicology in the design of new chemicals. He has also knowledgeable about the relationship of chemical structure to biodegradability. He is a member of the American Association for the Advancement of Science, Society of Toxicology, International Society for the Study of Xenobiotics, American Chemical Society, American Statistical Association, and the QSAR and Modeling Society. Mr. Enslein is currently working under a grant from the National Institute of General Medical Sciences (NIGMS) on development of predictive metabolism systems.

John Gannon

John Gannon, Ph.D. is employed by DuPont as a Research Manager for Environmental & Microbiological Sciences & Engineering. He has responsibility for environmental fate assessments of DuPont's industrial chemicals using information from both lab studies and estimation (modeling) tools. Dr. Gannon received his Ph.D. from New York University in microbiology. Dr. Gannon has worked in environmental chemistry with a specific emphasis on environmental fate assessments. Other areas of expertise include biodegradability assessments via empirical (lab studies) and estimation tools, environmental fate assessments of industrial chemicals, and industrial microbiology. Dr. Gannon served for three years on the Technical Advisory Group (TAG) for Environment Canada, a group providing expertise on the technical strategy for prioritizing chemicals of concern on the Canadian Domestic Substances List.

Douglas Hawkins

Douglas M. Hawkins, Ph.D. is a Professor in the School of Statistics at the University of Minnesota. Dr. Hawkins received his Ph.D. from Witwatersrand University. Dr. Hawkins has held professional fellowships in the American Statistical Association, American Society for Quality, and the South African Statistical Association. Dr. Hawkins has received research grants from the National Science Foundation since 1989 for statistical diagnostics, Air Force Office of Scientific Research since 1998 for development of quantitative structure activity relationships (QSAR) for predictive toxicology, and the U.S. Department of Agriculture, since 2004, for QSAR modeling of potential mosquito repellants. Dr. Hawkins has published some 170 papers in the statistical methodological literature, many of them listed at <http://www.stat.umn.edu/~doug/research/research.htm>.

Anton Hopfinger

Anton Hopfinger, Ph.D. is a Professor of Medicinal Chemistry at the University of Illinois at Chicago. Dr. Hopfinger holds a Ph.D. in Biophysical Chemistry from Case Western Reserve University. Dr. Hopfinger's areas of expertise include methods of computational chemistry, computer-assisted molecular design, quantitative structure-activity relationships, modeling chemical mechanisms of toxicity, and computer graphics in molecular property representation. Dr. Hopfinger is Associate Editor of the *Journal of Chemical Information and Modeling*. Dr. Hopfinger has held numerous grants and contracts, most recently as Principal Investigator for "Cellular and Molecular Targets of General Anesthetics – Modeling and QSAR" Subcontract to National Institutes of Health Program Project. A list of Dr. Hopfinger's selected publications may be found at:

http://www.uic.edu/pharmacy/depts/pmch/faculty_sites/Hopfinger.htm.

Keri Hornbuckle

Keri C. Hornbuckle, Ph.D. is an associate professor in the department of Civil and Environmental Engineering at the University of Iowa. She earned a Bachelors of Arts degree from Grinnell College (Chemistry) in May, 1987 and a Ph.D. from the University of Minnesota- Minneapolis (Dept Civil and Environmental Engineering) in January 1996. Dr. Hornbuckle's research has focused on methods for measuring and predicting the cycling of persistent organic pollutants (POPs) in natural systems, including exchange of atmospheric POPs with surface waters and vegetation. She has extensive experience in field and analytical methods for POPs, including measurements in natural systems, design and implementation of climate chamber experiments, and modeling of air-surface exchange. Recent work concerns the cycling of POPs related to consumer products, including synthetic musk fragrances and perfluorinated surfactants. Recent grant/contract support is from the National Science Foundation, the U.S. EPA, and NIEHS. She is currently President of the International Association for Great Lakes Research and an editor of the *Journal of Great Lakes Research*. She has served as a member of the Science Advisory Board's Air Toxics Research Strategy / Multi-Year Plan and is a member of the Science Advisory Board of the International Joint Commission from 1998 to 2002. In 2003, Dr Hornbuckle received the Excellence in Review award from *Environmental Science & Technology*.

Nirmala Khandan

Nirmala Khandan, Ph.D. is Professor of Environmental Engineering at New Mexico State University. Dr. Khandan received his Ph.D. in Environmental Engineering from Drexel University. Areas of expertise include QSAR techniques for physical/chemical properties of organic chemicals, toxicity of organic chemicals and their mixtures to microorganisms, physical/biological processes for treatment of air, soils, and water contaminated with organic chemicals. Grants and contracts include QSAR modeling of single chemical toxicity and QSAR modeling of mixture toxicity funded by US Air Force Office of Scientific Research; biotreatment of gases contaminated with organic vapors funded by Dept. Of Energy; and reuse alternatives of agricultural wastes funded by US Dept. Of Agriculture. Dr. Khandan has published a textbook called *Modeling Tools for Environmental Engineers and Scientists* as well as more than 50 journal papers, many of them listed at:

<http://cagesun.nmsu.edu/~nkhandan/Homepage2.html>.

Byung Kim

Byung R. Kim, Ph.D. is Technical Leader in the Physical and Environmental Sciences Department of Ford Research Laboratory, Dearborn, MI and is a professional engineer. He received the B.S. degree in Civil Engineering from Seoul National University in Korea in 1971 and M.S. and Ph.D. degrees in Environmental Engineering from the University of Illinois, Urbana, IL in 1974 and 1977. His current research interest is in understanding various manufacturing emission issues (physical/chemical/biological waste treatment processes and the overall environmental impact of manufacturing processes). He also has worked on the adsorption of organics on activated carbon and water quality modeling. He has served on EPA SAB Environmental Engineering Committee and was Editor of the *Journal of Environmental Engineering*. Dr. Kim served on the advisory board for the National Institute of Environmental Health Superfund Basic Research Program at the University of Cincinnati. He received a Richard R. Torrens Award for editorial leadership from the American Society for Civil Engineers and two Willem Rudolfs Medals from Water Environment Federation on his publications in industrial wastes. Dr. Kim's work is fully supported by Ford.

John C. Kissel

John C. Kissel, Ph.D. is Associate Professor of Environmental and Occupational Health at the University of Washington. Dr. Kissel received his Ph.D. in civil engineering from Stanford University. His research focuses on human exposure to environmental contaminants. He is a former President of the International Society of Exposure Analysis and previously served as a Councilor of the International Society of Exposure Analysis and former chair of the Exposure Assessment Specialty Group of the Society for Risk Analysis. Dr. Kissel's externally funded research history includes projects supported by the US Environmental Protection Agency, the US Department of Energy, and the National Institute of Environmental Health Sciences. Dr. Kissel has sole responsibility for two courses, Hazardous Waste Management and Quantitative Methods for Environmental Exposure Assessment. One aspect of Dr. Kissel's work involves characterization of human dermal contact with soils and sediments. Results of those studies have been incorporated directly into EPA guidance documents, such as the Exposure Factors Handbook, that are used for cleanup of Superfund sites or other contaminated lands. Dr. Kissel and his students have also investigated the efficiency of dermal absorption of contaminants from environmental matrices. Dr. Kissel was recently awarded an EPA STAR grant to examine correspondence between output from probabilistic aggregate exposure models and observed levels of urinary biomarkers of pesticide exposure. More details on Dr. Kissel's publications may be found at:

http://depts.washington.edu/envhlth/about/facultypage/bibliography/bib_kiss.html.

Alka Kurup

Alka Kurup, Ph.D. is Senior Research Scientist at BioByte Corp. She received her Ph.D in Medicinal Chemistry from the Birla Institute of Technology and Science in India and her M. Pharmacy in Pharmaceutical Chemistry from the College of Pharmaceutical Science in India. She was a post-doc fellow in Corwin Hansch's group at Pomona College. Dr. Kurup's experience is in the area of computer aided drug design, including expertise in Quantitative structure-activity Relationship (QSAR), Comparative QSAR studies, model mining, building database, and data analysis. She is a member of the American Chemical Society, the SQAR and Modeling Society. She is a reviewer of grant proposals for the National Science Foundation and reviews articles for Current Medicinal Chemistry, Bioorganic Medicinal Chemistry, Bioorganic and Medicinal Chemistry Letters. She has published 40 papers in refereed international journals and conferences.

Matthew MacLeod

Dr. Matthew MacLeod is a researcher at the Swiss Federal Institute of Technology in Zurich, Switzerland. After completing a B.Sc. degree at the University of Victoria, Dr. MacLeod received graduate training in Environmental Chemistry at Trent University where he earned a M.Sc. degree in 1999 and a Ph.D. in 2002. From 2002 to 2004 he worked as a post-doctoral fellow at the Lawrence Berkeley National Laboratory in Berkeley, California, USA. His research specialty is modeling the fate, transport and human and ecological exposure of environmental contaminants. He has developed contaminant fate models that track the migration of persistent organic pollutants over continental and global-scales, and to specific target ecosystems such as the Great Lakes and the Arctic. Dr. MacLeod is a member of the Organization for Economic Cooperation and Development expert group on multimedia contaminant fate modeling, and is co-chair of the Fate and Exposure Modeling Advisory Group of the Society of Environmental Toxicology and Chemistry. His research has been supported by funding from the Natural Sciences and Engineering Research Council (Canada), the Environmental Protection Agency (USA) and the Swiss Federal Institute of Technology (Switzerland).

Randy Maddalena

Randy Maddalena, Ph.D., is a Scientist in the Exposure and Risk Analysis Group at Lawrence Berkeley National Laboratory. He received his BS in Environmental Toxicology (1992) and his Ph.D. in Agricultural and Environmental Chemistry (1998) from the University of California, Davis. The primary focus of his research is development, evaluation and application of models that predict chemical fate in multiple environmental media (air, water, soil, vegetation, sediment) and chemical exposures through multiple pathways (drinking water, food, feed, indoor air) for both human and ecological receptors. Dr. Maddalena also develops tools and methods for performing probabilistic risk assessment and sensitivity analysis applied to complex regulatory models. His most recent work combines the use of models and experimental data to investigate how vegetation influences the environmental fate and transport of semivolatile organic pollutants and how the uptake of these pollutants into ecological or agricultural food chains might contribute to dietary exposures. Dr. Maddalena is a Co-chair of the Society of Environmental Toxicology and Chemistry (SETAC) Advisory Group on Fate and Exposure Modeling where he serves as an Editor of the Fate and Exposure Modeling column in the SETAC Globe. He is also a member of the International Society of Exposure Analysis and a member of the SAB's Integrated Human Exposure Committee. He receives funding from the EPA's National Exposure Research Lab for research on fate and exposure models; the DOE's Fossil Energy Program for experimental work on plant uptake of petroleum related hydrocarbons; and from the EPA's Office of Air Quality Planning and Standards for his work on the TRIM.FaTE model. Dr. Maddalena also recently completed a project funded by the EPA's Office of Emergency and Remedial Response where he developed an approach for constructing inputs to probabilistic risk assessment models.

David Mage

David T. Mage, Ph. D. is a Research Professor in the Department of Public Health at Temple University. Dr. Mage received his Ph.D. in Chemical Engineering from the University of Michigan. He is affiliated with the Air & Waste Management Association, the International Society for Exposure Analysis, and was on the Editorial Board of Environmental Monitoring and Assessment. Dr. Mage is an editorial reviewer for Exposure Analysis and Environmental Epidemiology, J Air & Waste Management Association, Atmospheric Environment, Environmental Health Perspectives.

Michael J. McFarland

Dr. Michael McFarland, Ph.D. is currently an associate professor in the Department of Civil and Environmental Engineering at Utah State University where his research interests are focused in the areas of biosolids engineering, industrial waste management and pollution prevention. Dr. McFarland received his Bachelors' degree in Engineering and Applied Science from Yale University, his Masters' degree in Chemical Engineering from Cornell University, his Ph.D. in Agricultural Engineering from Cornell University and completed his postdoctoral research program in the Dept. of Civil and Environmental Engineering at the University of Texas at Austin. Dr. McFarland has served on numerous federal, state and local environmental engineering and public health advisory committees for the U.S .Dept. of Defense, U.S. Environmental Protection Agency, U.S Dept. of Energy, National Science Foundation and the state of Utah.

Gary Miller

Gary Miller, Ph.D. is an independent consultant and registered professional engineer. Dr. Miller has served as an expert witness in State and Federal lawsuits involving chemical releases and worked with the EPA, Louisiana Environmental Action Network (<http://www.leanweb.org/>) and the Tulane Environmental Law Clinic on implementing the 1990 Clean Air Act in Louisiana. He holds a Ph.D. in Engineering Science from Louisiana State University and a B.S. and M.S. in chemical engineering from the University of Arkansas.

Michael Murray

Michael Murray, Ph.D. joined the Great Lakes office of the National Wildlife Federation (NWF) as Staff Scientist in 1997. His work has focused on the scientific and policy aspects of toxic chemicals in the Great Lakes region, particularly with regard to mercury sources, fate and transport, ecological and human health effects, and control options. Dr. Murray has worked on water quality criteria and fish consumption advisories. Mike received M.S. and Ph.D. degrees in Water Chemistry from the University of Wisconsin-Madison, where his research addressed several aspects of the environmental chemistry of polychlorinated biphenyls. He has authored or co-authored six peer-reviewed papers and book chapters as well as numerous reports. In addition to current duties with NWF, Dr. Murray is an adjunct lecturer in Environmental Health Sciences at the University of Michigan's School of Public Health, where he has taught courses in environmental chemistry and water quality management. Funding support has been from U.S. EPA and several private foundations, including the Garfield Foundation, Beldon Fund, George Gund Foundation, and the C.S. Mott Foundation. In addition to serving as peer-reviewer for EPA and state agency reports, Dr. Murray has served on a number of technical review, advisory group, and steering committees, including Michigan Quantification Level Advisory Group, Michigan Mercury Electric Utility Workgroup, and committees of the Society of Environmental Toxicology and Chemistry.

Thomas Parkerton

Thomas F. Parkerton, Ph.D. is an Associate for Exxon Mobile Biomedical Services. Dr. Parkerton received his Ph.D. in Exposure Assessment from Rutgers University in 1993. Dr. Parkerton has conducted research in multimedia exposure modeling, data and QSAR models, and risk assessment of complex hydrocarbon substances. Dr. Parkerton's publications cover environmental chemistry and engineering; development of estimation models for fate/effect assessment; and evaluation/application of EPI Suite models. Dr. Parkerton is a Member of European Centre for Ecotoxicology and Toxicology of Chemicals QSAR Task Force and co-author on recent technical report providing industry evaluation of commercially available QSAR software tools. Dr. Parkerton has completed a major project funded by the European oil industry that involved multimedia exposure modeling and risk assessment of gasoline.

Susan E. Powers

Susan E. Powers, Ph.D. is a Professor in the Department of Civil and Environmental Engineering and Director of the Center for the Environment at Clarkson University. Dr. Powers' research has focused on understanding the physical and chemical phenomena associated with contaminant transport in subsurface systems, with specific emphasis on organic non-aqueous phase liquids (NAPLs) in complex systems. Her research on NAPL dissolution, the wettability of NAPL-water-mineral systems and the fate of ethanol-blended gasoline in the subsurface is widely cited and considered at the leading edge in her field. Experimental and mathematical modeling techniques are utilized in all research activities. Research that has provided a solid understanding of the environmental fate of oxygenated gasoline has led to an interest in the application of this science to aid in regulatory and policy decisions. Current projects in this area include life cycle management issues for gasoline, other transportation fuels and energy systems in general. Funding for her research projects has been received from the EPA STAR program, NSF, DOE and the State of California. Dr. Powers has been an invited participant at many workshops and symposia related to the environmental impacts of reformulated gasoline. She has served on the Board of the Association of Environmental Engineering and Science Professors and the editorial boards for the Journal of Environmental Engineering, Advances in Water Resources and the Journal of Contaminant Hydrology.

Rich Purdy

Rich Purdy, Ph.D. is an independent toxicologist and environmental scientist. Dr. Purdy received his Ph.D. from Washington State University in 1975. Dr. Purdy has done projects mainly in the areas of QSAR (quantitative-structure-activity relationships), toxicology and environmental chemistry of perfluorinated chemicals, characterization and screening of large numbers of substances for in-depth evaluation, and cumulative risk assessment. Dr. Purdy was formerly a Senior Ecotoxicologist and Environmental Specialist for 3M.

Kevin Reinert

Kevin H. Reinert, Ph.D. is Principal Toxicologist at AMEC Earth and Environmental. He received his Ph.D. in biological sciences at the University of North Texas, his M.S. in environmental science at Rutgers University, and his B.S. in natural science at Muhlenberg College. Dr. Reinert has more than 20 years of experience in environmental fate and effects assessment, environmental modeling, ecological and human health risk assessments, litigation support, groundwater, and hazardous waste projects. Dr. Reinert serves as Chair of the Pennsylvania Department of Environmental Protection Cleanup Standards Scientific Advisory Board. He is a member of the Society of Environmental Toxicology and Chemistry (SETAC), Sigma Xi, and the American Association for the Advancement of Science (AAAS).

Tony N. Rogers

Tony N. Rogers, Ph.D. is Associate Professor in Michigan Technical University's Department of Civil and Environmental Engineering. Dr. Rogers has experience in design calculations for a variety of environmental unit operations: air and steam stripping, carbon adsorption, catalytic oxidation, activated-sludge wastewater treatment, and others. Dr. Rogers participates in the Center for Clean Industrial and Treatment Technologies at Michigan Tech. To advance the science of environmentally conscious process design, CenCITT is sponsoring research in two main areas: (1) ways to integrate pollution prevention concepts into chemical processes, and (2) new tools and strategies for process evaluation. Further detail and selected publications of Dr. Rogers may be found at:
http://www.chem.mtu.edu/chem_eng/faculty/tnrogers.htm.

Mark Rood

Mark J. Rood, Ph. D. is a Professor of Environmental Engineering and Coordinator of the Environmental Engineering and Science Program in the Department of Civil and Environmental Engineering at University of Illinois (Urbana-Champaign). He received his B.S.E. degree in Environmental Engineering from Illinois Institute of Technology and his M.S.E. and Ph.D. degrees in Environmental Engineering from University of Washington. Professor Rood's research and teaching interests are in the areas of pollution prevention, physical-chemical treatment processes (adsorption, absorption, and plasma processes), aerosol optics and chemistry, and the characterization of ambient aerosols with respect to atmospheric chemistry and climate forcing. He has published over 60 peer-reviewed manuscripts, more than 100 conference proceedings and reports, and one patent. Professor Rood and his students have received more than 17 national awards from the Association of Environmental Engineering and Science Professors, Air and Waste Management Association, American Carbon Society, and American Chemical Society. His distinguished service is recognized with his past appointment as Treasurer and member of the Executive Board of the Association of Environmental Engineering and Science Professors, as an associate editor for the Journal of Air and Waste Management Association, and as the Editor-In-Chief of Journal of Environmental Engineering. Professor Rood's research has been supported by Department of Defense, National Science Foundation, National Oceanic and Atmospheric Administration, and Grainger Foundation.

Aleksandar Sabljic

Aleksandar Sabljic, Ph.D. is Head of Physical Chemistry Division at the Institute Rudjer Boskovic, Zagreb in Croatia. Dr. Sabljic received a Ph.D. in Physical Chemistry from the University of Zagreb in Croatia. Further details on Dr. Sabljic's projects may be found at <http://www.irb.hr/en/str/zfk/labs/GTK/clanovi/sabljjic/zivotopis/>.

Daniel Salvito

Daniel Salvito, Ph.D. is the Manager of the Environmental Program for The Research Institute for Fragrance Materials, Inc. (RIFM). Dr. Salvito is responsible for overseeing the planning, conduct and completion of the environmental research and testing program at RIFM. These activities include the development and use of models to predict the properties, fate and effects of organic chemicals in the environment. Dr. Salvito holds a Bachelor of Science degree in chemistry from Adelphi University and a Masters of Science degree in chemistry from the State University of New York at Stony Brook. He completed his Ph.D. in environmental science from Rutgers University. Among his professional affiliations, Dr. Salvito is a member of the American Chemical Society, the Society of Environmental Toxicology and Chemistry, and the New York Academy of Sciences. He has authored over 20 scientific publications and presentations. He presently serves on ECETOC's Task Force on the Risk Assessment of Persistent, Bioaccumulative and Toxic Chemicals, chairing the Effects sub-group. He was served on the scientific advisory committee for the joint TNO/Wildlife International Workshop on Simulation Testing and Environmental Persistence. Dr. Salvito leads the fragrance industry's support of the pilot PBT Profiler program on a case study of personal care ingredients with SC Johnson.

Hans Sanderson

Hans Sanderson, Ph.D. is Director of Environmental Safety for the Soap and Detergent Association. Dr. Sanderson received his Ph.D. in Ecotoxicology from Roskilde University in Denmark. Dr. Sanderson has focused on pharmaceuticals and personal care products (PPCPs) at the lowest tier (QSAR) and the highest tier (mesocosm) of risk assessment. Current areas of expertise include responsibilities for nine global High Production Volume Chemical categories (PPCP ingredients) under the EPA HPV challenge and the OECD HPV program. Dr. Sanderson has co-authored a chapter on global extrapolation techniques and practices for QSAR (SETAC press); a book on risk screening and exposure methodologies for HPVs (internal and external peer-review), and published several papers on QSARs. Dr. Sanderson chairs a workgroup under Society of Environmental Toxicology and Chemistry (SETAC) on PPCPs and modeling.

Kirk Simmons

Kirk Simmons, Ph.D. is Senior Research Associate for Computational Sciences at DuPont. He received his Ph.D. in Organic Chemistry at the University of Illinois. At Dupont, Dr. Simmons is responsible for data mining high-throughput screening data, developing statistical models used in guiding compound acquisitions with the goal of improving screening efficiency. He has researched and validated the effectiveness of chemical descriptors in data mining. He has developed and implemented automated model development and validation processes and developed experimental design programs to aid synthesis chemist in compound design and selection during lead optimization. Dr. Simmons is a member of the American Chemical Society, Medicinal Chemistry and Agrochemical divisions.

John R. Smith

John R. Smith, Ph.D. is a Manager in the Alcoa Technical Center with over 25 years experience in the environmental sciences and engineering. Dr. Smith has dealt with numerous aspects of site remediation, treatment of plant process waters and wastewaters, and sustainable development technology initiatives. Dr. Smith received his Ph.D. in Civil/Environmental Engineering from Carnegie-Mellon University and is a registered professional engineer in Pennsylvania. Dr. Smith is recipient of the Best Research Paper Award from the American Society of Civil Engineers Practice Periodical in 2001, the Jack Edward McKee Medal from the Water Environment Foundation in 2000, and the Linn H. Enslow Memorial Award from the New York State Water Association in 1994. He is currently employed with Alcoa Inc. and is also an Adjunct Professor in the Civil/Environmental Engineering Department at Carnegie-Mellon University. At Alcoa Inc., Dr. Smith manages the EHS Sciences & Technology Section. Presently, his main focus is to establish sustainable development initiatives within Alcoa via the innovative integration of EHS (environment, health, safety) into all new and existing products and production processes. Such work specifically relates to developing, evaluating and implementing technically viable and cost-efficient ways to treat, minimize and/or eliminate water and wastewater discharges, solid waste generation, and air pollutant discharges by addressing such issues via innovative modifications to production process and/or operations, rather than the more conventional end-of-pipe treatment approaches. Focus is also given to implementing energy efficiency, safe work practices and providing a healthy work environment associated with production operations. Here, the ultimate goal is to first address, and then move beyond, EHS compliance in a cost-efficient manner while at the same time moving towards more efficient production and more sustainable products, thus providing Alcoa, their employees and the communities in which they operate with a safe and sustainable future. Dr. Smith also provides remediation consulting within Alcoa on strategically significant issues.

Louis J. Thibodeaux

Louis J. Thibodeaux, Ph.D. is currently the Jesse Coates Professor in the College of Engineering at Louisiana State University. His terminal degree is a Ph.D. in chemical engineering and presently his teaching, research and service is dominated by the field of chemical fate and transport in multimedia compartments of the natural environment. Current areas of research expertise include chemical release processes to water from sediment beds and to air from soil-like dredged materials as well as chemical releases to water and air from environmental dredging activities. Although Dr. Thibodeaux is the Emeritus Director of the USEPA funded South and Southwest Hazardous Substance Research Center, head quartered at LSU and Directed by Danny D. Reible. Professor Thibodeaux has served on advisory committees for the USEPA, USACE, DOD, DOE, NRC and the private sector, all related to environmental chemodynamic issues. Further details on Dr. Thibodeaux's projects and publications may be found at: <http://www.che.lsu.edu/faculty/thibodeaux/>.

Gerry Wood

Gerry Wood, Ph.D. runs his own consulting small business and has been a Certified Industrial Hygienist for 28 years. He serves as a consultant for the Occupational Safety & Health Administration, the National Institute for Occupational Safety and Health, and the U.S. Army. Dr. Wood received his B.S. in Chemistry from the University of Oklahoma, Norman, Oklahoma and a Ph.D. from the University of Texas at Austin, Texas, in Physical Chemistry. Dr. Wood's expertise and research involves methods development, experimental testing, theoretical modeling, and computer programming relating to 1) air sampling and analysis, 2) activated carbon testing, 3) performance of air-purifying respirator cartridges and gas masks, 4) and physical properties of vapors.