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FQPA Science Review Board Biographical Sketches
July 20-22, 2010 FIFRA SAP Meeting

1) Dr. Dana Barr is a Research Professor of Environmental and Occupational Health in the Department of Environmental and Occupational Health at Emory University. She joined the faculty at Emory in January, 2010 after a 23-year career at the U.S. Centers for Disease Control and Prevention where she was most recently Chief, Pesticide Laboratory, National Center for Environmental Health (NCEH). Her pesticide laboratory was engaged in more than 50 epidemiologic studies in a given year. She is the author of over 150 peer reviewed articles in such journals as *American Journal of Epidemiology, Environmental Health Perspectives* and *Analytic Chemistry*. Dr. Barr received the NCEH Director's Award for Outstanding Scientific Collaborations and the Joan Daisy Outstanding Young Investigator Award. She is Editor-in-Chief of the *Journal of Exposure Science and Environmental Epidemiology*.

2) Dr. Wendy Heiger-Bernays is an associate professor in the Department of Environmental Health at the Boston University School of Public Health where she is responsible for teaching graduate-level courses in toxicology and risk assessment and conducts research in these fields. Dr. Heiger-Bernays has a Ph.D. in Biochemistry from the University of Nebraska Medical Center and completed post-doctoral work at Cold Spring Harbor Laboratory and in the Program in Toxicology at the Massachusetts Institute of Technology. Her work began in molecular toxicology, focusing on genes responsible for detoxification of environmental chemicals and has evolved into issues relevant to regulatory toxicology. In the past few years, she has focused on the efficacy of exposure models for predicting human exposures to pesticides (in compliance with the Food Quality Protection Act (FQPA)) and the evaluation of approaches used to develop health-protective risk based concentrations of chemicals in the environment. Along with one of her doctoral students and a colleague at another academic institution, she has begun to gather data necessary for development of a Physiologically-Based Pharmacokinetic (PBPK) model for the organophosphate pesticide, chlorpyrifos. Dr. Heiger-Bernays has served on the USEPA Candidate Contaminant List Workgroup and as an *ad hoc* member of the Federal Fungicide, Insecticide, and Rodenticide Act (FIFRA) Scientific Advisory Panel. She is also a member of the Massachusetts Department of Environmental Protection Waste Site Cleanup Program Advisory and Safe Drinking Water Act Assessment Committees. She has served as a consultant to many community groups on environmental health issues related to toxicology and risk assessment.

3) Dr. Abby Collier is an Assistant Professor of Pharmacology (tenure track) at the University of Hawaii's John A. Burns School of Medicine. She received both B.Sc., and Ph.D. degrees in Pharmacology from the University of Auckland Medical School (New Zealand) and performed Post-Doctoral Training in oxidative stress, bioreductive drugs and cancer under Dr. Chris Pritsos at the University of Nevada, Reno. Dr. Collier serves as the Mini-Reviews Editor for *Chemico-Biological Interactions* and as an *ad hoc* and formal reviewer for *Pharmacology, Toxicology, Pediatric Medicine* and *Obstetrics and Gynecology* journals. She maintains a strong extramurally funded research program in drug metabolism and pharmacokinetic research with particular emphasis on developmental pharmacology (and toxicity) in pregnancy and pediatrics. In addition to teaching Clinical and Basic

Pharmacology to medical and graduate Students in the United States, Dr. Collier teaches an annual course to Prescribing Pharmacy Students at Misr International University (Cairo, Egypt) and has functional and pending collaborations with scientists and academics in Egypt, NAMRU, Scotland, and New Zealand.

4) Dr. Penelope Fenner-Crisp is a private consultant. Her areas of expertise include human health and environmental risk assessment, toxicology, science policy and its integration into regulatory decision-making and familiarity with environmental regulatory programs and practices, all of which are a continuation of her activities and responsibilities during her 22 years at USEPA where she served as a staff toxicologist in the Office of Drinking Water followed by senior management positions in the Office of Pollution Prevention and Toxics and the Office of Pesticide Programs. She is the former Executive Director of the Risk Science Institute of the International Life Sciences Institute (ILSI), a global, non-profit, scientific organization dedicated to seeking scientific solutions to important public health issues related to food and nutrition, food safety, water quality, chemical safety and environmental health and assessment of human health and environmental risk.

5) Dr. Richard Greenwood is a research scientist and lecturer in the School of Biological Sciences at the University of Portsmouth, and is the University Research Degrees Coordinator. For 20 years he worked on the design, synthesis and toxicity of pyrethroid insecticides, and in particular on the pharmacokinetics of these compounds in insects. More recently he has worked on the toxicodynamics of the neonicotinoid insecticide, imidacloprid. He has applied multivariate analytical techniques to this area, with the aim of evaluating the relationships between physicochemical properties and the toxicokinetic behavior of insecticides.

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

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has been a councilor and is a Fellow of the Society for Risk Analysis, and serves on the editorial board of its journal, *Risk Analysis*.

7) Dr. Sastry Isukapalli is an Assistant Professor in the Department of Environmental and Occupational Medicine at the University of Medicine and Dentistry, New Jersey Robert Wood Johnson Medical School. He received an M.S. and a Ph.D. in Chemical and Biochemical Engineering from Rutgers University, and a B.Tech. in Chemical Engineering from the Indian Institute of Technology, Madras. His primary research areas are Exposure Modeling, Sensitivity and Uncertainty Analysis, and Physiologically-Based Pharmacokinetic (PBPK) Modeling. Dr. Isukapalli has over fifteen years of experience in the modeling and computational implementation of environmental and biological systems with a focus on modeling population exposures to multimedia environmental pollutants, and chemical/biological warfare agents. He has also developed novel, computationally efficient uncertainty analysis techniques that have been applied in multiple disciplines. Dr. Isukapalli has developed the Modeling ENvironment for TOtal Risk studies for Emergency Events (MENTOR-EE) for mechanistically consistent source-to-dose modeling. He has also developed novel, computationally efficient uncertainty analysis techniques that have been applied in multiple disciplines. He has also developed algorithms and tools for assessing risks to mixtures of chemicals, for studying heterogeneities within various organs. He also has experience in the software industry where he developed tools for efficient data mining and for fusing speech recognition with visual inputs. He has extended the USEPA SHEDS modeling system by linking SHEDS-based models with Physiologically-Based Pharmacokinetic (PBPK) components for estimating target tissue doses, as well as to consistently simulate simultaneous exposures to multiple, co-occurring pollutants. He has also linked the USEPA's multimedia modeling system, FRAMES-3MRA, with MENTOR for estimating site-specific multimedia exposures. His current research focus is on development of exposure modeling systems for informing emergency event analysis, computational fluid dynamics modeling for improved exposure assessments, and integrated toxicokinetic and toxicodynamic modeling.

8) Dr. Dallas Johnson is a Professor Emeritus in the Department of Statistics at Kansas State University. He received his B.S. degree in Mathematics Education at Kearney State College, a M.A.T. degree in Mathematics from Colorado State University, a M.S. degree in Mathematics from Western Michigan University, and a Ph.D. degree in Statistics from Colorado State University. He is the co-author (with George A. Milliken) of four books: *Analysis of Messy Data, Vol. I - Designed Experiments, Analysis of Messy Data, Vol. II - Nonreplicated Experiments, Analysis of Messy Data, Vol. III - Analysis of Covariance* and *Analysis of Messy Data, Vol. I - Designed Experiments 2nd Edition.* He is also an author of *Applied Multivariate Methods for Data Analysts*. He has published extensively in the areas of linear models, multiplicative interaction models, design of experiments, and in techniques for analyzing messy data. He has also been an active presenter of short courses on Analysis of Messy Data and Applied Multivariate Methods, and he has been a statistical consultant for nearly 40 years. Dr. Johnson is a member and Fellow of the American Statistical Association and a recipient of a 2004 Founders Award from the American Statistical Association. In 1997, he received the Don Owen Award and in 2005, he received the Commerce Bank Distinguished Graduate Faculty Member Award. He is the founding editor of the *Journal of Agricultural, Biological, and Environmental Statistics*, a journal jointly published by the American Statistical Association and the International Biometric Society.

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9) Dr. John Kissel is a Professor of Environmental and Occupational Health Sciences at the University of Washington in Seattle. He holds a Ph.D. in Civil/Environmental Engineering from Stanford University and is a registered professional engineer. Dr. Kissel's research interests generally involve human exposure assessment, with emphasis on exposures related to waste management practice, agricultural use of pesticides, and consumer products. He is particularly interested in probabilistic prediction of exposure and reconciliation of model predictions with observed biomarker data. Dr. Kissel is a former President and Councilor of the International Society of Exposure Science and also served one term as chair of the Exposure Assessment Specialty Group within the Society for Risk Analysis. He was a member of a National Academy of Sciences Committee that evaluated Superfund-related remediation of mining wastes in the Coeur d'Alene Basin in Idaho and has served as an *ad hoc* member of USEPA's FIFRA Scientific Advisory Panel (SAP) on multiple occasions. His recent research activities have been funded by USEPA, NIOSH and the Washington State Departments of Ecology and Health.

10) Dr. Teresa Leavens is a Research Assistant Professor in the Department of Pathobiology and Population Health at North Carolina State University. She received her B.S. in Chemical Engineering from North Carolina State University in 1990 followed by a Ph. D. in Toxicology from the University of North Carolina at Chapel Hill in 1996. The focus of Dr. Leavens' research is the pharmacokinetics of environmental contaminants and drugs with a primary focus on kinetic modeling, particularly physiologically based pharmacokinetic modeling. She has been involved with and published articles on both experimental and computational research in animals and humans for a wide range of compounds, including persistent environmental compounds, water contaminants, air contaminants, metals, nanoparticles, and veterinary drugs used in food-production animals. She has taught courses on pharmacokinetics and modeling and has provided technical expertise as a reviewer for the ATSDR Toxicological Profile for Styrene, as a member of an ILSI working group on establishing physiological parameters for early life stages, and as a consultant reviewing USEPA's PBPK model for methanol to be used for establishing reference doses and concentrations. Dr. Leavens is active in both the national and local chapters the Society of Toxicology national, and has served as the Councilor in the Risk Assessment Specialty Section and is currently the newsletter editor for the local chapter.

11) Dr. Chensheng (Alex) Lu is the Mark and Catherine Winkler Assistant Professor for Environmental Exposure Biology at the Harvard School of Public Health Department of Environmental Health. Dr. Lu has a Ph.D. in Environmental Health from the University of Washington (Seattle, WA). His primary research interest is to use variety of biomarkers for assessing human exposures to environmental chemicals. One of Dr. Lu's ongoing research projects is to integrate biomarkers of exposure, physiologically based pharmacokinetic model and cumulative risk assessment tools for quantifying children's longitudinal exposure to pesticides *via* dietary intakes and its risks by comparing to benchmark doses used by regulatory agencies. He is also interested in developing the adduct-base biomarker to assess the health effects from exposures to organophospate pesticides. His Lab is developing several analytical methods/biosensors using GC/MS and LC/MS/MS to quantify exposures *via* the analysis of specimen samples in supporting our research program. The current method developments include pesticide residues in food samples, pyrethroids in saliva, pesticide metabolites in urine, and bisphenol-A and phthalate monoesters in urine. Dr. Lu collaborates extensively with scientists/researchers in academia as well as in federal research labs, such as the National Center for Environmental Health, Pesticide Laboratory at the

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Center for Disease Control and Prevention, Food and Drug Administration regional labs, the National Institute for Environmental Health Science. He has been an *ad hoc* member of the US EPA's FIFRA Scientific Advisory Panel since 2004. He also serves as the associate editor for *Environmental Health Perspectives* (EHP).

12) Peter D. M. Macdonald completed his D.Phil in Biomathematics at the University of Oxford and joined McMaster University in 1971. He teaches statistics at all levels, supervises graduate students and consults in applied statistics. He holds P.Stat. accreditation from the Statistical Society of Canada. For much of his time at McMaster he was Coordinator of the Graduate Program in Statistics. Sabbatical positions include l'Institut National de la Santé et de la Recherche Médicale in Villejuif, France, in 1977-78 and La Trobe University, Bundoora, Australia, in 1986. He was President of the Statistical Society of Canada in 1990-91. His main areas of research include stochastic models for cell proliferation, mark-recapture methods, mixture distributions, fisheries length-frequency analysis, and the reconstruction of ancient Safaitic genealogies. His current work is concerned with developing an R package for fitting finite mixture distributions and helping scientists in diverse areas of application to use it. Since 2000, he has served as an ad *hoc* member of numerous USAEPA FIFRA Scientific Advisory Panels.

13) Dr. William Popendorf is a Professor Emeritus of Industrial Hygiene at Utah State University. He has been on the Board of the American Industrial Hygiene Association and a Director of the American Board of Industrial Hygiene. Dr. Popendorf has taught and conducted research for over thirty years, and published over seventy papers and book chapters (most recently a text book, see below). The topics of his research have progressed from pesticide hazards to farm workers in 1972-1992 to inorganic dusts in agricultural and natural mineral fibers from 1978-1982, organic dusts from grains and livestock in 1982 1995, various respiratory hazards in automotive industry foundries and metal working fluids in 1987-1994, and broader reviews since 1991 culminating in 2006 with his textbook Industrial Hygiene Control of Airborne Chemical Hazards. His broad interest has been to develop or/and apply predictive models, many developed in other fields, that describe how physical mechanisms cause, and can be used to control, the exposures of workers to organic vapors, hazardous particulate aerosols, and dermal-toxic chemicals, with the expectation that such tools will improve the overall practice and knowledge-base of industrial hygiene.

14) Dr. Nu-may Ruby Reed is a staff toxicologist with the California Environmental Protection Agency's (Cal/EPA) Department of Pesticide Regulation (DPR) where she is the lead scientist on risk assessment issues in the Health Assessment Section of the Medical Toxicology Branch. Her research interests are in evaluating health risks and developing risk assessment guidelines for pesticides. She has been on several Cal/EPA and DPR working groups that initiate, research, and revise risk assessment guidelines and policies, and represented her department in task forces on community concerns and emergency response, risk management guidance, and public education. Dr. Reed serves as an *ad hoc* member of the USEPA FIFRA Scientific Advisory Panel and as a member to committees of the National Academies' National Research Council.

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