

**Invitation for Public Comment on the List of Candidates for  
the Environmental Protection Agency's Science Advisory Board  
Chemical Assessment Advisory Committee**

**July 12, 2016**

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice on April 6, 2016 (81 FR 19967 - 19969) that it was inviting nominations of experts to be considered for the Administrator's appointment to the Science Advisory Board (SAB) Chemical Assessment Advisory Committee (CAAC). The SAB provides independent advice and peer review to EPA's Administrator on the scientific and technical aspects of environmental issues. The SAB Staff Office sought nominations of experts to serve on the SAB CAAC with experience in chemical assessments. Members should have expertise in one or more of the following disciplines: Toxicology, including neurotoxicology, developmental/reproductive toxicology, and inhalation toxicology; carcinogenesis; biostatistics; and risk assessment. The SAB Staff Office received nominations for the attached 8 candidates based on their expertise and willingness to serve. We hereby invite public comments on the attached List of Candidates for appointment to the SAB CAAC for consideration by the SAB Staff Office. Comments should be submitted to Dr. Suhair Shallal, Designated Federal Officer, no later than August 2, 2016 at [shallal.suhair@epa.gov](mailto:shallal.suhair@epa.gov). E-mail is the preferred mode of receipt. Please be advised that public comments are subject to release under the Freedom of Information Act.

## 2016 Chemical Assessment Advisory Committee Annual Membership

### Chou, Karen

Michigan State University

Dr. Karen Chou is an associate professor of environmental toxicology in the Department of Animal Science and Environmental Science & Policy Program. She is the Chair of Michigan State University Chemical Hygiene Subcommittee. She received a BS in Human Nutrition from Ju Jen Catholic University, MS in Dairy Science from Michigan State University, and Ph.D. in Toxicology from the University of Michigan. She was a Visiting Scientist in the Department of Environmental Epidemiology, Harvard School of Public Health, 2004-2006. Dr. Chou teaches three graduate courses and two undergraduate courses in the areas of human health risk assessment, toxicology, food safety, and environmental management, including the topics on endocrine disruptors, metal toxicity, and nanotoxicity. She has studied the toxicity of pesticides, endocrine disruptors, and other environmental chemicals in human and animals. Dr. Chou has developed geospatial exposure models for the interactions between environmental contaminants, human reproductive health, and socioeconomic factors. She has published over 50 journal articles and book chapters and given over 100 invited talks and conference presentations. Dr. Chou was the toxicology advisor for the Technical Outreach Service for Communities and Technical Assistance to Brownfield. She has organized and presented several workshops on environmental risk assessment in Bulgaria and Romania, and also conducted research and co-organized an international conference on Balkan Endemic Nephropathy. She was an appointed member of the Michigan Governor's Task Force on Childhood Lead Poisoning Prevention. She has served on many review or advisory panels for EPA, NIEHS, NIOSH, Michigan Department of Environmental Quality, and Michigan Department of Agriculture, as a member, external reviewer, chairperson, or editor on environmental health related topics, including Health Risks of Arsenic Treated Wood for EPA, risk assessment of bovine spongiform encephalopathy, Air Toxic Rules, and over a dozen of other substances for EPA provisional human toxicity values. She holds two U.S. patents based on discoveries in the interactions between environmental chemicals and energy metabolism in sperm cells.

### Dourson, Michael

University of Cincinnati

Dr. Michael Dourson is Professor and Director of the Toxicology Excellence for Risk Assessment Center (the TERA Center) at the University of Cincinnati, College of Medicine. He also founded and led the nonprofit Center's predecessor of 21 years, also called TERA. Prior to directing TERA, he worked for 15 years in the U.S. Environmental Protection Agency in numerous leadership positions. He has won several awards including 4 bronze medals at EPA, the Arnold J. Lehman award from the Society of Toxicology, and the International Achievement Award by the International Society of Regulatory Toxicology and Pharmacology. He has also been elected as a Fellow of the Academy of Toxicological Sciences and as a Fellow for the Society for Risk Analysis. Dr. Dourson has co-published more than 150 papers on risk assessment methods or chemical-specific analyses. He has co-authored well over 100 government risk assessment documents, many of them risk assessment guidance texts. He has made over 150 invited presentations to a variety of organizations, and has chaired over 150 sessions at scientific meetings and independent peer reviews. He has been elected to multiple officer positions in the American Board of Toxicology (including its President), the Society of Toxicology (SOT), and the Society for Risk Analysis. In addition to numerous appointments on government panels, such as EPA's Science Advisory Board, he is also a media resource specialist in risk assessment for the SOT, member on the editorial board of several journals. Research funding for TERA has been approximately 2/3rds government and other nonprofit work and approximately 1/3rd for industry and industry-related (summary of funding is at <http://www.tera.org/about/FundingSources.html>).

### Eastmond, David

University of California, Riverside

Dr. David A. Eastmond is a professor and chair of the Department of Cell Biology & Neuroscience at the University of California, Riverside. He received his B.S. and M.S. degrees from Brigham Young University in Provo, Utah and his Ph.D. from the University of California, Berkeley. From 1987 to 1989, he was served as an Alexander Hollaender Distinguished Postdoctoral Fellow at Lawrence Livermore National Laboratory. Shortly thereafter, Dr. Eastmond joined the faculty at UC Riverside where he is actively involved in research and teaching in the areas of toxicology and risk assessment. The research in Dr. Eastmond's laboratory focuses on the mechanisms involved in the toxicity and carcinogenesis of environmental chemicals. His research has centered on the metabolism and chromosome-damaging effects of various environmental chemicals including benzene, a widely used industrial chemical and environmental pollutant, and ortho-phenylphenol, a commonly used fungicide and disinfectant. Dr. Eastmond has served as the president of the Environmental Mutagen Society and as a Jefferson Science Fellow in the US State Department. He has also participated on a variety of review panels related to chemical mutagenesis, carcinogenesis and risk assessment including panels for the US Environmental Protection Agency, the US Food and Drug Administration, the International Programme for Chemical Safety, the International Agency for Research on Cancer, the Organisation for Economic Cooperation and Development, Health Canada and the International Working Group for Genotoxicity Testing. He currently serves as the chair of the Board of Scientific Counselors for the National Toxicology Program and as a member of the Carcinogen Identification Committee for the California Environmental Protection Agency.

## Engelward, Bevin

Massachusetts Institute of Technology

Dr. Bevin P. Engelward is currently a Professor of Toxicology and Biological Engineering at the Massachusetts Institute of Technology (MIT). For her graduate work, she attended the Harvard School of Public Health (HSPH) and worked under Dr. L. D. Samson where she studied DNA repair. She studied Aag (the alkyladenine DNA glycosylase) and she contributed to the creation of Aag deficient cells and mice, which enabled studies of the role of Aag in relation to exposures and disease. In 1997, she started her own laboratory at MIT. Realizing that the inability to detect sequence changes in vivo was a barrier to studies of genetically- and exposure-induced mutagenesis, her laboratory was the first to create a mouse model in which sequence rearrangements can be detected by a fluorescent signal (so-called 'recombomice', where an homologous recombination [HR] event at an integrated transgene gives rise to expression of a fluorescent protein). They have used the recombomice models to study questions related to the role of aging, genetic factors, cell proliferation and inflammation in modulating the risk of mutations (defined as HR-driven sequence rearrangements). Recently, her laboratory showed that inflammation acts synergistically with exposure to a methylating agent to cause HR-driven mutations (PLOS Genetics, 2015; see the MIT Press, <http://news.mit.edu/2015/link-between-inflammation-and-cancer-0115>). With an eye on human studies, they developed the "CometChip", a high throughput platform based upon the traditional comet assay that enables detection of physical DNA strand breaks. It is anticipated that the CometChip will be commercially available within the next year, enabling broader distribution (she is a co-inventor on the corresponding patent). Recently, she has turned her attention to lung, and in particular, lung inflammation. Her laboratory has shown that *S. pneumoniae* induces DNA damage and that when DNA repair is inhibited, the levels of DNA damage increase, pointing to repair as an important susceptibility factor (PNAS, 2015; see the MIT press, <http://news.mit.edu/2015/pneumonia-harm-dna-lung-cells-0615>). They have also studied asthma, and this work has recently been published in JACI [impact factor of 11.5]. Taken together, she has been involved in mechanistic studies of DNA damage and repair as well as in the development of both in vivo technologies and in vitro technologies that are focused on overcoming technical challenges associated with toxicology. Funding for her research comes primarily from the National Institutes of Health (NIH).

## Fortin, Marie

Colgate Palmolive

Dr. Marie Fortin is a well-rounded, board-certified toxicologist versed in human health risk assessment who was classically trained as a risk assessor. She received her Ph.D. in Public Health with a specialization in Toxicology and Risk Analysis in 2009 from the Université de Montréal. She then continued as a postdoctoral researcher at the Environmental and Occupational Health Sciences Institute of Rutgers, the State University of New Jersey. She now works in the industry as a toxicologist where she has been conducting risk assessment for occupational, patient, consumer, and public health purposes on a daily basis. She also leads and contributes to research projects with her former Rutgers colleagues in her capacity as Adjunct Professor of Pharmacology and Toxicology at the Ernest Mario School of Pharmacy. She is an active member of the Society of Toxicology where she was recently elected Vice-President Elect of the Regulatory and Safety Evaluation Specialty Section. She is also on the Steering Committee of the upcoming Society of Toxicology Contemporary Concepts in Toxicology Meeting, "Toxicogenetics: The Interface of Epigenetics and Risk Assessment". She is also a member of the American College of Toxicology and of the Society for Risk Analysis. Most of her graduate and postdoctoral work was on pesticides and environmental chemicals which is one of the reasons why she would be an ideal candidate to serve as an Expert on EPA Science Advisory Board. Specifically, as part of her postdoctoral research, she investigated pesticide metabolic capacity changes throughout pregnancy as it may impart fetal exposure. Her work demonstrated significant alterations in the expression of key enzymes that detoxify pesticides during pregnancy, which could alter exposure of developing animals to these chemicals. Her doctoral research consisted in the characterization of the pyrethroid exposure via the measurement of urinary biomarkers in urban and rural settings. This work not only documented the urinary excretion of the metabolites of this important class of insecticide, but also introduced the use of a novel biomarker that enabled the capture of several pyrethroids for which biomarkers had never been measured in North America. She also teaches risk assessment to Ph.D. students in the Joint Graduate Program in Toxicology at Rutgers, the State University of New Jersey. Overall, she is an excellent toxicologist who has a robust experience in risk assessment and will certainly be a very valuable contributor to the Science Advisory Board.

## Meistrich, Marvin

University of Texas

Dr. Marvin L. Meistrich is Professor of Experimental Radiation Oncology at the University of Texas M.D. Anderson Cancer Center. He received a Ph.D. in Solid State Physics at Cornell University studying radiation damage to crystalline solids. He did postdoctoral research at Bell Telephone Laboratories on mutagenic effects of specific photochemical lesions in DNA and at the Ontario Cancer Institute developing biophysical methods for separation of testicular cells. Since 1972 he has been on the faculty of the University of Texas MD Anderson Cancer Center. His interests include reproductive biology, mutagenesis, radiation biology and toxicology. He has been involved with basic studies of the cell and molecular biology of spermatogenesis and the effects of toxicants on the process. In particular, his focus has been on the effects of radiation and chemotherapeutic drugs on killing and mutation induction in stem cells and on the somatic environment altering the ability of spermatogenesis to recover. His research and clinical studies included rodents (mice, rats) and primates (macaques, humans). He has developed models for extrapolation of experimental data for human quantitative reproductive risk assessment. In addition he has demonstrated induction of testicular cancer by fetal exposure of mice to radiation or an alkylating agent. He was Program Director for Reproductive Biology Program of the University of Texas Graduate School of

Biomedical Sciences at Houston from 1992 to 2003. His research has been continuously funded by NIH and other agencies since 1975. Dr. Meistrich has authored over 250 peer-reviewed journal articles and over 80 invited reviews, editorials, and book chapters. Dr. Meistrich has served on a wide variety of editorial and review boards for scientific journals and government agencies. He served on several NIH Study Sections. In 1998 he received a Fogarty Senior International Fellowship to investigate radiation induced genetic damages in individual sperm cells. He was elected as a Fellow of the American Association for the Advancement of Science in 2009.

## **Powell, Joann Brooks**

Clark Atlanta University

Dr. Joann Powell is currently an assistant professor in the Center for Cancer Research and Therapeutic Development (CCRTD) at Clark Atlanta University. Prior, she completed one year of postdoctoral training in the department of hematology and oncology and three subsequent years as a fellow in research and science teaching at Emory University School of Medicine. During that time, she assisted in training two graduate students. While an instructor in the biology department at Spelman College, she was responsible for teaching and designing an undergraduate research course. In addition, five Spelman undergraduates conducted research in my laboratory. Two of her Spelman students have entered PhD programs and two have been accepted and will begin dental school in August 2011. The current aim of Dr. Powell's lab at Clark Atlanta University is to understand the molecular mechanisms by which cancer cells progress into advanced and malignant phenotypes. In particular, we focus on the role of the aryl hydrocarbon receptor (AhR) in prostate cancer progression. AhR is widely known for its role in mediating the harmful effects of a number of environmental toxins. However, evidence suggests that it may also play a key role in the progression of prostate cancer from castration dependent to castration independent. Specific project goals of her lab are to: 1. Determine the role of AhR in the development of castration independent prostate cancer via interaction with the androgen signaling pathway; 2. Investigate the effects of environmental toxins (AhR agonist) on prostate cancer progression; 3. Establish AhR as a potential therapeutic target in the treatment of castration independent prostate cancer.

## **York, Raymond**

R.G.York & Associates

Dr. Raymond York is a formally trained toxicologist with 30 years of research experience. He earned his Ph.D. in Toxicology at the University of Cincinnati and completed a two-year postdoctoral fellowship at Children's Hospital's Institute for Developmental Research in Cincinnati. He was board-certified as a Diplomate of the American Board of Toxicology in 1986 and has served 4 years on its Board of Directors. He is certified as a European Registered Toxicologist (2006) and a Fellow of the Academy of Toxicological Sciences, as well as a Fellow for Toxicology Excellence for Risk Assessment. He has served as a study director on over 700 safety evaluation studies and published over a 100 manuscripts, review articles, book chapters and abstracts. The most recent chapters were York and Parker: Test Methods for Assessing Female Reproductive and Developmental Toxicology (Chapter 34) and Parker and York: Hormone Assays and Endocrine Function (Chapter 35). In: Principles and Methods of Toxicology (6th Edition). Ed. A Wallace Hayes, Informa Healthcare, New York and London (2014). Dr. York has been a member of the Society of Toxicology since 1985, and the American College of Toxicology since 1998. He is currently President of the Reproductive and Developmental Toxicology Specialty Section of SOT. He has served as President of the Middle-Atlantic Regional Section (MASOT; 2012), the Midwest Teratology Association (MTA; 1989) and Mid-Atlantic Reproduction and Teratology Association (MARTA; 2004). Dr. York has been a member of the Teratology Society since 1984. He has served as a reviewer for Toxicology and Applied Pharmacology and International Journal of Toxicology and as a member of the Editorial Board of Fundamental and Applied Toxicology. Dr. York was the Principal Investigator for the Interlaboratory Validation of the Male and Female Pubertal Study and the Interlaboratory Validation of the 15-Day Adult Intact Male Rat Study for EPA as part of the Endocrine Disruptor Screening Program. In addition, Dr. York had processed a DEA Schedule I Researcher controlled license (RY0298427) and had worked extensively with controlled substances such as levo-alpha-acetylmethadol (LAAM), ibogaine and tetrahydrocannabinol, as well as amphetamine, hydrocodone, and morphine. Dr. York was an ad hoc member of the Peer Consultation Panel for the Voluntary Children's Chemical Evaluation Program (VCCEP) and the reproductive toxicologist reviewer expert for the USEPA Biodiesel Program. Peer review consultation panels for assessment of the potential risk of health effects have included exposures to tertiary-butyl acetate (TBAC), perfluorinated hexanoic acid, acetone, metabolites of brominated flame retardants, and selected bisphenols, ethyleneamines, nitroguanidine, BaP, acrylonitrile, PFOS, PFOA, tris(2-chloroethyl)phosphate (TCEP), 1,3,5-trinitro-1,3,5-hexahydrotriazine (RDX), naphthalene, and trichloroacetic acid. Dr. York is a peer consultant for assessment of the potential health-effect risks for a number of consulting and legal firms (potential adverse reproductive effects from SSRIs) and recently served on a GRAS Panel for a caffeine food additive. Currently he is on an EPA SAB panel for trimethylbenzene and an adjunct professor teaching Human Anatomy & Physiology at a local college.