Invitation for Public Comment on the List of Nominated Candidates for the EPA Science Advisory Board Air Monitoring and Methods (AMMS) Subcommittee of the Clean Air Scientific Advisory Committee (CASAC)

November 19, 2010

The EPA SAB Staff Office announced in a *Federal Register* Notice (Volume 75, Number 202, Pages 64726 - 64727) published on October 20, 2010 that it was forming an Air Monitoring and Methods Subcommittee (AMMS) of EPA's Clean Air Scientific Advisory Committee (CASAC) under the auspices of the SAB. This new CASAC Subcommittee will replace the existing CASAC Subcommittee on Air Monitoring and Methods, and provide review and advice on monitoring and methods issues related to other criteria pollutants and hazardous air pollutants, including the following subjects: a) monitoring and network design for oxides of nitrogen (NO_X) and sulfur oxides (SO_X); b) network re-engineering of photochemical assessment monitoring stations (PAMS); c) network design guidance development for multipollutant near-road ambient air monitoring requirements: and d) methods for characterizing volatile organic compounds (VOCs). To form the Panel, the SAB Staff Office sought public nominations of nationally recognized and qualified experts in the following areas: atmospheric sciences, dispersion modeling, atmospheric chemistry, ecosystem modeling, aquatic chemistry, environmental science and engineering, risk assessment, and statistical analysis. Nominees were sought with particular knowledge of ambient air monitoring methods for criteria pollutants and air toxics, ambient air network design, environmental data analysis, quality assurance, dispersion modeling, emission inventories for point and mobile sources, source apportionment techniques, atmospheric chemistry, meteorology, and assessment of ecosystem impacts.

Below is the list of nominated candidates that is based solely on relevant expertise and willingness to serve on the Panel. We hereby invite comments on the attached List of Candidates that the SAB Staff Office should consider in the formation of this Panel. Comments should be submitted to the attention of Mr. Edward Hanlon, Designated Federal Officer, no later than December 10, 2010. E-mailing comments (hanlon.edward@epa.gov) is the preferred mode of receipt.

The SAB Staff Office Director will make the final decision about who will serve on the Panel based on all relevant information. This includes a review of the confidential disclosure form (EPA Form 3110-48) and information gathered by staff and public comments. For the EPA SAB Staff Office, a balanced Panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating a candidate include: a) scientific and/or technical expertise, knowledge, and experience; b) availability and willingness to serve; c) absence of financial conflicts of interest; d) absence of appearance of a lack of impartiality; e) skills working in committees, subcommittees, and advisory panels; and, for the panel as a whole, f) diversity of scientific expertise and viewpoints.

Allen, David T.

University of Texas - Austin

Dr. David T. Allen is the Gertz Regents Professor of Chemical Engineering, and the Director of the Center for Energy and Environmental Resources, at the University of Texas at Austin. He holds a B.S. in Chemical Engineering from Cornell University (1979), and an M.S. (1981) and Ph.D. (1983) in Chemical Engineering from California Institute of Technology. Dr. Allen is the author of six books and over 190 papers in areas ranging from coal liquefaction and heavy oil chemistry to the chemistry of urban atmospheres. For the past decade, his work has focused primarily on urban air quality and the development of materials for environmental education. Dr. Allen was a lead investigator for the first and second Texas Air Quality Studies, which involved hundreds of researchers drawn from around the world, and which have had a substantial impact on the direction of air quality policies in Texas. He has also developed environmental educational materials for engineering curricula and for the University's core curriculum. The quality of Dr. Allen's work has been recognized by the National Science Foundation (through the Presidential Young Investigator Award), the AT&T Foundation (through an Industrial Ecology Fellowship), the American Institute of Chemical Engineers (through the Cecil Award for contributions to environmental engineering and through the Research Excellence Award of the Sustainable Engineering Forum), the Association of Environmental Engineering and Science Professors (through their Distinguished Lecturer Award), and the State of Texas (through the Governor's Environmental Excellence Award). He has won teaching awards at the University of Texas and UCLA. Dr. Allen has held visiting faculty appointments at the California Institute of Technology, the University of California, Santa Barbara, and the Department of Energy.

Allen, George

Northeast States for Coordinated Air Use Management

Mr. George Allen is a Senior Scientist at NESCAUM (Northeast States for Coordinated Air Use Management), an interagency association of the eight Northeastern States. He holds a B.S. in Electrical Engineering from Tufts University (1974). At NESCAUM, Mr. Allen is responsible for monitoring and exposure assessment activities across a range of wide range of air topics, including regional haze, air toxics, on and off-road diesel, wood smoke, and continuous aerosol measurement technologies. He is the author or co-author of more than 30 peer-reviewed journal papers on development and evaluation of measurement methods, exposure assessment, and air pollution health effects. Before joining NESCAUM in 2002, Mr. Allen was on the professional staff at the Harvard School of Public Health (HSPH) in Boston for more than 20 years, working on a wide range of U.S. Environmental Protection Agency (EPA)- and National Institutes of Health- funded air pollution studies. While at HSPH, he developed several new techniques for real-time aerosol measurements. Currently, Mr. Allen is serving as the lead for the NESCAUM Monitoring and Assessment Committee, is a member of the EPA-Science Advisory Board Clean Air Scientific Advisory Committee (CASAC) Ambient Air Monitoring Methods Subcommittee, represents states interests to EPA in the National Association of Clean Air Agencies (NACAA) Monitoring Steering Committee, and is a member of the EPA AIRNow Steering Committee.

Bonanno, Linda J.

New Jersey Department of Environmental Protection

Linda J. Bonanno, Ph.D., is a Research Scientist with the Office of Science/Division of Air Quality at the New Jersey Department of Environmental Protection (NJDE). She holds a B.S. in Psychology from Boston University (1985), an A.A.S. in Chemical Technology from the County College of Morris, NJ (1993), an M.S. in Environmental Science from Rutgers University (1995), and a joint Ph.D. in Environmental Science and Public Health with a focus on Exposure Measurement and Assessment from Rutgers University and the University of Medicine and Dentistry of New Jersey (2000). Dr. Bonanno has worked on sample analyses and data management for the National Human Exposure Assessment Survey (NHEXAS) study, field sampling for the Hudson County Chromium Study, supervised air sampling for the Particle Exposures of High-Risk Subpopulations study in NY, NY, was/is the Project Manager for the following U.S. Environmental Protection Agency-funded projects: Urban Community Air Toxics Monitoring Project, Paterson City, NJ (UCAMPP); Additional Air Monitoring in Paterson Study (AAMPS); Evaluation of Two Analytical Methods and Three Sampling Trains for the Measurement of Hexavalent Chromium in Ambient Air; In-Cabin Particulate Matter Quantification and Reduction Strategies; Development and Optimization of a Sampling and Analytical Method to Measure Hexavalent Chromium in Ambient Air; and the Asthma Outreach and Education Initiative in Camden Waterfront South.. She also has experience in monitoring indoor air quality. Dr. Bonanno's present areas of research include air toxics and human health, risk assessment, cumulative risk assessment, community-based air monitoring, air monitoring method development/evaluation, control technologies and data management/analyses. She is currently the liaison for the NJDEP Science Advisory Board Subcommittee for Atmospheric Sciences and Climate, co-chair of the Air Toxics Steering Committee and the Interagency Risk Assessment Committee, a member of the New Jersey State Asthma Committee and Pediatric/Adult Asthma Coalition of New Jersey, the secretary for the Tri-State Chapter of International Society of Exposure Science, and serves on the County College of Morris Chemical Technology Advisory Committee.

Brymer, David

Texas Commission on Environmental Quality

Mr. David Brymer is the Air Quality Division Director for the Texas Commission on Environmental Quality (TCEQ). He holds a B.S. in Wildlife and Fisheries Science (1983) and an M.S. in Agriculture (1984) from Texas A&M University, and has been involved in the air quality field for over 25 years. Mr. Brymer is an author on over 15 air quality related papers or publications. After working at an international environmental consulting firm for nine years with responsibilities ranging from laboratory management, project management, and development of new air sampling/analytical equipment, Mr. Brymer joined the TCEQ in 1994. His duties have included: air monitoring consultation, managing the agency's air quality laboratories, overseeing the agencies continuous water monitoring expansion and Surface Water Quality Monitoring program, coordinating air monitoring related special projects, and acting as agency lead on several emission reduction agreements focusing on specific pollutants in the Houston area. Mr. Brymer was selected to his current position in August of 2009 and currently has a staff of 196 with program areas responsible for emissions inventory, air emission fees, ozone related air quality rules and modeling, administration of the Texas Emission Reduction Program, and developing the state implementation plan to ensure that the federal air quality standards are met.

Burns, Douglas A.

U.S. Geological Survey

Dr. Douglas A. Burns is a Research Hydrologist at the U.S. Geological Survey, New York Water Science Center, Troy, NY, where he also has the position of Director of the National Acid Precipitation Assessment Program. He holds a B.A. in Geology from Hope College (1978), an M.S. in Environmental Sciences from the University of Virginia (1982), and a Ph.D. from the State University of New York, College of Environmental Science and Forestry (1999). Dr. Burns' research addresses the effects of human activities on ecosystems and watersheds as these activities affect the cycling of nitrogen, carbon, sulfur, mercury, and water through the environment. In particular, Dr. Burns' research focuses on the effects of air pollutants on ecosystems and water quality and the interaction of these air pollutants with other contaminant sources. This work has contributed to scientific understanding of the effects of acid precipitation on ecosystems, the processes that control the cycling of mercury and nitrogen through the environment, and the effects of climate change on water resources. He has served on several professional committees, including the Steering Committee of the Northeastern Ecosystem Research Cooperative; the Science Advisory Committees on the Environmental Monitoring, Evaluation, and Protection Program and on Environmental Research and Monitoring Needs in New York State for the New York State Energy Research and Development Authority; and the Advisory Committee on Multi-Pollutant Air Quality Management for the North American Research Strategy for Tropospheric Ozone (NARSTO). Dr. Burns has also served as a Proposal Reviewer for the Natural Resources and Applied Science Endowment of the Province of British Columbia, Canada; National Science Foundation, Division of Earth Sciences, Hydrologic Sciences and Ecosystem Studies Programs; U.S. Department of Agriculture, National Research Initiative Competitive Grants Program; and various State Grants programs. He has served as a Manuscript Reviewer for numerous professional journals, and as a Technical Reviewer for various Panels and Programs, including: the U.S. Environmental Protection Agency Atmospheric Modeling Division Program Review Panel; Expert Reviewer Panel, Integrated modeling project for water quantity and quality, Goddard Space Institute; Panel Chair, Proposal Evaluation Panel, Watershed Processes, National Research Initiative Competitive Grants Program, U.S. Department of Agriculture; and the Panel on Acid Deposition: The Ecological Response, Evaluate State-of-Science for Report to Congress, Ecological Society of America.

Chow, Judith

Desert Research Institute

Dr. Judith Chow is Nazir and Mary Ansari Chair in Science and Entrepreneurialism and a Research Professor in the Division of Atmospheric Sciences at the Desert Research Institute (DRI) in Reno, Nevada. She holds a B.S. in Biology from Fu-Jen Catholic University in Taiwan (1974), and an M.S. in Air Pollution Control (1983) and an Sc.D. in Environmental Science (1985) from Harvard University. Established in 1959, DRI is the research component of the Nevada System of Higher Education. Dr. Chow has directed the institute's Environmental Analysis Facility since its inception in 1985. For more than 30 years, she has conducted air quality studies and performed data analysis to improve understanding of the impacts of air quality on health, visibility, ecosystems, and climate. Dr. Chow is currently the principal investigator on carbon analysis measurements for the U.S. Environmental Protection Agency's (EPA) Chemical Speciation Network (CSN) and the Interagency Monitoring of Protected Visual Environments (IMPROVE) network, measuring air pollution in the vicinity of the port of Los Angeles, and real-world emissions characterization at Canada's Athabasca Oil Sands region. She has been principal investigator or a major collaborator in more than 50 large air quality studies (and many smaller ones) across the United States and in several other countries. Dr. Chow prepared and revised sections of the EPA's criteria document pertaining to chemical analysis and source emissions. She was the co-principal investigator on evaluation of aerosol measurement methods, sampling strategies, and databases for EPA guidance documents on network design, continuous particulate monitoring, and particulate matter chemical speciation. As chair and a member of the Air & Waste Management Association's (A&WMA) Critical Review Committee, Dr. Chow has coordinated the Critical Review and discussion that are the focus of A&WMA's annual conference. She is chair of the Publications Committee for the Journal of the Air & Waste Management Association and is an Editorial Board Member or Associate Editor for several internationally-known journals: the Journal of Air Quality, Atmosphere, & Health, Atmospheric Research, and Atmospheric Pollution Research, and thematic editor for *Particuology*. Dr. Chow was a member of the National Research Council's (NRC) Committee on Research Priorities for Airborne Particulate Matter, and she serves on the Board on Environmental Studies and Toxicology at NRC. She is also a member of several other advisory panels for the EPA, National Environmental Respiratory Center [New Mexico], and South Coast [California] Air Quality Management District.

Demerjian, Kenneth

State University of New York at Albany

Dr. Kenneth Demerjian is the Ray Falconer Endowed Chair and Professor in the Department of Atmospheric and Environmental Sciences, and Director, Atmospheric Sciences Research Center, and the University at Albany, State University of New York (SUNY). Dr. Demerjian holds a B.A. in Chemistry from Northeastern University (1968), and an M.S. (1970) and Ph.D. (1973) in Physical Chemistry from The Ohio State University. His areas of expertise, and research activities and interests include: chemical kinetics and mechanistic pathways of elementary atmospheric reactions in polluted and clean atmospheres; instrumentation development and measurement of atmospheric trace gases and particulate matter; development and evaluation of air quality forecast models and diagnostic analysis of atmospheric processes within air quality modeling systems; and sources and evaluation of uncertainty in theoretical models of atmospheric processes, air quality, and pollutant exposure. Dr. Demerjian's leadership positions in national or professional associations include: Science Advisory Committee, John Hopkins Particulate Matter Center, 2006 to 2010; Science Advisory Board of the Mid-InfraRed Technologies for Health and the Environment/National Science Foundation Engineering Research Center at Princeton University, June 2007 to present; Co-Chair North American Research Strategy for Tropospheric Ozone (NARSTO) Assessment on Multi-pollutant Air Quality Management, 2006- 2009, Associate Editor, Atmospheric Environment, November, 2002 to present; Board on Oceans and Atmosphere, National Association of State Universities and Land-Grant Colleges, 2001 to 2004; and Convener, International Global Atmospheric Chemistry Committee for Atmospheric Chemistry and Environmental Education in Global Change, 1994 to 1999. Dr. Demerjian's service on other advisory committees and professional associations includes: Member, Research Committee, Health Effects Institute, 2002 to 2010; Member, National Research Council Committee on Atmospheric Chemistry, August 1999 to 2001; Co-Chair, Synthesis Team – NARSTO Ozone Assessment, 1996 to 2000; and Member, National Research Council Committee on Research Opportunities and Priorities for the Environmental Protection Agency (ROPE), November 1995 to June 1997.

Dickerson, Russell R.

University of Maryland

Dr. Russell R. Dickerson is Professor and Chair of the Department of Meteorology at the University of Maryland. He holds an A.B. from the University of Chicago (1975), and an M.S. (1978) and Ph.D. (1980) in Chemistry from the University of Michigan, where he studied the interaction of radiation and trace gases in the atmosphere. After graduation, Dr. Dickerson worked with Nobel Laureate Paul Crutzen in the Air Chemistry Division at the National Center for Atmospheric Research and in the Abteilung Luftchemie at the Max Planck Institute in Mainz, Germany. He began working in the Department of Meteorology at the University of Maryland as an Assistant Professor in 1983 as the sole atmospheric chemist. Dr. Dickerson built the program in atmospheric chemistry and air pollution at the University of Maryland to include six faculty, several post docs and more than a dozen graduate students. His research has expanded to include the interactions of weather phenomena such as thunderstorms and atmospheric chemistry, ocean-atmosphere interactions, air pollution, the links between particulate and gaseous chemistry and global biogeochemical cycles. Dr. Dickerson's research group, composed of meteorologists, engineers, and chemists, develops analytical instruments (for species such as NOx, CO, NH_3, aerosols, and for photolysis rate measurements), employs these instruments in the laboratory, field, and on ships and aircraft, and interprets the results in terms of photochemistry, heterogeneous processes, and atmospheric physics with the aid of numerical chemical transport and cloud models. He has won external funding awards in excess of $10M from Maryland Department of the Environment, the National Science Foundation, the National Oceanic and Atmospheric Administration, the U.S. Environmental Protection Agency (EPA), the U.S. Department of Energy, the National Aeronautics and Space Administration, and private industry. Dr. Dickerson was a member of the National Academy of Sciences National Research Council (NRC) Committee on Animal Feeding Operations and has helped write a NRC Report on the impact of agriculture on air pollution in the U.S. He has been a coauthor of the EPA Criteria Documents for CO, O3 and PM, contributing the sections on analytical techniques and interpretation of results from field experiments. He serves on the Maryland Climate Change Commission. In teaching, Dr. Dickerson developed courses in Air Pollution, Atmospheric Chemistry and Air Sampling and Analysis, and has received a number of significant awards for teaching at the University of Maryland.

Eagan, Tammy

Florida Department of Environmental Protection

Tammy Eagan is a Meteorologist in the Ambient Monitoring Section in the Bureau of Air Monitoring and Mobile Sources within the Division of Air Resource Management of the Florida Department of Environmental Protection. She holds a B.S in Meteorology (1985) and an M.S. in Statistics (1996) from Florida State University. For nearly 25 years, Ms. Eagan has been responsible for network design and data analysis for the Florida ambient air monitoring network. She has worked on coordinating efforts across the state's agencies to improve quality control through Standard Operation Procedures and Quality Assurance Project Plans and has written the agency's air grant required reports including exclusion of data. Ms. Eagan is an author of the U.S. Environmental Protection Agency (EPA) Guidance for Estimating Visibility Conditions Under the Regional Haze Rule, and EPA's Quality Assurance Volume IV: Meteorological Measurements Guidance. She is an Editor of over fifteen years of the Florida Department of Environmental Protection Annual Air Report.

Eatough, Delbert J.

Brigham Young University

Dr. Delbert J. Eatough is a Professor of Chemistry in the Department of Chemistry and Biochemistry at Brigham Young University. He holds a B.S. from Brigham Young University (1964) and a Ph.D. in Physical Chemistry from Brigham Young University (1967). He is the recipient of the following awards: (1) NDEA Predoctoral Fellow 1964-1967; (2) 1980 BYU Research Award; (3) 1980 Calorimetry Conference First Sunner Memorial Award; (4) 1986 Brigham Young University Maeser Research and Creative Arts Award; and (5) 1993 American Chemical Society Utah Award in Chemistry. Dr. Eatough's research emphasis is on the study of the atmospheric chemistry of anthropogenic emissions. Current or recent studies include identification of the chemistry of sulfur and nitrogen oxides in polluted atmospheres, the chemical characterization of organic particulate matter as a function of particle size using diffusion denuder technology, chemical characterization of visibility impairing aerosols, development of light extinction budgets, source apportionment of both indoor and outdoor pollution, and development of analytical techniques for sampling atmospheric fine particulate matter and studying atmospheric chemistry. His total publications number over 300. Dr Eatough's recent and current professional service include: (1) Air and Waste Management Association Technical Committees on Atmospheric Chemistry, (Chair, Particles, 1994–1996), Visibility and Indoor Air Source Characterization; (2) Chair of the Basic Sciences Section of the AWMA Technical Council (2000-2002) and Vice-Chair of Technical Council (2002 to present); (3) General Chair of the 1994 Aerosols and Atmospheric Optics International Specialty Conference; (4) Program Co-Chair for the 2000 Annual AWMA Meeting; (5) Chair for an AWMA/EPA Jan 2000 PM and Health Specialty Conference); (6) Member of Editorial Boards of Aerosol Research & Technology, Journal of the Air and Waste Management Association, and Advances in Environ Res.; and (6) former member of the EPA Science Advisory Board (SAB) committee on Environmental Tobacco Smoke.

Edgerton, Eric

Atmospheric Research & Analysis, Inc.

Mr. Eric S. Edgerton is co-founder, President and Senior Scientist of Atmospheric Research & Analysis, Inc. He holds a B.A. in Organic Chemistry from Cornell University (1974) and an M.S. in Environmental Engineering from the University of Florida (1981). Mr. Edgerton has over 30 years experience in the measurement of atmospheric particles and gases. From 1987 to 1997, he served as Project Manager for the USEPA-sponsored Clean Air Status and Trends Network (CASTNet), during which time he lead the selection, installation and operation of the first 50 CASTNet sites. Currently, Mr. Edgerton is Project Manager for the EPRI-sponsored Southeastern Aerosol Research and Characterization (SEARCH) study. Among other things, SEARCH includes an 8-station research network of highly instrumented field sites across the Southeastern U.S. SEARCH sites provide continuous measurements of trace gases, including O_3, NO, NO_2, HNO_3, NO_2, CO, SO_2 and NH_3, surface meteorology and speciated $PM_{2.5}$. Under Mr. Edgerton's direction, SEARCH has developed techniques for measurement of various nitrogenous particles and gases, and is the only network in the U.S. that measures photolytic NO_2, NH_3 and HNO_3 on a continuous (1 hour or better) basis. Mr. Edgerton's research areas of interest include atmospheric chemistry, measurement of trace atmospheric species, and geochemical cycles of sulfur, nitrogen and carbon.

Felton, Henry (Dirk)

New York State Department of Environmental Conservation

Mr. Henry (Dirk) Felton is currently employed by the New York State Department of Environmental Conservation (NYSDEC) as a Research Scientist III. He has a Bachelor of Arts undergraduate degree in Physics from Kenyon College, Gambier Ohio (1987), and a Master of Science in Environmental Engineering from Stevens Institute of Technology in Hoboken, New Jersey (1993). He is also a Civil Engineer licensed in the State of New York. Mr. Felton's professional work has been entirely focused on ambient air monitoring. His first independent work involved setting up a monitoring network for criteria, toxic and tracer compounds around the Freshkills Landfill on Staten Island. Since then he has worked to optimize monitoring technology to operate a rural upwind PAMS site for NARSTO-NE, conducted several experiments to evaluate new automated mass measurement technologies, initiated speciated Mercury and ultrafine monitoring programs and has designed the PM-2.5 FRM and PM speciation monitoring program in New York. Mr. Felton is the lead for his Agency's participation in the New York PMTACS SuperSite program. Working as a collaborator with the NY SuperSite has allowed him to participate in all aspects of air monitoring from program development to state of the art methods evaluation. Mr. Felton participates on the NESCAUM Monitoring Assessment Committee (MAC), the NACAA Monitoring Steering Committee (MSC) and the CASAC Ambient Air Monitoring and Methods subcommittee (AAMMs). In addition, he recently participated on the Board of Science Counselors review of EPA ORD's Clean Air Research program.

Fenske, Richard A.

University of Washington

Dr. Richard Fenske is Professor and Associate Chair in the Department of Environmental and Occupational Health Sciences in the University of Washington School of Public Health. He received a B.A. in History (1970) from Stanford University, an M.A. in Geography (1976) and the M.P.H. (1978) and Ph.D. (1984) in Environmental Health Sciences from the University of California at Berkeley. Dr. Fenske's work has focused on the evaluation of environmental health risks in special populations, such as children, farm workers, and farm producers. Specialty areas include health risks of pesticide exposures and development of new exposure assessment methods. Dr. Fenske directs the Pacific Northwest Agricultural Safety and Health Center, a regional center devoted to the prevention of injury and illness among operators, workers, and their families in Northwest farming, forestry and fishing. He received the 2006 NIOSH Director's Award for Excellence in Research and the 2007 Jerome Wesolowski Award for Outstanding Contributions to the Field of Exposure Science from the International Society of Exposure Science. He currently serves as a member of National Academy of Sciences/Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine.

Fine, Philip

South Coast Air Quality Management District

Dr. Philip Fine is the Atmospheric Measurement Manager at South Coast Air Quality Management District (SCAQMD) in Diamond Bar, CA. He holds a B.S. in Mechanical Engineering from the University of California, Berkeley (1993), and an M.S. (1997) and Ph.D. (2002) in Environmental Engineering Science from California Institute of Technology. Dr. Fine is a nationally recognized expert in the areas of atmospheric measurements and source apportionment, and oversees the SCAQMD ambient network of over 35 air monitoring stations. He is also responsible for all field activities of numerous special air monitoring research projects focusing on air toxics and the local impacts of air pollution. Prior to joining the SCAQMD, Dr. Fine was a Research Assistant Professor at the University of Southern California, Los Angeles where he taught courses and conducted extensive research on particulate pollution, its health effects, atmospheric science, and measurement methods resulting in over 45 peer-reviewed scientific publications. He continues to serve on numerous advisory committees, including: the Port of Long Beach Mitigation Grant Programs; an Airport Cooperative Research Program Committee of the Transportation Research Board; the National Association of Clean Air Agencies (NACAA) Monitoring Steering Committee; the External Scientific Advisory Committee for the MESA Air Study at the University of Washington; the External Advisory Committee for a National Institute of Environmental Health Sciences (NIEHS) P01 Grant at the University of Southern California; and numerous U.S. Environmental Protection Agency STAR Grant Program Peer Review Panels. Dr. Fine is a member of the American Association for Aerosol Research, the American Chemical Society, and the Air & Waste Management Association.

Heaton, Roy

Rhode Island Department of Health Laboratories

Dr. Roy Heaton is a Principal Environmental Scientist in the Air Pollution Laboratory of the State of Rhode Island Health Department. He holds a B.S. in Chemistry from the University of Massachusetts, Amherst, an M.Ed. from the University of Hartford, and a Ph.D. in Analytical Chemistry from the University of Rhode Island. Dr. Heaton's graduate and post-doc work at the University of Rhode Island dealt with identifying sources of trace elements in atmospheric particulate matter, and in rainfall. He has several years of experience teaching chemistry at both high-school and university levels, including analytical chemistry, instrumental analysis, organic and physical chemistry. Dr. Heaton's graduate work included neutron activation analysis and the handling of radioactive materials. For the past 20 years, he has been doing air monitoring for the state of Rhode Island. This has included work in all aspects of the state's air monitoring program, with particular emphasis on measurements of the criteria gases: O_3, SO_2, NOx and CO, and on the development of the VOCs measurements program. The Rhode Island VOCs program serves both the PAMS and Air Toxics programs, using GC-MS instrumentation (gas chromatography with mass spectrometer detector) and an Entech preconcentration system. Dr. Heaton has had a central role in the integration of new instrumentation of all kinds into the laboratory's on-going operations and has written several of the laboratory's Standard Operation Procedures and Quality Assurance Project Plan documents.

Hopke, Philip K.

Clarkson University

Dr. Philip K. Hopke is the Bayard D. Clarkson Distinguished Professor at Clarkson University, the Director of the Center for Air Resources Engineering and Science (CARES), and the Director of the Institute for a Sustainable Environment (ISE). He holds a B.S. in Chemistry from Trinity College – Hartford (1965), and his M.A. (1967) and Ph.D. (1969) in Chemistry from Princeton University. Dr. Hopke is the past Chair of the Clean Air Scientific Advisory Committee (CASAC), and he also chaired the CASAC Ambient Air Monitoring and Methods (AAMM) Subcommittee. In addition, he has served as a Science Advisory Board (SAB) Member. Dr. Hopke is a Past President of the American Association for Aerosol Research, and was a member of the National Research Council's Congressionally-mandated Committee on Research Priorities for Airborne Particulate Matter and the Committee on Air Quality Management in the United States. He has previously served on five other NRC committees including the Committee on Risk Assessment of Exposure to Radon in Drinking Water. After a post-doctoral appointment at Massachusetts Institute of Technology, he spent four years as an assistant professor at the State University College at Fredonia, NY. Dr. Hopke then joined the University of Illinois at Urbana-Champaign, rising to the rank of professor of environmental chemistry, and subsequently came to Clarkson in 1989 as the first Robert A. Plane Professor with a principal appointment in the Department of Chemistry. He has served as Dean of the Graduate School, Chair of the Department of Chemistry, and Head of the Division of Chemical and Physical Sciences before he moved his principal appointment to the Department of Chemical Engineering in 2000. Since 2002, Dr. Hopke has been the Clarkson Professor and Director of CARES. As of July 1, 2010, he has taken on the directorship of the Institute that houses Clarkson's undergraduate and graduate environmental science degree programs as well as managing Clarkson's sustainability initiatives.

Husar, Rudolf B.

Washington University, St. Louis

Dr. Rudolf B. Husar is currently Professor of Environmental Engineering and Director of the Center for Air Pollution Impact and Trend Analysis (CAPITA), Washington University, St. Louis. He holds a degree in Mechanical Engineering from Technical University, Berlin, Germany (1966), a Ph.D. in Mechanical Engineering from University of Minnesota, Minneapolis (1971), and in 1971-73 he was a post-doctoral fellow at the California Institute of Technology, Pasadena, CA. Dr. Husar's past research includes: atmospheric aerosols; regional and global air pollution transport and chemistry; biogeochemical cycles; environmental trend analysis; aerosol detection by satellites, surface-based monitoring network evaluation and design. His interests include environmental informatics, the application of information science, engineering, and technology to the understanding and management of environmental problems. He is an active contributor to the Global Observing System of Systems (GEOSS) as a system architect and a facilitator of the GEOSS Air Quality Community of Practice. Dr. Husar has also served on numerous national and international panels and committees dealing with various aspects of atmospheric sciences and air quality management including the U.S. Environmental Protection Agency (EPA)'s Clean Air Scientific Advisory Committee (CASAC) and was a contributing author of EPA's Particulate Matter Criteria Documents. Dr. Husar served as an Executive Editor of the international journal Atmospheric Environment, and on the boards of five other international journals, including Atmospheric Systems; The Scientific World, (2001-present) and Environmental Monitoring and Assessment, (2000-present). He is a member of the Hungarian Academy of Sciences and served on five committees of the U.S. National Academy of Sciences.

Hyslop, Nicole

University of California – Davis

Dr. Nicole Hyslop supervises operations for the IMPROVE (Interagency Monitoring of PRotected Visual Environment) national network, which is managed for the National Park Service by U.C. Davis. She holds a B.S. from the University of Wisconsin, Madison (1996) and an M.S. from the University of Texas – Austin (1999) in Chemical Engineering, and a Ph.D. in Agricultural and Environmental Chemistry from the University of California – Davis (2010). Prior to her current position, Dr. Hyslop previously supervised quality assurance for the IMPROVE network. Before coming to U.C. Davis, she spent several years at Sonoma Technology Inc., where she managed field operations for CRPAQS (California Regional Particulate Air Quality Study) and FACES (Fresno Asthmatic Children's Environment Study), among other activities. Dr. Hyslop's continuing research addresses the statistical characterization of uncertainties in measurements and the development of new analytical techniques to identify mechanisms of error and bias.

Ito, Kazuhiko

New York University School of Medicine

Dr. Kazuhiko Ito is Assistant Professor of Environmental Medicine at Nelson Institute of Environmental Medicine, New York University School of Medicine. He holds a B.S. in Applied Chemistry from Yokohama National University, Japan (1982), and an M.S. (1985) and Ph.D. (1990) in Environmental Health Sciences from New York University. Dr. Ito's main area of expertise is human health effects and exposure assessment of ambient air pollutants. His current research interests include: (1) the roles of particulate matter (PM) components on human health effects; (2) source-oriented evaluation of PM health effects using the PM2.5 chemical speciation network data; (3) the exposure error associated with ambient air pollution monitoring network and its implication on observed health effects; and (4) identification of sensitive sub-populations to ambient air pollution. Dr. Ito has published many articles on the mortality and morbidity effects of PM and gaseous pollutants. He has also published research papers on spatial/temporal variations of air pollution as well as source-apportionment. Currently, Dr. Ito is a contributing author to the U.S. Environmental Protection Agency (EPA's) Integrated Science Assessment (ISA) Document on Ozone (short-term mortality effects), and has been a contributing author to the current and past EPA ISA and Criteria Document on Particulate Matter (short-term mortality effects).

Jacob, Daniel

Harvard University

Daniel J. Jacob is the Vasco McCoy Family Professor of Atmospheric Chemistry and Environmental Engineering in the School of Engineering & Applied Science at Harvard University. He holds a B.S. in Chemical Engineering from the Ecole Supérieure de Physique et Chimie de Paris (1981), and a Ph.D. in Environmental Engineering from California Institute of Technology (1985). He joined Harvard in 1985 and has remained there since. Dr. Jacob's research interests cover a wide range of topics in atmospheric composition including the development of global models and the analysis of data from satellite and aircraft. He has served as Mission Scientist on six NASA aircraft missions. Among Dr. Jacob's professional honors are the Haagen-Smit Prize (2010), the National Aeronautics and Space Administration's Distinguished Public Service Medal (2003), the American Geophysical Union's Macelwane Medal (1994) and the Packard Fellowship for Science and Engineering (1989). He has published over 300 papers and trained over 60 Ph.D. students and postdoctoral students over the course of his career. Dr. Jacob is the world's top-cited author in geosciences (1997-2007) according to the Institute for Scientific Information.

Jerrett, Michael

University of California, Berkeley

Dr. Michael Jerrett is an Associate Professor in the Division of Environmental Health Sciences at the University of California, Berkeley. He holds a B.S. in Environment Resource Studies from Trent University (1986), and an M.A. in Political Science/Environmental Studies (1988) and a Ph.D. in Geography (1996) from University of Toronto. Dr. Jerrett also did PostDoctoral work at McMaster University in Environmental Health. Dr. Jerrett is an internationally recognized expert in Geographic Information Science for Exposure Assessment and Environmental Epidemiology. For the past 14 years, he has researched how to characterize population exposures to air pollution, what the social distribution of air pollution is among different groups (e.g., poor vs. wealthy), and how to assess the health effects from air pollution exposures. Dr. Jerrett has published widely cited papers in the fields of Exposure Assessment and Environmental Epidemiology in leading journals, including The New England Journal of Medicine, Lancet, Proceedings of the National Academy of Science of the United States of America, Circulation, American Journal of Respiratory and Critical Care Medicine, Environmental Health Perspectives, Environmental Science and Technology, Epidemiology, and the American Journal of Epidemiology. Over the past six years, he has also investigated the contribution of the built environment to sedentary lifestyles and obesity, and is now co-Principal Investigator on two major projects in this area of research funded by the National Cancer Institute. He recently co-wrote "Traffic-Related Air Pollution: A Critical Review of the Literature on Emissions, Exposure, and Health Effects" published by the Health Effects Institute. This report is the most comprehensive and systematic review to date of the scientific literature on emissions, exposure, and health effects from traffic-related air pollution. The United States National Academy of Science recently recognized Dr. Jerrett's accomplishments by appointing him to the Committee on "Future of Human and Environmental Exposure Assessment in the 21st Century." Dr. Jerrett has also presented at the National Academy's Institute of Medicine on the topic of Environmental Justice.

Maddy, Joel

West Virginia Department of Environmental Protection

Mr. Joel A. Maddy is the Air Monitoring Field Operations Supervisor for the West Virginia Department of Environmental Protection's (WVDEP) Division of Air Quality (DAQ) for all but four counties in WV, and has worked at DAQ for 21 years. He holds an Accreditation Board for Engineering and Technology (ABET) accredited B.S. in Electrical Engineering Technology (BSEET) from the West Virginia University Institute of Technology, graduating in 1988. The nominee has been recognized by the U.S. Environmental Protection Agency's (EPA) Office of Air Quality Planning and Standards (OAQPS) and the Mid-Atlantic Regional Air Management Association, Inc. (MARAMA) as being an expert in the field of ambient air ozone monitoring. Mr. Maddy has published two papers on ozone monitoring in the Air and Waste Management Association (A&WMA) Journal and published a letter in the North American Research Strategy for Tropospheric Ozone (NARSTO) News, serving as an informal peer review of a National Oceanic and Atmospheric Administration paper on air monitoring methods. He has worked with EPA Region 6 office to resolve technical issues with an ozone monitor at Louisiana's Grosse Tete monitoring site and provided technical documentation for the resulting report. Mr. Maddy has worked with (unpaid) several manufacturers of monitoring and calibration equipment to beta test instrumentation and provide feedback and recommendations. He is a "nuts, bolts, bench & boards-" level air monitoring instrumentation engineer, with expertise in all aspects of criteria pollutant monitoring except in continuous PM 2.5. Mr. Maddy has particular expertise in continuous gas monitors, and is currently building a carbonyl and canister sampler.

McGaughey, James

North Carolina Department of Environment and Natural Resources

Mr. Jim McGaughey is an Environmental Chemist with the Ambient Monitoring Section of the North Carolina Department of Environment and Natural Resources Division of Air Quality. He holds a B.S. in Chemistry from Elon University, NC (1969) and an M.S. in Analytical Chemistry from North Carolina State University (1976). Mr. McGaughey is a chemist with over 25 years of experience in the scientific field focusing on the collection and analysis of hazardous and toxic pollutants in multi-media samples. He is experienced with instrumental analytical techniques such as gravimetric procedures, gas chromatography, high performance liquid chromatography, ion chromatography and atomic absorption as well as various wet chemical techniques. Over the past 20 years, Mr. McGaughey has been responsible for directing numerous programs for governmental agencies and industrial clients, which required expertise in collecting reactive materials from challenging matrices including ambient air, stationary sources, and water. He has worked with a state monitoring program and is familiar with the challenges faced by the state and local programs in implementing new monitoring requirements. Mr. McGaughey is knowledgeable in operating ambient monitoring equipment and the necessary considerations in getting equipment to work properly, interferences that can occur, and necessary siting requirements.

McMurry, Peter

University of Minnesota

Dr. Peter McMurry is a Professor in the Department of Mechanical Engineering at the University of Minnesota. He holds a B.A. in Physics from the University of Pennsylvania (1969), and an M.S. (1973) and Ph.D. (1977, Physics minor) in Environmental Engineering Sciences from the California Institute of Technology. Dr. McMurry's areas of expertise and research activities and interests include: aerosol measurements, aerosol dynamics, gas-particle interactions, atmospheric aerosols (gas to particle conversion, measurement, atmospheric processing, visibility impairment, etc.), ultrafine aerosol studies, nucleation phenomena, aerosol sampling for chemical analysis, measurement of aerosol physical/chemical properties, establishing experimentally-verified models for aerosol nucleation, growth, and transport in systems of practical importance. He participated in the Atlanta and St. Louis Supersite programs and he served as President of the American Association for Aerosol Research from 1994 to 1995. He became Editor-in-Chief of *Aerosol Science and Technology* in 2008. From 1999 to 2002 Dr. McMurry served on the Technical Subcommittee on Fine Particle Monitoring of EPA's Clean Air Scientific Advisory Committee (CASAC), and more recently he served on CASAC's subcommittee on Ambient Air Monitoring and Methods Subcommittee (AAMMS). In addition, he has served on the Scientific Advisory Committees for the Southern California Particulate Matter Center (2000-2008); the University of Rochester Particulate Matter Center (2001-2005); and the University of Helsinki, Centre of Excellence (2001-2010).

Olson, R. Neal

State of Utah Division of Air Quality

Mr. R. Neal Olson is a Senior Environmental Scientist for the State of Utah Division of Air Quality, Air Monitoring Section. He holds a B.S. in Biology from the University of Utah. Mr. Olson has been involved in the design and implementation of air monitoring activities in the Utah. He has actively participated in maintaining the network of twenty eight monitoring sites including quality assurance and data validation activities. Mr. Olson's current projects involve monitoring for precursor compounds that form fine particulates and investigating rural ozone concentrations. He has been involved in the design and implementation of three ozone saturation studies, two carbon monoxide saturation studies, four fine particulate studies and a air toxics monitoring program. He is the primary investigator for studies involving effects of gasoline oxygenation products on carbon monoxide concentrations and the formation of secondary particulates during winter temperature inversions. Mr. Olson has collaborated with researchers from the University of Utah, Utah State University and Brigham Young University and has co-authored several published papers.

Paris, Bryan

Arizona Department of Environmental Quality

Mr. Bryan Paris is Acting Unit Manager for the Data Management and Quality Assurance group within Arizona Department of Environmental Quality's (ADEQ) Air Quality Division. He holds a B.S. in Meteorology and Geography from the University of Oklahoma (2005), and an M.A. in Geography with emphasis on Environmental /Climate Change from Arizona State University (2009). During his studies at Arizona State University, Mr. Paris was hired by the ADEQ Air Quality Division in March 2007. His duties included validation and quality assurance of environmental data (ambient air quality and meteorological data), air quality forecasting, ambient air quality network design, and general environmental data analysis. In July of 2010, Mr. Paris was named Acting Unit Manager for the Data Management & Quality Assurance group within ADEQ's Air Quality Division. This group works very closely with the ambient air quality monitoring group, providing assistance to field technicians with intentions of improving data quality. Mr. Paris is familiar with criteria pollutant and non-criteria pollutant monitoring methodologies. The combination of his educational background in Meteorology and Geography with his three year's experience in ambient air quality monitoring has allowed for a broad and thorough understanding of ambient air quality network design and pollutant/atmospheric interactions.

Poirot, Richard L.

Vermont Department of Environmental Conservation

Mr. Richard L. Poirot has worked as an Environmental Analyst in the Air Quality Planning Section of the Vermont Department of Environmental Conservation since 1978. Mr. Poirot holds a B.A. from Dartmouth College (1972), where he majored in geography and environmental studies. His responsibilities include developing the technical support for State Implementation Plans (SIPs) to ensure attainment and maintenance of federal and state standards for ozone, particulate matter, and regional haze. Mr. Poirot has also developed interests and expertise in drawing inference on the nature of pollution sources from analysis of ambient air quality and meteorological measurement data. He has been an active participant on the Acid Deposition Committee and the Ambient Monitoring and Assessment Committee for the Northeast States for Coordinated Air Use Management (NESCAUM); the U.S. Environmental Protection Agency (EPA) Acid Rain Advisory Committee; the Data Analysis Workgroup for the Ozone Transport Assessment Group (OTAG); the Science and Technical Support Workgroup for the Federal Advisory Committee on Ozone, Particulate Matter and Regional Haze (OPRHA); the Monitoring and Data Analysis Workgroup for the Mid Atlantic/Northeast Visibility Union (MANE-VU), the Steering Committees for the Interagency Monitoring of Protected Visual Environments (IMPROVE) and the Visibility Information Exchange Web System (VIEWS); the Subcommittee on Scientific Cooperation for the US/Canada Air Quality Agreement; the EPA Clean Air Scientific Advisory Committee (CASAC), the CASAC Ambient Air Monitoring and Methods Subcommittee and the CASAC Panels for Particulate Matter, Ozone, Lead, and Secondary SOx and NOx NAAQS Review; the NARSTO External Review Panel; the EPA Advisory Council on Clean Air Compliance Analysis and the Council Subcommittee on Ambient Air Modeling; and the Board on Environmental Studies and Toxicology (BEST) for the National Research Council.

Raun, Loren Hopkins

Rice University, and City of Houston Health Department

Dr. Loren Hopkins Raun is both a faculty member at Rice University in Houston where she teaches Applied Environmental Statistics and Human Health Risk Assessment and the Senior Environmental Analyst for the Bureau of Pollution Control and Prevention in the City of Houston Health Department. She holds a B.S. in Geophysics from the University of Texas (1986), and an M.S. (1988) and Ph.D. (1998) in Environmental Science from Rice University. Dr. Raun's expertise lies in environmental statistics, human-health risk assessment and contaminant modeling with a focus on air pollution. Her applied research and quantitative analysis skills from her work at Rice facilitate: statistical assessment of Houston air pollution monitoring data (e.g. trends, redundancy, data gaps, distributional analysis) and the toxic emission inventory (e.g., ambient/emission inventory ground truthing, empirical source apportionment analysis), and carcinogenic/noncarcinogenic human health risk assessment from air toxics. Dr. Raun is a principal author of a voluntary benzene reduction plan for industry in Houston that was based on an analysis of pollution reduction measures that could significantly reduce health risks in Houston. Her current research focuses on use of monitoring network data to evaluate the relationship of acute health effects and ambient multipollutant atmospheres on a fine temporal and spatial scale.

Robinson, Allen

Carnegie Mellon University

Dr. Allen Robinson is a Professor in the Departments of Mechanical Engineering and Engineering and Public Policy at Carnegie Mellon University. He holds a B.S. in Civil Engineering from Stanford University (1990), and an M.S. (1993) and Ph.D. (1996) in Mechanical Engineering from the University of California at Berkeley. Dr. Robinson's research examines the impact of emissions from energy systems on urban and regional air quality, organic aerosols, and biomass energy. He joined Carnegie Mellon in 1998 after working for two years as a Postdoctoral Fellow at the Combustion Research Facility at Sandia National Laboratories. Dr. Robinson received the Carnegie Institute of Technology Outstanding Research Award in 2010, the Ahrens Career Development Chair in Mechanical Engineering in 2005 and the George Tallman Ladd Outstanding Young Faculty Award in 2000. He has authored or co-authored 77 peer-reviewed archival journal papers, and has led the Pittsburgh Air Quality Study which is a multi-disciplinary investigation of fine particulate pollution involving research groups from 14, Universities, 2 National Laboratories, and 2 companies. Dr. Robinson teaches courses on thermodynamics, climate change mitigation, combustion, and air quality engineering.

Rood, Mark J.

University of Illinois (Urbana-Champaign)

Dr. Mark J. Rood is the Ivan Racheff Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at University of Illinois (Urbana-Champaign). He received his B.S.E. in Environmental Engineering from Illinois Institute of Technology (1978), and his M.S.E. (1982) and Ph.D. (1985) in Environmental Engineering from University of Washington. Dr. Rood's research accomplishments are in the areas of sustainability, physical-chemical treatment processes using nanomaterials, and aerosol optics and atmospheric chemistry. His distinguished service is recognized with his past appointments as the Chief Editor of American Society of Civil Engineer's Journal of Environmental Engineering, as Treasurer and member of the Executive Board of the Association of Environmental Engineering and Science Professors,, and as an associate editor for the Journal of Air and Waste Management Association. Dr. Rood's research has been funded by organizations such as National Science Foundation, Department of Defense, National Oceanic and Atmospheric Administration, Grainger Foundation, and the U.S. Environmental Protection Agency.

Russell, Armistead (Ted)

Georgia Institute of Technology

Dr. Armistead (Ted) Russell is the Georgia Power Distinguished Professor of Environmental Engineering at the Georgia Institute of Technology. He holds a B.S. in Mechanical Engineering from Washington State University (1979), and an M.S. (1980) and Ph.D. (1985) in Mechanical Engineering from the California Institute of Technology. His Ph.D. research was conducted at Caltech's Environmental Quality Laboratory. Dr. Russell arrived at Georgia Tech in 1996 from Carnegie Mellon University, and has expertise in air quality engineering, with particular emphasis in air quality modeling, air quality monitoring and analysis. He was on the National Research Council's (NRC) Board of Environmental Studies and Toxicology, and has been a member of a number of several NRC committees, including chairing the NRC Committee to Review the U.S. Environmental Protection Agency's (EPA) Mobile Model, chairing the NRC committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas, serving on the NRC committee on Tropospheric Ozone Formation and Measurement, serving on the NRC committee on ozone forming potential of reformulated fuels, and serving on the NRC committee on Risk Assessment of Hazardous Air Pollutants. In November 2006, the EPA Administrator appointed Dr. Russell as a member of the Clean Air Scientific Advisory Committee (CASAC). He also serves as an expert panel member on both the CASAC Ozone Review Panel and the CASAC Ambient Air Monitoring and Methods (AAMM) Subcommittee. Dr. Russell previously served on three other EPA Science Advisory Board (SAB) or CASAC subcommittees: the SAB Workgroup on Air Monitoring Plan related to Hurricane Katrina (Chair); the CASAC National Ambient Air Monitoring Strategy (NAAMS) Subcommittee; and the Subcommittee on Air Quality Modeling of the Advisory Council on Clean Air Compliance Analysis. In addition, he served on EPA's Clean Air Act Advisory Committee (CAAAC) Subcommittee on Ozone, Particulate Matter and Regional Haze Implementation Programs. Dr. Russell was also a member of the North American Research Strategy for Tropospheric Ozone (NARSTO) and California's Reactivity Science Advisory Committee. Previously he was on the EPA Office of Science, Technology and Policy's Oxygenated Fuels Program Review and various National Research Council program reviews, and a committee to review a Canadian NRC program. Dr. Russell is a member of the Air and Waste Management Association (AWMA), the American Association for the Advancement of Science (AAAS), the American Society of Mechanical Engineering (ASME), Tau Beta Pi, Sigma Xi, and the American Association for Aerosol Research (AAAR). He is Associate Editor of Environmental Science and Technology. He has won a variety of competitions for animations he has developed that depict the dynamics of pollutants have won a variety of prizes here and abroad, and his work was selected as a finalist for the prestigious Smithsonian Award for Computing in the Environmental Sciences. Recently, Dr. Russell led a multi-institutional effort to conduct air quality modeling of ozone, particulate matter and acid deposition to assist the Southern Appalachians Mountains Initiative to identify effective control strategies to improve air quality in Class I areas in the southern Appalachians. This work has been extended to detailed analysis of air quality strategies in Georgia, particulate matter modeling in the Southeast and Northeast, and development of a number of advanced numerical techniques for environmental modeling. For his service to National Research Council committees, he was recently selected as a National Associate of the National Academies.

Sarnat, Jeremy

Emory University

Dr. Jeremy Sarnat is currently an assistant professor of environmental health at the Rollins School of Public Health of Emory University. He holds a B.A. in Anthropology from the University of Michigan (1986); an M.S. in Ecological Anthropology from Indiana University (1992); an S.M. in Quantitative Risk Assessment from Harvard University (1998); and Sc.D. in Environmental Exposure Assessment from Harvard University (2002). Dr. Sarnat's research focuses primarily on characterizing exposures to urban air pollution in various populations, in particular panels of sensitive cohorts such as children, older adults and individuals with cardiorespiratory disease. Much of his work examines how exposure science informs environmental epidemiology; the impact of exposure misclassification and confounding on air pollution epidemiologic findings; and the application of these findings towards the development of novel spatiotemporal models of personal air pollution exposures. Currently, Dr. Sarnat has been conducting a large scale panel study investigating in-vehicle multi-pollutant exposures in a cohort of healthy and asthmatic car commuters and corresponding acute cardiorespiratory response. He also holds a Visiting Fellowship position within the National Center for Environmental Health at the Centers for Disease Control.

Schauer, James Jay

University of Wisconsin-Madison

Dr. James Jay Schauer is a Professor of Civil and Environmental Engineering at the University of Wisconsin-Madison and serves as the Chair of the Air Resource Management Program, the Director of the Water Science and Engineering Laboratory, and a Program Director at the Wisconsin State Laboratory of Hygiene at the University of Wisconsin-Madison. He holds a B.S. in Chemical and Petroleum Refining Engineering from the Colorado School of Mines (1984), an M.S. in Environmental Engineering from the University of California at Berkeley (1991), a PhD from the California Institute of Technology (1998) and recently completed his MBA from the University of Wisconsin-Whitewater (2010). Dr. Schauer's research focuses on the development and application of air pollution sampling methods and advanced chemical analysis methods to understand the sources and impacts of air pollution. He is applying these tools in urban air pollution studies, human health studies, and climate studies. He has extensive expertise in the measurement and data analysis of measurements of organic aerosols, trace elements in particulate matter and atmospheric mercury. Dr. Schauer has led and participated in numerous monitoring studies and source testing projects throughout the Unites States and in Asia, Europe, and the Middle East. He is a Guest Professor at Peking University (Beijing, China) and is a member of the United Nations Environmental Programs (UNEP) ABC-Asia Science Team. He has been appointed as a Lead Author for the International Panel on Climate Change (IPCC) 5th Assessment Report, Working Group III: Mitigation. Dr. Schauer has authored and co-authored over 175 peer-reviewed scientific publications that have been cited over 5000 times according to the ISI Science Citation Index, and is a registered Professional Engineering in the State of Colorado and the State of Illinois.

Shaw, Stephanie

Electric Power Research Institute

Dr. Stephanie Shaw is a Project Manager in the Air Quality program at the Electric Power Research Institute (EPRI). She holds a B.S. in Chemical Engineering (1995) and a Ph.D. in Atmospheric Chemistry (2001) from the Massachusetts Institute of Technology. Dr. Shaw's research activities focus on laboratory and field measurements of atmospheric gaseous chemicals and particulate matter. Her responsibilities include investigation of the origin and fate of pollutants, instrument development and application, characterization of particulate matter, exposure assessment, monitoring, and other air quality issues. She also co-manages the Southeastern Aerosol Research and Characterization (SEARCH) study for long-term measurements of ambient particulate material in the Southeastern U.S. Before joining EPRI, Dr. Shaw was employed as a Senior Health Scientist at ChemRisk, where she investigated exposure to, and potential health impacts of, vehicular emissions, chlorinated solvents, and petroleum-based products. Prior to that, she was a National Oceanic and Atmospheric Administration post-doctoral research fellow in residence at the University of California, Berkeley where she investigated eco-physiological controls on biogenic emissions of volatile organic compounds. Dr. Shaw has served as a reviewer for the National Science Foundation and several journals such as Atmospheric Chemistry and Physics, Marine Chemistry, and Atmospheric Environment. She has served as chair and co-chair for several American Association for Aerosol Research meetings, and has volunteered as a mentor through several educational outreach programs.

Sioutas, Constantinos

University of Southern California

Dr. Constantinos Sioutas is currently the first holder of the Fred Champion Professorship in Civil and Environmental Engineering at the University of Southern California (USC) and the Co-Director and Co-Principal Investigator of the Southern California Particle Center and Supersite (SCPCS). The SCPCS is a recently renewed, multi-million dollar 12-year research program, established in early 2000 by the U.S. Environmental Protection Agency (EPA). Dr. Sioutas holds B.S. in Mechanical Engineering from Aristotle University of Thessaloniki, Greece (1986), an M.S. in Mechanical Engineering (1988) and an M.S. in Aerospace Engineering (1989) from the University of Minnesota, and an Sc.D. in Environmental Science and Engineering from Harvard University (1994). He came to the U.S. in the fall of 1986 as a Fulbright Foundation fellow to pursue graduate studies, and worked as an Advanced Product Development Engineer for 3M Company for two years prior to continuing his doctoral studies at Harvard School of Public Health in the department of Environmental Engineering. Dr. Sioutas started his academic career in 1995 as an Assistant Professor of Aerosol Science at the Harvard, prior to joining the faculty of the University of Southern California (USC) in January 1998. His research has followed an integrated approach to the problem of the well-publicized and significant effects of particulate air pollution on health and the environment. Dr. Sioutas' research has focused on investigations of the underlying mechanisms that produce the health effects associated with exposure to air pollutants generated by a variety of combustion sources, such as traffic (including light and heavy-duty vehicles, natural gas buses, and biodiesel vehicles), harbor and airport operations, power plants, and photochemically induced atmospheric reactions. He was the Principal Investigator in one of the first and most highly cited studies on exposures to vehicular emissions and the decrease of pollutants with distance to freeways. During his faculty career, Dr. Sioutas has directed, as either a Principal or Co-Principal Investigator, some 40 research grants many of which extend through 2012 and beyond. He has authored about 200 peer-reviewed journal publications, 5 book chapters and holds 13 U.S. patents in the development of instrumentation for aerosol measurement and emissions control. Dr. Sioutas' published work has received over 5,100 citations according to the ISI Web of Science, and he is among the top 1% of authors worldwide in Engineering according to the Institute of Scientific Information. Results from his publications have been used by EPA in their National Air Quality Criteria document in promulgating stricter air quality standards in the U.S. He has advised 15 Ph.D. students, and mentored 18 postdoctoral fellows at USC, and is co-editor in chief of the journal of Aerosol & Air Quality Research and a member of the editorial board of Atmospheric Environment.

Stedman, Donald

University of Denver

Dr. Donald Stedman is currently a Research Professor and Professor Emeritus at the University of Denver. He holds a B.A. from Cambridge University, England (1964), an M.Sc. from the University of East Anglia, England (1965), and a Ph.D. in Physical Chemistry from the University of East Anglia (1967). For approximately forty years, Dr. Stedman has studied small molecule kinetics and spectroscopy and analytical instrument development for atmospheric monitoring. He has conducted many years of advanced monitoring projects most recently being involved in the monitoring of vehicle emissions (including CO, CO_2, VOCs, NO, NO_2, smoke, NH_3, and SO_2). Dr. Stedman has served on U.S. Environmental Protection Agency (EPA), National Science Foundation (NSF) and National Institute of Health review panels. Most of this Panel work involved Small Business Innovation Research and NAS National Research Council committee activities. The most important of these Panel activities included Panel work from twenty-five years ago that advocated the ban on smoking in passenger aircraft - which was later adopted on a nationwide and now worldwide basis. Dr. Stedman has served on the Batelle/EPA Environmental Technology Verification (ETV) Program Advanced Monitoring Systems (AMS) Center Air Stakeholder Committee since its inception.

Sullivan, Timothy

E&S Environmental Chemistry, Inc.

Dr. Timothy Sullivan has been President of E&S Environmental Chemistry, Inc. since 1988. He holds a B.A. in History from Stonehill College (1972), an M.A. in Biology from Western State College, Colorado (1977), and a Ph.D. in Biological Sciences from Oregon State University (1983) through an interdisciplinary program that included three areas of focus: ecology, zoology, and environmental chemistry. Dr. Sullivan's expertise includes the effects of air pollution on aquatic resources, watershed analysis, critical loads, nitrogen cycling, aquatic acid/base chemistry, episodic processes controlling surface water chemistry, and environmental assessment. He has served as project manager and/or lead author for a wide variety of projects that have synthesized complex air pollution effects science for diverse audiences. Dr. Sullivan was project manager of the effort to draft a scientific summary and Integrated Scientific Assessment (ISA) of the effects of NOx and SOx on terrestrial, transitional, and aquatic ecosystem for EPA in support of its review of National Ambient Air Quality Standards (NAAQS). He was author of the National Acid Precipitation Assessment Program (NAPAP) State of Science and Technology Report on past changes in surface water acid/base chemistry throughout the United States from acid deposition. Dr. Sullivan served as project manager for preparation of an Air Quality Review for Class I national parks throughout California, and also co-authored similar reviews for the Pacific Northwest and the Rocky Mountain and Great Plains regions. These reviews synthesized available scientific information on resource sensitivities to air pollution effects, ambient air pollution levels, and the extent of damage to aquatic, terrestrial, and scenic resources from S, N, and ozone. He served as a member of NAPAP's working group that prepared the aquatic portions of the 1990 Integrated Assessment (IA), NAPAP's final policy document for Congress, and authored the aquatic sections of NAPAP's 1996 Report to Congress.

Tanner, Roger L.

Independent Consultant

Dr. Roger L. Tanner is recently retired from a position as Principal Scientist, Environment Technology, at Tennessee Valley Authority's (TVA) Environmental Research Center in Muscle Shoals, Alabama. He holds a B.S. in Chemistry from Pennsylvania State University (1964) and a Ph.D. in Analytical Chemistry from the University of Illinois (1969) under Professor Richard S. Juvet. Dr. Tanner's professional affiliations include the American Chemical Society and its Environmental Chemistry Division, the American Association for the Advancement of Science, the American Geophysical Union, and the American Association for Aerosol Research. His professional interests include the analytical chemistry of trace substances in the atmosphere as applied broadly in the following interconnected areas: (1) formation of fine aerosols from gaseous precursors, their atmospheric equilibria, transport and transformation, and their health effects; (2) atmospheric photochemistry, transformation and loss of inorganic and organic reactive nitrogen, sulfur and oxygenated compounds especially as related to atmospheric ozone levels; and (3) atmospheric and climatic effects of biogenic and biomass combustion aerosols. Dr. Tanner has been involved in a large number of field measurement campaigns at numerous locations in the United States using both surface and airborne measurement techniques. He has also made measurements of airborne gases and particles at locations in Canada and Brazil, and published over 100 papers in peer-reviewed publications. Dr. Tanner has served on the International Union of Pure and Applied Chemistry Commission on Environmental Analytical Chemistry (1990-1995), the Electric Power Research Institute (EPRI) Advisory Committee on Health Effects Research, and the U.S. Environmental Protection Agency's (EPA) Chemistry and Physics Review Panel (1986-1992, 1995). He has co-chaired several symposia on aerosol measurements for the American Chemical Society and was honored with an EPRI Environmental Sector 2002 Delivery and Applications Award as a Research Champion for aerosol and gaseous measurements in the Great Smoky Mountains.

Turner, Jay

Washington University, St. Louis

Dr. Jay Turner is an Associate Professor of Energy, Environmental and Chemical Engineering at Washington University in St. Louis. Dr. Turner holds a B.S. and M.S. from UCLA (1987) and a D.Sc. from Washington University (1993), all in Chemical Engineering. Following his M.S. studies, he spent two years at the University of Duisburg, Germany, where he was a DAAD Fellow. Following his D.Sc. studies, Dr. Turner spent eight months on assignment with the Federal Highway Administration, U.S. Department of Transportation, as an Air Quality Specialist. He subsequently joined the Washington University faculty in 1994 as an Assistant Professor of Engineering & Policy. Dr. Turner's research focuses on air quality characterization and control with emphasis on field measurements and data analysis to support a variety of applications in the atmospheric science, regulation and policy, and health studies arenas. He was the Principal Investigator of the St. Louis – Midwest Fine Particulate Matter Supersite. He manages a field site in East St. Louis that has hosted several Federal Equivalent Method testing campaigns and is currently one of two USEPA coarse particulate matter pilot speciation study sites. Current research projects include estimating near-field impacts from rail yard emissions, source apportionment of ambient particulate matter in Hong Kong, high time resolution air toxics metals measurements, and long-term fenceline monitoring for gaseous air toxics and particulate matter species at an industrial fenceline. Current and recent consulting activities include monitoring guidance and data analyses for agencies in four states in support of State Implementation Plan development. Dr. Turner has served on several state and local air quality-related advisory committees, the Science and Technical Support Workgroup of the FACA Subcommittee for Ozone, Particulate Matter, and Regional Haze Implementation Programs, and the Ambient Air Monitoring and Methods Subcommittee (AAMMS) of CASAC. He was general chair for the 2007 Annual Conference of the American Association for Aerosol Research (AAAR) and currently serves on the AAAR Board of Directors.

Vizuete, William

University of North Carolina - Chapel Hill

Dr. William Vizuete is an Assistant Faculty Member at the University of North Carolina-Chapel Hill whose research interests are focused on atmospheric chemistry and atmospheric modeling of air pollution. He holds a B.S. in Chemical Engineering from the University of Missouri-Rolla (1998), and an M.S. (2003) and a Ph.D. (2005) in Chemical Engineering from the University of Texas – Austin. Dr. Vizuete is currently the Principal Investigator (PI) for the Gillings Innovation Laboratory whose aims are to provide health researchers with new methods to measure and predict the health effects of fresh and aged multi-pollutant mixtures. He leads a multi-disciplinary team to produce a prototype biological exposure device for cultured lung cells. Dr. Vizuete is also a co-PI for a project that is assessing air quality risk in the United Arab Emirates through the use of regulatory air quality models, satellite data, and surface measurements. This project also demands the successful interaction of atmospheric chemists, modelers, policy makers, and health scientists. For the last eight years he has worked with Texas State regulators in support of their attainment demonstration of the ozone National Ambient Air Quality Standard. To support these efforts, Dr. Vizuete was funded by the Houston Advanced Research Center and was the PI on three completed projects. This work involved detailed model performance evaluation of atmospheric photochemistry requiring data analysis of detailed measurements collected by surface monitors and field campaigns.

Zeng, Yousheng

Providence Engineering and Environmental Group, LLC

Dr. Yousheng Zeng is the Air Quality Services Director for Providence Engineering and Environmental Group, LLC. His areas of expertise include method development and implementation of air pollution monitoring (ambient and source, criteria pollutants and air toxics), air quality modeling (both dispersion modeling and receptor modeling), air quality laws and regulations, and air pollution control technologies. Dr. Zeng holds a B.S. in Analytical Chemistry from Sichuan University, China (1982), an M.S. in Environmental Chemistry from Nankai University, China (1985), a Ph.D. in Environmental Engineering from the University of Illinois at Urbana-Champaign (1990), and an MBA from the University of Texas at Dallas (1998). Since 1990, he has been working in the field of air quality management for over 20 years. Dr. Zeng has co-authored 19 peer-reviewed air quality related research papers, chapters in five books, and 37 papers presented at national and international technical conferences. He is a Professional Engineer (PE) registered in five states. Dr. Zeng is the inventor of the patented Comprehensive Particulate Matter Measurement System. As an adjunct professor at Southern Methodist University (SMU) in Dallas, TX for six academic years (1996-2002), he taught two graduate level courses, “Air Pollution Management, Regulations, and Public Policy” and “Air Quality Modeling”. Dr. Zeng developed and conducted four workshops on air quality related topics. Over 250 professionals participated in these workshops. He has worked with multiple state and local air monitoring agencies and hundreds of regulated entities. Dr. Zeng has completed hundreds of air quality modeling analyses, served as a trial burn observer, and designed and constructed a dozen of fixed and mobile air monitoring systems. He pioneered Auto-GC operated on a trigger mode to study sources of VOC species in ozone episodes. Dr. Zeng designed a web-based, real-time air monitoring data visualization system. Recently he completed a study of 14 years (1994-2007) of air monitoring data collected by the Photochemical Assessment Monitoring Stations (PAMS) network in the San Joaquin Valley, CA. Dr. Zeng was a member of several workgroups organized by the Louisiana DEQ and industries to deal with various air quality issues, specifically the Highly Reactive Volatile Organic Compounds (HRVOC) Workgroup, the Title V Permit Workgroup, and the AERMOD Modeling Guideline Workgroup. He served as an external peer reviewer for EPA Region 6 Regional Air Impact Modeling Initiative (RAIMI) Pilot Study. Dr. Zeng has served on the CASAC Ambient Air Monitoring and Methods Subcommittee and EPA SAB Scientific and Technological Achievement Awards (STAA) Committee.