

U.S. EPA
Clean Air Scientific Advisory Committee
Ambient Air Monitoring and Methods Subcommittee
Biosketches

CASAC Ambient Air Monitoring and Methods Subcommittee

Allen, George A.

Northeast States for Coordinated Air Use Management (NESCAUM)

Mr. George Allen is a Senior Scientist at NESCAUM (Northeast States for Coordinated Air Use Management), an interagency association of eight Northeastern states. He received a B.S. in Electrical Engineering from Tufts University in 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, and continuous aerosol measurement technologies. Mr. Allen 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, he 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 EPA and NIH funded air pollution studies. While at HSPH, Mr. Allen developed several new techniques for real-time aerosol measurements. Currently, Mr. Allen is serving as a member representing states interests to EPA in the STAPPA-ALAPCO Air Monitoring Working Group (SAMWG), and on the EPA AIRNow Steering Committee. His work at NESCAUM gets its financial support from its member states and through grants from EPA to member states through "sections 105 and 103 Grants " given under the Clean Air Act grants programs to states. Mr. Allen's other major sources of support include funds from the Ozone Transport Commission, under the MANE-VU regional haze planning organization.

Chow, Judith**University of Nevada**

Dr. Judith Chow is a Research Professor at Desert Research Institute in Reno, Nevada. She has directed the institute's Environmental Analysis Facility since its inception in 1985. For more than 28 years, Dr. Chow has conducted air quality studies and performed statistical data analysis. She is the principal investigator or co-investigator for the aerosol data analysis portions of the California Regional PM10/PM2.5 Air Quality Study (CRPAQS), Fresno Supersite, Interagency Monitoring of Protected Visual Environments (IMPROVE) carbon analyses, and the U.S. Environmental Protection Agency (EPA) Science to Achieve Results grant titled "Uncertainty of Thermal and Optical Carbon Analysis Methods." Dr. Chow 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. She prepared and revised sections of the U.S. EPA's criteria document that pertained to chemical analysis and source emissions. Dr. Chow was the co-principal investigator on evaluation of aerosol measurement methods, sampling strategies, and databases for the U.S. EPA guidance documents on network design, continuous particulate monitoring, and aerosol measurements. As chair of the Air & Waste Management Association's Critical Review Committee, Dr. Chow is responsible for coordinating the journal article and the presentation that form the core of the association's annual conference. In addition, she serves as chair of the Editorial Review Board for the Journal of the Air & Waste Management Association. She has recently taken on the role co-editor-in-chief of Aerosol and Air Quality Research, an international journal. Dr. Chow earned her Sc.D. in Environmental Science from Harvard University in 1985, after receiving an M.S. in Air Pollution Control from Harvard in 1983. Her initial degree was a B.S. in Biology, earned in 1974 at Fu-Jen Catholic University in Taiwan. Dr. Chow is a member of the National Research Council's (NRC) Committee on Research Priorities for Airborne Particulate Matter, and serves on the Board on Environmental Studies and Toxicology at NRC. In March 2004, she joined the U.S. Department of Energy's Atmospheric Radiation Measurement Climate Research Facility (ACRF) Science Board. She is also a member of several other advisory panels for the National Academy of Sciences, the U.S. EPA, National Environmental Respiratory Center [New Mexico], and South Coast [California] Air Quality Management District. Other memberships include the Air & Waste Management Association and the American Association for Aerosol Research. Dr. Chow's sources of recent contract support include: U.S. EPA's National Center for Environmental Research (NCER), "Measurement, Modeling and Analysis Methods for Airborne Carbonaceous Fine Particulate Matter (PM2.5)" (an FY 2003 Science to Achieve Results (STAR) Program grant, the goal of which is to elucidate an improved understanding of the sources of atmospheric carbon); and carbon analysis of filter samples for the U.S. Department of Interior, National Park Service. Other sources of support include laboratory analysis for the U.S. Department of Defense, California Air Resources Board, Nevada Department of Environmental Protection, and Arizona Department of Environmental Quality.

Cowling, Ellis B.

North Carolina State University

Dr. Ellis B. Cowling is a University Distinguished Professor At-Large, Colleges of Natural Resources and Agriculture and Life Sciences, North Carolina State University (NCSU). He received his B.S. (Wood Technology, 1954) and M.S. (Forest Pathology, 1956) from the State University College of Forestry at Syracuse University; his Ph.D. (Plant Pathology/Biochemistry, 1959) from the University of Wisconsin; and his Filosofie Licensiat (1960) and Filosofie Doktor (1970) in Physiological Botany from the Institute for Physiological Botany, University of Uppsala (Sweden). Since 1995, Dr. Cowling has been a Visiting Eminent Scholar, School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA. From 1978 to 1991, he served as Associate Dean for Graduate Education and Research in the College of Forest Resources at NCSU. Dr. Cowling held an appointment as an Adjunct Fellow, Kennedy School of Government, Harvard University, from 1993 to 2000. Dr. Cowling is regarded as a world leader in air pollution research. He was elected to membership in the National Academy of Sciences (NAS) in 1973. Dr. Cowling is currently Director of the Southern Oxidants Study, a strategic alliance of 490 scientists in 40 universities and 42 federal, state, and industrial organizations that investigate the chemistry, meteorology, biology, and management of ozone and particulate matter pollution and its public health and ecological effects in the southeastern United States. During a sabbatical year in Sweden in 1970-1971, he shifted his personal research to "acid rain" and other aspects of the chemical climatology and biological impacts of airborne chemicals on terrestrial and aquatic ecosystems in North America and Europe. From 1975 to 1983, Dr. Cowling provided leadership for development of the National Atmospheric Deposition Program (NADP); this Interregional Research Program (IR-7) involves more than 200 scientists in the United States and Canada. NADP continues to provide the only reliable continent-scale maps of precipitation chemistry for the United States. In 1978-1979, at the request of the President's Council on Environmental Quality (CEQ), he was one of four scientists who developed the original draft plan for the National Acid Precipitation Assessment Program (NAPAP). This 10-year, multi-agency research and assessment program involved more than 500 scientists who provided the scientific foundation for important parts of the Clean Air Act Amendments (CAA) of 1990. Dr. Cowling's current research interests are in the changes in the chemical climate of industrial regions and their effects on aquatic and terrestrial ecosystems, as well as the use of scientific and engineering knowledge in public decision-making. Dr. Cowling was appointed to the NAS/NAE/IOM/NRC Committee on Science Engineering and Public Policy from 1995 to 1998, and he was elected to the Council of the National Academy of Sciences, from 1994 to 1997. Dr. Cowling's other honors and awards include: the Alexander Quarles Holladay Medal for Excellence in Contributions to North Carolina State University, 2002; the Barrington Moore Memorial Award for Biological Research, Society of American Forester, 2000; recipient of the Oliver Max Gardner Award of the Consolidated University of North Carolina for "contributions to the welfare of the human race," 1981; recipient of the North Carolina Award of Achievement in Science, 1972; and election as a Fellow of the International Academy of Wood Science (Vienna), 1971. Dr. Cowling is the co-author of two books, and has 341 publications in referenced journals and other scientific contributions.

Croes, Bart**California Air Resources Board**

Mr. Bart Croes is currently Chief, Research Division, California Air Resources Board and director of the State's health, exposure, atmospheric processes, emission control, and economics research programs for air pollution. This includes responsibility for setting California ambient air quality standards. An atmospheric scientist with a background in air quality simulation modeling and a P.E. in Chemical Engineering (California), his former responsibilities include California's air-quality measurement network design, data management and data analysis programs, and evaluation of the environmental fate of non-oxygenated and ethanol alternatives to MTBE in gasoline (1998-2000). Mr. Croes was the program manager for the 1997 Southern California Ozone Study (SCOS97-NARSTO), the SCOS97-NARSTO Aerosol Program and Radiation Study, California's Particulate Matter Research Program, the California Acid Deposition Monitoring Program, atmospheric chemistry and modeling research, and California Clean Air Act ozone transport research (1992-1998). Mr. Croes holds advanced degrees with an M.S. (Chemical Engineering) from the University of California at Santa Barbara, 1983, and a B.S. (Chemical Engineering) from the California Institute of Technology, 1979. He is Public Sector Co-Chair for the NARSTO Executive Assembly and former member of the National Research Council Committee on Research Priorities for Airborne Particulate Matter (1998-2004). Mr. Croes has been a peer reviewer for the National Research Council, the U.S. EPA, and numerous journals, and received the Editors' Citation for Excellence in Refereeing from the Journal of Geophysical Research (1997). He has published peer-reviewed articles on air quality simulation modeling, emission inventory evaluation, reactivity-based VOC controls, acid deposition, the weekend effect for ozone and PM, PM data analysis and trends, and diesel particle traps. Mr. Croes receives no grant or other contract support funding. (2004)

Demerjian, Kenneth**State University of New York**

Dr. Kenneth Demerjian is currently a Professor in the Department of Earth and Atmospheric Science, and Director, Atmospheric Sciences Research Center, and the University at Albany, SUNY. Dr. Demerjian was awarded his M.S. and Ph.D. in physical chemistry from the Ohio State University in 1970 and 1973, respectively. He received his B.A. in chemistry from Northeastern University in 1968. 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 associations or professional publications include: Associate Editor, Atmospheric Environment, November, 2002 to present; Board on Oceans and Atmosphere NASULGC, November 2001 to November 2004; Member, UCAR Members' Nominating Committee, October 2001 to present; and Chairman, Committee for the 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, July 2002 to present; Member, National Research Council Committee on Atmospheric Chemistry, August 1999 to 2001; Co-Chair, Synthesis Team - NARSTO, October 1996 to March 2000; and Member, National Research Council Committee on Research Opportunities and Priorities for the Environmental Protection Agency (ROPE), November 1995 to June 1997. Dr. Demerjian's sources of recent grant and/or other contract support funding include: U.S. EPA, PM Supersite Cooperative Agreement, "PM2.5 Technology Assessment and Characterization Study - New York" (PMTACS-NY), January 15, 2000 - December 2004; New York Energy Research and Development Authority (NYSERDA), Contract, "Joint Enhanced Ozone and PM Precursors and PMTACS-NY Measurement Program," January 1999 - June 30, 2003; and New York State Department of Environmental Conservation, Environmental Bond Act Funds in support of PMTACS-NY, August 1, 1999 - July 2004.

Eatough, Delbert

Brigham Young University

Dr. Delbert J. Eatough is a Professor of Chemistry in the Department of Chemistry and Biochemistry at Brigham Young University. He received a B.S. degree from Brigham Young University in 1964 and a Ph.D. in Physical Chemistry from Brigham Young University in 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. Dr. Eatough's recent (last three years) sources of grant and/or other contract support funding include: (1) the U.S. Environmental Protection Agency (EMPACT cooperative grant, STAR grant and BC-R044-NAEX contract, all related to the composition of atmospheric aerosols, sampling and health effects); (2) Desert Research Institute; and (3) the National Science Foundation (participation in the ACE ASIA studies). He is currently on a DOE ORISE appointment to work comparatively with the Pittsburgh NETL laboratory on their PM_{2.5} program.

Edgerton, Eric

Atmospheric Research & Analysis, Inc.

Mr. Eric Edgerton is President/Scientist, Atmospheric Research & Analysis, Inc. His areas of expertise include atmospheric chemistry, measurement of trace atmospheric species, and geochemical cycles of sulfur, nitrogen and carbon. Mr. Edgerton received his B.A. in Atmospheric Chemistry from Cornell University (1974) and his M.S. in Organic Chemistry from the University of Florida (1981). Mr. Edgerton's sources of recent grant and/or other contract support funding include: EPRI (Contract), ARIES Epidemiology Study and SEARCH PM Study; the Southern Company, SEARCH-II PM Study; EDEP BRACE, NO_x/HNO₃ Measurements; and SEASARM/VISTAS, Focus Site Operations.

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, and has designed the PM-2.5 FRM and speciation 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 currently serves as the chairperson for the NESCAUM Monitoring Assessment Committee (MAC). In addition, he participated in the OAQPS workgroup to develop the QA procedures for the PM-2.5 FRM program; and also participates in the new OAQPS workgroup examining new automated measurement technologies and in the workgroup working on the revision of CFR Part 58. Mr. Felton was recently asked to be a member of the EPA ORD committee for the "Synthesis and Integration" of the SuperSite program data and its application to State program planning needs. He also participated in a workgroup writing a chapter for the fourth edition of the Methods of Air Sampling and Analysis edited by Lodge. The majority of Mr. Felton's work is funded from the EPA through New York State 103 and 105 monitoring grants. He has a small project grant application currently pending with NYSERDA.

Hopke, Philip**Clarkson University**

Dr. Philip K. Hopke is the Bayard D. Clarkson distinguished professor at Clarkson University and the director of the Center for Air Resources Engineering and Science. Professor Hopke is the immediate 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 is a member of the National Research Council's U.S. Committee on Energy Futures and Air Pollution in Urban China and the United States. Professor Hopke received his B.S. in Chemistry from Trinity College (Hartford) and his M.A. and Ph.D. degrees in chemistry from Princeton University. After a post-doctoral appointment at M.I.T., 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 and subsequently came to Clarkson in 1989 as the 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.

Husar, Rudolf

Washington University

Dr. Rudolf B. Husar is currently Professor of Mechanical Engineering, Director of Center for Air Pollution Impact and Trend Analysis (CAPITA), Washington University, St. Louis. In the early 1970s he was a post-doctoral fellow at the California Institute of Technology, Pasadena, CA. Dr. Husar's Ph.D. is in Mechanical Engineering from the University of Minnesota, Minneapolis, in 1966. He received a Dipl. Ing. in Mechanical Engineering from Technical University, Berlin, FRG. His past research includes: atmospheric aerosols; regional and global air pollution transport and chemistry; biogeochemical cycles; environmental trend analysis; monitoring network evaluation and design. His interests include environmental informatics (the application of information science, engineering, and technology to environmental problems) as well as scientific support to air quality. Dr. Husar has served as an executive editor of the journal *Atmospheric Environment*, and on the boards of five other international journals, including as Associate Editor, *Atmospheric Systems*; *The Scientific World*, (2001-present), member of Editorial Board, *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. Dr. Husar has also served on numerous national and international panels and committees dealing with various aspects of atmospheric sciences and air quality management. He was a contributor to EPA's Particulate Matter Criteria Document Panel in 1996. Recent publications include articles (with others) in the *Journal of the Waste Management Association*, *Atmospheric Environment*, and the *Journal of Geophys. Res.* (all in 2001). Another article, "Sulfur and Nitrogen over North America, Global Aspects of the Environment," is available from the Elgar Reference Collection, Cheltenham, UK, and Northampton, USA (1999). Dr. Husar's sources of recent grant and/or other contract support funding include: National Science Foundation (NSF), Collaboration through Virtual Workgroups, 9/01/01-8/31/03; NSF, Digital Government: An Integrated Fire, Smoke and Air Quality Network, 6/01/02-5/31/06; EPA, A Web-based Visibility Information System, 5/98-5/03; EPA, Ozone and PM Air Quality Analysis in Support of Public Needs, 5/98-5/03; MARAMA-EPA, Source Apportionment of Air Quality Monitoring Data: Pair Aerosol/Trajectory Database Analysis Tool Development, 8/02-7/03; MCNC-EPA, Intercontinental Transport, 12/02-12/03; EPA, St. Louis-Midwest Particulate Matter (PM) Supersite, Monitoring Support, 1/00-12/03.

Ito, Kazuhiko

New York University

Dr. Kazuhiko Ito is Assistant Professor of Environmental Medicine at Nelson Institute of Environmental Medicine, New York University School of Medicine. He received his M.S. and Ph.D. in environmental health sciences from New York University in 1985 and 1990, respectively. Dr. Ito received his B.S. in applied chemistry from Yokohama National University, Japan in 1982. 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 PM_{2.5} 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 EPA's Air Quality Criteria Document on Ozone (short-term mortality effects), and has been a contributing author to the current and past EPA Criteria Document on Particulate Matter (short-term mortality effects). He has received grants as the principal investigator from EPA in recent years, and worked as a co-investigator for grants received from EPA, HEI, and NIEHS.

Kenski, Donna**Lake Michigan Air Directors Consortium**

Dr. Kenski was awarded a Ph.D. in Environmental and Occupational Health Sciences (1997) and an M.S. in Public Health (1992) from the University of Illinois at Chicago. Her current professional affiliations are: Data Analyst for Lake Michigan Air Directors Consortium (LADCO), Des Plaines, IL, and Adjunct Assistant Professor, University of Illinois at Chicago. Dr. Kenski's areas of expertise and research activities include source-receptor modeling and other observation-based models for source attribution of PM_{2.5} and haze; ensemble trajectory analysis; conceptual model development integrating ambient data with theoretical and laboratory observations; visual display of quantitative data; and the development and field testing of advanced monitoring technologies. Her position at LADCO involves daily interaction with State, local, and Tribal monitoring personnel, so she is intimately acquainted with their perspective on monitoring issues. Dr. Kenski's leadership positions in associations, professional publications and other distinctions include chairing a midwestern state data analysis workgroup and participation in the national RPO data analysis workgroup. She is a reviewer for Environmental Science and Technology and the Journal of Air and Waste Management Association and is frequently an invited speaker at regional and national air quality meetings. Dr. Kenski is a member of the American Chemical Society, the Air and Waste Management Association, the American Association for Aerosol Research, and the American Geophysical Union. With respect to her sources of recent grant or contract support, LADCO is awarded approximately \$1.7 million per year by EPA for air quality modeling, monitoring, data analysis, and emission inventory development.

Lumley, Thomas**University of Washington**

Dr. Tom Lumley received his M.Sc. in Applied Statistics (University of Oxford, 1994); and his Ph.D. in Biostatistics (University of Washington, 1998). Currently, he is Associate Professor of Biostatistics, University of Washington and the co-director of the Statistics and Data Core of the EPA Northwest PM Center. Dr. Lumley is a member of International Biometric Society and American Statistical Association; and is the Associate Editor for The American Statistician and Stata Journal. Dr. Lumley's current research activities include: statistical computing, methods for longitudinal data analysis, cardiovascular epidemiology (funded by grants and contracts from NHLBI), and air pollution source apportionment and epidemiology.

McMurry, Peter H.**University of Minnesota**

Dr. Peter McMurry is a Professor and Head of the Department of Mechanical Engineering at the University of Minnesota. His areas of expertise and research activities and interests include: 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 is presently involved with the Atlanta and St. Louis Supersite programs. Dr. McMurry earned a B. A. in Physics, cum laude, in 1969 from the University of Pennsylvania; and an M.S. (1973) and Ph.D. (1977, Physics minor) in Environmental Engineering Sciences from the California Institute of Technology. He served as President of the American Association for Aerosol Research from 1994 to 1995, among many other leadership roles. From 1999 to 2002, Dr. McMurry served on the Technical Subcommittee on Fine Particle Monitoring of EPA's Clean Air Scientific Advisory Committee (CASAC). In addition, he has served on the Scientific Advisory Committees for the Southern California Particulate Matter Center (2000-present); the University of Rochester Particulate Matter Center (2001-present); and the University of Helsinki, Centre of Excellence (2001-present).

Poirot, Richard L.**Vermont Agency of Natural Resources**

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. 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. Given the rural nature and northeasterly location of Vermont, the influence of regional-scale pollution transport is of particular interest. Lacking sophisticated atmospheric chemistry modeling expertise and resources, Mr. Poirot has also developed interests in drawing inference on the nature of pollution sources from analysis of ambient measurement data, and in working in collaborative regional scientific of science/policy forums. For example, he is or has been a participant on Ambient Monitoring and Assessment Committee for the Northeast States for Coordinated Air Use Management, the Data Analysis workgroup for the Ozone Transport Assessment Group, the Science and Technical Support Workgroup for the FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the Monitoring and Data Analysis Workgroup for the Mid Atlantic/Northeast Visibility Union (MANE-VU), the EPA PM-2.5 Data Analysis workgroup, the Steering Committee for the Interagency Monitoring of Protected Visual Environments, and the US/Canada (Air Quality Agreement) Subcommittee on Scientific Cooperation. Mr. Poirot holds a B.A. degree from Dartmouth College, where he majored in geography and environmental studies. In November 2001, he was appointed by the Administrator of the U.S. Environmental Protection Agency (EPA) as a member of the Clean Air Scientific Advisory Committee (CASAC) of EPA's Science Advisory Board.

Prather, Kimberly A.**University of California, San Diego**

Dr. Kimberly Prather is currently a Professor of Chemistry and Biochemistry at the University of California (U.C.) San Diego. She received her B.S. (1985) and Ph.D. (1990) at U.C. Davis and was a postdoctoral fellow at U.C. Berkeley. Her research involves the development and application in field and lab studies of real-time measurements of size-resolved chemistry of aerosols. Dr. Prather is currently involved in source apportionment studies in the United States. Her group has conducted field studies at locations all over the world including India and Japan. Dr. Prather was a member of the Fine Particle Monitoring Subcommittee of EPA's Clean Air Scientific Advisory Committee (CASAC). She is on a number of editorial boards for journals including Aerosol Science and Technology. In addition, Dr. Prather is a member of a number of professional societies including the American Association for Aerosol Research, the American Chemical Society, the Air and Waste Management Association, and the American Geophysical Union. Her current sources of grant support include the National Science Foundation (NSF), the U.S. EPA, and the California Air Resources Board (CARB), as follows: (1) CARB – Source apportionment of ambient particles: determining relative contributions from diesel vs. gasoline vehicles; (2) NSF – Funded ACE-Asia field campaign (measurements in 2001 on board ship moving from Hawaii to Japan); (3) NSF – Funded design and construction of aircraft system for making real-time measurements of size-resolved particle chemistry; (4) EPA – On-line measurements of EC and OC by aerosol time-of-flight mass spectrometry; (5) EPA (via the University of Rochester) – Measurements of ultrafine particle chemistry in real-time (w/ Prof. Gunter Oberdorster); and (6) NSF – Field studies as part of ABC (Atmospheric Brown Cloud) experiment (w/ Prof. Ramanathan of SIO).

Russell, Armistead (Ted)

Georgia Institute of Technology

Dr. Armistead (Ted) Russell is the Georgia Power Distinguished Professor and Coordinator of Environmental Engineering at the Georgia Institute of Technology. Professor 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 earned his M.S. and Ph.D. degrees in Mechanical Engineering at the California Institute of Technology in 1980 and 1985, conducting his research at Caltech's Environmental Quality Laboratory. His B.S. is from Washington State University (1979). Dr. Russell has been a member of a number of the National Research Council's committees, including chairing the Committee to Review EPA's Mobile Model and chairing the committee on Carbon Monoxide Episodes in Meteorological and Topographical Problem Areas, and serving on the committee on Tropospheric Ozone Formation and Measurement, the committee on ozone-forming potential of reformulated fuels and the committee on Risk Assessment of Hazardous Air Pollutants. Recently, he served on two EPA SAB subcommittees: the Clean Air Scientific Advisory Committee (CASAC) National Ambient Air Monitoring Strategy (NAAMS) Subcommittee and the subcommittee on Air Quality Modeling Subcommittee of the Advisory Council on Clean Air Compliance Analysis. He was also a member of the EPA FACA Subcommittee on Ozone, Particulate Matter and Regional Haze, the North American Research Strategy for Tropospheric Ozone and California's Reactivity Science Advisory Committee. Previously he was on the 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, American Association for the Advancement of Science, American Society of Mechanical Engineering, Tau Beta Pi, Sigma Xi and the American Association for Aerosol Research. Dr. Russell 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, Prof. 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 (NRC) committees, he was recently selected as a National Associate of the National Academies. Dr. Russell's funding comes from a variety of sources, including the FHWA (mobile source impacts on air quality), US NSF (atmospheric modeling), NIH (air quality impacts on health), U.S. EPA (modeling, monitoring and field data analysis), DoD (biomass burning), various states (VOC reactivity, air quality modeling and field experimental studies) and state organizations, and the chemical (reactivity analysis), automotive (modeling) and utility (modeling, field studies) industries.

Turner, Jay**University of California**

Dr. Jay Turner is an Associate Professor of Chemical Engineering at Washington University in St. Louis. He holds a joint appointment in Civil Engineering and is a founding member of the Environmental Engineering Program faculty. Professor Turner earned B.S. and M.S. degrees 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. DOT, 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 to support a variety of applications in the atmospheric science, regulation and policy, and health studies arenas. He is currently the Principal Investigator of the St. Louis – Midwest Fine Particulate Matter Supersite; this work and related air quality studies are funded by EPA/OAQPS, EPA/Region VII, CENRAP, LADCO/Midwest RPO, Missouri DNR, and EPRI. Turner is funded by Missouri DNR to operate a UV-DOAS to characterize at high time resolution formaldehyde and other gaseous components of interest. He is also Principal Investigator of the EPA-funded National Water Resources Capacity Development Project and serves as Education Associate Director for the NSF-funded Engineering Research Center (ERC) on Environmentally Beneficial Catalysis which is headquartered at the University of Kansas. Dr. Turner has served on several state and local air quality-related advisory committees, and served on the Science and Technical Support Workgroup of the FACA Subcommittee for Ozone, Particulate Matter, and Regional Haze Implementation Programs. He is a member of the American Association for Aerosol Research, (AAAR), the Air & Waste Management Association (A&WMA), and the American Institute of Chemical Engineers (AIChE).

White, Warren H.**University of California - Davis**

Dr. Warren White is currently a Professional Researcher in the Crocker Nuclear Laboratory of the University of California at Davis. He was formerly a Visiting Professor at the Crocker Nuclear Laboratory. Prior to that, he was a Sr. Research Associate at Washington University in St. Louis. He is a member of the American Mathematical Society (AMS) and the Air & Waste Management Association (A&WMA). Dr. White's areas of expertise involve mathematics, atmospheric chemistry and optics, and aerosol science, with specific interests in trend analysis, attribution of effects to emissions, and the sensitivity of empirical models to measurement uncertainties. Dr. White has served the A&WMA on the Publications and Visibility Committees and as past Chair of the St. Louis Air Pollution Control Association. He has also served as Coordinator of the Symposium on Plumes and Visibility, Grand Canyon. Dr. White holds both a Ph.D. and M.S. in mathematics from the University of Wisconsin, in 1964 and 1967, respectively. He received his B.S. from the California Institute of Technology in 1963. Dr. White has worked with EPA on committees and panels, namely: Clean Air Science Advisory Committee (CASAC), 1996-2000; Review Panel for PM Air Quality Criteria Document, 1994-96, 2000-03; CASAC National Ambient Air Monitoring Strategy (NAAMS) Subcommittee, 2003; Subcommittee on Particle Monitoring, 1998-2003, Review Panel for NOx Criteria Document, 1990-94; and Subcommittee on Visibility, 1987-89. He has served on the following committees of the National Research Council (NRC): Haze in National Parks and Wilderness Areas, 1990-93; Committee on Meteorological Prediction, Analysis, and Research, 1990-94; Committee to Assess the North American Research Strategy for Tropospheric Ozone (NARSTO) Program, 1997-2002; and Committee on Research Priorities for Airborne Particulate Matter, 1998-2003. Dr. White has worked under a contract from National Park Service to Crocker Nuclear Laboratory to operate the IMPROVE monitoring network and also on a cooperative agreement between EPA and Washington University to operate St. Louis-Midwest PM Supersite. He has been a consultant to the Electric Power Research Institute (EPRI) on analysis of monitoring data from Atlanta, and to Environ Corp. on a test of source apportionment with simulated data.

Zeng, Yousheng

Providence Engineering & Environmental Group LLC

Yousheng Zeng, Ph.D., P.E. 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. He is a member of several workgroups organized by the Louisiana Department of Environmental Quality (LDEQ), specifically the Highly Reactive Volatile Organic Compounds (HRVOC) Workgroup, the Title V Workgroup, and the AERMOD Modeling Guideline Workgroup. He served as an organizer and the facilitator of a forum for the LDEQ, industry, metropolitan planning organization, mayors of affected cities, and other elected officials to discuss Baton Rouge area ozone non-attainment “bump-up”, its consequences, and possible solutions. He is a member of the Air and Waste Management Association (AWMA) and serves as the Secretary of the Association’s Sources and Emissions Characterization Committee for a term from 2003 to 2005. He co-chaired the trial burn session for the 1999 national conference in Dallas on hazardous waste combustors sponsored by AWMA and EPA. Dr. Zeng served as an external peer reviewer for EPA Region 6 Regional Air Impact Modeling Initiative (RAIMI) Pilot Study, a regional modeling initiative for toxic air pollutants. Dr. Zeng received his B.S. degree in Analytical Chemistry from Sichuan University (China) in 1982, M.S. degree in Environmental Chemistry from Nankai University (China) in 1985, Ph.D. degree in Environmental Engineering from the University of Illinois at Urbana-Champaign in 1990, and MBA degree from the University of Texas at Dallas in 1998. He is a Professional Engineer (PE) registered in five states. As an adjunct professor at Southern Methodist University (SMU) in Dallas for six academic years, Dr. Zeng taught two graduate level courses, “Air Pollution Management, Regulations, and Public Policy” and “Air Quality Modeling”. He is the instructor for three workshops on air quality related topics, in which over 150 professionals have participated. He has co-authored 16 peer-reviewed research papers published in national and international journals, chapters in five books, and sixteen papers presented to technical conferences. These publications were in the areas of air pollution source-receptor relations, air pollutants characterizations, and methods or models development.