

Non-member Consultants to Assist CASAC PM and Ozone Reviews

Aliferis, Constantin

University of Minnesota

Dr. Constantin Aliferis is Professor and Director Institute for Health Informatics, Professor Department of Medicine, Professor Data Science Program, Chief Research Informatics Officer, Member faculty UMN Masonic Cancer Center, University of Minnesota. His educational background includes MD, MS (Intelligent Systems), PhD (Intelligent Systems/Medical Informatics), Research Fellowship (Internal Medicine/Medical Informatics). His areas of expertise include: Biomedical Machine Learning with emphasis on scalable (big data) predictive and causal modeling method development and applications. His sources of funding the last 2 years include: NIH (NCATS, NIA, NHGRI). Other advisory committee experience (excluding: study section and grant review participation, referee work for federal government, industry appointment and university promotions/tenures, scientific organizing committees of conferences, editorial board memberships, and internal committees at home institutions): e-health advisory committee to Minnesota Department of Health (MDH); National Center for Interprofessional Practice and Education (NCPIE), University of Pittsburgh Center for Causal Discovery, Mt Sinai NY CTSI EAB, consultant to Mayo Clinical CTSI, industry consulting and advisory engagements (Prediction Sciences, Rational Retention, Rational Intelligence Partners, Ontar Corporation, R/GA, Bristol-Myers Squibb, Scientia Advisors).

Auvermann, Brent

Texas A&M AgriLife Research at Amarillo

Dr. Brent Auvermann assumed his faculty role with the Department of Biological and Agricultural Engineering in December 1995 as an Assistant Professor and Extension Specialist at the Texas A&M AgriLife Research and Extension Center at Amarillo, which is the hub of the United States' most productive cattle-feeding region. His research and technology-transfer programs centered on manure and mortality management for protection of air and water quality near cattle feedyards and dairies. In 2008-9, he was instrumental in developing the cattle feeders' reporting tool for low-level, chronic emissions of ammonia and hydrogen sulfide under EPCRA. He also served on a USDA task force led by Dr. Wendy Powers to evaluate the IPCC greenhouse-gas emissions formulas for cattle feedyards, compost piles, and manure storages. Dr. Auvermann's research formed the design basis for selection criteria guiding the allocation of USDA-NRCS cost-share and incentive payments to cattle feeders for fugitive dust control in Texas. He has worked with state/provincial air pollution regulatory agencies in Texas, Arizona, Idaho, Washington, and the province of Alberta to educate inspectors and their supervisors on the principles of dust, trace-gas, odor, and greenhouse-gas emissions from open-lot livestock systems. In addition to his research responsibilities, Dr. Auvermann now serves as the Director of all of the research programs at the Amarillo Center, including cattle nutrition and health, wheat and sorghum breeding, irrigation water management, environmental quality, and supporting agricultural disciplines.

Jaffe, Dan

University of Washington-Bothell

Dr. Dan Jaffe is an atmospheric chemist. His areas of expertise are in ozone patterns, trends and photochemistry, nitrogen oxides, aerosols, global and regional sources air pollution and long range transport of pollution. He is also an expert on impacts on ozone and particulate matter from wildfires. Dr. Jaffe has a B.S., MS and Ph.D in Chemistry and has been an active researcher in atmospheric chemistry for more than 25 years. He has more than 180 scientific publications with an h-index of 61. He has been the Principal Investigator on more than 30 projects funded by the National Science Foundation, EPA, NOAA, NASA and private industry. Current funding for last two years is from NSF, NOAA and private industry. He was selected for National Academy of Sciences panel on "The Significance of International Transport of Air Pollutants" BASC-U-07-01-A, National Academy of Sciences/National Research Council. June 2008. Chapter lead for chapters on ozone and mercury for UNEP-HTAP 2007 report. Named the Fubright Distinguished Chair in Environmental Sciences at Parthenope University of Naples for 2014. First UW-Bothell Distinguished Research, Scholarship, and Creative Activity Award (DRSCA) given in 2014.

Jansen, John

Southern Company Services, Inc. (Retired)

Mr. John Jansen has been retired from Southern Company Services, Inc. since December 2016. He consulted for the American Petroleum Institute, Electric Power Research Institute (EPRI), and Utility Air Regulatory Group (UARG) in 2017 and 2018 (activities related to the 2017 SO₂ CASAC panel meeting, 2018 Fall National Atmospheric Deposition Program meeting, Portland Cement Risk and Technology Review, and Secondary NO_x/SO_x Integrated Science Assessment). He received a BS in Meteorology from the State University of New York College at Oswego in 1973 and a MS in Meteorology from Polytechnic Institute of New York in 1975. He worked at Southern Company for over 40 years (August 1976 to December 2016) including being a loaned employee at the Electric Power Research Institute (EPRI) from October 1979 to March 1981. At Southern Company, Mr. Jansen managed research and regulatory analyses of air quality issues (i.e., atmospheric deposition, particulate matter, mercury, ozone, and visibility). He combined research and regulatory analyses to both inform and engage air quality regulatory development on behalf of the Company, industry-wide, and external groups. Mr. Jansen was the Southern Company project manager for numerous Company research studies (e.g., the Aerosol Research Inhalation Epidemiology Study (ARIES) and the Southeast Aerosol Research and Characterization project (SEARCH)), for Company-specific contributions to multi-agency funded studies such as the Southern Oxidants Study (SOS) (several sites later becoming SEARCH sites) and the Southeastern Oxidant and Aerosol Study (SOAS) (hosted at the Centreville AL SEARCH site), and for advising EPRI air quality research (e.g., acid rain projects such as Integrated Lake Watershed Acidification Study (ILWAS) and Integrated Forest Study (IFS), regional air quality model development, mercury studies such as aircraft studies of mercury chemistry in power plant plumes, etc.). In the 1980's he was heavily involved in acid rain research through the company, EPRI, National Acid Precitation Program, and the Florida Electric Power Coordinating Group (FCG). Mr. Jansen has reviewed and commented on EPA air quality regulations including Title IV, Ozone Transport Assessment Group, transport rules, visibility rule, ozone and particulate matter demonstrations, mercury rules, etc. as well as regulatory related activities such as the Southern Appalachian Mountains Initiative. He has not received research funds in the last 2 years (see above for consulting funding). Mr. Jansen has served on many advisory committees at EPRI, FCG, UARG. He has also served as a peer reviewer of Environmental Protection Agency Environmental Sciences Research Laboratory Acid Deposition Research Program in 1983 and as a peer reviewer on two panels at the NAPAP Atmospheric Deposition and Air Quality Monitoring Task Group peer review meeting in 1988. He is a member of the American Meteorological Society, American Association of Aerosol Research, and Air and Waste Management Association.

Johnson, Kristen

Washington State University

Dr. Kristen A. Johnson is a Professor and Interim Department Chair in the Department of Animal Sciences at Washington State University. She received her Ph.D. from Michigan State University and conducted post-doctoral research at the Metabolic Laboratory at Colorado State University. She conducts research in beef cattle energetics and has applied this work to examine basic and applied issues to improve the efficiency and sustainability of ruminant production. Current projects include the development of a smart system to measure trace gas emissions to allow producers to evaluate mitigation strategies and the development of management alternatives to minimize resource (land, water and energy) use by livestock. The development of implementable technologies that can assist livestock producers to reduce trace gas emissions and manure managers to mitigate emissions of pollutants such as CH₄, NH₄, N₂O is a research focus. Additionally, mitigation of ruminant enteric methane emissions has been a long term focus. Recent funding sources include USDA and internal WSU sources. Her teaching responsibilities include graduate and undergraduate courses in animal nutrition and production and mentoring Masters and Ph.D. students. She has won awards for teaching and advising including the R.M Wade Award for Excellence in Teaching (2003); Distinguished Teacher Award, Western Section -American Society of Animal Sciences (2013); Outstanding Graduate Advisor (2014); Excellence in Advising-CAHNRS (2015); and the Sahlin Award for Instruction (2015). She has also served as Director of WSU's Center for Environmental Research Education and Outreach, Associate Dean of the Graduate School, as a member of the NRC Committee on Animal Nutrition, the editorial board of the Journal of Animal Sciences and as a reviewer for IPCC and many professional journals. Other service includes recent service on the Board of Directors for the American Society of Animal Sciences, and the EPA SAB Agriculture Committee.

Lipfert, Frederick W.

Independent Consultant

Dr. Fred Lipfert is an independent consultant and former member of the scientific staff of Brookhaven National Laboratory in Upton, New York. He has degrees in mechanical engineering, aerospace engineering, fluid mechanics, and environmental studies. He has an extensive technical background in energy/environmental interactions with emphasis on air quality and related statistical analyses. During the past 47 years, he has published a book and over 160 scientific papers and reports on air pollution effects, source emissions characteristics, energy use topics, air pollutant dispersion and modeling, and air quality characterization. His consulting activities have included expert testimony, risk assessment issues, research on atmospheric damage to materials, health effects of mercury, long- and short-term health effects of toxic and criteria air pollutants. Clients have included Federal and State agencies in the U.S. and Canada and various industrial and trade organizations. He was part of a National Research Council committee that reviewed the research program of the U.S. Department of Energy on fine particulate matter and the National Acid Precipitation Assessment Program. He has testified before the U.S. Congress on energy issues. For the past 5 years he has continued to work on his own behalf without external support.

Lyon, Joseph L.

University of Utah School of Medicine (Retired)

Joseph L. Lyon, MD, MPH, is a retired tenured Professor of Family and Preventative Medicine at the University of Utah School of Medicine. His research interests have included radiation and its relationship to cancer; estimating exposure to Iodine 131 in populations from nuclear weapons testing; air pollution; environmental and personal factors in cancer, heart disease and stroke. He has published over 150 peer-reviewed publications in journals such as the New England Journal of Medicine, Journal of the American Medical Association; Journal of the National Cancer Institute; Pediatrics; and the American Journal of Obstetrics. He has served as the Secretary-Treasurer of the Society for Epidemiologic Research, the largest professional organization for chronic disease epidemiology in the United States for over 20 years. He received a BS and MD from the University of Utah and an MPH from Harvard University. Dr. Lyon has no current federal or private funding, but has been the recipient of numerous grants and contracts from federal government including the National Cancer Institute and the U.S. Centers for Disease Control. He also had grants from private industry. Dr. Lyon also worked as an expert witness for a number of law firms on such matters as epidemiologic evidence for the harmful effects of certain drugs, and of radiation.

North, D. Warner

NorthWorks

Dr. D. Warner North is a scientific consultant now doing business via NorthWorks, a business in San Francisco CA, following a 52 year career in risk assessment, decision analysis and related fields involving applied mathematics, probability, and statistics. He has a Ph.D. in operations research (1970) plus M.S. degrees in physics and mathematics, all from Stanford University. Dr. North has worked for a series of consulting and research organizations beginning in 1967, with activities on air pollution and ozone and particulate matter (PM) from early in his career, including serving as a consultant on the 1975 report, *Air Quality and Stationary Source Emissions* by the National Academy of Sciences (NAS). From 1978 to 2004 he served on numerous committees and subcommittees of EPA's Science Advisory Board, including the Environmental Health Committee for review of EPA health risk assessment documents, and the Ozone and Lead Subcommittees of CASAC for review of documents supporting standard setting for these two air pollutants. His main career has been consulting projects for private sector clients, the government of Mexico, and federal agencies (including EPA) on energy and environmental risk issues. Prior to NorthWorks his employers were SRI International (1967-1977) and Decision Focus (1977-1998). Dr. North has served on scientific advisory committees for the State of California, involving toxicology (Proposition 65; cancer risk, 1987-89) and ecosystem management (Bay Delta, 2005). He was appointed by President Reagan as the risk expert to the Nuclear Waste Technical Review Board (1989-1994). Dr. North was awarded the Frank P. Ramsey Medal for career achievement in decision analysis in 1997, and the Society for Risk Analysis "Outstanding risk practitioner" award in 1999. He was elected President of the Society for Risk Analysis in 1991, and since 2008 he has served as Area Editor for decision sciences for its journal *Risk Analysis*. Dr. North has served on many committees and boards of the National Academies/National Research Council (NAS). He is a co-author of numerous NAS reports dealing with environmental health risk assessment. Dr. North was designated as a National Associate in 2003, and has served as chair for two NAS reports. Dr. North supervised the development and implementation of influence diagram methodology (Bayesian networks) in 1974. He just reviewed (July 2019 in *Risk Analysis*) three books on causality by Tony Cox and Judea Pearl. (Ozone and PM.) He was a reviewer of the 2004 National Academies report, *Research Priorities for Airborne Particulate Matter*, Vol. 4. In 2006, Dr. North was a participant in the 2007 University of Rochester Conference on health effects of ambient ozone and a co-author of its report (*Inhalation Toxicology* 21(S2):1-36, 2009). He was a peer reviewer for EPA on an "expert elicitation" exercise to assess probability distributions on the relation of mortality to particulate matter. (This exercise is described in www.scientificintegrityinstitute.org/CARBPMComments102408.pdf.) In 2008, Dr. North testified at a hearing before the CA Air Resources Board opposing use of this exercise as a basis for CA regulation of PM. His testimony is included as A5 in: https://www.arb.ca.gov/research/health/pm-mort/pm-mort-ws2_comm.pdf. He was the editor for the Special Issue of *Risk Analysis* of September 2016 on air pollution health risk.

Parrish, David D.

Independent Consultant

Dr. Parrish's career has been at National Oceanic and Atmospheric Administration (NOAA) in atmospheric chemistry research, primarily through surface and airborne measurement campaigns. His recent research has focused on U.S. background ozone concentrations, including quantifying the major contributions that background ozone makes to episodes when the NAAQS is exceeded in U.S. urban areas. He has retired, working part-time at the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado, Air Quality Research Center at University of California – Davis, Institute for Environmental and Climate Research at Jinan University, Guangzhou China, and as a consultant in atmospheric chemistry through David.D.Parrish, LLC. He has published more than 220 peer-reviewed publications with over 15,000 citations, and has an h-index of 74 (researcherid.com/rid/E-8957-2010). Dr. Parrish received his B.S. degree in chemistry from Colorado College in 1962, his Ph.D. in physical chemistry from University of California, Berkeley, California in 1970 and was a Postdoctoral Research Fellow at Harvard University, Department of Chemistry from 1971-1973. Research funding over the last two years has come from New York State Energy Management and Research Development Authority (NYSERDA), Houston 8-hour Ozone SIP Coalition, National Oceanic and Atmospheric Administration (NOAA), Texas Commission on Environmental Quality (TCEQ), and the California Air Resources Board (CARB). He is a member of the American Geophysical Union (AGU) and the American Association for the Advancement of Science (AAAS). His science service activities include lead author of "Science Synthesis Report: Atmospheric Impacts of Oil and Gas Development in Texas" (2017), Science Review Group for Bureau of Ocean Energy Management funded Air Quality Modeling in the Gulf of Mexico Region – (2014-2019), lead author of "Synthesis of Policy Relevant Findings from the CalNex 2010 Field Study" (2014), member of Independent Technical Advisory Committee of the Texas Air Quality Research Program (2010-2015), Coordinating Chapter lead author for 2011 Report "IGAC Assessment on Impacts of Mega-cities on Air Quality and Climate", Coordinating Chapter lead author for 2010 Report of Task Force on Hemispheric Transport of Air Pollutants (HTAP), member of Scientific Steering Committee of International Global Atmospheric Chemistry (IGAC) Program (2003-2007), Rapid Science Synthesis Team Coordinator Texas Air Quality Study (TexAQS) (2006-2007), NARSTO Emission Inventory Assessment, Steering Committee (2004-2005).

Rhomberg, Lorenz

Gradient

Lorenz R. Rhomberg, Ph.D. Fellow ATS, is a Principal at Gradient, an environmental consulting firm based in Cambridge, Massachusetts, where he specializes in critical review of toxicological information, weight-of-evidence evaluation, human health risk assessment, quantitative risk analysis, and science policy issues for environmental and consumer chemical exposures. He is a member of several scientific societies, including the Society for Risk Analysis, for which he served as a Councilor (2002-2004), and as President of the New England Chapter (1997-1998), as well as the Society of Toxicology, serving as a Councilor of the Risk Assessment Specialty Section (2003-2005), Councilor for the Regulatory and Safety Evaluation Specialty Section (2012-2014), and on the Scientific Program Committee (2016 to present). He served on the Chemical Assessment Advisory Committee (2013-2108), a standing committee of the U.S. Environmental Protection Agency (EPA) Science Advisory Board. Before joining Gradient in 1999, he was on the faculty of the Harvard School of Public Health. From 1984-1994 he was a risk assessor at the U.S. EPA in Washington, specializing in quantitative risk assessment. Dr. Rhomberg earned his Ph.D. in population biology from the State University of New York at Stony Brook and an Honours B.Sc. in biology from Queen's University in Ontario. He was named 2009 Outstanding Risk Practitioner of the Year by the Society for Risk Analysis, and was awarded the Arnold Lehman Award by the Society of Toxicology in 2017. He is a Fellow of the Academy of Toxicological Sciences. He has served on seven committees convened by the National Academy of Sciences, two as chair, and on several advisory panels convened by the U.S. EPA.

Sax, Sonja

Ramboll

Dr. Sonja Sax is an environmental health scientist with 20 years of exposure and health risk assessment experience. She has expertise in evaluating exposures and health impacts of airborne gases and particles, and has performed indoor and outdoor air quality investigations, managed several large environmental projects, conducted critical evaluations of toxicology and epidemiology studies, and helped prepare technical and expert reports. Dr. Sax has authored and co-authored several publications, presented her research and consulting work at various conferences and testified before scientific panels. Dr. Sax earned an MS and doctorate in environmental health from the Harvard T.H. Chan School of Public Health, where she also served as a postdoctoral fellow.

Thomas, Duncan

University of Southern California

Dr. Duncan Thomas is Professor of Biostatistics in the Department of Preventive Medicine, and Verna R. Richter Chair in Cancer Research at the University of Southern California Keck School of Medicine. He received his Ph.D. from McGill University in 1976, where he continued as a faculty member until his recruitment to USC in 1984. There he served as the Head of the Biostatistics Division until 2013 and co-directed the Southern California Environmental Health Sciences Center and the Cancer Epidemiology Program in the USC/Norris Comprehensive Cancer Center. His primary research interest has been in the development of statistical methods for environmental and genetic epidemiology, with numerous collaborations in both areas. On the environmental side, he has been particularly active in radiation carcinogenesis and air pollution health effects research, notably as one of the founding investigators on the Southern California Children's Health Study and the Women's Environmental Cancer and Radiation Exposure (WECARE) study and as a member of President Clinton's Advisory Committee on Human Radiation Experiments. On the genetic side, he is a coinvestigator in the NCI's Colon Cancer Family Registry, the Genetic Analysis Workshop, the ENDGAME consortium to develop methods for genome-wide association studies, and past President of the International Genetic Epidemiology Society. Dr. Thomas has numerous publications, including the textbooks *Statistical Methods in Genetic Epidemiology* (Oxford University Press, 2004) and *Statistical Methods in Environmental Epidemiology* (Oxford University Press, 2009). He currently directs a program project grant on "Statistical methods for integrative genomics in cancer." These three broad areas of interest make him uniquely qualified to address methodological challenges in studying gene-environment interactions.