

**Invitation for Public Comment on the List of Candidates  
For the Environmental Protection Agency's  
Clean Air Scientific Advisory Committee**

August 28, 2017

The U.S. Environmental Protection Agency (EPA) Science Advisory Board (SAB) Staff Office announced in a Federal Register Notice on June 27, 2017 (82 FR 29077 - 29079) that it was inviting nominations of experts to be considered for the Administrator's appointment to the Clean Air Scientific Advisory Committee (CASAC). The CASAC provides independent advice, information and recommendations to the EPA Administrator on the scientific and technical aspects of air quality criteria and National Ambient Air Quality Standards (NAAQS). The SAB Staff Office sought nominations of experts to serve on the CASAC who are physicians and members of the National Academy of Sciences with expertise in the health effects of air pollution.

The SAB Staff Office received nominations for the attached 43 candidates based on their expertise and willingness to serve. We hereby invite public comments on the attached List of Candidates under consideration for appointment to the CASAC. Comments should be submitted to Mr. Aaron Yeow, Designated Federal Officer, at [yeow.aaron@epa.gov](mailto:yeow.aaron@epa.gov) no later than **September 18, 2017**. E-mail is the preferred mode of receipt. Please be advised that public comments are subject to release under the Freedom of Information Act.

## List of Candidates with Biosketches for 2017 CASAC Annual Membership

### 2017 CASAC Annual Membership

#### 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 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. He also 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. Mr. Allen's current and pending research support pertains to scientific, technical, analytical, and policy support for NESCAUM states' air quality and climate programs, with a focus on air pollution exposure assessment and measurement methods development. These funds include New York State Energy Research and Development Authority (NYSERDA) (characterization of biomass air pollution), Massachusetts Department of Environmental Protection (spatial and temporal trends of black carbon), NESCAUM member states and Federal Land Managers (CAMNET visibility network), NESCAUM member states and US EPA (support member states' air quality programs).

#### Balmes, John R.

##### University of California, San Francisco

Dr. John Balmes is Professor of Medicine at the University of California, San Francisco (UCSF) and Professor of Environmental Health Sciences in the School of Public Health at UC Berkeley. He is a member of the faculty of the UCSF Division of Occupational and Environmental Medicine and the UCSF Division of Pulmonary and Critical Care Medicine at San Francisco General Hospital. He was recently named Acting Director of the UC Berkeley-UCSF Joint Medical Program. Dr. Balmes received a BA in Psychology from the University of Illinois in Urbana and his MD from Mount Sinai School of Medicine. He completed a residency in Internal Medicine at Mount Sinai and a post-doctoral fellowship in Pulmonary Medicine at Yale. For over 35 years, Dr. Balmes has been studying the effects of exposures to occupational and environmental agents on respiratory and cardiovascular health. In the UCSF Human Exposure Laboratory, he has conducted controlled human exposure studies with sampling of respiratory tract lining fluid to characterize acute exposure-response relationships for oxidant pollutant-induced airway inflammation in subjects with and without asthma, and more recently, investigation of acute cardiovascular responses. Recently, his group has been the first to show that experimental exposure to ozone can cause decreased heart rate variability and brief exposures to secondhand tobacco smoke can induce increased blood pressure, epithelial injury, and epithelial dysfunction. His lab is currently funded by the Health Effects Institute to participate in a multi-center study designed to determine whether experimental exposure to ozone induces cardiovascular toxicity (decreased heart rate variability, epithelial dysfunction, and a pro-thrombotic state) and whether any of these effects are associated with airway inflammation, systemic oxidative stress, and systemic inflammation. At UC Berkeley, Dr. Balmes has collaborated on a number of studies of the chronic effects of air pollutants on respiratory health. He has investigated the effects of exposures to air pollutants on respiratory symptoms, growth of lung function, and immune dysfunction in children with asthma in Fresno, CA. He contributed to the first randomized controlled trial of a chimney stove to prevent pneumonia among infants in Guatemala and led follow-up studies on the effects of exposure to biomass smoke on lung function in both the children and their mothers. He has also investigated whether chronic environmental exposure to hydrogen sulfide is associated with adverse effects on respiratory health in Rotarura, New Zealand. Dr. Balmes is one of the multiple PIs (SK Hammond, G Shaw, JR Balmes) recently awarded a Children's Environmental Health Center grant (NIEHS/EPA) to study the adverse effects of air pollution on children living in the San Joaquin Valley. The Center project that he leads is investigating the potential effects of exposure to polycyclic aromatic hydrocarbons on risk of obesity and glucose dysregulation. Dr. Balmes has received multiple awards for his research from various organizations, including the American College of Occupational and Environmental Medicine (ACOEM), the Western Occupational and Environmental Medicine Association, the American Lung Association of California, and the South Coast Air Quality Management District. He is a member of the American Thoracic Society, the American College of Chest Physicians, and the ACOEM. He has served on several US EPA advisory committees, including CASAC panels on ozone, NO<sub>2</sub>, and SO<sub>2</sub>, as well as on various National Academy of Sciences/Institute of Medicine committees. In addition to his experience in air pollution health effects research, Dr. Balmes also has policy experience in the regulation of air quality and climate change mitigation in his role as physician member of the California Air Resources Board (since January 2008).

#### Bascom, Rebecca

##### Pennsylvania State University

Dr. Rebecca Bascom is a professor of medicine at the Pennsylvania State University College of Medicine, and a member of the Graduate Faculty at Pennsylvania State University. As a specialist in pulmonary medicine practicing at Milton S. Hershey Medical Center, her primary clinical focus is caring for patients with serious diseases of the lung. She directs Penn State Milton S. Hershey Medical Center's Pulmonary Fibrosis Foundation Care Center and has enrolled patients with advanced lung diseases in clinical trials for the past 10 years. Dr. Bascom has conducted research on lung diseases and inhalation toxicology, including a team analysis to evaluate the cardiorespiratory health effects on New York City police officers exposed during the 9/11 terrorist attack. She is committed to multidisciplinary translational research, connecting basic scientists to her lung disease patients, and ensuring consistency with Penn State University research policies and procedures. Previously, she performed controlled human exposure studies using sidestream tobacco smoke and evaluated mechanisms of injury. She has served on several National Research Council committees, including the Committee on the Evaluation of the Department of Defense Comprehensive Clinical Evaluation Protocol, the Committee on Emergency and Continuous Exposure Guidance Levels for Selected Submarine Contaminants, and the Committee on Health Effects of Indoor Allergens, the Institute of Medicine Committee on Scientific Standards for Studies on Modified Risk Tobacco Products and the National Academies Committee on Assessing Toxicologic Risks to Human Subjects Used in Controlled Exposure Studies of Environmental Pollutants. She trained in internal medicine, as well as pulmonary and critical care medicine at the Johns Hopkins Hospital. Dr. Bascom earned an M.D. from the University of Oregon Health Sciences Center and an M.P.H. in occupational medicine from the Johns Hopkins Bloomberg School of Public Health.

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### Boat, Thomas F.

#### Cincinnati Children's Hospital Medical Center

Dr. Thomas F. Boat is Dean, Emeritus of the College of Medicine at the University of Cincinnati and Professor of Pediatrics in the Division of Pulmonary Medicine at Cincinnati Children's Hospital Medical Center. Earlier he was director of the Cincinnati Children's Hospital Research Foundation and Chairman of the University of Cincinnati College of Medicine's Department of Pediatrics. He also was physician-in-chief of Children's Hospital Medical Center of Cincinnati. He earned an M.D. at the University of Iowa. A pediatric pulmonologist by training, Dr. Boat worked early in his career as a faculty member at Case Western University to define the pathophysiology of airway epithelial dysfunction and more effective therapies for chronic lung diseases of childhood, such as cystic fibrosis. More recently he worked at local and national levels to improve child health research efforts, subspecialty training and clinical care. He has a special interest in issues posed by children's behavioral health for pediatric care, research and training, and is working in Cincinnati and nationally to promote children's behavioral health in both primary and subspecialty care. Dr. Boat joined Cincinnati Children's in 1993, after serving as chairman of the Department of Pediatrics at the University of North Carolina, Chapel Hill. He is a member of the Institute of Medicine and served as co-chair of the IOM Forum on the Science of Health Care Quality Improvement and Implementation, as well the IOM Committee on the Prevention of Mental, Emotional and Behavioral Disorders Among Young People. He continued to advocate for children at risk as a member of the Board of Children, Youth and Families of the National Academies of Sciences, Engineering and Medicine. He chaired NASEM (IOM) Committees addressing Research Training in Psychiatry Residency; Rare Diseases and Orphan Products: Accelerating Research and Development; Safe and Effective Medicines for Children; and Mental Disorders and Disabilities Among Low-Income Children. Dr. Boat has been a member of the Association for the Accreditation of Human Research Protection Programs, Inc. (AAHRPP) Board of Directors, and served as its Board President. He also has served as Chair of the American Board of Pediatrics, and President of the Society for Pediatric Research, as well as, the American Pediatric Society. Dr. Boat is currently a member of the Pulmonary Medicine Faculty at Cincinnati Children's Hospital Medical Center where he leads a program funded by the Boomer Esiason Foundation to create healthier, safer, and more nurturing home environments for children with chronic respiratory illness, with emphasis on the health and wellness of the entire family as a major determinant of childhood chronic disease outcomes.

### Boylan, James

#### Georgia Department of Natural Resources

Dr. James Boylan is currently the Manager of the Planning & Support Program in the Air Protection Branch of the Georgia Environmental Protection Division. His modeling team consists of eight Ph.D. engineers/scientists, his emission inventory team consists of four environmental engineers/scientists, and his regulatory development team consists of seven environmental engineers/scientists. Dr. Boylan is responsible for air dispersion modeling with AERMOD and CALPUFF required for PSD permit applications (SO<sub>2</sub>, NO<sub>2</sub>, CO, PM<sub>2.5</sub>, and lead); photochemical grid modeling with CMAQ and CAMx required for Georgia's ozone, PM<sub>2.5</sub>, and regional haze State Implementation Plans (SIPs); meteorological modeling with MM5 and WRF; emissions modeling with SMOKE and MOVES; the development of annual state-wide emission inventories for criteria pollutants; and the technical analyses for nonattainment area designation recommendations (ozone, PM<sub>2.5</sub>, lead, SO<sub>2</sub>, NO<sub>2</sub>). In addition, he is responsible for updating Georgia's Rules for Air Quality Control and developing and submitting all attainment demonstration SIPs, infrastructure SIPs, and rule revision SIPs to EPA. Previously, he worked at the Florida Department of Environmental Protection performing regulatory audits of stationary sources. He has a B.S. in Chemical Engineering from the University of Notre Dame, a M.S. in Chemical Engineering from Auburn University, and a M.S. and Ph.D. in Environmental Engineering from the Georgia Institute of Technology (under the direction of Dr. Armistead "Ted" Russell). Dr. Boylan's Ph.D. research included the development of the first comprehensive three-dimensional Eulerian photochemical grid model (URM-1ATM) that included full ozone chemistry, heterogeneous sulfate chemistry, aerosol thermodynamics, wet deposition and scavenging, and the decoupled direct method (DDM) for ozone and particulate matter. This model was applied as part of the Southern Appalachian Mountain Initiative (SAMI) to simulate 1-hour maximum ozone, W126 ozone, speciated PM<sub>2.5</sub>, acid deposition (ANC), and regional haze. Also, he developed and published the first model performance goals and criteria for PM<sub>2.5</sub> which has become the benchmark for most PM<sub>2.5</sub> modeling projects both nationally and internationally. Dr. Boylan was one of the first modelers to merge traditional air permit dispersion modeling with photochemical grid models (PGMs) when he applied a PGM to evaluate the single source impacts on ozone and secondary PM<sub>2.5</sub> from a coal-fired power plant as part of a PSD permitting review in 2009. In addition, he developed the "Inter-Pollutant Trading Ratio Approach" for accounting for secondary PM<sub>2.5</sub> formation from SO<sub>2</sub> and NO<sub>x</sub> in EPA's AERMOD steady-state dispersion model. Over the past several years he has held numerous leadership positions within many regional and national workgroups. Currently, he is the chair of the Southeastern States Air Resource Managers (SESARM) Technical Analysis Workgroup, leader of the SESARM Emissions and Air Quality Modeling Workgroup, and co-chair of the Association of Air Pollution Control Agencies (AAPCA) Modeling Committee. Dr. Boylan has authored 18 peer-reviewed journal articles on ozone and PM<sub>2.5</sub> formation, has presented research findings at over 200 national, regional, and local conferences/meetings, and was awarded "Outstanding Reviewer Status" by Atmospheric Environment in 2015. In 2001, Dr. Boylan was inducted into the Sigma Xi Scientific Research Honor Society. Currently, Dr. Boylan serves on the CASAC Sulfur Oxides Review Panel where he specializes in the analysis of ambient SO<sub>2</sub> concentrations from measurements and modeling.

### Brugge, Doug

#### Tufts University School of Public Health

Dr. Doug Brugge has a PhD in biology from Harvard University and an MS in industrial hygiene from the Harvard University School of Public Health. He is currently a professor in the Department of Public Health and Community Medicine at Tufts University School of Medicine in Boston, MA. He also holds secondary appointments and positions at Tufts in the Department of Civil and Environmental Engineering within the School of Engineering, in the Jonathan M. Tisch College of Civic Life, in the Clinical & Translational Science Program of the Sackler School of Graduate Biomedical Sciences and at the Tufts Institute of the Environment. His broad area of expertise is public health with a core concentration in environmental health. Within environmental health, he has focused heavily on traffic-related air pollution and cardiovascular health, especially health effects of ultrafine particles, for the last decade. Additional research has been on asthma, secondhand tobacco smoke, housing conditions, and uranium mining. His work is mostly community-engaged research and emphasizes translation of research into policy and practice. His main sources of research funding in the past two years have been the National Institute of Environmental Health Sciences, the National Library of Medicine, the National Heart Lung and Blood Institute and the Kresge Foundation. He is a member of the International Society of Environmental Health Science and attends and presents at their conference most years.

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### Colditz, Graham A.

Washington University School of Medicine

Dr. Graham Colditz is the Niess-Gain Professor at Washington University School of Medicine, Deputy Director of the Institute for Public Health, and Associate Director for Prevention and Control at Siteman Cancer Center. He trained in Medicine at the University of Queensland. Dr. Colditz obtained his MPH and DrPH from Harvard School of Public Health. As an epidemiologist, he has contributed extensively to risk factor identification and translation of epidemiologic data to prevention strategies and messages. Dr. Colditz led the Nurses' Health Study from 1996 to 2006 as PI of program project funding from NCI and other sub studies drawing on the cohort. He was promoted to full professor at Harvard Medical School in 1998. In the late 1990s, Dr. Colditz led development of the award-winning web tools to communicate cancer prevention messages with the general public. He has developed and validated numerous risk prediction models and co-led an AACR Special Conference on Improving Cancer Risk Prediction for Prevention and Early Detection (2016). Dr. Colditz's scientific publications include many in New England Journal of Medicine (42) and JAMA (60), with a total of over 1,000 peer reviewed papers and an H-index of over 200. Dr. Colditz has worked with Professors Mosteller and Fineberg with CDC funding to evaluate the efficacy of BCG as an example of their collaboration and application of methods for systematic review and meta-analysis to inform public policy. Through this project they also developed methods for random-effects meta-regression. He served on the first IOM Agent Orange Committee systematically reviewing evidence, and has been lead instructor of courses addressing Systematic Review and Meta-Analysis both at Harvard School of Public Health (1994-2002) and at Washington University School of Medicine (2010-present). Dr. Colditz's research is predominantly funded by the NCI including program projects and more recently two U54 awards addressing energy balance and cancer risk, and a second focused on cancer health disparities. Additional research funds come from the Breast Cancer Research Foundation to address early life and adolescent exposures and breast cancer risk. He currently serves on the CDC Advisory Committee on Breast Cancer in Young Women (2015-present), the NCI Board of Scientific Advisors (term ends 2019), and the external advisory board of several NCI designated comprehensive cancer centers.

### Cory-Slechta, Deborah

University of Rochester

Dr. Deborah Cory-Slechta became a faculty member at the University of Rochester Medical School (URMC) in 1982. She became Chair of its Department of Environmental Medicine and Director of the NIEHS Environmental Health Sciences Center in 1998, and served as Dean for Research from 2000-2002. She then became Director of the Environmental and Occupational Health Sciences Institute (EOHSI) and Chair of the Department of Environmental and Community Medicine at the UMDNJ-Robert Wood Johnson Medical School from 2003-2007, before returning to URMC as Professor in Environmental Medicine, Pediatrics and Public Health Sciences where she has served as Acting Chair of the Department of Environmental Medicine and Director of its NIEHS Environmental Health Sciences Center. Dr. Cory-Slechta has served on national review and advisory panels of the National Institutes of Health, the National Institute of Environmental Health Sciences, the Food and Drug Administration, the National Center for Toxicological Research, the Environmental Protection Agency, the National Academy of Sciences, the Institute of Medicine, and the Agency for Toxic Substances and Disease Registry, Centers for Disease Control. In addition, Dr. Cory-Slechta has served on the editorial boards of the journals Neurotoxicology, Toxicology, Toxicological Sciences, Fundamental and Applied Toxicology, Neurotoxicology and Teratology, and American Journal of Mental Retardation. She has held the elected positions of President of the Neurotoxicology Specialty Section of the Society of Toxicology, President of the Behavioral Toxicology Society, and been named a Fellow of the American Psychological Association. Her research has focused largely on the relationships between brain development and behavior in both animal models and human studies, and its alteration by exposures to environmental toxicants. Most recently this work has included the effects of developmental exposures to air pollutants on brain and behavior. These research efforts have resulted in over 171 papers and book chapters to date. Her research funding sources include the Department of Health and Human Services (HHS) National Institutes of Health and the U. S. Environmental Protection Agency.

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### Cox, Jr., Louis Anthony (Tony)

#### Cox Associates

Dr. Tony Cox is President of Cox Associates, a Denver-based applied research company specializing in quantitative health risk analysis, epidemiology, causal analytics, and operations research. Since 1986, Cox Associates' mathematicians and scientists have applied epidemiological and biomathematical models, biostatistical and computational risk analyses, causal data mining, machine learning, artificial intelligence, bioinformatics, and operations research models to measurably improve health risk assessment and decision-making for public and private sector clients. In 2006, Cox Associates was inducted into the Edelman Academy of the Institute for Operations Research and Management Science (INFORMS), recognizing outstanding real-world achievements in the practice of operations research and the management sciences. In 2012, Dr. Cox was inducted into the National Academy of Engineering (NAE), "For applications of operations research and risk analysis to significant national problems." He has served as a member of the National Academies' Board on Mathematical Sciences and their Applications (BMSA) (2012-2016) and has served on many National Academies and National Research Council committees dealing with health and safety risk analysis. In 2013, he co-founded NextHealth Technologies, a Denver-based company offering advanced data analytics solutions to healthcare plans to reduce health, financial, and member attrition risks. Since 2015, Dr. Cox and Cox Associates have received funding from the The George Washington University Regulatory Studies Center to develop statistical software for causal analysis of epidemiological data; the American Chemistry Council to develop predictive analytics software and research lung diseases caused by crystalline silica and other poorly soluble particles; the American Petroleum Institute and its members for research on methods of causal analysis applied to epidemiological data on asthma, coronary heart disease, all-cause mortality, and other adverse health effects associated with exposure to fine particulate matter (PM<sub>2.5</sub>) and ozone (O<sub>3</sub>); the U.S. EPA for expert review of research proposals; the National Stone, Sand, and Gravel Association for research on the statistical reliability and variability of laboratory measurements of crystalline silica in air filters; the European petroleum consortium CONCAWE for research on low-dose metabolism of benzene among Chinese workers; plaintiff's attorneys for expert opinions on the use of statistical methods and models in construction defect litigation; and telecommunications companies for research and software on high-reliability optical networks. Dr. Cox holds a Ph.D. in Risk Analysis (1986) and an S.M. in Operations Research (1985), both from MIT; an AB from Harvard University (1978); and is a graduate of the Stanford Executive Program (1993). He is Clinical Professor of Biostatistics and Informatics at the University of Colorado Health Sciences Center and has served at the University of Colorado, Denver as Honorary Full Professor of Mathematics, lecturing on decision and risk analysis, biomathematics, health risk modeling, computational statistics and causality; and on the Faculties of the Center for Computational Mathematics and the Center for Computational Biology. He has taught many graduate and professional courses in decision and risk analysis, causal analytics, computational statistics, and biomathematical modeling. Dr. Cox is Editor-in-Chief of Risk Analysis: An International Journal. He is Area Editor for Real World Applications for the Journal of Heuristics, and is on the Editorial Board of the International Journal of Operations Research and Information Systems. He is an Edelman Laureate of INFORMS, a member of the American Statistical Association (ASA), and a lifetime Fellow of the Society for Risk Analysis (SRA). He has authored and co-authored over 200 journal articles and book chapters on these fields. His most recent books are Breakthroughs in Decision Science and Risk Analysis (Wiley, 2015), Improving Risk Analysis (Springer, 2013), Risk Analysis of Complex and Uncertain Systems (Springer, 2009) and the Wiley Encyclopedia of Operations Research and Management Science (Wiley, 2011), which Dr. Cox co-edited. He has over a dozen U.S. patents on applications of artificial intelligence, signal processing, statistics and operations research in telecommunications. His current research interests include computational statistical methods for causal inference in public health risk analysis, data-mining, and advanced analytics for risk analysis and public policy applications.

### Croes, Bart

#### California Air Resources Board

Mr. Bart Croes is the Chief of the Research Division for the California Air Resources Board, with responsibilities for California's ambient air quality standard reviews; health, exposure, atmospheric processes, and emissions control research; indoor air quality program; and climate change science and mitigation of high global warming potential gases. He was a member of the National Research Council (NRC) Committee on Review of EPA's "Science to Achieve Results" Research Grants Program, and was the Public Sector Co-Chair for the NARSTO Executive Assembly, a former member of the NRC Committee on Research Priorities for Airborne Particulate Matter, and the Committee on Energy Futures and Air Pollution in Urban China and the United States, a joint collaboration between the National Academy of Engineering, NRC, Chinese Academy of Engineering, and Chinese Academy of Sciences. He has been a peer reviewer for the NRC, the U.S. Environmental Protection Agency, and numerous journals, and received the Editors' Citation for Excellence in Refereeing from the Journal of Geophysical Research. Mr. Croes has published peer-reviewed articles on air pollution and public health, air quality simulation modeling, emission inventory evaluation, reactivity-based VOC controls, toxic air contaminants, acid deposition, the weekend effect for ozone and PM, air quality data analysis and trends, and climate change impacts on California. Mr. Croes holds a Master of Science in Chemical Engineering from the University of California at Santa Barbara and a Bachelor of Science in Chemical Engineering from the California Institute of Technology, and is a registered Professional Chemical Engineer in the State of California.

### Diez Roux, Ana V.

#### Drexel University

Ana Diez Roux, M.D., Ph.D., is Professor of Epidemiology and Dean of the Drexel School of Public Health. Before joining Drexel she was Chair of Epidemiology and Director of the Center for Social Epidemiology and Population Health at the University of Michigan School of Public Health. Dr. Diez Roux has been an international leader in the investigation of the social determinants of health, the application of multilevel analysis in health research, and the study of neighborhood health effects. Her research areas include social epidemiology and health disparities, environmental health effects, urban health, psychosocial factors in health, and cardiovascular disease epidemiology. Recent areas of work include social environment-gene interactions and the use of complex systems approaches in population health. She has led large NIH and foundation funded research and training programs in the United States and in collaboration with various institutions in Latin America. She has been a member of the MacArthur Network on Socioeconomic Factors and Health and is a Co-Director of the Network on Inequality, Complexity and Health. Dr. Diez Roux has served on numerous review panels and advisory committees including most recently the Clean Air Scientific Advisory Committee (CASAC) of the Environmental Protection Agency, the Board of Scientific Counselors (BSC) of the National Center for Health Statistics, the Committee on Health and Wellbeing in the Changing Urban Environment of the International Council for Science (ICSU) and the Editorial Board of the Annual Review of Public Health. She was awarded the Wade Hampton Frost Award for her contributions to public health by the American Public Health Association. She is an elected member of the American Epidemiological Society, the Academy of Behavioral Medicine Research, and the Institute of Medicine of the National Academy of Sciences. Dr. Diez Roux received an M.D. from the University of Buenos Aires, a master's degree in public health and doctorate in health policy from the Johns Hopkins School of Hygiene and Public Health.



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### Frampton, Mark

University of Rochester

Dr. Mark W. Frampton is trained as a physician, specializing in pulmonary and critical care medicine. His current position is Professor Emeritus in Medicine and Environmental Medicine, in the Pulmonary & Critical Care division, at the University of Rochester Medical Center. Dr. Frampton holds an M.D. from New York University. During specialty training at the University of Rochester Medical Center, Dr. Frampton became interested in the ongoing human clinical studies of air pollution health effects, under the direction of Dr. Mark Utell. Dr. Utell's research at that point had focused primarily on pulmonary function effects. Working with Dr. Utell, he expanded that focus to include research on other important pulmonary effects of pollutants, including airway inflammation, host defense against viral infection, and systemic effects. As epidemiological studies provided increasing evidence for cardiovascular effects of exposure to particulate matter, Dr. Frampton began to explore cardiovascular effects in our chamber studies, in collaboration with cardiologists and other specialists. Dr. Frampton's laboratory was the first to conduct human clinical studies of ultrafine particles (smaller than 100 nm), first using laboratory generated elemental carbon particles, and subsequently with concentrated ambient ultrafine particles, using the Harvard Ultrafine Concentrator system. Over the years his laboratory has studied healthy subjects as well as those considered to have increased susceptibility, including older subjects and people with mild asthma, chronic obstructive pulmonary disease, type 2 diabetes, and even genetic susceptibility. Funding for the studies has come from the National Institutes of Health, the U.S. EPA, the Health Effects Institute, the New York State Energy Research and Development Authority, CONCAWE, ExxonMobil, the American Petroleum Institute, and others. Dr. Frampton's laboratory is one of three centers completing a study of the cardiovascular effects of ozone exposure in healthy older subjects, funded by the Health Effects Institute. The studies have helped to understand the physiological changes and pathways to adverse effects that occur in response to pollutant exposure, and have helped to inform the EPA's promulgation of rational ambient air quality standards (NAAQS). Dr. Frampton has served as a consultant to the EPA in developing Integrated Scientific Assessments (formerly Criteria Documents) for nitrogen dioxide, ozone, and particulate matter. In addition, he has served on several EPA grant and fellowship review panels and scientific workshops, and has been invited to speak at EPA functions. Dr. Frampton has served on numerous scientific review panels with the National Institutes of Health and other scientific funding organizations. He has been active in the Environmental and Occupational Health Assembly of the American Thoracic Society, serving as its Chair in 2001-2003. At the request of the ATS President at the time, Dr. Frampton chaired a Task Force on Bioterrorism, and helped to form a new Section on Bioterrorism, serving as its first Chair in 2003-2005. Currently he is a member of the ATS committee preparing a revision of the important and oft-cited document, "What Constitutes a Health Effect of Air Pollution?" Dr. Frampton has been and remains quite active with the Health Effects Institute, a health research organization jointly funded by EPA and the automobile industry. He is currently a member of the Science Review Committee for the Health Effects Institute. Dr. Frampton chaired an HEI Review Panel on ultrafine particles, which produced a recent HEI Perspectives, "Understanding the Health Effects of Ambient Ultrafine Particles".

### Garcia, Joe

University of Arizona College of Medicine

Dr. Joe G. N. "Skip" Garcia is the University of Arizona Merlin K. DuVal MD Professor of Medicine and Founder/CEO of Aqualung Therapeutics. An internationally noted academic leader, physician-scientist, health administrator, scholar and educator, Dr. Garcia is a leading authority on the genetic basis of lung disease with emphasis on health disparities, particularly in underserved minorities. His research attempts to elucidate key genes and biomarkers that predict individual risk in disease and provides individualized treatment options for physicians to practice personalized medicine. Dr. Garcia earned his Bachelor of Science in biology at the University of Dallas in 1976 and received his medical degree from the University of Texas Southwestern Medical School in 1980. He completed an internship and residency in internal medicine at the University of Iowa Hospitals and Clinics (1980-1983) and completed a fellowship in pulmonary and critical care medicine at Albany Medical College (1983-1985). Dr. Garcia is internationally recognized for his genetic-based research on lung disease and for development of novel therapies for critically ill patients with acute inflammatory lung disease. He has over 500 peer-reviewed publications, 40 chapters and an expansive portfolio of NIH-sponsored research. He continues to direct large federally funded programs and currently has \$29 million in funding through research grants and has served as chair of many NIH Study Sessions, Special Exploratory Panels, workshops and as a member of NHLBI Advisory Council. Dr. Garcia is a passionate advocate for the training of physician-scientists and is an active supporter of minority medical and science students. He has nurtured many minority students at Johns Hopkins University, University of Chicago, UIC, and UA, guiding them into MD and PhD programs. Dr. Garcia has received many awards for his work including the Edward Livingston Trudeau Medal from the American Thoracic Society (2016) and elected to the National Academy of Medicine (2011).

### Garshick, Eric

Veterans Administration Boston Health Care System

Dr. Eric Garshick is Associate Chief, Pulmonary, Allergy, Sleep, and Critical Care Medicine Section at VA Boston Healthcare System, and Professor of Medicine, Harvard Medical School. He received his MD degree in 1979 from Tufts Medical School and a Master of Occupational Health degree from the Harvard T.H. Chan School of Public Health in 1984. He is Board Certified in Internal Medicine, Pulmonary Disease, and Critical Care Medicine. He has expertise in the health effects of air pollution, with a focus on the effects of particulate air pollution and diesel exhaust on health. Major research activities have included the study of diesel exhaust and lung cancer, effects of particulate air pollution on patients with chronic obstructive pulmonary disease, and the study of the health effects of exposure to particulate matter in military personnel previously deployed to Iraq and Afghanistan. Research funding has come from the National Institutes of Health and the Department of Veteran's Affairs Cooperative Studies Program. Previous service has included serving 1990-2000 on the EPA Clean Air Scientific Advisory Committee Diesel Review Panel; 2003-2004 on the Institute of Medicine on Gulf War and Health Committee Phase 3: Environmental Particulates, Pollutants, and Synthetic Compounds health assessment; working group to assess diesel exhaust as a carcinogen at the International Agency for Research on Cancer in Lyon, France; 2013 EPA Advisory Panel, Health Risks of Air Pollution Clinical Studies; 2013-2014 VA Airborne Hazards and Open Burn Pit Registry Questionnaire Working Group; and 2014 Human Cancer Epidemiology State-of-the Science Workshop on Chemically Induced Mouse Lung Tumors: Application to Human Health Risk Assessment. Dr. Garshick is also a member of American Thoracic Society Environmental Health Policy Committee.

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### Hayworth, Nan

#### Independent Consultant

The Honorable Nan Hayworth, M.D. is a consultant and a Special Business Development Advisor for Pilot Growth Equity. She is the only female physician ever to serve as a Member of Congress, representing the 19th District of New York in 2011 and 2012. As a freshman Member of the House Majority, Congresswoman Hayworth was assigned to the House Financial Services Committee and the Majority Whip Team; she also had the honor of being chosen by Speaker Boehner to serve on two House-Senate Conference Committees. She has been recognized by many organizations, including the Sierra Club, League of Conservation Voters, Defenders of Wildlife, and Wilderness Society, for her efforts to protect the environment. A board-certified ophthalmologist, Dr. Hayworth practiced for nearly 20 years in Mount Kisco, New York, before becoming a vice president and medical director at Cline Davis & Mann, a healthcare communications agency, prior to running for Congress. She chairs the board of directors of ConservAmerica, a Republican organization dedicated to environmental protection, and she served as a primary media surrogate for EPA Administrator Scott Pruitt when he was a candidate for this position. Congresswoman Hayworth speaks on television and radio in behalf of Independent Women's Forum, the Trump campaign, and the Republican National Committee. She graduated summa cum laude from Princeton University in 1981 with a degree in Biology, subsequently graduating at the top of her class from Cornell University Medical College (now Weill Cornell Medicine) in 1985. Dr. Hayworth has not been a recipient of any research grants from the public or private sectors over the past two years.

### Henry, Carol

#### Independent Consultant

Dr. Carol J. Henry is an adviser and consultant for toxicology and public and environmental health to public and private organizations, focusing on the impacts or potential impacts of chemicals on health and the environment. She serves as the Environmental Health Advisor to Cummins, Inc. (2011-present), where she monitors environmental health sciences and toxicology that relate to air pollution, criteria pollutants, air quality standards, and research topics related to heavy-duty engine emission and regulations. She serves as the scientific liaison for Cummins to the Health Effects Institute, a not-for-profit organization chartered under the Clean Air Act and supported by the U.S. Environmental Protection Agency and the worldwide motor vehicle industry. Dr. Henry received a Bachelor of Arts in Chemistry from the University of Minnesota and a PhD in microbiology from the University of Pittsburgh. She was a postdoctoral fellow at the Max Planck Institute, Tübingen, Germany; Princeton University, Princeton, NJ; and Sloan Kettering Institute for Cancer Research, New York City, NY. She is a diplomate of the American Board of Toxicology, certified in general toxicology (1984-2014). Dr. Henry's areas of expertise include general toxicology, inhalation toxicology, risk assessment/management, public health, environmental health, environmental health research priorities, research management, and science policy. She no longer conducts research, but supports research for developing knowledge, assessments, and scientific tools to inform decisions about EPA's regulatory standards, risk assessments, and risk-management decisions that protect public and environmental health. Dr. Henry holds an appointment as professorial lecturer in the Department of Environmental and Occupational Health of the George Washington University Milken Institute School of Public Health (2008-present), where she was the instructor (2008-2015) for the required graduate course "Protecting Public Health and the Environment: Policies, Politics, and Programs." She is a member of the Society of Toxicology, past President of the American College of Toxicology (1989-1990), and the American Chemical Society's (ACS) Chemical Society of Washington (2009, 2010). She is a member of the ACS Committee on Environmental Improvement, which is responsible for advising ACS governing bodies on pertinent environmental issues in science and public policy. Dr. Henry has served on the National Academy of Science, Engineering and Medicine's Board on Environmental Studies and Toxicology, Board on Chemical Sciences and Technology, and on several National Research Council Committees, including: Strengthening the US Environmental Protection Agency Laboratory Enterprise (2014) and Design and Evaluation of Safer Chemical Substitutes (2014). She chaired the Federal Advisory Committee for the National Children's Study, National Institute of Child Health and Human Development (2010-2012) and the North America Research on Tropospheric Ozone (NARSTO) Review Panel (2009).

### Johnson, Robert Eugene

#### Vidalia ENT Associates

Dr. Robert E. Johnson is a practicing otolaryngologist - head & neck surgeon at Meadows Regional Medical Center (MRMC) in Vidalia, Georgia. Prior to his current position, he worked in Savannah, Georgia in private practice and at Tripler Army Medical Center in Honolulu as an academic head & neck surgeon. He has previously held academic positions with the Uniformed Services University of Health Sciences (USUHS) and the University of Hawaii School of Medicine. His clinical areas of interest are the medical and surgical management of thyroid and parathyroid disorders, head & neck cancers, sinonasal disease and voice and swallowing disorders. He retired from the U.S. Army in 2001 after 26 years of service. He started his career as a U.S. Army Ranger and spent the last 11 years on active duty as a physician. During his last several years of active duty, he was the Chief, Special Medical Response Teams for the Pacific region. This team specialized in response to manmade and natural disasters, to include special emphasis on weapons of mass destruction, i.e., chemical, biological and nuclear weapons. In this capacity, he travelled around the world, teaching allies and emerging nations community strategies for disaster response. Over the last 12 years he has frequently been a medical missionary to underserved peoples of Guatemala. Although not currently or recently engaged in research, his prior research and teaching areas of interest have included eye toxicology, the effect of linear acceleration on hearing, head & neck cancer treatment, reconstructive surgery of the head & neck, disaster medicine and medical care in austere environments. He received his undergraduate degree (B.S.) from the University of Oklahoma and his MD from the Medical College of Georgia. He did his residency training at Brooke Army Medical Center in San Antonio, TX and a fellowship in Head & Neck Oncologic and Reconstructive Surgery at the University of Iowa. In 2003, he received the Honor Award from the American Academy of Otolaryngology - Head & Neck Surgery for scientific presentations and teaching. He is Board Certified in Otolaryngology - Head & Neck Surgery as well as Facial, Plastic, and Reconstructive Surgery. He is a Fellow of the American Academy of Otolaryngology, the American College of Surgeons and of the American Head and Neck Society. He is also a member of the American Medical Association and Medical Association of Georgia. He was previously the President of the Hawaii Society of Otolaryngology. For over 30 years he was a Boy Scout leader and, as an outdoorsman with a lifelong passion for camping, hiking, hunting, fishing and ocean sports, he is a strong advocate for a clean environment. He currently lives in South Georgia with his wife of 30 years, Dr. Stacie Wong, who is an anesthesiologist at MRMC.

## List of Candidates with Biosketches for 2017 CASAC Annual Membership

### Kipen,Howard

Rutgers University School of Public Health

Dr. Howard Kipen received a BA from UC Berkeley and MD from UC San Francisco. He completed an internal medicine residency at Columbia-Presbyterian Medical Center in New York, followed by an MPH at Columbia and an Occupational Medicine residency at Mount Sinai in New York. He accepted an assistant professor position at Rutgers-Robert Wood Johnson Medical School in 1984 where he has pursued clinical/experimental and epidemiologic studies of human health effects of air pollution. Dr. Kipen is currently Professor and Chair (interim) in the Department of Environmental and Occupational Health at the Rutgers University School of Public Health. He is also Chief of the Division of Clinical Research and Occupational Medicine, Director of the Clinical Center, and Medical Director of the Controlled Environment Facility of the Rutgers Environmental and Occupational Health Sciences Institute (EOHSI). He holds additional faculty appointments in Family Medicine, Internal Medicine, and the graduate programs in Toxicology, Exposure Science, and Environmental Science. He has authored over 175 scientific articles on topics in environmental and occupational health, many on respiratory disease and air pollution. He has pursued mechanistic studies to understand how air pollutants affect respiratory and cardiovascular health, emphasizing short term biomarkers. A major HEI and NIH-funded study examined the mechanisms (biomarkers) of beneficial health effects of drastic air pollution reductions in Beijing for the 2008 Olympics. He is PI for an ongoing USEPA-funded study to examine the effects of climate on indoor ozone and whether acute biomarkers of cardiorespiratory effects in the elderly can be ameliorated by portable air cleaners (RD83575901). He is clinical co-PI for an NIEHS controlled exposure study of acute ozone effects on activated macrophage phenotypes in sputum (ES004738). He founded the Integrative Health Sciences Facility Core (IHSFC) of Rutgers' NIEHS P30 Center Grant (ES005022). His group investigates markers of oxidative stress and vascular function after traffic pollution and indoor air exposure, as well as having developed a scripted drive experimental model for acute traffic pollution exposures. He co-chaired the update committee for the American Thoracic Society's Statement: What Constitutes an Adverse Effect of Air Pollution? He has served on or chaired a number of committees at the National Academy of Medicine, NIH, Department of Veterans Affairs, and Department of Defense. He presently serves on the National Academy of Medicine's "Standing Committee on Medical and Epidemiological Aspects of Air Pollution on U.S. Government Employees and Their Families", sponsored by the U.S. State Department. From 2009-2015 he chaired the NASA Human Research Program's Standing Review Panel on Advanced environmental Health and Advanced Food Technology.

### Lange,Sabine

Texas Commission on Environmental Quality

Dr. Sabine Lange is the section manager for the Toxicology Division at the Texas Commission on Environmental Quality (TCEQ). Dr. Lange's responsibilities include overseeing health effects risk assessments of air permit applications, ambient air monitoring projects, and hazardous waste sites; overseeing the development of chemical toxicity factors; and conducting and overseeing systematic reviews and independent analyses of risk assessments. Dr. Lange serves as a technical resource for the State and citizens of Texas for human health and environmental risk assessment, especially related to air and water quality. Dr. Lange's research interests include the toxicology of criteria air pollutants, particularly ozone dosimetry and exposure-response. In this area she has published articles, presented posters, given invited talks, and served as a workshop panel member. On behalf of the TCEQ, she has intensively reviewed the documents released by the US EPA on the National Ambient Air Quality Standards (NAAQS) for ozone, particulate matter, sulfur dioxide, nitrogen dioxide, and lead. Dr. Lange and colleagues have provided comments to US EPA on the assessment documents supporting these standards, particularly as they relate to principles of toxicology, risk assessment, and the State's perspective on these rules. Dr. Lange's work since joining TCEQ has been entirely funded by the State of Texas. Dr. Lange received a Bachelor's degree from the University of Western Ontario in Canada, and completed a Ph.D. and post-doctoral training in biochemistry and molecular carcinogenesis at the University of Texas at Houston and MD Anderson Cancer Center. Dr. Lange is a Diplomate of the American Board of Toxicology.

### Lewis,R. Jeffrey

ExxonMobil Biomedical Sciences, Inc

Dr. R. Jeffrey Lewis is currently a Distinguished Scientific Associate in the Epidemiology, Health Surveillance and Quality Assurance Section of ExxonMobil Biomedical Sciences, Inc (EMBSI). He is responsible for supporting ExxonMobil scientific programs related to naphthalene, 1,3-butadiene, human health risk assessment, regulatory affairs and regulatory impact analysis (e.g., benefit-cost analysis), and he is Chair of EMBSI's Senior Technical Council. He has served on a number of industry trade association scientific committees (e.g., American Chemistry Council), external science advisory boards (e.g., the Alliance for Risk Assessment Expert Science Panel, U.S. Environmental Protection Agency Science Advisory Board for 1,3-butadiene) and is a member of the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) Committee. Dr. Lewis also has an adjunct faculty appointment at the University of Texas School of Public Health and is Past Treasurer for the Society for Risk Analysis. Dr. Lewis received his Bachelor of Science degree in biology from the University of Kansas and M.S. and Ph.D. degrees in Epidemiology from the University of Texas School of Public Health. In addition, he earned a Master of Business Administration degree from Rutgers University. Dr. Lewis receives no outside research funding.



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### Lichtveld, Maureen

#### Tulane University

Dr. Maureen Lichtveld, a member of the National Academy of Medicine, has over 35 years of experience in environmental public health and currently is Professor and Chair, Department of Global Environmental Health Sciences, Tulane University, School of Public Health and Tropical Medicine. She holds an endowed chair in environmental policy and is Associate Director, Population Sciences, Louisiana Cancer Research Consortium. Beginning in 1987, she served as one of the highest-ranking Centers for Disease Control and Prevention Agency for Toxic Substances and Disease Registry environmental health scientists engaged in designing research tools and protocols guiding national environmental health studies in communities living near hazardous waste sites and science-driven policies, often accompanied by congressional testimonies. Her national and global research focuses on environmentally-induced disease, health disparities, environmental health policy, disaster preparedness, public health systems, and community resilience. Dr. Lichtveld has a track record in community-based participatory research with a special emphasis on examining the impact of chemical and non-chemical stressors on communities facing environmental health threats, disasters and health disparities. As Director of the Center for Gulf Coast Environmental Health Research, Leadership, and Strategic Initiatives, Dr. Lichtveld serves as Principal Investigator of several Gulf Coast-associated environmental health research and capacity building projects ascertaining the potential impact of the Gulf of Mexico Oil spill. Dr. Lichtveld is a member of the National Advisory Environmental Health Sciences Council of the Institutes of Health's National Institute of Environmental Health Sciences; the U.S. EPA Scientific Advisory Board; the National Academy of Sciences-Institute of Medicine Roundtable on Environmental Health Sciences, Research, and Medicine; and a member of the Health Disparities Subcommittee of the Advisory Committee to the Director of the CDC. She was elected as Chair of the Editorial Board of the American Journal of Public Health and serves as the current President of the Hispanic Serving Health Professions Schools. Dr. Lichtveld was inducted in the Johns Hopkins University Society of Scholars, honored as CDC's Environmental Health Scientist of the Year, and twice named Woman of the Year by the City of New Orleans.

### McConnell, Rob

#### University of Southern California

Dr. Rob McConnell is a physician and epidemiologist, a Professor of Preventive Medicine, and the director of Southern California Children's Environmental Health Center at the University of Southern California, where he has studied the effects of air pollution on children's health. He has been the principal investigator or project director on several large National Institutes of Health-funded R01s or Centers supporting the Southern California Children's Health Study, a large, ongoing longitudinal cohort study that has made important contributions to understanding the role of air pollution in childhood origins of respiratory and cardiometabolic health and obesity. His research interests include, in addition, novel methods for assessment of environmental exposure and understanding susceptibility to the effects of air pollution related to psychosocial stress and social factors, exercise, co-exposures associated with housing conditions, as well as genetics. Other interests include the development of methods for estimating the burden of disease associated with near-roadway air pollution and for assessing exposure in environmental epidemiology. He directs the Career Development Program of the NIEHS-supported Southern California Environmental Health Sciences Center. Before coming to USC, Dr. McConnell directed a World Health Organization (WHO) regional center for environmental health in Latin America and the Caribbean, where he was a member of advisory committees to the Ministries of Health in the Americas and of the senior management team to the WHO Regional Director for the Americas. He is a fellow of the American Association for the Advancement of Science.

### Niklason, Laura E.

#### Yale University

Dr. Laura Niklason MD, PhD is a physician and biomedical scientist, and is the Nicholas M. Greene Professor of Anesthesia and Biomedical Engineering at Yale University. Dr. Niklason received a B.S. in Physics and a B.A. in Biophysics from the University of Illinois Urbana-Champaign in 1983. She subsequently was admitted into the Medical Scientist Training Program at the University of Chicago, where she received a PhD in Biophysics in 1988. She subsequently went onto the University of Michigan, where she earned an M.D. degree in 1991. Thereafter, Dr. Niklason trained in Anesthesiology and Critical Care Medicine at the Massachusetts General Hospital, completing her ICU fellowship training in 1996. Dr. Niklason subsequently took a faculty position at Duke University, where she was jointly appointed in Anesthesia and Biomedical Engineering, and where her research interests focused on Regenerative Medicine and cellular therapies for vascular disease. In 2004, Dr. Niklason founded a biotechnology company Humacyte Inc., which is devoted to bringing engineered tissues to patients. In 2006, Dr. Niklason moved to Yale University, where she has continued to perform research in Regenerative Medicine with a particular focus on the engineered of whole, functional lung organs. Niklason's research funding is provided primarily by the NIH and by the State of Connecticut. Dr. Niklason spent more than 10 years working as a director of an Intensive Care Unit, where she spent the majority of her time caring for patients with respiratory failure and end-stage lung disease. Dr. Niklason's research in whole lung regeneration is devoted to expanding our understanding of lung formation and repair, and to understanding and supporting the lung's response to severe injury. Therefore, Dr. Niklason's scientific and medical background in lung biology and respiratory failure is well suited to the tasks of the U.S. Environmental Protection Agency's Clean Air Scientific Advisory Committee (CASAC). Dr. Niklason's training in the physical sciences and engineering also provide her with the tools needed to understand the complex chemical and physical processes affecting air quality. Regarding professional service, Dr. Niklason has been an active participant in NIH grant application review committees for the past 20 years, and has chaired and organized multiple international scientific meetings in lung disease and cellular therapies. Dr. Niklason has received multiple awards during her career, including induction into the Academy of Inventors in 2013, and induction into the National Academy of Medicine in 2015. Her work in Lung Engineering was cited as one of the 50 most important scientific advances of 2010 by Time Magazine. She was named as one of "34 Leaders Who are Changing Healthcare" by Forbes Magazine in 2017, along with Bill Gates of Microsoft, and Vice-President Joseph Biden.

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### Packham, Steven

#### Utah Department of Environmental Quality

Dr. Steven Packham is a Toxicologist in the Division of Air Quality with the Utah Department of Environmental Quality. In addition to participation in the development of Utah's PM2.5 and O3 State Implementation Plans since 1990, Dr. Packham's regulatory experience includes ongoing support of the state's adoption of Maximum Achievable Control Technologies (MACT's) promulgated under the National Emission Standards for Hazardous Air Pollutants (NESHAP) program, and the National Air Toxics Assessment (NATA) Urban Air Toxics program. His research activities are focused on determining biological mechanisms of causation including the development of an inhaled mass-per-minute air pollution dose model of pulmonary PM deposition and O3 oxidative stress for use in individual and population based risk assessments. Dr. Packham is an Adjunct Associate Professor University of Utah, Department of Family and Preventative Medicine and a member of the Advisory Board of the Rocky Mountain Center for Occupational and Environmental Health that receives sustaining Exploratory Research Grant funding from the National Institute of Health. Dr. Packham received a Bachelor of Science degree from Brigham Young University and a Master of Science and Doctorate of Philosophy in Medical Psychology from the Oregon Health Science University School of Medicine (formerly, University of Oregon Medical School). He has maintained continuous certification as a Diplomate of the American Board of Toxicology since 1982. He received the 2005 Utah Health Hero Award from the Utah Public Health Association for my participation in the development of School Recess Guidelines and Recommendations for Summer Ozone Activities promulgated by the Utah Department of Health. He is a preceptor for occupational medicine MD residents, and one of the CDC-funded Targeted Research Training instructors for doctoral candidates at the NIH funded Rocky Mountain Center for Occupation and Environmental Health. Past professional activities include: Editorial Board, Journal of Fire Sciences. (1985-2002); Chairman, American Society for Testing and Materials (ASTM) Task Group E5.21.05: (1985-1995); Member, Toxicity Advisory Committee National Fire Protection Association (1988 – 1998); Member, Committee on Toxic Hazard Assessment of Material used in Transportation Vehicles (1990-1991); United States of America Member of the Technical Advisory Committee, ISO/TC 92/SC 3 (1981-1998); Convener: ISO Technical Committee 92, Subcommittee 3, Working Group 1 on Fire Model (1981-1987); United States of America Assigned Expert: ISO/TC 92/SC 3/Working Group on Bio-assays (1981-1987).

### Peel, Jennifer

#### Colorado State University

Dr. Jennifer L. Peel, PhD, MPH is a Professor and Section Head of Epidemiology in the Department of Environmental and Radiological Health Sciences at Colorado State University (CSU). Dr. Peel holds an appointment in the CSU Energy Institute and at the Colorado School of Public Health. Dr. Peel has a doctoral and a master's degree in Epidemiology, both from the Emory University School of Public Health (2003 and 1998, respectively), and a bachelor's of science degree in Molecular and Cell Biology from The Pennsylvania State University in 1996. Dr. Peel is an environmental epidemiologist with over 15 years of experience evaluating the health effects of air pollution, both ambient air pollution in the U.S. and household air pollution resulting from indoor solid fuel combustion. Her active collaborative research include projects include evaluating the impact of a liquid petroleum gas stove intervention on air pollution exposure and infant and adult health in Guatemala, India, Peru, and Rwanda; evaluating the acute health effects of controlled exposures to emissions from cookstove emissions in young, healthy adults (funded by the National Institutes of Health [NIH]); examining the short-term exposures and health impacts experienced during commuting in Fort Collins (funded by NIH); investigating cardiovascular and metabolic-related endpoints in relation to exposure to biomass emissions in Honduras (funded by NIH); and evaluating the impacts of unconventional oil and gas development on quality of life, stress, and systemic inflammation in northern Colorado. Dr. Peel is a reviewer for multiple agencies, including NIH, the Environmental Protection Agency (EPA), and the Health Effects Institute (HEI), and has served as a writer and reviewer for the Integrated Science Assessments for ambient criteria air pollutants. She has served as an invited panelist or speaker for NIH, EPA, HEI, among others. Dr. Peel is an Associate Editor for the journal Environmental Health Perspectives and has served on the steering committee for a National Science Foundation Research Coordination Network on Reactive Nitrogen in the Biosphere. Dr. Peel is a member of several professional organizations, including the International Society for Environmental Epidemiology and the Society for Epidemiologic Research, and was inducted into the Delta Omega National Honorary Society in Public Health in 2010.

### Peters, Gregory C.

#### Tallahassee Memorial Hospital

Dr. Gregory Peters is a practicing Emergency Medicine Physician at Tallahassee Memorial Hospital, a Clinical Professor of Emergency Medicine in the Department of Clinical Sciences at Florida State University College of Medicine, and the Assistant Medical Director for Emergency Services at Tallahassee Memorial Healthcare. Born in Texas and raised in Florida, he holds a B.S. in Biology and Political Science from the University of Notre Dame in South Bend, Indiana, and an M.D. from Florida State University College of Medicine. While at Notre Dame, Dr. Peters was a member of the Honors Program and a research focus was on how various small mammal densities relate to different tree species compositions. Dr. Peters completed his residency training in Emergency Medicine at Wake Forest University, where he served as Chief Resident. As a Community Emergency Medicine physician, Clinical Professor of Emergency Medicine, and Assistant Medical Director, Dr. Peters has not been a recipient of any external grants from the public or private sectors.

## List of Candidates with Biosketches for 2017 CASAC Annual Membership

### Phalen, Robert F.

University of California Irvine

Dr. Robert F. Phalen is a Professor of Medicine in the Center for Occupational and Environmental Health at the University of California, Irvine. He is the founding director, and current co-director of the Air Pollution Health Effects Laboratory. He is a member of the graduate program in Environmental Toxicology, now called Environmental Health Science, and he is on the faculty of the Occupational Medicine Residency Program. His research is in several areas: aerosol science, inhalation toxicology, air pollution health effects, modeling the deposition and clearance of inhaled substances, and radiation biology. At San Diego State University his undergraduate major was physics with a minor in mathematics, and his masters degree was in nuclear physics with an emphasis in inhaled nuclear reactor accident particles. At the University of Rochester (NY) School of Medicine and Dentistry, he obtained a Ph.D. in Radiation Biology and Biophysics, with an emphasis in Toxicology. His thesis was a study of inhaled nanosilver particles. His post-doctoral training was at the Lovelace Inhalation Toxicology Research Institute in Albuquerque, NM. He joined the Aerosol Physics group and worked on a NIEHS computer modeling grant on inhaled particles in four mammalian species, including humans. The University of California, Irvine, recruited Dr. Phalen to direct the Air Pollution Health Effects Laboratory, and to establish a research program. The research focused on the effects of air pollution mixtures on lung defenses. He has published over 250 journal papers, chapters, and proceedings papers on his research. Another research interest is in the ethics of laboratory, animal, and human research. He chaired the U.C. Irvine Institutional Review Board (IRB) for seven years, and was a member of the Institutional Animal Care and Use Committee for seven years. His current research funding is from an endowment (the Stocking Family Trust). He is an elected fellow of three organizations: the Academy of Toxicological Sciences; the Southern California Academy of Sciences; and the American Association for the Advancement of Science. He is a full member of eight scientific societies, and is the chair of the Board of Directors of the California Society for Biomedical Research (CSBR). He has served on review and advisory committees for EPA, NIEHS, CDC/NIOSH, and the National Academy of Sciences (NAS), including the NAS Committee on Controlled Human Inhalation – Exposure Studies at EPA, and on EPA's Clean Air Scientific Advisory Committee Particulate Matter Review Panel. He has authored and co-authored sixteen books and reports including "Methods in Inhalation Toxicology" (1997); "Introduction to Air Pollution Science" (2011); and "Core Ethics for Health Professionals" (2017). His recent awards include "Career Achievement" (Society of Toxicology – Inhalation Section); and "Public Education" (CSBR). He has chaired and co-chaired several international conferences on human effects of air pollutants; and on modeling inhaled aerosols.

### Poirot, Richard L.

Independent Consultant

Mr. Richard Poirot is an independent consultant who recently retired as the Air Quality Planning Chief with the Vermont Department of Environmental Conservation, where he's worked since 1978. During his 37 years in VT state government, his responsibilities included developing and implementing State Implementation Plans to ensure attainment and maintenance of federal and state air quality standards for ozone, particulate matter, and regional haze. He developed interests and expertise in drawing inference on the nature of pollution sources from analysis of ambient air quality and meteorological measurement data. Mr. Poirot 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); the Subcommittee on Scientific Cooperation for the U.S./Canada Air Quality Agreement; the EPA Clean Air Scientific Advisory Committee (CASAC), the CASAC Ambient Air Monitoring and Methods Subcommittee, the CASAC Panels for Particulate Matter, Ozone, Lead, and Secondary SO<sub>x</sub> and NO<sub>x</sub> National Ambient Air Quality Standards Review; the NARSTO External Review Panel; the U.S. 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. He is not currently a recipient of research grants from the Environmental Protection Agency, other federal agencies, or the private sector.

### Pollak, Martin R.

Harvard University Medical School

Dr. Martin Pollak is currently Professor of Medicine at Harvard Medical School and Chief of the Division of Nephrology at Beth Israel Deaconess Medical Center. He runs a research laboratory that studies the molecular and genetic basis of kidney disease in humans. Dr. Pollak's laboratory is interested in identifying understanding genes and gene products which when altered cause human kidney disease. His laboratory is experienced in human genetic methods, as well as cell-based studies of podocyte biology and the development and analysis of animal models of kidney disease. Dr. Pollak has recently focused increased attention on understanding the high rate of FSGS and hypertension-associated kidney disease in African Americans. They and their colleagues showed that two common coding sequence variants in the APOL1 gene confer both resistance to trypanosoma b. rhodsiense infection (an African sleeping sickness agent) and 7- to 10-fold increased susceptibility to these forms of kidney disease. These variants in APOL1 appear to explain most of the increased incidence of non-diabetic kidney disease in people of recent African descent. They have continued to study the genetics and biology of this form of disease using a variety of approaches. Dr. Pollak completed his undergraduate education at Princeton University, attended medical school at New York University, and did post-graduate clinical training in internal medicine and nephrology at Columbia-Presbyterian Medical Center (New York) and the Brigham and Women's Hospital (Boston). He did research training at Harvard Medical School.

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### Ravishankara, A. R. (Ravi)

Colorado State University

Dr. Ravishankara is a University Distinguished Professor in the Departments of Chemistry and Atmospheric Science at Colorado State University. He has worked over the past three and a half decades on the chemistry of the Earth's atmosphere as it relates to stratospheric ozone depletion, climate change, and regional air quality. His measurements in the laboratory and in the atmosphere have contributed to deciphering the ozone layer depletion, including the ozone hole; to quantifying the role of chemically active species on climate; and to advancing understanding of the formation, removal, and properties of pollutants. He is an author or coauthor of more than 350 peer-reviewed publications. Dr. Ravishankara is a member of the US National Academy of Sciences, as well as Fellow of the American Geophysical Union, of the Royal Society of Chemistry, of the American Association for the Advancement of Science, and of the International Union of Pure and Applied Chemistry. He received an honorary doctoral degree from the University of York in the UK. His many awards include the Polanyi Medal of the Royal Society of Chemistry, the Stratospheric Ozone Protection award of the US Environmental Protection Agency, the Silver Medal of the US Department of Commerce, and the American Chemical Society's award for Creative Advances in Environmental Sciences. He is currently the Chair of the Board on Atmospheric Science and Climate of the National Academy of Sciences and a member of the Science Advisory Panel of the Climate Clean Air Coalition of UNEP. He was the co-chair of the WMO/UNEP Science Assessment Panel on Stratospheric Ozone from 2008 through 2015. He is on the Editorial Boards of the Proceedings of the National Academy of Sciences (PNAS) and Current Science. He has previously served on many other Editorial Boards and was the Editor of Geophysical Research Letters. Over the past 3 years, Dr. Ravishankara received federal funding from NASA – National Aeronautics and Space Administration Support for the Quadrennial layer Assessment and Taking the Information to the Users.

### Reingold, Arthur L.

University of California, Berkeley

Dr. Arthur Reingold is Professor of Epidemiology and Head of the Division of Epidemiology at the School of Public Health, University of California, Berkeley. He holds concurrent faculty appointments in the Departments of Medicine and Epidemiology and Biostatistics in the School of Medicine, UCSF. Before joining the faculty of UC Berkeley in 1987, Dr. Reingold worked for eight years as a medical epidemiologist at the U.S. Centers for Disease Control and Prevention. Dr. Reingold is known nationally and internationally for his work over the past 30+ years on the prevention and control of infectious diseases, including those acquired from the environment (e.g. Legionnaires' disease) and those transmitted from person-to-person (e.g. influenza and other causes of respiratory tract infections). His research collaborations nationally and internationally have led to almost 350 original research publications, which have appeared in the leading journals in the fields of medicine, epidemiology, infectious diseases, and public health. Because of his expertise and experience, he has served on numerous advisory committees and panels for the World Health Organization (e.g. the Strategic Advisory Group of Experts), NIH (e.g. the External Advisory Committee of the Fogarty International Center), and CDC (e.g. the Advisory Committee on Immunization Practices), as well as the State of California and diverse foundations and funding organizations. In recognition of his experience and expertise in epidemiology, Dr. Reingold has been elected President of the Society for Epidemiological Research (SER) and the American Epidemiology Society (AES) and elected to fellowship in diverse scientific and medical groups (e.g. the Infectious Diseases Society of America and the American Association for the Advancement of Science). He was elected to membership in the Institute of Medicine (now the National Academy of Medicine) in 2003 and has served on numerous IOM/NAM committees since that time. He has also given numerous invited lectures, including the Thomas Francis Lecture at the University of Michigan, and he regularly teaches courses on epidemiologic methods and their application at UC Berkeley and in Brazil, Hong Kong, and Switzerland.

### Rich, David

University of Rochester

Dr. David Q. Rich is an Associate Professor of Epidemiology in the Departments of Public Health Sciences, Medicine, and Environmental Medicine at the University of Rochester Medical Center in Rochester, New York. Dr. Rich received his Bachelor of Science from Rutgers University, Master of Public Health in Epidemiology and Quantitative Methods from the University of Medicine and Dentistry (UMDNJ, now Rutgers University), and a Doctor of Science degree in Environmental Health and Epidemiology from the Harvard School of Public Health in 2004 under the supervision of Professor Doug Dockery. He then completed post-doctoral fellowships at Harvard and the Brigham and Women's Hospital in Boston, Massachusetts, and has held academic appointments at the School of Public Health and the Environmental & Occupational Health Sciences Institute at Rutgers University, and now in the School of Medicine and Dentistry at the University of Rochester. Dr. Rich's primary research interest is the cardiopulmonary and reproductive health effects of environmental air pollution, focusing both on clinical outcomes and biomarkers of potential mechanistic mediators. His research has been funded by the National Institute of Environmental Health Sciences, the US Environmental Protection Agency, Health Effects Institute (HEI), New York State Energy Research and Development Authority (NYSERDA), and the American Heart Association and has included work in the United States, Ireland, and Beijing, China. In the last 2 years, work funded by NYSERDA has examined the effects of ambient gaseous pollutants, fine and ultrafine particles, and air pollution mixtures including wood smoke and traffic on the risk of acute coronary syndrome events and mechanistic mediators of any such cardiovascular response to pollution. NYSERDA studies have also included air pollution monitoring campaigns to develop land use regression models for these pollutants, as well as accountability studies in Rochester and across New York State examining changes in air pollution levels and particle composition, as well as the rates of ST-elevation myocardial infarction, fetal growth restriction, and cardiovascular, respiratory, and neurologic hospital admissions in New York State residents. Ongoing HEI funded work is examining the acute cardiopulmonary responses to low level controlled ozone exposures, as well as responses to ambient and personal measurements of ozone, nitrogen dioxide, and other pollutants. Dr. Rich has participated in advisory/service committees at both the University of Rochester and UMDNJ (now Rutgers University), including graduate educational governance committees, advisory committees for large research and student training grants at the University of Rochester, as well as the Strategic Planning Advisory Committee at UMDNJ/Rutgers, and the Strategic Plan Actualization and Review Committee at the University of Rochester. He has been a long standing member of the International Society of Environmental Epidemiology, and in the past was a contributing author to the US Environmental Protection Agency's 2009 Integrated Science Assessment for Particulate Matter. Last, in the past 2 years, Dr. Rich has been an invited speaker and participant in the National Academies of Sciences, Engineering, and Medicine's workshop on Health Effects of Indoor Air Pollution, and the ATS/ERS workshop/committee to develop a manuscript on "What defines an adverse effect of air pollution".

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### Ritz, Beate

University of California at Los Angeles

Dr. Beate Ritz, MD, Ph.D., is a Professor of Epidemiology at the University of California, Los Angeles Fielding School of Public Health with co-appointments in Environmental Health Sciences and Neurology at the UCLA School of Medicine; a member of the Center for Occupational and Environmental Health and the California Population Research Center. Her primary research interests are the effects of occupational and environmental exposures focusing on air pollution and pesticides on pregnancy and adverse birth outcomes and childhood diseases (autism and asthma) as well as neurodegeneration (Parkinson's and Alzheimer) and cancers. She has developed geographic information system (GIS) based exposure assessment tools to study health effects of air pollution and of long-term pesticide exposures. She is the 2007 recipient of the Robert M. Zweig M.D. Memorial Award ("Clean Air Award") from the California South Coast Air Quality Management District, and served on multiple IOM committees evaluating Gulf War Illness, the U.S. EPA CASAC panel (Carbon Monoxide National Ambient Air Quality Standards); she has been a member of the Scientific Review Panel on Toxic Air Contaminants for the state of California for 5 years and recently served on the IOM panel on "21st Century Risk Assessment".

### Rohr, Annette

Electric Power Research Institute

Dr. Annette Rohr is a Principal Project Manager in the Air Quality and Multimedia Sciences program area of the Energy and Environment sector at the Electric Power Research Institute (EPRI). Her current research focuses on the health effects of air pollution, including particulate matter (PM), gaseous co-pollutants, and air toxics such as chromium, arsenic, and mercury. Dr. Rohr's areas of expertise include environmental epidemiology, in vitro and in vivo toxicology; air quality characterization; exposure assessment; indoor environmental quality; risk assessment of environmental contaminants, including polycyclic aromatic hydrocarbons (PAHs); and evaluation of potential health impacts of emerging energy technologies such as wind generation and carbon capture and storage. Before joining EPRI in 2001, Dr. Rohr was employed as an Environmental Scientist at Dames & Moore, where she conducted human health and ecological risk assessments. Dr. Rohr has published more than 40 peer-reviewed scientific papers. She is active in several professional societies, including the International Society of Environmental Epidemiology and the Society of Toxicology, where she was Councilor for the Inhalation and Respiratory Specialty Section. She is an Associate Editor for the Journal of the Air and Waste Management Association and is on the Editorial Board of Indoor Air and the Journal of Clinical Toxicology; she is also a regular peer reviewer for multiple journals. Dr. Rohr served on the Scientific Advisory Committee for the Harvard-EPA Center for Particle Health Effects and on two EPA STAR grant panels. Dr. Rohr received a bachelor's degree in microbiology and a master's degree in environmental engineering from the University of British Columbia in Vancouver. She received a doctorate in environmental health from the Harvard T.H. Chan School of Public Health. She is board-certified as a Diplomate of the American Board of Toxicology.

### Rudolph, Linda

Public Health Institute

Dr. Linda Rudolph is the Director of the Center for Climate Change and Health at the Public Health Institute. A board-certified physician (Occupational Medicine), Dr. Rudolph has decades of experience as a public health practitioner dedicated to promoting healthy community and workplace environments. She previously served as Deputy Director for Chronic Disease Prevention and Health Promotion in the California Department of Public Health, Health Officer and Public Health Director for the City of Berkeley, Chief Medical Officer for Medi-Cal Managed Care, and Medical Director for the California Division of Workers' Compensation.

### Russell, Armistead (Ted)

Georgia Institute of Technology

Dr. Armistead (Ted) Russell is the Howard T. Tellepsen Chair and Regents' Professor of Civil and Environmental Engineering at Georgia Tech, where his research is aimed at better understanding the dynamics of air pollutants at urban and regional scales and assessing their impacts on health and the environment to develop approaches to design strategies to effectively improve air quality. He earned his M.S. and Ph.D. degrees in Mechanical Engineering at the California Institute of Technology, conducting his research at Caltech's Environmental Quality Laboratory. His B.S. is from Washington State University. Dr. Russell was a member of EPA's Clean Air Science Advisory Committee (CASAC) and a member of the National Research Council's Board on Environmental Studies and Toxicology. He chaired the CASAC NOx-SOx, Secondary NAAQS review panel, the Ambient Air Monitoring Methods Subcommittee and the Council on Clean Air Compliance Analysis' Air Quality Modeling Subcommittee, and is on the Health Effects Institute's Report Review Committee. He was an Associate Editor of the journal Environmental Science and Technology. He currently co-directs the Southeastern Center for Air Pollution and Epidemiology. Dr. Russell has recently received funding from the National Science Foundation, National Aeronautics and Space Administration, EPA, the state of Georgia, Phillips 66, Southern Company, the Electric Power Research Institute, Centers for Disease Control and Prevention, the Health Effects Institute and the National Institutes of Health.

### Thurston, George

New York University

Dr. George Thurston is a Professor at the New York University School of Medicine's Department of Environmental Medicine, where he is Director of the Program in Exposure Assessment and Health Effects. He received his Bachelor of Science in Engineering from Brown University (with Honors), and his Masters and Doctorate in Environmental Health Sciences from the Harvard University School of Public Health. He has been a faculty member at the New York University School of Medicine since 1984. He has previously served on the EPA's CASAC Committee on NOx and SOx from 2007 to 2010, and is presently the Chair of the American Thoracic Society's Environmental Health Policy Committee. Professor Thurston's research has focused on the human health effects of air pollution exposures. His research in recent years has been funded by the NIH through both R01 and R21 grant mechanisms, as well as under the NYU-NIEHS Center of Excellence grant. He has also received research support from the NYU/Abu Dhabi Institute for Public Health Research. In addition, one of Dr. Thurston's students presently has a EPA STAR grant, which he oversees (without salary support). Recent awards for his scientific research include: the 2012 "Haagen Smit Prize" given by the scientific journal Atmospheric Environment, and; "The Top Science Paper of 2012" by the journal Environmental Science & Technology for a Global Burden of Disease report on global particulate matter air pollution exposures around the world.



## List of Candidates with Biosketches for 2017 CASAC Annual Membership

### Upson, Dona

#### New Mexico Veterans Affairs Health Care System

Dr. Dona J. Upson, M.D., M.A., is an Associate Professor of Medicine in Pulmonary, Critical Care, Sleep & Allergy at the University of New Mexico Health Sciences Center. Her clinical work is with the New Mexico Veterans Affairs Health Care Services, where she is a staff pulmonologist, medical director of both the pulmonary function lab and home respiratory care, and site director of clinical pulmonary education (students, residents, fellows). Prior to moving to New Mexico, Dr. Upson was on the faculty of the John A. Burns School of Medicine (University of Hawaii, Manoa), and worked at the Pacific Basin Medical Officers Training Program in Micronesia. The program educated indigenous Pacific Islanders to take over local health care responsibilities, and was funded by the U.S. Department of Interior. Her research activities have primarily involved community-based participatory work, and have focused on health disparities. Dr. Upson did a fellowship in Pulmonary, Critical Care and Sleep at the University of Texas Health Sciences Center, Houston and concurrently attended the University of Texas School of Public Health (M.P.H. candidate, International Health). Internal Medicine residency was at Thomas Jefferson University Hospital (Philadelphia). She received an M.D. from the Medical College of Wisconsin, an M.A. from Roswell Park Cancer Center (Experimental Pathology; State University of New York, Buffalo), and an A.B. from Smith College, with a major in American Studies. Dr. Upson served on the Air Quality Control Board of Albuquerque & Bernalillo County from 2009-2015. She chaired the Board from 2012-2014, for which she was named Albuquerque Volunteer of the Year in 2013. Dr. Upson has provided expert testimony on the health effects of air quality to the U.S. Senate, and has been appointed to task forces on COPD, and on tobacco dependence, by the New Mexico legislature. Dr. Upson is section editor of Health Policy & Financing for the Annals of the American Thoracic Society (ATS). She chairs the Health Policy Committee of ATS, is on the steering committee of the Breathing Better Alliance (a partnership between ATS and patient groups) and was on the Board of Directors for 3 years. Dr. Upson has been on many ATS leadership committees, including the Environmental and Occupational Health committee, and was a founding member of the Health Equality committee. As a member of the VA Research subcommittee, she testified before a hearing of the U.S. House of Representatives. Dr. Upson has served on multiple review panels and advisory committees, including the Scientific Advisory Committee of the American Lung Association. She was recently awarded the Clinton P. Anderson Award by the ALA in New Mexico for outstanding work and commitment to the citizens of New Mexico.

### Waldman, Deane

#### Texas Public Policy Center

Dr. Deane Waldman, MD MBA, is a U.S. citizen and currently the Director of the Center for Health Care Policy at the Texas Public Policy Foundation as well as a Director on the Board of the New Mexico Health Insurance Exchange. He is Professor Emeritus of Pediatrics, Pathology, and Decision Science. "Dr. Deane" was educated and trained at Yale (BA, History), Chicago Medical School (MD), Mayo Clinic, Northwestern, Harvard, and Anderson Graduate Schools of Management (MBA). He practiced medicine as a pediatric cardiologist for 37 years, and was the Chief of Cardiology (Pediatric) at University of Chicago. Dr. Deane is an experienced biomedical scientist with more than 120 peer-reviewed medical research citations, over \$3 million in research grants received, more than 300 publications in healthcare policy, as well as the author of nine books. Dr. Deane's scientific expertise along with nearly four decades of caring for patients, coupled with his administrative experience and practical business knowledge gives him a unique perspective. Dr. Deane's goal as a member of CASAC would be to assure that EPA standards for Clean Air are based on reliable science and that the Administrator can connect Clean Air standards to the health status of Americans.

### Whitsett, Jeffrey A.

#### Cincinnati Children's Hospital Medical Center

Dr. Jeffrey Whitsett is a pediatrician, neonatologist, and scientist with long-standing interests in lung disease across the lifespan. He serves as the Executive Director of the Perinatal Institute at Cincinnati Children's Hospital Medical Center (CCHMC) that includes Divisions of Neonatology and Pulmonary Biology, the latter program focused to pathogenesis and treatment of chronic lung diseases. Dr. Whitsett has been involved in patient care for more than 40 years and presently is active in leading regional newborn services that care for more than 25,000 infants a year. He has long-standing interests in lung morphogenesis and lung disease in newborns and infant mortality reduction. Dr. Whitsett was involved in the clinical and scientific development of surfactant replacement for preterm infants with respiratory distress syndrome, and has had long-standing interests in lung morphogenesis and mechanisms of repair. He has been continuously funded by the NIH/NHLBI since 1980, and presently leads the NHLBI LungMap Consortium (U01). Dr. Whitsett is principle investigator of a Progenitor Cell Translational Consortium grant (U01). He also holds two R01's focused to mucus metaplasia and inflammation in asthma and interstitial lung disease. Dr. Whitsett has led a T32 Training Grant at his institution, supporting trainees interested in pulmonary disease for more than 25 years. He worked with Abbott Laboratories during the 1980s and 1990s, developing replacement surfactant for preterm infants, and has collaborated with the pharmaceutical industry, with recent funding from a new company (TranscriptX) for the therapy of genetic lung diseases. Dr. Whitsett has been an active member of the Society for Pediatric Research (SPR-APS), American Society for Clinical Investigation, and Association of American Physicians, served on NHLBI Council from 2013-2016 and is presently a member of the Institute of Medicine - now National Academy of Medicine, the American Thoracic Society, and the Burroughs-Wellcome award committee for prevention of prematurity. He has published more than 540 peer-reviewed articles, most related to pulmonary development and disease. The effects of fetal and perinatal development on long-term susceptibility to lung disease, the relationships among environmental factors, including exposures to oxygen, toxicants, and allergens on subsequent disease susceptibility has been among his long-standing interests. At present, Dr. Whitsett leads the LungMap Consortium which includes the application of bioinformatics for the study of lung development and disease. He is keenly interested in the relationships between lifetime exposures and the pathogenesis of lung disorders that begin in utero and continue throughout life.

## List of Candidates with Biosketches for 2017 CASAC Annual Membership

### Wolk, Larry

#### Colorado Department of Public Health & Environment

Dr. Larry Wolk currently serves as the Executive Director of the Colorado Department of Public Health and Environment and Chief Medical Officer for the State of Colorado under Governor John Hickenlooper. Among his accomplishments and expertise, he has overseen flood response and recovery; promulgation of the nation's first state-specific methane emission reduction regulations for oil and gas operators; Ebola and Zika response planning; the nation's most successful unintended teen pregnancy prevention program and the successful implementation of research, education and surveillance of the nation's first legalized marijuana program. He is a member of the Association of State and Territorial Health Officials, currently serving as Chair of the Environmental Health Committee. In addition, he is the founder, board member and part time pediatrician for the Rocky Mountain Youth Clinics, positions he has held as a volunteer for over twenty years. He previously served as the Chief Executive Officer for Colorado's Health Information Exchange (CORHIO); the President and COO for a privately held, national correctional healthcare company; and, a variety of leadership roles for managed care companies, including Aetna, Blue Cross/Blue Shield of Colorado, Prudential Healthcare and CIGNA. Born and raised outside of Scranton, Pennsylvania, Dr. Wolk received his bachelor's degree from the University of Pennsylvania and his medical doctorate from the University of Vermont. He received his training in pediatrics and adolescent medicine, including his master's degree in public health, from the University of Colorado and The Colorado Children's Hospital. Dr. Wolk has been honored as a Colorado Pediatrician of the Year, a Volunteer of the Year, a Healthcare Executive of the Year, a "7 Everyday Hero" and he is a recipient of the University of Vermont's Award for Service to Medicine and Community. Most recently, Dr. Wolk received the Lifetime Healthcare Achievement Award from the Mile High Chapter of the American Red Cross. Recent research includes co-authoring "Medical Marijuana's Public Health Lessons – Implications for Retail Marijuana in Colorado" which was published in the New England Journal of Medicine in 2015 as well as co-authoring a department-specific review, entitled "Assessment of Potential Public Health Effects from Oil and Gas Operations in Colorado" which was released in 2017. Research funding for the last two years has only come through the department from approved federal and state funding sources.

### Young, S. Stanley

#### CGStat

Dr. S. Stanley Young is currently the CEO of CGStat. He previously worked at Eli Lilly, GlaxoSmithKline and the National Institute of Statistical Sciences on questions of applied statistics. His current research concerns evaluation of the statistical basis for scientific claims, particularly from observational studies. His current interests are environmental epidemiology and bioinformatics. Dr. Young graduated from North Carolina State University, BS, MES and a PhD in Statistics and Genetics. He worked in the pharmaceutical industry on all phases of pre-clinical research Eli Lilly as the lead statistician in their Toxicology Division, then at GSK. He has authored or co-authored over 60 papers including six "best paper" awards, and a highly cited book, Resampling-Based Multiple Testing. He has three issued patents. He won an InnoCentive award sponsored by the USEPA. Dr. Young is a Fellow of the American Statistical Association and the American Association for the Advancement of Science. He is or has been an adjunct professor of statistics at North Carolina State University, the University of Waterloo, and the University of British Columbia where he has co-directed thesis work. He is currently an adjunct professor of biostatistics in the Jiann-Ping Hsu College of Public Health at Georgia Southern University. Dr. Young is a scientific advisor to the Heartland Institute and American Council on Science and Health. He conducted internal industrial research, and National Institute of Health sponsored research. Recent research funding has come from Patient-Centered Outcomes Research Institute, the National Black Chamber of Commerce and American Petroleum Institute.

### Zeger, Scott

#### Johns Hopkins University

Dr. Scott L. Zeger is Professor of Biostatistics at the Johns Hopkins Bloomberg School of Public Health and is the University's Director of the Johns Hopkins Individualized Health Initiative. He has a BA in Biology from the University of Pennsylvania, a MS in Mathematics from Drexel University, and a PhD in Statistics from Princeton University. From 2008-2013, he was Vice Provost for Research to represent the university in all matters related to the research and scholarship of its faculty and students; he served as interim provost in 2009. Professor Zeger is author or co-author of 3 books and more than 200 scientific articles and book chapters. Science Watch identified Dr. Zeger as one of the top 25 most cited mathematical scientists. He conducts statistical research on regression analysis for correlated responses as occur in surveys, time series, longitudinal or genetics studies. He has made substantive contributions to our understanding of the effects on health of smoking and air pollution, infectious causes of global childhood pneumonia, cognitive loss after cardiac surgery, normative aging and other topics. Professor Zeger has been awarded an honorary doctorate from Lancaster University in England, elected Member of the National Academy of Sciences' Institute of Medicine, Fellow of the American Association for the Advancement of Science and of the American Statistical Association. He has served as expert witness to the U.S. Department of Justice and several states in their civil suits against the tobacco industry and as a member of the Board of Scientific Advisors for the Merck Research Laboratory. In 2006, 2002 and 1988, the Johns Hopkins Bloomberg School Student Assembly awarded Dr. Zeger with the Golden Apple for excellence in teaching.