Speaker Bios

Chang- Yu Wu

Professor Chang-Yu Wu in the Department of Environmental Engineering Sciences at the University of Florida received his BS from Mechanical Engineering Department at National Taiwan University (1989) and PhD from the Department of Civil & Environmental Engineering at the University of Cincinnati (1996). His teaching and research interests range from air pollution control, bioaerosol, aerosol engineering, environmental nanotechnology, dust control to engineering education. He has published more than 160 refereed journal articles, given 320+ conference presentations, and delivered 80+ invited lectures. His research has resulted in 9 US patents and 4 pending applications. An active member of *American Association for Aerosol Research (AAAR)*, *Air & Waste Management Association (A&WMA)* and *Association of Environmental Engineering Sciences Professors (AEESP)*, he has received several awards recognizing his accomplishments in education, research, and service, including Fellow of AAAR.

William Lindsley

Dr. Lindsley received his BS in Mechanical Engineering from the University of Maryland, College Park and his PhD in Bioengineering from the University of California, San Diego. He is currently a research biomedical engineer at the National Institute for Occupational Safety and Health (NIOSH), which is part of the Centers for Disease Control and Prevention (CDC). Dr. Lindsley studies the role of infectious airborne particles (called aerosols) in the transmission of diseases. He designed the NIOSH two-stage cyclone aerosol sampler which has been used to sample the air for airborne influenza virus, SARS-CoV-2 virus, and other pathogens. His group has collected coughed and exhaled aerosols from influenza patients and examined the amount of virus contained in these samples. Dr. Lindsley also designed the NIOSH respiratory aerosol simulator, which is used to study how well face masks and other face coverings block aerosols produced by coughing and breathing from being expelled into the environment and how well different measures like face masks, room ventilation and portable air cleaners reduce exposure to these aerosols.

Shelly Miller

Dr. Shelly L. Miller (female) Dr. Miller is a Professor of Mechanical Engineering and faculty in the Environmental Engineering Program at the University of Colorado Boulder, holding an M.S. and Ph.D. in Civil and Environmental Engineering from University of California, Berkeley and a B.S. in Applied Mathematics from Harvey Mudd College. Dr. Miller teaches about and investigates urban air quality and works diligently to understand the impact of air pollution on public health and the environment. She is an expert on indoor environmental quality, airborne infectious disease transmission, air pollution and air cleaning technologies, and assessing and mitigating urban air pollution exposures in underserved communities. Dr. Miller is a member of the Academy of Fellows of the International Society for Indoor Air and Climate (ISIAQ) and is also an Associate Editor for Environmental Science and Technology. Dr. Miller has published over 100 peer reviewed articles on air quality, and is the principal investigator on the National Science Foundation's Social Justice and Environmental Equity Project in Denver.

Peg Seminario

Peg Seminario is a nationally recognized occupational safety and health leader and expert with extensive experience in safety and health policy, regulation, and legislation. She served as the long-time Safety and Health Director for the AFL-CIO from 1990 until her retirement in 2019. During her tenure at the AFL-CIO, Peg participating in dozens of rule makings before OSHA including rules on chemical hazard identification, ergonomics and silica.
She was one of the leaders in labor's efforts to enact the 9/11 Health and Compensation Act to provide health care and compensation to responders sick from exposures at the World Trade Center.

Since her retirement, Peg has been assisting the AFL-CIO and unions in efforts to protect workers from COVID-19 providing technical support and policy recommendations, serving on the Board of 9/11 Health Watch and working with the Occupational Health Intern Program to mentor new safety and health professionals. Peg is currently a member of the NASEM Standing Committee on Personal Protective Equipment for Workplace Safety and Health and previously served on the NAS Board on Environmental Sciences and Toxicology, NAS Panel on Occupational Health and Safety Statistics and NAS Committee on Developing a Smarter National Surveillance System for Occupational Safety and Health in the 21st Century.

She holds a M.S. degree in industrial hygiene from the Harvard School of Public Health and a B.A. in biological sciences from Wellesley College.

Marwa Zaatari

Dr. Marwa Zaatari is Chief Science Officer at D ZINE Partners and member of enVerid Systems Advisory Board. She leads the research and development of "Air as a Service" around ventilation, filtration, HVAC coils, and IAQ/energy measurements. Dr. Zaatari is an ASHRAE Distinguished Lecturer and a member of several ASHRAE Committees, a member of the ASHRAE Epidemic task force, Voting Member of Standard 62.1 and Environmental Health Committee, Chair for TC2.3 gaseous removal contaminants, and Vice Chair of MTG.HWBE Health and Wellness in the Built Environment. She also serves on the USGBC Board of Directors.

Ewan Eadie

Dr Ewan Eadie, PhD is a registered Clinical Scientist and the Head of Scientific Services for Photobiology at Ninewells Hospital in Dundee, Scotland. He has a background in optical radiation dosimetry and the application of optical technologies for the diagnostics and treatment of skin diseases. Ewan is the Lead Clinician for the National Managed Clinical Network for Phototherapy in Scotland, a visiting Professor in the Department of Physics at the University of Strathclyde and he has an NHS Research Scotland Career Researcher Fellowship to investigate the safety and efficacy of far-ultraviolet-C (Far-UVC) and its role in the inactivation of viruses and bacteria.
Since March 2020 Ewan has been working closely with Dr Kenny Wood from the University of St Andrews and with a wider multi-disciplinary, multi-institutional group of researchers that have utilised computational models and physical experiments to probe the benefits and limitations of krypton-chloride (KrCl) excimer lamps (also known as Far-UVC). With funding from the University of St Andrews, the UK Health Security Agency (HSA) and NHS Scotland Assure, the research collaboration

has published seven peer-reviewed articles with, for example, results demonstrating that KrCl excimer lamps lowered the aerosolised Staphylococcus aureus levels in a bioaerosol chamber by 92%. A website with details of all the research collaboration's activities can be found here: http://www-star.st-and.ac.uk/~kw25/research/UVC/UVC.html

William Bahnfleth

William Bahnfleth is a professor of Architectural Engineering at The Pennsylvania State University, University Park, PA. He is a Fellow of ASHRAE, the American Society of Mechanical Engineers, and the International Society for Indoor Air Quality and Climate. Dr. Bahnfleth holds a doctorate in Mechanical Engineering from the University of Illinois and is a Registered Professional Engineer. His primary research interest is energy efficient control of indoor air quality with a focus on control of bioaerosols with germicidal ultraviolet light. Dr. Bahnfleth is the author or co-author of more than 180 journal articles and 15 books and book chapters. He has served ASHRAE in many capacities, including 2013-14 Society President and chair of the ASHRAE Epidemic Task Force. His ASHRAE awards include the Exceptional Service Awards, the Louise and Bill Holladay Distinguished Fellow Award, the E.K. Campbell Award of Merit for teaching, and the F. Paul Anderson Award, ASHRAE's highest individual honor. His work as chair of the ASHRAE Epidemic Task Force has been recognized with a letter of appreciation from the US EPA and the ASHRAE Presidential Certificate of Honor.

Malin Alsved

Malin Alsved is a postdoc in Aerosol Technology at Lund University, working with airborne transmission of infectious viruses. She defended her PhD thesis in 2020 at Lund University, which included research on both viruses and bacteria in hospital air and in laboratory experiments. During her postdoc, she has mainly worked with collection of SARS-CoV-2 aerosols in hospitals and in the exhaled air of talking and singing covid-19 cases.

Katherine Ratliff

Dr. Katherine Ratliff is a principal investigator at the U.S. Environmental Protection Agency's Office of Research and Development, working under EPA's Homeland Security Research Program in the Center for Environmental Solutions and Emergency Response. She uses modeling, laboratory, and field-scale studies to develop and evaluate decontamination and sampling strategies for environmental contaminants, including bioaerosols. She is currently leading EPA's research to evaluate the efficacy of different air treatment technologies against airborne pathogens and to inform test method development for these technologies. Dr. Ratliff received her B.A. in Earth and Environmental Sciences from Vanderbilt University and a Ph.D. in Earth and Ocean Sciences from Duke University.

Seema Lakdawala

Dr. Lakdawala trained as a molecular virologist at the Salk Institute in San Diego, CA and at the NIH in 2009 began studying airborne transmission of emerging influenza viruses. During this time she made important discoveries regarding the presence of influenza viruses in aerosols of varying sizes, and the defined the soft palate as an important site for viral adaptation and transmission. Dr. Lakdawala started an independent laboratory at the University of Pittsburgh School of Medicine in

2015 studying influenza virus transmission, pathogenesis, and assembly across scales; she moved her research program to Emory University in 2022. The Lakdawala Lab uses sophisticated microscopy and biochemistry to examine viral replication within infected cells, animal models to study barriers to airborne transmission of influenza viruses, and environmental engineering to examine persistence of viruses in the air. During the COVID-19 pandemic they are examining the importance of public health interventions across community scales, resulting in an interactive dashboard, www.PHIGHTCOVID.org, to inform policy makers nationwide. Their research has been featured in the popular press including on NPR. In addition, during the pandemic, Dr. Lakdawala has given over 40 interviews on the transmission of respiratory viruses to outlets including NPR, NY Times, CNN, BBC etc. She recently coauthored a review on airborne transmission of respiratory viruses and a perspective of animals models for SARS-CoV-2 transmission in AAAS Science magazine. Dr. Lakdawala was the recipient of the 2020 ASV Ann Palmenberg Junior Investigator Award, and helped co-organize the National Academies of Sciences workshop on SARS-CoV-2 Airborne Transmission in Aug of 2020. Learn more on the lab website: www.LakdawalaLab.com

Kevin Van Den Wymelenberg

Kevin Van Den Wymelenberg is a Professor of architecture at the University of Oregon, director for the School of Architecture and Environment, and Associate Dean for Research at the University of Oregon College of Design. He founded the Institute for Health in the Built Environment (IHBE - https://buildhealth.uoregon.edu/) and directs it as well as the Biology and the Built Environment Center (BioBE Center - https://biobe.uoregon.edu/) in Portland and Eugene. His work seeks to facilitate integration amongst a broad network of researchers and practitioners on issues concerning health, comfort, and sustainability in the human ecosystem in order to support human, community and planetary health. He has completed or secured over $17M in funded research on indoor environmental quality for organizations such as the National Science Foundation, United States Environment Protection Agency, United States Department of Energy, United States Department of Agriculture, The Alfred P. Sloan Foundation, the Northwest Energy Efficiency Alliance and several private companies. He has published over 100 peer-reviewed articles, including several related to indoor bioaerosols and pathogens.

Reverend Anthony Evans

Reverend Anthony Evans has served as the President of the National Black Church Initiative (NBCI) since 1992. Under Reverend Evans' leadership, NBCI has brought together a coalition of 150,000 churches from across the country, including over 15.7 million African Americans who join together to fight against health disparities, promote financial literacy, protect babies from abuse and neglect, and help preserve the environment. Reverend Evans has provided expertise and guidance related to health disparities in all stages of planning and project implementation to ensure cultural sensitivity of project materials and to support participation and engagement of African American and other minority families. He serves as a liaison with the Black Churches at all four recruitment areas and helps to identify churches and facilitate recruitment of community service providers at these churches. Reverend Evans has assisted in program evaluation to improve community uptake, and manuscript preparation to disseminate research findings. Reverend Evans holds a Bachelor's degree in Religion from Middlebury College and a Master's of Divinity from Howard University.

Nick Starkey

Nick is Director of Policy at the Royal Academy of Engineering. He leads Academy's policy work including the National Engineering Policy Centre, which brings together organisations across the engineering sector to provide practical advice on policy issues of national importance.

Nick leads the Academy's International Partnerships, which includes bilateral partnerships with Academies and other institutions across the globe, and Engineering X, an international collaboration with Lloyds Register Foundation that brings together some of the world's leading problem-solvers to address the great challenges of our age.

Nick previously worked for BEIS, Cabinet Office, Defra, the NFU, and the British Red Cross.

Tomas Aragon

Dr. Tomás Aragón serves as the director of the California Department of Public Health and the State Public Health Officer, since January 4, 2021. Prior to coming to CDPH, he was the health officer for the City and County of San Francisco and director of the public health division.
Dr. Aragón has served in public health leadership roles for more than 20 years (communicable disease controller, deputy health officer, health officer, community health and chronic disease epidemiologist), including directing a public health emergency preparedness and response research and training center at the University of California, Berkeley School of Public Health.
As CDPH director, striving to embody and promote the universal values of dignity, equity, compassion and humility, he works through collaborative partnerships to mobilize communities and institutions to transform policies and systems towards a culture of equity, antiracism, healing and health for all people and our planet. As State Public Health Officer, he exercises leadership and legal authority to protect health and prevent disease.
Dr. Aragón graduated from University of California, Berkeley (B.A., Molecular Biology; Dr.P.H., Epidemiology), Harvard Medical School (M.D.), Harvard School of Public Health (M.P.H.), and Stanford University (certification in Strategic Decision and Risk Management in Healthcare). He completed his clinical and research training at University of California, San Francisco (San Francisco General Hospital Primary Care Internal Medicine; Clinical Infectious Diseases; and Traineeship in AIDS Prevention Studies).

Andrew Persily

Dr. Andrew Persily is a Fellow at the U.S. National Institute of Standards and Technology (NIST), where he has worked for four decades after earning a Ph.D. in Mechanical and Aerospace Engineering from Princeton University. His research has focused on indoor air quality and ventilation in commercial and residential buildings, including the development and application of measurement techniques to evaluate airflow and indoor air quality performance and of multi-zone airflow and contaminant dispersal models. He has published more than 300 journal articles, conference papers and NIST reports. Dr. Persily was a vice-president of ASHRAE from 2007 to 2009, and is past chair of ASHRAE Standard 62.1 (Ventilation for Acceptable Indoor Air Quality) and Standard 189.1 (Design

of High-Performance Green Buildings). He is a Fellow of ASHRAE, ASTM and ISIAQ, and recipient of the NIST Bronze, Silver and Gold medals.

Brent Stephens

Dr. Brent Stephens is a Professor and Department Chair in the Department of Civil, Architectural, and Environmental Engineering (CAEE) at Illinois Institute of Technology. He is an expert in indoor air quality (IAQ) and building science, with over 15 years of experience performing energy and IAQ laboratory and field assessments and developing and applying models for energy use and costs, IAQ, infectious disease transmission, and human health. His work is grounded in practical applications and continues to influence professional practice, standards, and guidelines. Dr. Stephens co-directs the Built Environment Research Group (BERG) at IIT (www.built-envi.com), which focuses on energy and air quality in the built environment. In June 2022, Dr. Stephens became the inaugural Arthur W. Hill Endowed Chair in Sustainability at IIT.

Brooke Bozick

Brooke Bozick, Ph.D., is a Program Officer in the Respiratory Diseases Branch in the Division of Microbiology and Infectious Diseases (DMID) at the National Institute of Allergy and Infectious Diseases (NIAID) within the National Institutes of Health (NIH). She oversees diverse portfolios of grants that include basic research on influenza pathogen biology as well as clinical research on viral respiratory diseases. Dr. Bozick is a trained disease ecologist and evolutionary biologist who earned a B.S. in biology from the Pennsylvania State University and a Ph.D. in population biology, ecology, and evolution from Emory University. She conducted her post-doctoral research at Princeton University, which focused on understanding how human movement and global connectivity facilitate the transmission of disease. Dr. Bozick began her career at the NIH in 2018 as an AAAS Science & Technology Policy Fellow before formally joining the Respiratory Diseases Branch in 2020.

Don Milton

Donald K. Milton, MD, DrPH, is a Professor of Environmental Health at the University of Maryland School of Public Health, with a secondary appointment in the University of Maryland School of Medicine's Department of Medicine. An internationally recognized expert on the aerobiology of respiratory viruses, Dr. Milton developed the concept of using indoor CO2 to directly measure rebreathed air and airborne infection risk. He is the Principal Investigator of the UMD StopCOVID study (investigating SARS-CoV-2 transmission) and of the newly NIH-funded Evaluating Modes of Transmission (EMIT-2) study, a 5-year $15 million UMD-UMB collaboration to perform randomized controlled trials that will define the modes and mechanisms of influenza transmission. Dr. Milton graduated from University of Maryland, Baltimore County with a Bachelor of Arts in Chemistry in 1976 and obtained his Doctor of Medicine from Johns Hopkins University in 1980. He went on to obtain his Master of Occupational Health and Doctor of Public Health from the Harvard School of Public Health in 1985 and 1989, respectively.

Yuguo Li

Yuguo Li is a Chair Professor of Building Environment, and Honorary Professor of School of Public Health, the University of Hong Kong, current serves as Associate Dean (Research) of Engineering, and was the former Head of Department. He serves as Editor-in-Chief of the international journal Indoor Air. Li was a Principal Research Scientist and the team leader of indoor environments at CSIRO Australia, prior to 2000 when he joined the University. His research interests are in building environment engineering. His current research topics include city climate/environment, environment studies of infection and indoor environment. His work led to the findings of the roles played by airflow in the 2003 Amoy Gardens SARS outbreak. He carried out research on hospital ventilation in preparation for influenza pandemics for Hospital Authority and WHO. He contributed to the dynamic theory of natural ventilation and hospital ventilation. He publishes over 200 journal articles in engineering, environment, climate and health journals including Indoor Air, Climate Dynamics, PNAS and New England Journal of Medicine with over 4500 SCI citations (SCI h-index = 39). He led and co-authored 2009 WHO guidelines on natural ventilation. His research has been supported by 2 RGC CRF, 12 RGC GRF, 1 Horizon2020, 4 RFCID and 3 NSFC grants as PI since 2000 (>HK$40m). His work has also been supported by WHO, Boeing and Microsoft.

Faye McNeill

Faye McNeill's research is focused on the chemistry and physics of atmospheric aerosol particles and ice in the environment, and their roles in atmospheric chemistry, air quality, and climate. The McNeill group performs laboratory, theoretical, and modeling studies with a focus on multiphase processes involving atmospheric aerosols and ice in the environment. Special interest areas include the chemical sources of atmospheric particulate matter and its evolution in the atmosphere, and the influence of atmospheric aerosol chemistry on climate. Prof. McNeill is particularly interested in using modeling to bridge the scales between the large amount of detailed, molecular-level data researchers gather in the laboratory and the coarse-grained information required by large-scale models. Besides improving our basic understanding of the Earth system, she and her research group are using the results of their work to improve large-scale models of atmospheric chemistry and climate, thereby enhancing their prognostic ability, providing insight into the effects of human activity on the environment, and setting the stage for smart policy decisions. McNeill received her B.S. in chemical engineering from Caltech in 1999 and her PhD in chemical engineering from MIT in 2005, where she was a NASA Earth System Science Fellow.

Sandra Crouse Quinn

Sandra Crouse Quinn is Professor and Chair of the Department of Family Science and Senior Associate Director of the Maryland Center for Health Equity, School of Public Health at the University of Maryland, College Park. She has been the principal investigator on CDC, NIH and FDA grants focused on vaccine behaviors, vaccine disparities, vaccine narratives in social media, vaccine communication during routine and emergency situations, trust, and building effective, community-engaged vaccine initiatives. She recently served as a member of the expert panel on older adults for the NIH funded, COVID-19 Prevention Network and the Maryland SARS CoV-2 Vaccine Technical Advisory Group. She is currently the Chair of the Planning Committee for a March 2022 NASEM Workshop, Building Public Trust in Public Health Emergency Preparedness and Response (PHEPR) Science: A Workshop.

Shawn Ryan

Shawn P. Ryan, Ph. D. is a chemical engineer at EPA's Center for Environmental Solutions and Emergency Response. He has worked at EPA for 18 years, sixteen of which have been devoted to leading research to support decontamination and consequence management. He holds a bachelor's of science degree in Environmental Engineering and a PhD in Chemical Engineering from Rensselaer Polytechnic Institute. Previously, he was a post-doctoral researcher at EPA working in the area of air pollution control – specifically understanding the formation of toxic pollutants during incineration and other thermal processes.

John Howard

John Howard, MD, MPH, JD, LLM, MBA, serves as the Director of the National Institute for Occupational Safety and Health and the Administrator of the World Trade Center Health Program in the U.S. Department of Health and Human Services in Washington, D.C. He first served as Director of NIOSH from 2002 through 2008, and again from 2009 to 2015. He was re-appointed to a third six-year term in 2015 and a fourth six-year term in 2021. Prior to his appointment as Director of NIOSH, Dr. Howard served as Chief of the Division of Occupational Safety and Health in the California Department of Industrial Relations, Labor and Workforce Development Agency, from 1991 through 2002. Dr. Howard received his Doctor of Medicine from Loyola University of Chicago, his Master of Public Health from the Harvard School of Public Health, his Doctor of Law from the University of California at Los Angeles, and his Master of Law in Administrative Law and his Master of Business Administration in Healthcare Management from the George Washington University in Washington, D.C.

David Rowson

Dave Rowson is the Director of the U.S. Environmental Protection Agency's Indoor Environments Division. His office is responsible for protecting public health from poor indoor air quality in homes, schools, offices, and other building types. During his career at EPA, Dave has helped lead the development and implementation of several important public health initiatives, including radon, comprehensive asthma care, healthy schools, international programs on indoor air, and most recently, the indoor air portion of the EPA's response to the COVID-19 pandemic.