

## Why Indoor Chemistry Matters Workshop 3: Reaching Communities for Action

DATE: APRIL 10, 2024

LOCATION: 500 5TH ST., N.W., WASHINGTON, DISTRICT OF COLUMBIA, 20001 | KECK 100

LINK TO JOIN VIRTUALLY: [ZOOM LINK](#)

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(ALL TIMES LISTED EDT)

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- 08:30 AM**     **Optional: Early Morning Coffee**  
Provided by the Academies for In-Person Attendees
- 09:00 AM**     **Open Remarks and Introductions**  
Linda Nhon, Program Officer, Board on Chemical Sciences and Technology, National Academies
- 09:10 AM**     **Working with Vulnerable Communities to Impact Change: An Environmental Justice Framework for Exposure Science, Public Health, and Beyond**  
  
**Dr. Lesliam Quirós-Alcalá**, Assistant Professor; Bloomberg School of Public Health, Johns Hopkins University
- 09:50 AM**     **Q&A with Dr. Quirós-Alcalá**  
Moderated by Dr. Paula Olsiewski, Contributing Scholar, John Hopkins Center for Health Security
- 10:00 AM**     **Session I. Implementing Research Data into Practice and Vice Versa: Framing, Summarizing, and Analyzing Data to Create Public Health Messages**  
  
**Indoor Air Guidance Development at EPA**  
**Dr. Vito Ilacqua**, *Acting* Director of the Center for Scientific Analysis, Office of Radiation and Indoor Air (ORIA)-Office of Air and Radiation (OAR), U.S. Environmental Protection Agency
- 10:30 AM**     **Q&A with Dr. Ilacqua**  
Moderated by Dr. Linda Birnbaum, Director, National Institute of Environmental Health Sciences (retired)
- 10:35 AM**     **Break**
- 10:50 AM**     **Panel I Discussion**  
Moderated by Dr. Linda Birnbaum  
  
**Ms. Jill Heins**, Director of Lung Health, American Lung Association  
**Dr. Elizabeth (Beth) Hair**, Senior Vice President, Truth Initiative  
Schroeder Institute

**Laura Kolb**, Former Director of the Center for Scientific Analysis, Office of Radiation and Indoor Air (ORIA)-Office of Air and Radiation (OAR), U.S. Environmental Protection Agency (retired) (virtual)  
**Dr. Laurel Royer**, Founder & Chief Scientific Officer, Carinalis

**12:00 PM**      *Lunch*

**01:00 PM**      **Session II. Understanding Occupancy: Incentivizing Change in Human Behavior**

**Examples of How Occupants' Behavior Can Affect Indoor Air Quality (IAQ) and How IAQ can Change their Behavior**

**Dr. Ginger Chew**, Senior Scientific Advisor for the Division of Environmental Health Science & Practice (DEHSP), Centers for Disease Control and Prevention (virtual)

**01:30 PM**      **Q&A with Dr. Chew**  
Moderated by Dr. Olsiewski

**01:35 PM**      **Panel II Discussion**  
Moderated by Dr. Olsiewski

**Mr. Joel Solomon**, Senior Program Manager of Health and Safety, National Education Association

**Mr. Brian Bisson Jr.**, Vice President of the State Vocational Federation of Teachers, American Federation of Teachers (virtual)

**Mr. Jonathan Petry**, Architect, Office of Assistant Secretary of Defense - Energy, Installation, and Environment

**Mr. Don Weekes**, Certified Industrial Hygienist and Certified Safety Professional, Past Director of the American Conference of Government Industrial Hygienists (ACGIH) (virtual)

**Dr. Ginger Chew**, Deputy Associate Director for Health, Centers for Disease Control and Prevention (virtual)

**02:35 PM**      *Break*

**02:45 PM**      **Session III. Navigating Standards, Guidelines, and Regulations: Ensuring Safer Indoor Environments**

**Standards, Guidelines, and Regulations Matter - Where We Are and What We Need**

**Dr. William (Bill) Bahnfleth**, Professor of Architectural Engineering, Penn State; Past President, American Society of Heating, Refrigerating, and Air-conditioning Engineers; Vice-President, Indoor Environmental Quality Global Alliance

**03:15PM**      **Q&A with Dr. Bahnfleth**  
Moderated by Dr. Birnbaum

**03:20 PM**     **Panel III Discussion**  
Moderated by Dr. Birnbaum

**Ms. Nina Prescott**, Associate on Carbon-Free Buildings Program,  
Rocky Mountain Institute  
**Mr. Mark Rodeffer**, National Building Electrification Campaign Co-  
Lead, Sierra Club, District of Columbia  
**Dr. Seema Bhangar**, Principal for Healthy Buildings and Communities,  
U.S. Green Building Council  
**Mr. Jacob Cassady**, Director of Government Relations, Association of  
Home Appliance Manufacturers  
**Dr. William (Bill) Bahnfleth**, Professor of Architectural Engineering,  
Penn State; Past President, American Society of Heating, Refrigerating,  
and Air-conditioning Engineers; Vice-President, Indoor Environmental  
Quality Global Alliance

**04:20 PM**     **Reflection and Closing Remarks**  
Drs. Birnbaum and Olsiewski

**04:30 PM**     **Adjourn**

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**Link to attend virtually**

<https://nasem.zoom.us/j/96329354713?pwd=dGZqQ2N3MXlOc3pTYlhabmNZYm1nUTo9>

## **Biographies of Panel**

**Dr. William Bahnfleth** is a Professor of Architectural Engineering at The Pennsylvania State University. He has held previous positions as a consulting engineer and as a Principal Investigator at the US Army Construction Engineering Research Laboratories. He is a past President of ASHRAE (the American Society of Heating, Refrigerating, and Air-conditioning Engineers) and Vice President of the Indoor Environmental Quality Global Alliance. His primary research interest is energy efficient control of indoor air quality, in particular, control of indoor bioaerosols with filtration, air cleaning, and germicidal ultraviolet light. He is a Fellow of ASHRAE, the American Society of Mechanical Engineers (ASME) and the International Society for Indoor Air Quality and Climate (ISIAQ). His ASHRAE awards include the Donald Bahnfleth Environmental Health Award, Louise and Bill Holladay Distinguished Fellow Award, and the F. Paul Anderson Award, ASHRAE's highest honor. Dr. Bahnfleth is a Distinguished Alumnus of the University of Illinois Department of Mechanical Science and Engineering, where he earned BS, MS, and PhD degrees in Mechanical Engineering. He is a Registered Professional Engineer. He has served as a member of the National Academies Committee on the Safe Buildings Program, Committee on Protecting Occupants of DOD Buildings from Chemical and Biological Releases, and the Committee on Emerging Science on Indoor Chemistry.

**Dr. Seema Bhangar** serves as Principal, Healthy Buildings and Communities, for Innovation and Research at the U.S. Green Building Council. She is a visiting scholar at U.C. Berkeley's College of Environmental Design Research and serves on the board of an independent nonprofit, the Indoor Air Institute. She specializes in indoor air quality, environmental health, and environmental sensing in buildings. She was previously a sustainability program manager at the commercial real estate firm WeWork, and a product manager at an environmental sensing technology startup, Aclima. Seema was a postdoctoral research fellow at U.C. Berkeley, where she also completed a Ph.D. in environmental engineering and an M.S. in public health. She holds a B.A.S. from Stanford University.

**Dr. Linda S. Birnbaum** is scientist emeritus and the former director and former director of National Institute of Environmental Health Sciences (NIEHS), has expertise in hiring management and program performance. She spent 19 years at the Environmental Protection Agency's Office of Research and Development before being recruited to lead NIEHS. Additionally, Dr. Birnbaum is a world-renowned scientist specializing in toxicology and public health. She is a member of the National Academy of Medicine and has served as chair of the Committee on the Role of Companion Animals as Sentinels for Predicting Environmental Exposure Effects on Aging and Cancer Susceptibility in Humans: A Workshop. She also served as a member of the Standing Committee to Advise the Department of State on Unexplained Health Effects on U.S. Government Employees and Their Families at Overseas Embassies; Roundtable on Environmental Health Sciences, Research, and Medicine; and the Planning Committee for the Role of Chemical Exposures in Obesity: A Workshop, among others. Dr. Birnbaum is currently scholar in residence at the Nicholas School of the Environment of Duke University, as well as an adjunct professor at Duke University, The University of North Carolina, and Yale University.

**Mr. Brian Bisson Jr.** currently works as an assistant director for the American Federation of Teachers (AFT) to assist with an array of health and safety initiatives, including coordination of OSHA and HSI AVERT and Adult/Pediatric First Aid CPR AED trainer courses. Brian worked for the Connecticut Technical Education and Career System as a Carpentry Instructor and was an active member of the State Vocational Federation of Teachers, Local 4200A for 11 years. Brian served as the SVFT's Vice-President and Health, Safety, and Security Committee Chairperson conducting health and safety audits for all 18 Connecticut Technical High Schools.

**Mr. Jacob Cassady** is Director of Government Relations at the Association of Home Appliance Manufacturers (AHAM). AHAM is the leading voice for the home appliance industry, promoting growth and innovation across the industry. Jake advocates before federal and state legislators on all matters important to the appliance industry. Mr. Cassady joined AHAM in June 2020 and for the past 14 years has advocated on behalf of consumer product manufacturers. The Saint Paul, Minnesota native worked on Capitol Hill as an aide to former U.S. Senator Mark Dayton (D-MN) and the U.S. House Agriculture Committee. Prior to moving to the Washington, D.C. area, Jake was active in a number of Minnesota congressional and state-level campaigns.

**Dr. Ginger L. Chew** is the Senior Scientific Advisor for the Division of Environmental Health Science and Practice at the Centers for Disease Control and Prevention (CDC). For several years, she was also an Assistant Professor at Columbia University's Mailman School of Public Health where she had her own laboratory for exposure assessment of mold and allergens. She obtained her master's degree in industrial Hygiene at the University of Alabama- Birmingham (UAB), Doctorate of Science in Environmental Microbiology from Harvard School of Public Health and completed postdoctoral studies at Wageningen Universiteit in The Netherlands. Dr. Chew's research focuses on exposure assessment of bioaerosols in the indoor environment. She served as principal investigator on several epidemiologic studies of allergens and childhood asthma, particularly in inner-city environments. She is the principal investigator for a study of green housing and childhood asthma (co-funded by HUD and EPA). In addition to research projects, Dr. Chew serves on the editorial board for Indoor Environments and previously served as Associate Editor for Aerobiologia. Dr. Chew has led mold assessment investigations after Hurricane Katrina (New Orleans and Biloxi), Hurricane Harvey (Houston), Hurricane Ida (New Orleans) and gave technical assistance in the aftermath of Hurricane Sandy (New York) and Typhoon Mawar (Guam). She serves as a CDC subject matter expert for mold in home environments. During the COVID-19 pandemic, she led the development of ventilation websites for homes. She worked with the National Institute of Standards and Technology (NIST) to develop an interactive ventilation tool for residents to see how various ventilation strategies can decrease particles in their homes. She also served on an Institute of Medicine (IOM) panel on Climate change, the Indoor Environment and Health. She is a full voting member of the American Conference of Governmental Industrial Hygienists (ACGIH) Bioaerosols committee.

**Dr. Elizabeth Hair** oversees the health communication research at Truth Initiative, including the formative research of the truth campaign and the longitudinal evaluation of the campaign's effectiveness

in communicating anti-smoking messages to young adults. In addition, she conducts research on youth use of traditional and emerging tobacco products.

Dr. Hair has over two decades of experience in conducting research on child and family well-being, including issues related to health and mental health, health risk behaviors, vulnerable youth and the transition to adulthood. Previously, Dr. Hair was a senior research scientist at NORC at the University of Chicago. Her work has been funded by several major U.S. foundations and federal agencies, and she has published work in leading research journals including *Tobacco Control*, *Nicotine and Tobacco Research*, *Development Psychology* and the *Journal of Adolescent Health*. Dr. Hair has her doctorate and master's degree from Texas A&M University.

**Ms. Jill Heins Nesvold** serves as the nationwide Senior Director of Health Systems Improvement and Indoor Air Quality for the American Lung Association. She leads a nationwide team who help healthcare and public health professionals ensure high quality of care for individuals with lung disease. During Jill's 35 years in healthcare and public health, she has worked at local, state, and national levels of government, non-profit organizations, and managed care. Jill holds master's degrees in health management and business administration, as well as doctoral coursework in evaluation studies. In Jill's spare time, she teaches two master's courses in public health communications.

**Dr. Vito Ilacqua** is the Acting Director of the Center for Scientific Analysis in the Indoor Environments Division, Office of Radiation & Indoor Air at EPA. He is a scientist with more than 20 years of experience at the intersection of public health, exposure science, and indoor air quality. His research has focused on indoor air chemistry modeling and particulate matter indoors. Previously, he was a scientist in the same office; a project officer for EPA STAR research grants (on air pollution epidemiology); one of the founding faculty members of the Department of Environmental and Global Health at the University of Florida; and a researcher at the Finnish National Public Health Institute and at the University of Medicine and Dentistry of NJ. He received a doctorate in Environmental Sciences from Rutgers University and holds a BS/MS degree from the Università degli Studi di Milano, Italy.

**Laura Kolb** holds an MPH in environmental and occupational health from George Washington University, School of Public Health. Following a stint in the Peace Corps, Laura worked as a scientist at several D.C. area consulting firms. Laura joined EPA in the early 1990's, working in EPA's radon and indoor air quality programs. She retired from EPA after more than 30 years as the Director of EPA Indoor Environments Division, Center for Scientific Analysis. She believes that Indoor Air Quality and Health is one of the largest under-addressed public health challenges that we have. During her time at EPA Laura focused on indoor air quality issues including radon, mold & other biological contaminants, indoor chemistry, PM, and infectious disease. Of particular importance to her is that the critical indoor PM and infectious disease work continue.

**Dr. Paula Olsiewski** is a Contributing Scholar at the Johns Hopkins Center for Health Security where leads the Center's work on indoor air quality policy to mitigate airborne disease and global catastrophic biological risks. During her two decades at the Alfred P. Sloan Foundation, she led innovative and multidisciplinary programs that inspired, accelerated, and produced lasting impact. Her expertise in

partnering with academic, governmental, and for-profit stakeholders fostered innovation and built research capacity through the creation of diverse stakeholder networks. Her accomplishments include the creation and direction of the microbiology of the built environment, chemistry of indoor environments, and biosecurity programs. Dr. Olsiewski is recognized as a leading expert in biosecurity and is a member of the Council on Foreign Relations. She was Chair of the US Environmental Protection Agency (EPA) Homeland Security Research Subcommittee and was a member of the EPA Board of Scientific Counselors Executive Committee 2014-2022. She is a member of the Academy of Fellows of the International Society for Indoor Air Quality and Climate and Fellow of the American Association for the Advancement of Science in chemistry. Dr. Olsiewski received a PhD in biological chemistry at the Massachusetts Institute of Technology (MIT) and a BS in chemistry, cum laude, from Yale.

**Hon. Jonathan Petry** AIA serves as a Program Analyst within the Office of the Deputy Assistant Secretary of Defense (Infrastructure Modernization and Resilience). He supports the Department of Defense's commitments to create and maintain Healthy, Equitable, Resilient, and Sustainable built environments in support of Soldiers, civilians, and their families. Prior to his current role, Mr. Petry served the U.S. Army Corps of Engineers by leading high performance sustainable design teams with the Kansas City District from 2002-2021. He is a registered Architect in the State of Missouri, a LEED® Accredited Professional in Building Design and Construction, and a Project Management Professional.

**Ms. Nina Prescott** is a Health and Air Quality Associate at RMI where she works with the Carbon-Free Buildings program to transition buildings away from fossil fuels and support health and air quality benefits. Most recently, her work has focused on identifying policy solutions to improve indoor air quality guidance at the federal and state level. Nina comes to RMI with experience in advancing clean and healthy building strategies. Her previous roles include educating and engaging with building industry stakeholders about high-performance, low-carbon building design, and conducting environmental health research. Nina received her master's degree in Climate & Society from Columbia University and her bachelor's degree from Hobart and William Smith Colleges.

**Dr. Lesliam Quirós-Alcalá** is an Assistant Professor at Johns Hopkins University in the Department of Environmental Health and Engineering. As an exposure scientist and environmental epidemiologist, she conducts translational exposure science research to better understand exposure-response relationships. Her research focuses on characterizing exposures to endocrine disruptors and associated health risks on highly vulnerable, marginalized populations historically underrepresented and understudied in public health research, including workers, pregnant women and women of reproductive age, and children. Her work aims to inform the development of public health policies and practices and to identify interventions that aim to eliminate disparities and improve the health of overburdened populations. In 2019, Dr. Quirós-Alcalá was recognized with the International Society of Exposure Science Joan Daisy Young Exposure Scientist Award. She currently serves in the Health Effects Institute Environmental Justice Program Advisory Council and is a Commissioner in the Maryland Governor's Commission on Environmental Justice and Sustainability Communities. She is also on the Board of Scientific Counselors for the National Institute for Occupational Safety and Health. Dr. Quirós-Alcalá received her BSc in Biomedical

Engineering and MSc in Safety Engineering and Industrial Hygiene from Texas A&M University. She received her PhD from UC Berkeley in Environmental Health Sciences.

**Mr. Mark Rodeffer** is an advocate for energy efficiency, renewable energy, and transitioning off fossil fuels. He is the co-lead of the Sierra Club's National Building Electrification Campaign and the Beyond Gas DC co-chair for the Sierra Club DC Chapter. He is a former journalist, and worked for news outlets including National Journal, The Hill, CNN, and C-SPAN. Mark led the Sierra Club's campaigns in DC to pass legislation to require electricity from 100% renewable sources by 2032, prevent fossil fuel use in newly constructed buildings, and create a program to transition low- and moderate-income DC residents' homes from fossil fuels to efficient electric systems. Mark is a member of the Metropolitan Washington Council of Governments' Air and Climate Public Advisory Committee, a contributor to Greater Washington, and a former member of DC's Pedestrian Advisory Council. As a citizen forestry team leader with Casey Trees, he's planted hundreds of trees across DC over the past 15 years.

**Dr. Laurel A. Royer** is an environmental and human health scientist and founder of Carinalis Consulting and Research. Carinalis is a firm principled in building bridges and creating spaces that engage industry, academia, and community to address pressing global environmental and health challenges. Dr. Royer has more than 15 years combined research, scientific, technical advising expertise. She has developed, built, and sharpened an inter- and trans-disciplinary consultancy focused on evaluating the balance between innovation and detrimental impact. Dr. Royer applies fundamentals of the chemical and related sciences to evaluate manufacturing/production and application, disposal, contamination, and exposure issues via the use cycle to support stakeholders in achieving an overall positive impact. To that cause, she supports clients and partners across a myriad of sectors addressing both proactive and reactive responses at the intersection of the built and natural environment.

Dr. Royer is an active and vocal advocate for broadening participation through the lens of equity and inclusion in deriving environmental and health solutions that advance sustainable and economic development frameworks. Her work with community-based organizations involves technical advising that supports capacity building, grant execution, research, and implementation strategies.

She holds a Master of Science degree in Medicinal Chemistry and Molecular Pharmacology, and Doctoral degree in Environmental Chemistry from Purdue University. She is also an alum of the University of the Virgin Islands, where she completed undergraduate studies in Chemistry.

**Joel Solomon** is the senior program manager overseeing the Health and Safety Program of the National Education Association, the largest union in the United States. The Program focuses on environmental and occupational health and safety, school health, and violence prevention and response, providing technical and strategic support to NEA state and local affiliates, engaging in federal rulemaking and advocacy, and building strong partnerships to advance health and safety in education settings. Before launching the NEA Health and Safety Program in 2021, Solomon served for 15 years as a senior policy analyst in the Association's Collective Bargaining and Member Advocacy Department, addressing health benefit and health policy issues. Prior to his time at NEA, Solomon worked for five years with the AFL-CIO Center for Working Capital, a nonprofit organization developing and providing educational programming to pension and health fund trustees. He worked for 13 years before that in the international human rights



movement, focusing in Latin America on topics such as torture, the rule of law, freedom of expression, and freedom of association.

**Mr. Donald Weekes** has over forty-eight (48) years of comprehensive consultation expertise and project experience in the implementation and management of inspections for hazardous materials in numerous buildings throughout Canada and the United States including universities, colleges, governmental offices, and commercial and residential buildings. During the course of Mr. Weekes' career, he has served in numerous senior management positions in both the consulting and insurance industries. He is an ACGIH Past Member of the Board of Directors. As a Certified Industrial Hygienist (CIH) and a Certified Safety Professional (CSP), Mr. Weekes has served as an environmental health and safety professional for various international corporations. His extensive capabilities in health and safety audits have enabled him to work in facilities involved with manufacturing, warehousing, and logistics.