IEQ 2025 Preconference Summit:

IEQ in Action: Healthy and Resilient Building Applications

September 23, 10:00 AM
Registration
Room: Opus Foyer, Mezzanine Level, Delta Hotel by Marriott Montrel

September 23, 11:00 AM
Lunch
Room: Concerto, Mezzanine Level, Delta Hotel by Marriott Montrel

September 23, 11:30 AM-12:30 PM
Welcome/Opening Keynote: Jeffery Siegel

Welcome/Opening Keynote: How to Move the Needle on Indoor Environmental Quality: Opportunities and Challenges

Room: Concerto, Mezzanine Level, Delta Hotel by Marriott Montrel

The importance of IEQ to occupant comfort, health, and well-being cannot be overstated. However, improving IEQ has traditionally been only seen as a cost. The primary motivation for improving IEQ are often improved long-term health benefits which are difficult to quantify and often accrue in complicated ways. Further, there is large gap between what we know how to do to improve IEQ and actually achieving improvements in real environments. This presentation examines key barriers to improving IEQ and strategies to overcome them with a particular focus on schools and eldercare environments which have unrealized IEQ opportunities. Key themes include the interconnectedness of buildings, systems, and occupants and their impacts on IEQ and the importance of extraordinary events such as wildfires, extreme heat, and ambient air pollution. The overarching goal is to provide a practical basis for justifying and achieving sustained improved IEQ in indoor environments.

Speaker Bio:

Jeffrey Siegel, Ph.D., is a Professor of Civil and Mineral Engineering and a member of the Hub for Advancing Buildings at the University of Toronto and a Bahen/Tanenbaum Chair in Civil Engineering. He holds joint appointments at the Dalla Lana School of Public Health and the Department of Physical & Environmental Sciences. He has an M.S. and Ph.D. in Mechanical Engineering from the University of California, Berkeley as well as a B.Sc. from Swarthmore College. He is internationally recognized for his work on indoor air quality and air cleaning and is a fellow of ASHRAE and a member of the Academy of Fellows of the International Society for Indoor Air and Climate (ISIAQ). His research interests include healthy and sustainable buildings, filtration and air cleaning, ventilation and indoor air quality, control of indoor particulate matter, cognitive impacts of indoor air quality, and the impact of building systems on indoor microbiology and chemistry. Prior to his position at the University of Toronto, Dr. Siegel was an Associate Professor at The University of Texas at Austin.

September 23, 1:00 PM-2:30 PM

Session 1: K-12 Schools Panel

Prioritizing School IEQ Improvements for Health

Room: Concerto, Mezzanine Level, Delta Hotel by Marriott Montrel

School communities face growing pressure to create healthier learning environments while navigating aging infrastructure, limited budgets, and expanding expectations for performance. Chronic underinvestment in public school buildings exacerbates existing indoor air quality (IAQ) problems, and the conditions worsen as school buildings age. In 2020, the U.S. Government Accountability Office (GAO) found that 41 percent of U.S. districts required HVAC systems upgrades or replacements in at least half of their schools and 20 to 35 percent of districts had serious deficiencies in at least half of their roofing, lighting, or safety and security systems.

With widespread and urgent facility needs, school system decision makers require clear, evidence-based guidance to prioritize investments that will deliver the greatest benefits for student and staff health, while also considering operational costs, energy efficiency, and equity. This interdisciplinary panel will feature experts from public health and school design sectors, who will highlight tools, resources, and case studies that illustrate successful pathways and lessons learned in advancing healthier school environments.

Speaker Bios:

Hannah Carter, Project Manager, Center for Green Schools, Hannah Carter is the Project Manager for School District Environmental Health within the Center for Green Schools at USGBC where she supports school district staff working to improve air quality across the country through coaching and training programs and resource development. Prior to joining the Center for Green Schools, Hannah was the Sustainability Coordinator at Parkway School District in St. Louis, Missouri where she led the district's comprehensive sustainability and energy management program.

Corey Metzger, Principal, Resource Consulting Engineers, Corey Metzger, P.E., Member ASHRAE is the founding Principal of Resource Consulting Engineers, with offices in Iowa and Nebraska. He has completed dozens of K-12 and higher education projects, ranging from small remodel projects to large new facilities. Mr. Metzger is active in ASHRAE, currently serving as a Director-At-Large on the ASHRAE Board of Directors, Board of Directors Ex Officio Member for the Environmental Health Committee and the Technical Activities Committee, member of Technology Council, and Chair of the Technology Council Special Projects Subcommittee. He is also active in Technical Committee 9.7 - Educational Facilities, having just completed a two-year term as Chair of this group.

Michele L. Herdt, PhD, MPH, Director, NYS School Environmental Health Program, Michele Herdt is the Director of the NYS School Environmental Health Program within the Center for Environmental Health at the New York State Department of Health. In addition, she is the Program Manager for the New York State School Lead in Drinking Water Program and the New York State Children's Environmental Health Centers of Excellence. She is also an Assistant Professor in the Department of Epidemiology and Biostatistics at the University at Albany, College of Integrated Health Sciences.

Alexandre Dufresne, Project Manager, Director, and Partner, Pageau Morel. Specializing in the design of mechanical and electrical systems, he has over 17 years of experience guiding projects with a strong focus on performance and long-term building operation. He has managed numerous school retrofits projects and recently contributed to the first of 7 Lab-École pilots schools, aimed at creating innovative and healthy learning environments.

September 23, 2:30 PM-3:45 PM

Session 2: Resiliency Panel

Resiliency in the Built Environment

Room: Concerto, Mezzanine Level, Delta Hotel by Marriott Montrel

Climate change impacts everyone, in our communities and in our daily lives. Data has proven that our summers are hotter and wetter, winters are colder and harsher, and that the frequency of climatic events increases year over year.

As industry professionals, and as citizens of this One Planet, we must plan and prepare our buildings for the future impacts of climate change.

This workshop explores evolving strategies, design innovations, and policy frameworks that reinforce resilient urban and architectural systems in the face of climate change, natural disasters, and societal transformation. Participants will hear from leading experts to examine adaptive approaches to infrastructure, building materials, building system technologies, and solutions that aid in tracking performance. Through presentations, real-world case studies, and a guided panel discussion, attendees understand the tools available to assess vulnerabilities, implement robust solutions, and foster environments that not only withstand shocks, but recover and thrive.

Speaker Bios:

Amy Pastor, PE, CxA, LEED Fellow, ENV SP, Amy is EXP's Vice President, Sustainability. Amy specializes in sustainable design, commissioning, energy studies, energy modeling, measurement & verification, and project management. Amy takes a holistic approach to

sustainable design, assessing a building, site and infrastructure systems for the full spectrum of capabilities to meet the environmental requirements for today and the future. Amy takes immense pride in building lasting relationships with clients and delivering quality, sustainable buildings, without surrendering the integrity of the design. Amy is the lead author for EXP's annual ESG Report. Amy is a licensed Mechanical Engineer, a Certified Commissioning Authority, Envision Sustainability Professional and a LEED Fellow.

Air Quality Expert – Marie-Julie Garneu, M.Sc., Marie-Julie is EXP's Director, Air Quality and Industrial Hygiene. She holds a master's degree in Environmental Health and Occupational Health from the University of Montreal. She began her career in Montreal in 2001 before continuing her professional journey in France in environmental management for the railway industry). Since returning to Quebec in 2006, Marie-Julie has been with EXP, where she currently serves as Director of the Industrial Hygiene / Air Quality Department. Leading a committed team, she supports clients in the institutional, healthcare and private sectors in identifying and managing risks related to indoor environments.
Over the years, she has conducted numerous air quality studies, particularly in connection with sustainable buildings and environmental certification processes. She has carried out many investigations to evaluate risks linked to the presence of contaminants in built environments and has overseen campaigns to characterize hazardous materials such as asbestos, mold, and other concerning substances. Her expertise is further reflected in the drafting of technical specifications and work procedures tailored to complex contexts, along with the development of targeted recommendations addressing specific challenges. She approaches air quality with a holistic lens—considering building features, ventilation, occupancy, and activities.
Marie-Julie's career path demonstrates a deep commitment to occupant health and the quality of indoor environments. Through her technical skills, leadership, and unwavering attention to detail, she has built a recognized expertise serving meaningful and sustainable projects. Her journey conveys a clear vision: making air quality a powerful driver for collective well-being.

Water Resilience – Julie Beausejour, PhD, Julie is a Senior Civil Engineer, focusing on water treatment and implementing strategies to conserve this precious natural resource. Julie also holds a PhD in urban planning. With 20 years of industry experience, Julie has been a major projects manager, for projects in Quebec and internationally. Her experience includes civil and water infrastructure in Montreal, and in growing suburbs; filtration plants, treatment plants and networks. She has designed naturalized ponds, including an ecological and living aquatic environment at Montreal's Botanical Garden's tree house.
Julie's focus on resilience aims to make cities better for the future. Recent experience includes Climate Change Adaptation Plans for the Cities of Granby and Quebec City, where each municipal department worked on its adaptation plan and intends to implement innovative ways to plan for the new climate reality. At Arup, Julie works on neighborhood resilience and stormwater management. She integrates green infrastructure to improve neighborhood resilience to climate change, reduce flooding, increase greening, and reduce heat island.

September 23, 3:45 PM -5:00 PM

Session 3: Long-term Care Panel

Healthy Environments for Long-term Care Residences

Room: Concerto, Mezzanine Level, Delta Hotel by Marriott Montrel

The residents of long-term care (LTC) homes are often (but not always) older adults who need medical care and assistance with daily living that cannot be provided in the community. They may spend 24 hours per day indoors in the residence, making the conditions in that building profound influences on their health and well-being. Poor indoor air quality, inadequate temperature control, noise from both internal and externa sources, ill-designed electric lighting and limited access to daylight and view all compromise the indoor environmental quality experienced by these residents, most of whom will be powerless to influence these conditions. The Canadian experience of the COVID-19 pandemic revealed shortcomings in IEQ in long-term care settings, particularly with respect to ventilation and indoor air quality: 3% of Canadian COVID-19 cases and 43% of COVID-19 deaths occurred among LTC residents. Although this led to many changes in both the physical environments and operation of LTC homes, improving IEQ in these settings is a work in progress, and there is more to do. This interdisciplinary session will feature experts in bioaerosols and disease transmission, lighting and well-being, and LTC design, to highlight the issues and demonstrate possible solutions to improve the home life of these vulnerable people.

Speaker Bios:

Jennifer A. Veitch, Ph.D., FIES, FRSC, National Research Council of Canada – Construction Research Centre, Dr. Jennifer Veitch is a psychological scientist with expertise in environmental psychology and has led interdisciplinary research into the effects of indoor environmental conditions on health and behavior at the NRC since 1992. She is known internationally for demonstrating that better-quality lighting designed with individual needs in mind can both reduce energy use and improve organizational effectiveness. Having been honored with several awards from North American and international associations in both psychology and lighting, she is a Fellow of the Royal Society of Canada

Raymond Tellier, MD MSc FRCPC CSPQ FCCM D(ABMM) Associate Professor McGill University, Dr. Tellier obtained a BSc in Physics from Université de Montréal and a MSc in Mathematics from McGill University. He then obtained a MD degree and an MSc in Microbiology from Université de Sherbrooke. He did his internship at McGill University and his Residency in Medical Microbiology at the University of Toronto. He then did postdoctoral studies at the National Institutes of Health in the Hepatitis Viruses Section.
Dr. Tellier worked as a Medical Microbiologist for 12 years at the Hospital for Sick Children and the University of Toronto. He was Medical Microbiologist for 10 years at the Laboratory for Public Health of Alberta in Calgary and at the Cumming School of Medicine of the University of Calgary. He is currently Medical Microbiologist at the McGill University Health Centre, Site Chief for the Glen site of the MUHC Microbiology Laboratory, and Associate Professor at the Dept. of Medicine, McGill University.

Dr Tellier has published 130 peer-reviewed scientific articles. His research interests include molecular diagnostic methods in virology, hepatitis viruses, respiratory viruses, opportunistic viral infections, viral infections of the central nervous system, emerging viruses and the role of aerosol transmission of infectious agents.

Ron Gagnon, Project Manager, Pageau Morel, A specialist in sustainable building, he has been working since 1986 in building electro mechanics, building automation and energy efficiency. Mr. Gagnon is a member of ASHRAE. He acts as governor and ex-officio president of the chapter of the society in Montréal, and he also sits on the members council of ASHRAE internationally. Mr. Gagnon is also a member of the Canadian Green Building Council and a founding member of the Québec Section.

September 23, 6:00 PM -7:30 PM

IEQ Conference: Welcome Reception

Room: Jardin Milton, Delta Hotel by Marriott Montrel