SCENTROID
Future of Sensory Technology

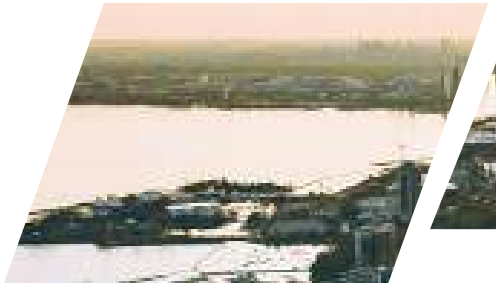
Civil & Mineral Engineering
UNIVERSITY OF TORONTO

We are excited to welcome you to “AIr Tomorrow”, the 2025 Air & Odor Management Conference and Technology Showcase (AOMCTS), bringing together more than 100 participants, including leading scientists, government officials, industry experts, and NGOs. Now in its third edition, AOMCTS will explore cutting-edge research, breakthrough technologies, and real-world applications that are shaping the future of air quality and odor management.

This year’s theme, “AIr Tomorrow,” highlights how artificial intelligence, advanced sensing, and data-driven insights are transforming the way we understand, manage, and improve the air we breathe.

Dr. Ardevan Bakhtari, Chair
Scentroid, a division of IDES Canada

Marianne Hatzopoulou, Co-Chair
University of Toronto



VENUE

The AOMCTS 2025 Conference and Technology Showcase will take place at the historic Hart House on the St. George Campus of the University of Toronto, one of the world's leading public research universities.

Founded in 1827, the University of Toronto is Canada's first institution of higher learning and consistently ranks among the top universities globally. Located in the heart of downtown Toronto, the campus combines architectural heritage with cutting-edge research and innovation.

The Hart House itself serves as a landmark of Collegiate Gothic architecture, and as a cultural and intellectual hub since its opening in 1919. As North America's first comprehensive student centre, it spans over 200,000 square feet and features libraries, meeting rooms, a theatre, a fitness centre, and a vibrant arts community. Designed by architect Henry Sproatt, with contributions from decorator Alexander Scott Carter and engineer Ernest Rolph, Hart House is also home to the iconic Soldier' Tower.

The conference sessions will be held in the Great Hall, the signature space of Hart House. With its soaring ceilings, grand bronze chandeliers, tall stained-glass windows, marble floors, and rich oak paneling, the Great Hall offers a breathtaking setting that blends tradition, elegance, and academic prestige-perfect for networking, presentations, and showcasing innovation.

AGENDA

Wednesday Oct. 08.10

8:00 AM - 8:45 AM

Breakfast & Registration
Lower Gallery

8:45 AM - 10:15 AM

Welcome & Session 1
Great Hall

10:15 AM - 10:45 AM

Coffee Break
Lower Gallery

10:45 AM - 12:15 PM

Session 2
Great Hall

12:15 PM - 1:30 PM

Lunch ft. Exhibits and Poster Display
Lower Gallery

1:30 PM - 3:00 PM

Session 3
Great Hall

3:00 PM - 3:30 PM

Coffee Break
Lower Gallery

3:30 PM - 5:00 PM

Session 4
Great Hall

5:30 PM - 8:00 PM

Networking Reception
Lower Gallery and Quad

Thursday Oct. 09.10

8:00 AM - 9:00 AM

Breakfast & Registration
Lower Gallery

9:00 AM - 10:00 AM

Session 5
Great Hall

10:00 AM - 11:30 AM

Session 6
Great Hall

11:30 AM - 12:00 PM

Coffee Break
Lower Gallery

12:00 PM - 1:30 PM

Session 7
Great Hall

1:30 PM - 3:00 PM

Lunch ft. Exhibits and Poster Display
Lower Gallery

PROGRAM: DAY 1

Welcome

Wed.08.10 8:45 AM - 9:00 AM

Ardevan Bakhtari
Marianne Hatzopoulou
Scentroid
University of Toronto

Conference leaders introduction

Session 1

Wed.08.10 9:00 AM - 10:15 AM

Jeffrey Siegel
University of Toronto

Measuring ventilation and filtration performance with low-cost sensors and AI.

Scott Weichenthal
McGill University

Ultrafine Particles and Health: Recent Progress from Canadian Studies

Meredith Franklin
University of Toronto

Advances in AI for Air Quality Exposure Modeling with Satellite Data

Rebecca Saari
University of Waterloo

Air quality alerts, human health, and climate change

Session 2

Wed.08.10 10:45 AM - 12:15 PM

Marc Saleh
Mobility Futures Lab

Medium and Heavy-Duty Transport and Air Quality: The Technology Shift Ahead

Miranda Doris
University of Toronto

Modelling Air Quality in a Rural Area of Unconventional Oil and Gas Development for Health and Justice

Daniel Posen
University of Toronto

Health benefits of US light-duty vehicle electrification and the role of fleet dynamics to 2050

Tareq Alsaleh
Toronto Metropolitan University

Simulation Models for Sustainable, Resilient, and Optimised Global Electric Vehicles Supply Chain

PROGRAM: DAY 1

Session 3

Wed.08.10 1:30 PM - 3:00 PM

Ryan Duruisseau-Kuntz
University of Toronto

Characterizing Aged Wildfire Contributions to Urban PM2.5 Through an Air Quality Data Mining Approach

Hosna Movahhedinia
University of Toronto

Identifying Ultrafine Particle Formation with Ensemble Learning Techniques

Jenna Tarshis
University of British Colombia

Dynamic Anomaly Detection and Source Localization in Air Quality Sensor Networks

Lawson Gillespie
University of Toronto

From Surveys to Fluxes: Estimating Methane Emissions from Mobile In Situ Measurements

Session 4

Wed.08.10 3:30 PM - 5:00 PM

Greg Evans
University of Toronto

Novel approaches to urban air quality measurement and data analysis

Yee Ka Wong
University of Toronto

Study of traffic-related air pollution using a low-cost sensor network in Toronto, Canada

Arman Ganji
University of Toronto

A predictive signal processing model for quantifying NH3, SO2, H2S, and NO2 using nanofiber sensors

Bilal Farooq
Toronto Metropolitan University

Exploring Sustainable Pathways for Urban Traffic Decarbonization: Lessons from Simulations of Downtown Toronto

PROGRAM: DAY 2

Session 5

Thurs.09.10 9:00 AM - 10:00 AM

Amir Hakami
Carleton University

Coordinating climate and health policies: sectoral and location-specific co-benefits

Krystal Pollitt
Yale University

Discovery of Emerging Contaminants in the Air

Sarah Haines
University of Toronto

From Dust to Data: Overcoming Barriers in Indoor Air Microbiome Research through Emerging Technologies

Session 6

Thurs.09.10 10:00 AM - 11:30 AM

Matthew Adams
University of Toronto

The not-so-artificial intelligence of air pollution monitoring

Marshall Lloyd
McGill University

Predicting reduced ultrafine particle-related mortality resulting from introduction of electric vehicles

Zeinab Heidari
Simon Fraser University

Seasonal Dispersion of Air Pollution from Biomass-Burning District Heating Systems

Robert Healy
Government of Ontario

Mobile and passive air monitoring of industrial volatile organic compounds in Ontario

PROGRAM: DAY 2

Session 7

Thurs.09.10 12:00 PM - 1:30 PM

Arthur Chan
University of Toronto

Understanding sources of Volatile Organic Compounds in office spaces using source apportionment analysis

Andy Tolley
Ambilabs

Enhancing Small Sensor Data Authenticity & Quality Assurance

Derk Maat
SciCorp International Corp

Impacting the Wastewater Treatment Market and the Collection/ Conveyance Systems with Proven Transformative Technology

Atif Khan
University of Regina

Life Cycle Assessment of Environmental Impacts in the Coal Value Chain of Emerging Economies

Conference Organizers

Ardevan Bakhtari
Chair

Dr. Ardevan Bakhtari is a specialist in instrumentation with an extensive background in the environmental, nuclear, and medical industries. He holds a PhD in instrumentation from the Faculty of Engineering at the University of Toronto, where he also serves as an Adjunct Professor. Dr. Bakhtari has been involved in numerous international projects focusing on industrial odour impact assessments and is the founder of Scentroid, the world leader in odor measurement and air sensing equipment.

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Marianne Hatzopoulou
Co-Chair

Prof. Hatzopoulou leads the Transportation and Air Quality (TRAQ) research group studying the interactions between transportation, air quality, climate change, and public health; she published 150 publications on these topics. she is also the founding director of Positive Zero Transport Futures – a living lab ecosystem where new technologies, services, and policies are tested in a real-world context.

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Speakers

Matthew Adams

Matthew Adams is an Associate Professor in the Department of Geography, Geomatics and Environment at the University of Toronto Mississauga, and Director of the Centre for Urban Environments. His research focuses on urban air pollution exposure and environmental GIS, with an emphasis on developing new air quality monitoring protocols that integrate low-cost sensors and artificial intelligence.

Tareq Alsaleh

Tareq Alsaleh is a PhD Candidate at Toronto Metropolitan University and Research Fellow at the Global Battery Alliance. His research is at the intersection of sustainability, AI, and emerging technologies in transportation.

Arthur Chan

Arthur Chan is a Professor in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto. His research focuses on chemistry of air pollution and its effects on human health. His group develops analytical techniques to measure air pollution and studies the biological effects.

Miranda Doris

Miranda Doris is a recent PhD graduate from the Department of Civil and Mineral Engineering at the University of Toronto. Her research focuses on air quality and environmental justice related to the hydraulic fracturing industry in northeastern British Columbia. Miranda holds a Bachelor of Environmental Engineering from Carleton University.

Speakers

Ryan Duruisseau-Kuntz

Ryan Duruisseau-Kuntz is a second year MASc student in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto. Ryan's research focuses on physical and chemical characterization of particulate matter from wildfire smoke in urban environments.

Greg Evans

Greg Evans is a Professor in the Department of Chemical Engineering & Applied Chemistry at the University of Toronto. He leads the Southern Ontario Centre for Atmospheric Aerosol Research (SOCAAR), an interdisciplinary research centre that studies air quality with a particular focus on how air quality impacts human health, climate and the environment.

Bilal Farooq

Bilal Farooq is an Associate Professor in the Department of Civil Engineering at the Toronto Metropolitan University (TMU) and a Canada Research Chair in Disruptive Transportation Technologies and Services. His research explores traffic flow simulation and prediction, connected autonomous vehicles, and urban congestion.

Meredith Franklin

Professor Franklin is a leading expert in developing advanced data science tools and artificial intelligence (AI) models for environmental exposure assessment. With a strong interdisciplinary approach, her research integrates machine learning, statistics, geospatial analytics, and atmospheric science.

Speakers

Arman Ganji

Arman Ganji is a Senior Research Associate, Big Data Lead, and Manager at the University of Toronto's Climate Science Center. His work focuses on climate modeling, air quality, and emissions research, with contributions ranging from advancing the Canadian Regional Climate Model (CRCM5) to developing the Traffic Emission Prediction software (TEPs-I and II) used to build emission and traffic inventories for Toronto and Quebec. He has led projects on air pollution sampling, prediction, and historical analysis across Canadian cities, and was one of the main contributors to the development of the "Urban Scanner," a mobile air quality monitoring platform.

Lawson Gillespie

Lawson Gillespie is a recent PhD graduate from the Physics Department at the University of Toronto where he worked with Prof. Debra Wunch to identify, characterize, and quantify sources of methane emissions from the urban environment. Currently, he works as a postdoctoral research scientist for Environment and Climate Change Canada's Subnational Greenhouse Gases Monitoring Team.

Sarah Haines

Sarah Haines is an Assistant Professor in the Department of Civil and Mineral Engineering at the University of Toronto. Her interdisciplinary research integrates building science, engineering, and microbiology to analyze how the built environment influences human health. She uses cutting-edge microbiology techniques such as next-generation sequencing, metatranscriptomics, and bioinformatics to investigate varying relationships in our indoor environment.

Amir Hakami

Amir Hakami is a Professor in the Department of Civil and Environmental Engineering at Carleton University. His expertise is in air quality modeling, and his research focus is on applications of models to inform air pollution decision-making.

Speakers

Robert Healy

Robert Healy is a Senior Science Advisor with the Ontario Ministry of the Environment Conservation and Parks (MECP). He provides advice on air quality issues and leads the Ministry's mobile air monitoring activities, which include responding to environmental emergencies and investigating emissions from industrial facilities across the province. Rob holds a PhD in atmospheric chemistry from University College Cork, Ireland. His current research activities include passive monitoring of volatile organic compounds and spatial mapping of air pollutants using mobile monitoring platforms.

Zeinab Heidari

Zeinab Heidari is a first-year PhD student in Sustainable Energy Engineering at Simon Fraser University. Her research focuses on biomass burning facilities, with an emphasis on air pollution monitoring and atmospheric dispersion modeling. She integrates advanced simulation tools such as AERMOD to analyze pollutant dispersion, optimize combustion processes, and assess environmental impacts.

Atif Khan

Atif Nasim Khan is a Master of Applied Science candidate in Industrial Systems Engineering at the University of Regina, focusing on Life Cycle Assessment (LCA) and sustainable energy systems. His research examines the coal value chain in emerging economies, evaluating emissions, the water–energy nexus, and strategies for mitigating greenhouse gases. He seeks to promote sustainable energy production methods via data-driven analysis and systems optimization.

Marshall Lloyd

Marshall Lloyd is a research associate at McGill University. His research focuses on modelling exposures and estimating their potential health impacts. He is particularly interested in ultrafine particles.

Speakers

Derk Maat

Derk Maat is the President and CEO of SciCorp International Corp., a leader in sustainable wastewater and solid waste solutions. He specializes in environmentally and economically sustainable process design, applying advanced odor control technology that not only eliminates odors but also reduces the energy demands of wastewater treatment and collection/conveyance systems. Under his leadership, SciCorp' s BIOLOGIC™ SR2 product is revolutionizing the industry with innovative, transformative solutions.

Hosna Movahhedinia

Hosna Movahhedinia is a PhD candidate in the Department of Chemical Engineering and Applied Chemistry at the University of Toronto. Her research focuses on characterizing ultrafine particles using machine learning, with particular emphasis on understanding their origins. She applies advanced analytical techniques to identify and investigate sources that result in higher levels of UFP during the day.

Krystall Pollitt

Krystal Pollitt is an Associate Professor of Environmental Health Sciences at the Yale School of Public Health. Her research centers on developing and applying exposomic methods to study how environmental factors influence health.

Daniel Posen

Daniel Posen is an Associate Professor in the Department of Civil and Mineral Engineering at the University of Toronto and a Tier 2 Canada Research Chair in System-scale Environmental Impacts of Energy and Transport Technologies. His research focuses on system-scale environmental sustainability analysis, a work that draws on a range of tools from Engineering, Science, Economics, and Public Policy to provide quantitative analysis to guide environmental policy and decision making.

Speakers

Rebecca Saari

Rebecca Saari is a Tier 2 Canada Research Chair in Global Change, Atmosphere, and Health, and Associate Professor in the Department of Civil and Environmental Engineering at the University of Waterloo. Her research aims to inform interventions – including mitigation and adaptation – to protect human health from air pollution in a changing climate.

Marc Saleh

Marc Saleh is the founder of Mobility Futures Lab, a consultancy specializing in sustainable transportation. His work focuses on market and policy research, fleet consulting, and decision-support software development, evaluating emerging technologies for their potential to reduce greenhouse gas emissions and improve air quality.

Jeff Siegel

Jeffrey Siegel is a Professor of Civil Engineering and the Bahen/Tanenbaum Chair in Civil Engineering and a member of the Hub for Advancing Buildings (HAB). He holds joint appointments at the Dalla Lana School of Public Health and the Department of Physical & Environmental Sciences. His research interests include healthy and sustainable buildings, ventilation and indoor air quality in residential and commercial buildings, control of indoor particulate matter, and the cognitive impact of indoor exposures.

Jenna Tarshis

Jenna Tarshis is a fourth-year Environmental Engineering student at UBC. Her research develops a framework that detects pollution events in real time and applies spatio-temporal analysis to estimate their source. Jenna is interested in bridging engineering, data science, and environmental applications to create practical tools that support faster response and more reliable source attribution in air quality management.

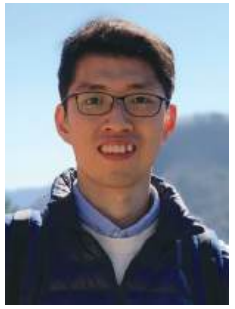
Speakers

Andy Tolley

Andy Tolley is the CEO of Ambilabs. He has 25 years industry experience working with air pollution monitoring systems and instrumentation. Ambilabs has successfully developed and deployed advanced scientific air pollution monitoring systems across over 1,000 site locations, including projects for federal government agencies such as the US Dept of Energy, Environment Canada, US-EPA, NOAA, NIST, various Provincial, State & Local agencies, and large industrial utilities such as Cargill, Alcoa, BP, and works closely with hundreds of important scientific research institutions across North America.

Scott Weichenthal

Scott Weichenthal is an environmental epidemiologist and Professor in the Department of Epidemiology, Biostatistics, and Occupational Health at McGill University. His research is dedicated to understanding the population health impacts of environmental exposures including cardiorespiratory outcomes and cancer.



Yee Ka Wong

Yee Ka Wong is a Postdoctoral Fellow at the University of Toronto. He is interested in examining the sources of urban air pollution and its impacts through field measurements. Currently, his research focuses on the use of sensor technologies to study urban air quality, with a special interest in the roles of traffic emissions.