eSim 2026

25th ANNIVERSARY

UdS Université de Sherbrooke
Longueuil Campus

PROGRAM BOOKLET

eSim 2026

Advancing Sustainability and Climate Resilience

Longueuil, Québec, Canada

Workshops:
June 17, 2026

Conference:
June 18–19, 2026



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25th ANNIVERSARY

UdS Université de Sherbrooke

Longueuil Campus

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CONFERENCE PROGRAM OVERVIEW

At-a-glance schedule

Time / Period	Wednesday, June 17	Thursday, June 18	Friday, June 19
Morning	08:15–12:00 Registration, light breakfast, Workshops1–3	07:30–12:00 Registration, Light breakfast, opening ceremony, Keynotes 1–2, Parallel Sessions 01–05	08:00–11:30 Light breakfast, Keynote 3, Parallel Sessions 16–20
Lunch	12:00–13:00 Lunch	12:00–13:00 Lunch	11:30–13:00 IBPSA-Canada AGM / Lunch
Afternoon I	13:00–16:00 Workshops 1, 2, and 4	13:00–14:30 Parallel Sessions 06–10	13:00–14:30 Parallel Sessions 21–25
Afternoon II	16:00–17:30 Technical Tour	15:00–16:30 Parallel Sessions 11–15	15:00–17:00 Parallel Sessions 26–27, Closing — Grande portée
Evening	17:30–20:00 Welcome reception	18:30–22:30 Banquet — Sandman Hotel Montreal-Longueuil	Conference ends after closing

DETAILED PROGRAM SCHEDULE

Wednesday, 17 June 2026

Time	Room	Presentation / Presenter / Affiliation
08:15 - 17:00		**Registration**
08:30 - 09:00	Grande portée	**Light Breakfast**
09:00 - 12:00	L1-3645	**Workshop 1: Modelling and simulation of building energy systems using the Modelica language (section 1)**
09:00 - 12:00	L1-3620	**Workshop 2: Modeling urban climate with CFD based models (section 1)**
09:00 - 12:00	L1-4600	**Workshop 3: From Data to Flexibility: Data-Driven Modeling and Model Predictive Control (MPC) for Energy Flexibility in Real Buildings**
12:00 - 13:00	Grande portée	**Lunch**
13:00 - 16:00	L1-3645	**Workshop 1: Modelling and simulation of building energy systems using the Modelica language (section 2)**
13:00 - 16:00	L1-3620	**Workshop 2: Modeling urban climate with CFD based models (section 2)**
13:00 - 16:00	L1-4600	**Workshop 4: Hands-on Technical Workshop on the Passive House Approach: Design, Construction, and Energy Modeling**
17:30 - 19:30	Grande portée	**Welcoming reception**

Thursday, 18 June 2026

Time	Room	Presentation / Presenter / Affiliation
07:25 - 16:30		**Registration**
07:30 - 08:15	**Grande portée**	**Light Breakfast**
08:15 - 08:30	**Grande portée**	**Opening Ceremony**
08:30 - 09:10		**Keynote Speech 1 - Prof. Qingyan Chen. Large language models for green building design and operation**
09:15 - 09:55		**Keynote Speech 2 - Dr. David Waller. From Models to Decisions: The Evolution of Building Simulation in Canada**
10:00 - 10:30	**Grande portée**	**Coffee Break**
Session 01 — L1-3665, Innovative Modeling for Building Performance 1, Session Chair: Kun Zhang		
10:30 - 10:45	L1-3665	**A Temporal Graphical Neural Network Surrogate Modelling Approach for Scalable and Adaptable Building Performance Analysis** Shengbo Zhang — University of Toronto Faculty of Applied Science and Engineering
10:45 - 11:00		**Where Does the Energy Go? The enBalance Model for Decomposing Energy Flows and Tracing Uncertainty through Commercial Buildings** David Rulff — University of Victoria
11:00 - 11:15		**Inverse Surrogate Modelling to Infer Unknown Building Features from Operational Data** Elin Markarian — Carleton University
11:15 - 11:30		**Transfer Learning for Building Energy Prediction Across Canadian Climate Zones: A Deep Learning Approach** Navid Shirzadi — Natural Resources
11:30 - 11:45		**Can Building Energy Graphs Help? Studying Surrogate Peak-Demand Prediction Under Geographic and Climatic Shift** Agata Dalach — University of Munich
11:45 - 12:00		**Twin4Build: Automating Building Digital Twins from Semantic Models to Differentiable Optimization** Jakob Bjørnskov — University of Southern Denmark
Session 02 — L1-3645, Building Renewables Integration 1, Session Chair: Étienne Saloux		
10:30 - 10:45	L1-3645	**Assessing the Accuracy of Finite Line Source Models for Ground Heat Exchangers under Groundwater Flow** Yasaman Tohidi — Toronto Metropolitan University
10:45 - 11:00		**Semi-Analytical Finite Line-Source Modeling of Horizontally Installed Geo-Exchange Piles** Mohammadamin Ahmadfard — Toronto Metropolitan University
11:00 - 11:15		**Performance Degradation of Water-to-Water Heat Pump Coupled with Seasonal Thermal Energy Storage in Hydronic Space Cooling System: Experimental Case Study** Mai Ismail — Carleton University
11:15 - 11:30		**Optimized Borehole Configurations for Reducing Drilling Costs in Ground Source Heat Pumps** Farzad Dadbakhsh — University of Alberta
11:30 - 11:45		**A Simulation-based Investigation of a Large-Scale Heat Pump-Driven Dual Thermal Storage System for Peak Load Management** Salah Eddin Musmar — Carleton University
11:45 - 12:00		**Integration of thermal energy storage and ground-source heat pump for year-round building heating and cooling in a Nordic climate**

		Seyed Mojtaba Hosseinnia — Université de Sherbrooke
Session 03 — L1-3620, Urban Energy, Microclimate, and Urban Heat Islands 1, Session Chair: Chang Shu		
10:30 - 10:45	L1-3620	**Green Mobility for Climate Research: Bicycle Transects to Monitor UHI and Thermal Comfort in Seville** EDUARDO DIZ-MELLADO — UNIVERSIDAD DE CADIZ
10:45 - 11:00		**Quantifying the Cooling Potential of an Irrigated Golf Course using Urban Microclimate Simulations and Field Measurements** Zachary Gauthier — Université de Sherbrooke
11:00 - 11:15		**Graph-Based Data Fusion for High-Resolution Mapping of Urban Air Temperature** Edwin Oluoch Awino — Université du Québec
11:15 - 11:30		**Optimizing Urban Temperature Monitoring Networks through Reduced-Order Reconstruction and Constrained Sensor Placement** Md Tasim Ferdous — Université du Québec
11:30 - 11:45		**Trees impact on thermal comfort in a controlled neighborhood using different background conditions** Clément Nevers — Université de Sherbrooke
11:45 - 12:00		**Urban microclimate variation in historic urban environments** Yishak Tsehay Sewasew — University of Toronto
Session 04 — L1-4600, Low/Zero Carbon Emission Buildings and Communities 1, Session Chair: Haibo Feng		
10:30 - 10:45	L1-4600	**Case Study - Whole-Life Carbon Analysis for University Precinct Decarbonization Study** Elizabeth LeRiche — HGA
10:45 - 11:00		**Decarbonizing Residences Through Design for Zero Waste** Avi Friedman — McGill University
11:00 - 11:15		**Research on Constructing Strategies of Ice Sports Buildings from the Perspective of Renewable Materials Utilization: A Case Study of Building Retrofits for China's 9th Asian Winter Games** Tianshuo Ren — The School of Architecture and Design, Harbin Institute of Technology
11:15 - 11:30		**FEASIBILITY OF MINING RESIDUES AS PARTIAL CEMENT REPLACEMENT IN 3D-PRINTED CONCRETE** Rayene MEHREZ KHALIL — Concordia University
11:30 - 11:45		**Embodied carbon impact of high-rise hybrid and concrete buildings.** Calvin Go — University of British Columbia
11:45 - 12:00		**Whole-Life Carbon Modelling of Passivhaus Dwellings: Integrating Dynamic Simulation with Lifecycle Assessment** Ali Badiei — Brunel University of London
Session 05 — L1-4605, Occupant-Centric Building Design and Controls, Session Chair: Burak Gunay		
10:30 - 10:45	L1-4605	**Household Diversity in Residential Demand Response: The Role of Program Design and Smart Thermostat Ownership** Mina Safari — Carleton University
10:45 - 11:00		**Control vs. Comfort: Are We Measuring the Wrong Metric for Smart Buildings?** Tugce Aker — Carleton University
11:00 - 11:15		**Assessing Thermal Comfort in Institutional Buildings: A Survey-Based Study in the Pacific Northwest of the United States** Tareq Abuimara — Washington State University
11:15 - 11:30		**Occupant-Centric Thermostat Control: Causation-Based vs. Association-Based Approaches** Jinyoung Ko — University of Toronto
11:30 - 11:45		**Lighting characterization, human-centric analysis, and simulation of a Toronto intensive care unit**

		Fion Ouyang — University of Toronto
11:45 - 12:00		**A method of Personalized Thermal Environment Model Predictive Control for Open-plan Office** Yuming Li — CDHAW
12:00 - 13:00		**Lunch time**
Session 06 — L1-3665, Data-Driven Advanced Control Strategies 1, Session Chair: Helen Stopps		
13:00 - 13:15	L1-3665	**Watch the Clock: Implementing Time-of-Use Pricing into a Model Predictive Controller for Hydronic Floors** George Aljamal — Carleton University
13:15 - 13:30		**Bridging the Gap: Implementing ASHRAE Guideline 36 High-Performance Control Sequences in EnergyPlus via Python API for VAV AHU Systems** Arya Parsaei — Carleton University
13:30 - 13:45		**Hybrid DRL-MPC Framework for Optimal Bidirectional EV Charging in Office Building** Gia-Khanh Phi — Concordia University
13:45 - 14:00		**Field Deployment and Evaluation of Model-based Predictive Controls with Sequential Parameter Estimation** Andre Markus — Carleton University
14:00 - 14:15		**Sequential Identification of Inverse Models for Supervisory Control in Buildings** Harry Vallianos — Carleton University
14:15 - 14:30		**Data-driven framework for practical HVAC system control in commercial buildings** Mohamed M. Ouf — Concordia University
Session 07 — L1-3645, Innovative Modeling for Building Performance 2, Session Chair: Massimo Cimmino		
13:00 - 13:15	L1-3645	**Archetype QC: Prototype Building Models for the Province of Québec** Benoit Delcroix — Hydro-Québe and Simon Sansregret — Hydro-Québec
13:15 - 13:30		**Development and calibration of single-family dwelling prototype models for Archetype QC** Kato Vanroy — Polytechnique Montréal
13:30 - 13:45		**Developing and calibrating multi-unit residential building prototypes in Québec in the framework of Archetype-QC** Oriol Gavalda — Concordia University
13:45 - 14:00		**Residential Building Stock Model of the Province of Quebec, Canada: Methodology & Preliminary Results** Gilbert Larochelle Martin — Hydro-Québec
14:00 - 14:15		**Rule-Based Classification of Commercial Building Envelopes Using Observable Architectural Features** Dana Al Jadaa — TMU
14:15 - 14:30		**Developing hourly heating energy demand profiles for the residential building stock in Canada's northern and remote communities** Brodie Hobson — CanmetENERGY-Ottawa
Session 08 — L1-3620, Urban Energy, Microclimate, and Urban Heat Islands 2, Session Chair: Ralph Evins		
13:00 - 13:15	L1-3620	**Development and Validation of a Steady-State OpenFOAM Solver for Multi-Component Buoyant Flows: Application to Urban Anthropogenic Heat Dispersion** Kexin Zheng — Université de Sherbrooke
13:15 - 13:30		**Comparative Analysis of Green Roof and Conventional Roof Thermal Performance in Winter Conditions** Daryoush Dadpour — Faculty of Science & Technology
13:30 - 13:45		**Identifying typical urban Canadian neighborhoods based on LCZ classification for UHI mitigation solutions** Maude Dias — Université de Sherbrooke

13:45 - 14:00		**Socio-Demographic Determinants of Urban Electricity Consumption: Evaluating Demand-Side Management Strategies in Québec** Masood Shamsaiee — Concordia University
14:00 - 14:15		**Development of Technical Guidance to Advance Surface and Air Temperature Mapping in Canada** Liangzhu Leon Wang — Concordia University
14:15 - 14:30		**Comparative Evaluation of Clustering Algorithms for Climate Zone Classification in Support of Building Energy Efficiency Analysis** Tahmineh Sokhansefat, Masoud Sokhansefat — Concordia University
Session 09 — L1-4600, Energy Storage Technologies 1, Session Chair: Sébastien Poncet		
13:00 - 13:15	L1-4600	**Rock Thermal Energy Storage System with a Perforated Injection Pipe: A Residential Thermal Battery** Seyed Soheil Mousavi Ajarostaghi — Université de Sherbrooke
13:15 - 13:30		**Assessing the Potential of Electric Thermal Storage Implementation in a Hospital Setting** Rosalie Tremblay — École de Technologie Supérieure
13:30 - 13:45		**Potential of electric thermal storage as auxiliary to ground-coupled heat pump system** Wiem Mootamri — École de technologie supérieure
13:45 - 14:00		**Lab-scale testing of an adsorption thermal energy storage system for residential heat applications in remote northern communities** Alex Christie — Carleton University
14:00 - 14:15		**Low-order Modelica model for latent thermal energy storage.** Alixe Degelin — University of Antwerp
14:15 - 14:30		**Modélisation d'une serre : comparaison de deux outils de simulation thermique dynamique** Junior Zannou — École de Technologie Supérieure
Session 10 — L1-4605, Computational Fluid Dynamics (CFD) in Buildings and Cities 1, Session Chair: Ibrahim Reda		
13:00 - 13:15	L1-4605	**Evaluating the energy performance of rooftop greenhouses in heating-dominated climates using dynamic energy simulations** Yizhi Zhang — University of Agricultural Sciences
13:15 - 13:30		**Comparative Analysis of Large Eddy Simulations for Solar Roof Fires under Wind Effects Using Fire Dynamics Simulator and OpenFOAM** Liqi Zhang — Kochi University
13:30 - 13:45		**CFD Modelling of Double-Skin Façades with Photovoltaic Panels and Automated Shading Systems: Thermal Performance Analysis** Mahmoud Reza Hamidpour — Concordia University
13:45 - 14:00		**CFD-based evaluation of green firebreak design for wildfire smoke dispersion and building protections** Zhonglin Gu — Université de
14:00 - 14:15		**Ventilation Performance Evaluation for a Long-Term Care Facility Room Based on CFD Simulations** Xinshuai Geng — National Research Council Canada, Université de Sherbrooke
14:15 - 14:30		**Cross shaped and 8-lobes jets investigation for preventing the contamination spread among the occupants in indoor environment** Mohamed Lateb — Université de Sherbrook
14:30 - 15:00		**Coffee Break**
Session 11 — L1-3665, Data-Driven Advanced Control Strategies 2, Session Chair: Liam O'Brien		
15:00 - 15:15	L1-3665	**Assessing the operational performance and financial incentive of a large-scale demand response program** Hongwen Dou — École de Technologie Supérieure
15:15 - 15:30		**Comparing three approaches to predict and represent electric vehicle charging loads in a building energy model** Mais Karaki — Carleton University

15:30 - 15:45		**Short-Term Load Forecasting for Day-Ahead Planning and Real-Time Control: An Approach Based on Time-of-Day Modeling and Ensemble Learning** Zhuoqun Xing — School of Mechanical Engineering
15:45 - 16:00		**Clustering-Based Development of Control-Oriented Archetypes for Predictive Load Management in Québec School Buildings** Mohsen Lotfi — Université de Sherbrooke
16:00 - 16:15		**Experimental evaluation of adaptive automated demand response for residential cooling systems** Mina Safari — Department of Civil and Environmental Engineering
16:15 - 16:30		**Characterizing thermal and electric behaviour of existing buildings using system-level key performance indicators** Etienne Saloux — CanmetENERGY
Session 12 — L1-3645, Resilience and Climate Change Adaptation 1, Session Chair: Lili Ji		
15:00 - 15:15	L1-3645	**Leveraging Extended Energy Simulation Horizons to Inform More Resilient Building Design: An Institutional Case Study in Québec** Antoine Ruel — Université de Sherbrooke
15:15 - 15:30		**From framework to guidance: investigating retrofit solutions for outage resilience across Canadian climates** Ahmad Shoaib Amiri — PhD Candidate
15:30 - 15:45		**Closing the Gap: Energy Modelling vs. Reality in MURBs** Michael Wong, Samantha Menard — EQ Building Performance Inc.
15:45 - 16:00		**Integrating building geometry changes into reduced-order modeling for rapid retrofit performance assessment** Seif Qiblawi — Carleton University
16:00 - 16:15		**A simulation case study to explore the impact of dynamic ground temperature on indoor temperature estimation using Kiva and EnergyPlus** Sébastien Brideau — Natural Resources Canada
16:15 - 16:30		**Operational decision-making tool for implementation and evaluation of retrofits in EnergyPlus models** Hussein Elehwany — Carleton University
Session 13 — L1-3620, Computational Fluid Dynamics (CFD) in Buildings and Cities 2, Session Chair: Xin Zhang		
15:00 - 15:15	L1-3620	**Sensitivity of CFD accuracy on PET index thermal stress level** GUILLAUME CANIOT — Meteodyn
15:15 - 15:30		**FLUME: Fast localized urban microclimate emulator** Theodore Potsis — Concordia University
15:30 - 15:45		**Comparison of Preliminary CFD Simulations of Novel Round House Designs for Northern Canadian Housing** Shawn Somers-Neal — Carleton University
15:45 - 16:00		**Evaluation of air change rate measuring techniques for CFD model validation** Roya Missaghian — Carleton University
16:00 - 16:15		**Evaluation of Mesh Refinement Effects in 2D RANS k-ε Simulation of Bluff-Body Flow** Bowen Xu — Concordia University
16:15 - 16:30		**High-Performance Multi-GPU Implementation of the CityFFD Solver for Urban Microclimate Modeling** Jinbin Fu — Concordia University
Session 14 — L1-4600, Solar Building Design and Operation, Session Chair: Yuxiang Chen		
15:00 - 15:15	L1-4600	**Communicating Complexity in Solar-Thermal Systems: Towards a Visual Interpretation of Sensor Data in an Open-Source Digital Twin Platform** Kristine Prochnau, Nico Arellano — Carleton Immersive Media Studio
15:15 - 15:30		**Optimizing Solar Thermal Energy Potential on Façades and Roofs of Urban High-Rise Residential Buildings** Ferdows Lotfipoor — Carleton University

15:30 - 15:45		**Model predictive control of active shading and lighting systems in a biophilic design solarium** Yearim Yang — Concordia University
15:45 - 16:00		**A model and study of the retrofit of a brick facade with photovoltaic/thermal systems** Hamidreza Zarrinkafsh — Concordia University
16:00 - 16:15		**Analyse thermo-économique et exergétique d'un système photovoltaïque-thermique et solaire thermique connecté en série en climat froid** Soroush Entezari — Université de Sherbrooke
16:15 - 16:30		**Quantifying Useful Thermal Energy in a BIPVT System: A Real-World Case Study** Benjamin Roy — Natural Resources Canada
Session 15 — L1-4605, Urban Energy, Microclimate, and Urban Heat Islands 3, Session Chair: Michael Kummert		
15:00 - 15:15	L1-4605	**Microclimatic Adaptation Strategies in a Semi-Arid City: A Living Lab Approach in Oujda, Morocco** sabrine htit — Department of Civil and Building Engineering
15:15 - 15:30		**A CFD model prediction of internal fan driven airflow in a commercial scale greenhouse** Peter Sharp — University of Guelph
15:30 - 15:45		**Agent-Driven Generative Design of Urban Public Spaces via LLM-MCP Integration** Yue Jin — Sanjiang University
15:45 - 16:00		**Simulating Building Energy Systems Using LTI Blocks** Louis Jacques — CanmetENERGY
16:00 - 16:15		**Indoor thermal comfort evaluation in hot arid zones for different conditions** Mohamed Lateb — University de Sherbrook
16:15 - 16:30		**Integrating Microclimate Modelling and Building Simulation to Assess the Impact of Green Roofs on Building Performance** Zahra Behzad — Carleton University
18:30 - 22:30		**Banquet (Sandman Hotel Montreal-Longueuil)**

Friday, 19 June 2026

Time	Room	Presentation / Presenter / Affiliation
08:00 - 08:45	Grande portée	**Light Breakfast**
08:50 - 09:30	Grande portée	**Keynote Speech 3 - Dr. Olivier Rouch. CFD Simulation Across Boundaries: Advancing Building Performance, Energy Efficiency, Urban Design and Carbon Reduction**
09:30 - 10:00	Grande portée	**Coffee Break**
Session 16 — L1-3665 - Data-Driven Advanced Control Strategies 3, Session Chair: Roland Charneux		
10:00 - 10:15	L1-3665	**A user-friendly approach to HVAC Fault Detection and Diagnosis** Donnell Biscette — Concordia University
10:15 - 10:30		**Experimental Dataset and Performance Impacts of Single and Multiple Faults in an AHU-Air-Source Heat Pump System under Heating and Cooling Operation in a Cold Climate** Jing Li — Concordia University
10:30 - 10:45		**A comparative study of field measurements and manufacturer technical specifications of a high-temperature heat pump performance** Yashar Bezyan — CanmetENERGY
10:45 - 11:00		**The Impact of Defrost Cycles on Air-Source Heat Pumps Energy Modeling** Patrick Belzile — EXP
11:00 - 11:15		**Freely accessible data sets for two different refrigerating systems** Stefan Hudjetz — University of Applied Sciences
11:15 - 11:30		**A Physics Informed Fault Detection and Diagnostics (FDD) Framework for a Non-Conventional VAV AHU of an Airport Building** Nabil Bleibel — Toronto Metropolitan University
Session 17 — L1-3645 - Low/Zero Carbon Emission Buildings and Communities 2, Session Chair: Danielle Monfet		
10:00 - 10:15	L1-3645	**Exploring the benefits of energy retrofits in institutional buildings using building performance simulation** Tareq Abuimara — Washington State University
10:15 - 10:30		**Evaluation of future scenarios for energy use and CO2 emissions at regional levels in low-income housing** Doris Chi Pool — Universidad de las Americas Puebla
10:30 - 10:45		**Advancing Integrated Assessment of Energy, Carbon, and Cost in Building Performance Modelling** Hugh Nolan — reLoad Sustainable Design Inc.
10:45 - 11:00		**Decarbonization Strategies and Planning for Net Zero Energy in an Existing Dormitory-Style Accommodation Building: A Case Study in a Cooling-Dominated Climate** Milad Mahmoodzadeh — Stantec
11:00 - 11:15		**Deep Retrofit Pathways for Affordable Housing: A Total Cost of Building Ownership Approach** Sara Azimi — Natural Resources Canada
11:15 - 11:30		**Energy Optimization Approach for Mass Timber Office Building Design under Climate Change** Tesfatsyon S. Ochono — University of Western Ontario
Session 18 — L1-3620, Computational Fluid Daynamics (CFD) in Buildings and Cities 3, Session Chair: Bowen Xu		
10:00 - 10:15	L1-3620	**Wi-Fi-based demand-controlled ventilation for airport terminals** Milad Babadi Soultanzadeh — Concordia University

10:15 - 10:30	L1-3620	**Mesh Partitioning Effects on Buoyancy-Driven and Wind-Induced Flow for Disaster Prediction Simulations** Xin Zhang — Kochi University
10:30 - 10:45		**CFD Simulation of Indoor Air Distribution with Displacement Ventilation in a Classroom** Farah Youssef — École de technologie supérieure
10:45 - 11:00		**How Much Accuracy Do We Lose with Fewer Simulations? Insights from Indoor Airflow Modeling** Ibrahim Reda — Université de Sherbrooke
11:00 - 11:15		**Parametric design of natural-ventilation systems for a low-heat industrial potroom using CFD** Loan Grimm, Olivier Rouch, Bowen Xu, Daniel Levesque — AtkinsRéalis
11:15 - 11:30		**CFD evaluation of worker comfort and heat stratification in gravity-ventilated industrial process rooms** Olivier Rouch, Loan Grimm, Bowen Xu, Daniel Levesque — AtkinsRéalis
Session 19 — L1-4600, Building Renewables Integration 2, Session Chairaa: Michel Bernier		
10:00 - 10:15	L1-4600	**Comparaison de la performance énergétique de serres de petite taille au Canada** Léa Lachat — École de Technologie Supérieure
10:15 - 10:30		**Ground Air Heat Exchanger for Dehumidification and Cooling in Cold-Climate Greenhouses** Reyhaneh Nazmabadi — Laval University
10:30 - 10:45		**Climate Change Impacts on Greenhouse Energy Consumption Using a Transient Model: A Winter Case Study in Quebec** Mohamad Hout — Université de Sherbrooke
10:45 - 11:00		**Enriching 5th generation thermal energy network feasibility studies with solar thermal integration** Rana Mousavi — Toronto Metropolitan University
11:00 - 11:15		**Improving the resilience of solar thermal collectors through enclosure design and simulation** Dylan Bardy — Natural Resources Canada, Carleton University
11:15 - 11:30		**3D Energy Modeling and Validation of a Solar Greenhouse for Year-Round Hydroponic Lettuce Production in Ottawa, Canada** Amir Imanloozadeh — University of Guelph
Session 20 — L1-4605, Urban Energy and Community Modeling, Session Chair: Qiwei Qin		
10:00 - 10:15	L1-4605	**Estimating the potential for sufficient housing in Canada** William O'Brien — Carleton University
10:15 - 10:30		**Longitudinal Analysis of Occupancy-Driven Energy Demand in Canadian Residential Buildings (1992-2022)** Orcun Koral Iseri — Concordia University
10:30 - 10:45		**Quantifying Uncertainty in Community-Scale Energy Simulations Using Data-Calibrated Inputs** Sara Sadeghi — Carleton University
10:45 - 11:00		**Co-simulation of agent-based modeling and building performance simulation for dynamic demand side management** Yuxin Lu — Carleton University
11:00 - 11:15		**Intégration de l'énergie solaire dans les systèmes de refroidissement par adsorption pour contribuer à la lutte contre la surchauffe urbaine** Riad BENELMIR — Université de Lorraine
11:15 - 11:30		**Bridging the Gap: Why Climate Policies in Developing Countries Struggle to Deliver Local Change - An Integrative Review** Christopher Dick-Sagoe — University of Botswana
11:30 - 13:00		**IBPSA-Canada AGM**
11:30 - 13:00		**Lunch**

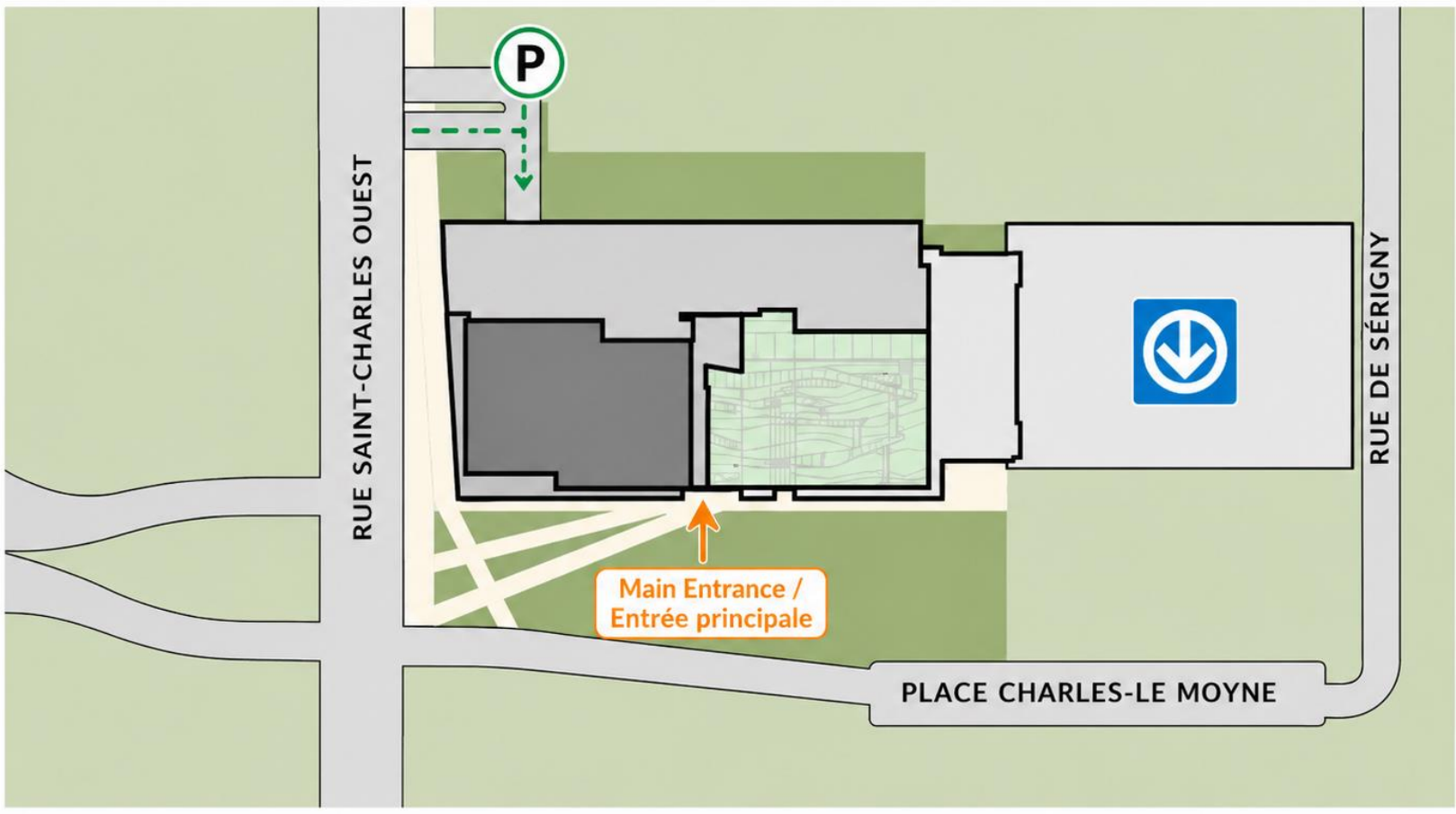
Session 21 — L1-3665, Energy Storage Technologies 2, Session Chair: Seyed Mojtaba Hosseinnia		
13:00 - 13:15	L1-3665	**Modelling and Control Strategy Assessment of a Data Centre Waste Heat Recovery System with Integrated Thermal Energy Storage** Nour Alaya — Université de sherbrooke
13:15 - 13:30		**Block-scale optimization for feasible thermal energy network design** Hossein Bagherzadeh — Toronto Metropolitan University
13:30 - 13:45		**Assessment of Industrial Waste Heat Recovery for Greenhouse Heating in Cold Climates** Reyhaneh Nazmabadi — Laval University
13:45 - 14:00		**Data-Driven Simulation of a Micro-Combined Heat and Power System for Comparing Operating Strategies in a Mixed-Use Building** Trong Nghia Phung — University of Alberta
14:00 - 14:15		**Assessing district energy scenarios: how detailed should building models be?** Guilwen Meunier — Polytechnique Montréal
14:15 - 14:30		**Renewable district energy for Canadian communities: model development and energy analysis** Isabelle Kosteniuk — CanmetENERGY
Session 22 — L1-3645, Building Renewables Integration 3, Session Chair: Ian Beausoleil-Morrison		
13:00 - 13:15	L1-3645	**Modélisation et simulation d'accumulateurs thermiques centraux de type résidentiel avec contrôle prédictif idéal** Michel Bernier — Polytechnique Montréal
13:15 - 13:30		**Enhancing Building Climate Resilience through Shelters: PV-Battery System Sizing for Extreme Heat Events** Jean-Christophe Pelletier-De Koninck — Concordia University
13:30 - 13:45		**Development of Heating Energy Flexibility in Canadian Houses with PV-Battery Systems Using Model Predictive Control under Weather Uncertainty** Ahmed Khedr — Concordia University
13:45 - 14:00		**Enhancing Residential Energy Resilience in Extreme Weather: Solar PV and Battery Storage Performance and User Perceptions in Atlantic Canada** Hadia Awad — National Research Council Canada
14:00 - 14:15		**Evaluating Battery Storage Performance in a Remote Northern Canadian Microgrid** Isra Abo Iqsaysa — Concordia University
14:15 - 14:30		**Towards Semantic Interoperability for Scalable Building-to-Grid Services: A Multi-Layer Annotation Pipeline for SCADA Hierarchies** Matin Abtahi — Concordia University
Session 23 — L1-3620, Resilience and Climate Change Adaptation 2, Session Chair: Karine Lavigne		
13:00 - 13:15	L1-3620	**Approaches to Thermal Resilience Simulation - Interviews with Industry Practitioners** Chun Yin Siu — University of Toronto
13:15 - 13:30		**Simulating Passive Cooling Retrofits for Overheating Resilience in Canadian Homes under Climate Change Scenarios** Pedram Nojedehi — Carleton University
13:30 - 13:45		**Urban energy resilience in hot climates: a comparative study of residential neighborhoods in Mediterranean and Tropical Monsoon zones** Carlos Rivera-Gómez — Universidad de Sevilla (Spain)
13:45 - 14:00		**A Proof-of-Concept Framework to Support Carbon-, Resilience-, and Cost-Informed Retrofits** Gabriela Aguilar Giron — Carleton University
14:00 - 14:15		**Energy-Efficient Industrial Building Model for Reliable Off-Grid Operation in Cold Climates** W. David Lubitz — University of Guelph
14:15 - 14:30		**Climate change impact on hygrothermal performance and ventilation effectiveness in New Zealand** Stephen McNeil — BRANZ

Session 24 — L1-4600, Building Envelope and Building Performance, Session Chair: Cynthia Cruickshank		
13:00 - 13:15	L1-4600	**Parametric Analysis of Protruding & Recessed Balconies in MURBs: A Framework for Evaluating Daylighting, Operational and Embodied Carbon Performance of Balconies** David McCuaig — MBSc- TMU
13:15 - 13:30		**Early Stage Multi-dimensional Evaluation of Glazing Design - A Case Study** Saurabh Shrestha, Noeline Tharshan — DIALOG
13:30 - 13:45		**Quantifying Overconsumption in the Residential Sector** Ali Gulamhussein — Carleton University
13:45 - 14:00		**Impact of Moisture Intrusion on Mold Growth in Arctic Building Junctions: A WUFI 2D Simulation Study** Mir Hedayat Moosavi — Université Laval
14:00 - 14:15		**Thermal Anomaly Identification and Energy Model Construction Methods for Existing Sports Buildings in Cold Regions Using UAV-IRT** Tianshuo Ren — School of Architecture and Design
14:15 - 14:30		**Optimizing node density for accurate hygrothermal simulation of cross-laminated timber** Yash Vyas — Toronto Metropolitan University
Session 25 — L1-4605, Indoor Air Quality (IAQ) and Thermal Comfort (TC) , Session Chair: Liangzhu Leon Wang		
13:00 - 13:15	L1-4605	**Boarding Duration and Occupancy Effects on Thermal Conditions and Indoor Air Quality in Airport Terminal Gates: A Field Study** Ana Palma Florido — Concordia University
13:15 - 13:30		**Beyond the Building Envelope: Exploring the Viability of Compartmentalization-Based Retrofits to Improve Energy Efficiency and Indoor Air Quality in Existing Buildings** Danielle Y. Mizuno — Carleton University
13:30 - 13:45		**Assessing Indoor Exposures to Wildfire-Induced Fine Particulate Matter in the Greater Toronto Area** Helen Stopps — Toronto Metropolitan University
13:45 - 14:00		**Multiscale modeling of the greenhouse indoor environment in Nordic climate** Francklin Gaël NYAMI — Université de Sherbrooke
14:00 - 14:15		**A wildfire-oriented CONTAM framework for modeling indoor air quality and mitigation strategies in mechanically ventilated buildings** Ahmed Taha — Université de Sherbrooke
14:15 - 14:30		**Evaluating Indoor Particulate Matter and Volatile Organic Compound Concentrations and Mitigation Using Portable Air Cleaners in Canadian Community Housing during the Colder Season** Duy Anh (Andy) Dinh — Carleton University
14:30 - 15:00		**Coffee Break**
Session 26 — L1-3645 , Innovative Modeling for Building Performance 3, Session Chair : Mohamed Ouf		
15:00 - 15:15	L1-3645	**Towards greater interoperability between BIM and energy simulation software: A comparative analysis of exchange formats and processes** Narimene MIDOUNE — École de Technologie supérieure
15:15 - 15:30		**Inferred energy disaggregation using building automation system data to support portfolio-scale retrofit strategies** Muntasyir Al Wafi — Toronto Metropolitan University
15:30 - 15:45		**Toward Automated Generation of EnergyPlus Models for Existing Buildings Through Operator Descriptions** Mahjouba Fadel — Carleton University
15:45 - 16:00		**Energy Audit Reporting Automation with Artificial Intelligence (AI) and Machine Learning (ML)** Sajan Dhakal , Ramy Rizkalla — Toronto Metropolitan University
16:00 - 16:15		**Integrating 6D BIM Energy Models into the Integrated Design Process for Sustainable and Collaborative Building Design**

		Narimene MIDOUNE — École de Technologie Supérieure
Session 27 — L1-3620, Innovative Modeling for Building Performance 4, Session Chair: Adam Wills		
15:00 - 15:15	L1-3620	**Bayesian Building Modelling for HVAC Control Using Simulated and Operational Data** Chou Shen — University of Toronto
15:15 - 15:30		**Scalable district archetypes for heuristic Life Cycle Assessments** Maximilian Schildt — RWTH Aachen University
15:30 - 15:45		**From Steady Setpoints to Rich Data: Neural Ordinary Differential Equations Insights** Gabriel Sabbagh — Polytechnique Montréal
15:45 - 16:00		**A Generalized HVAC Simulation Apparatus for Building Performance Research** David Rulff — University of Victoria
16:00 - 16:15		**Multi-Objective Optimization of Building Retrofit Scenarios Using Wallacei: A Case Study for a Detached House in Winnipeg** Bahador Ziaeemehr — Concordia University
16:15 - 16:30		**A Study on Utilizing YOLO Models for Passenger Flow Counting in Metro Stations** Ying Sun — University of Technology
16:30 - 17:00	Grande portée	**Closing**

VENUE GUIDE

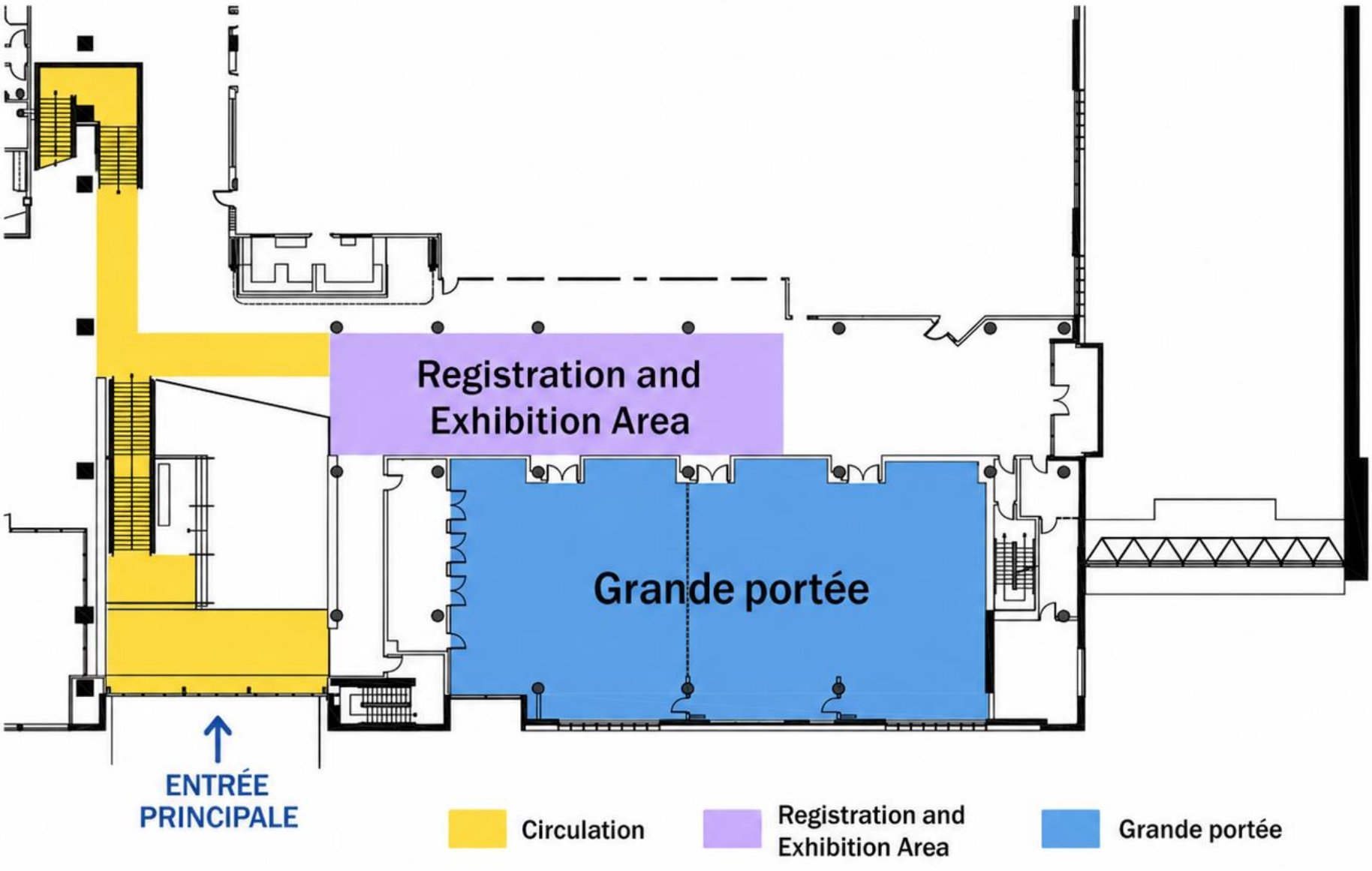
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P	Parking
	Metro
↑	Entrance / Entrée principale



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PLAN NIVEAU 3000 (# LOCAUX / CIRCULATIONS / TOILETTES / LOCAUX 3620 - 3645 - 3665)



PLAN NIVEAU 4000

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