

Sustainability: Transdisciplinary Theory, Practice, and Action Conference Program & Abstracts

October 27th, 2025

Day 1

8:30-9:00am

Registration and Morning Refreshments (MN Grand Hall)

9:00-10:15am

Opening Ceremony and Plenary Session (MN 1210)

Chair: Prof. Brett Caraway

Keynote Speaker: Prof. Imre Szeman, University of Toronto Scarborough

P1: Sustainability Insights: Communicating with Purpose (MN 1170)

Moderator: Wesley Gee, CSO & the Principal, Works Design

Panelists:

1. Wura Jawando, *Sustainability Manager* Gore Mutual, and
2. Ryan Mallany, *Director, Sustainability*, Kruger Products

P2: Social Impact of Energy Transition (MN 1190)

Moderator: Shatha Qaqish-Clavering, Interim Executive Director, Lawson Climate Institute

Panelists:

1. Prof. Fedor Dokshin, Assistant Professor, Department of Sociology, University of Toronto
2. Sapna Jain, Fund Development Manager, Iron and Earth, and
3. Kate Koplovich, Senior Policy Analyst, Energy, C.D. Howe Institute

11:30-1:00pm

Lunch and Student Posters (MN Grand Hall)

12:15-12:45

Optional Sustainability Campus Tour (Meet at Registration Desk)

1:00-2:30pm

Concurrent Sessions

P4: Love and Sustainability: Perspectives and Experiences of MScSM Alumni and Students (Part I) (MN 2130)

Chair: Prof. Shashi Kant

Moderator: Borys Brodziuk, Policy Analyst, Resource Productivity and Recovery Authority

Panelists:

1. Ksenia Volkhonskaia, MScSM Student, Sustainability Professional, Siemens
2. Nicola Radatus-Smith, MScSM Alum, Research Assistant, University of Toronto, and
3. Uyen Tran, MScSM Alum, ESG and Waste Diversion Consultant

CA1: Environmental Justice (MN 1170)

Chair: Sam Dilorio

Emily Escoffery

Building Climate Resilience with People in Precarious Housing Situations at the Intersections of Poverty, Disability and Age

Wilfrid Laurier University, Community Psychology | Dr. Manuel Riemer

As the climate crisis continues to escalate within the broader context of intersecting social and economic crises, the ability to adapt swiftly has become increasingly necessary, yet access to sufficient support and resources remain deeply unequal. Individuals experiencing housing precarity have to navigate these intersections, facing both heightened climate risks and economic precarity. Despite these direct effects, they continue to be excluded from decision-making processes involved in developing local climate action strategies. Currently, there is limited research on how to guide the development of more just climate resilience strategies that meaningfully centre the lived experiences of precariously housed individuals. The current study aims to understand how to equitably co-create a climate resilience strategy that centres the lived expertise of precariously housed community members in the Waterloo Region. This presentation will share initial insights from a participatory action research study being conducted in collaboration with the Social Development Centre Waterloo Region and the Lived Expertise Consultant Team.

Isha DeCoito

Developing a SDG Capacity Building Model

Western University/London Ontario | Wanja Gitari, Jane Gichuru, John Boustany

Achieving sustainability goals lies in the collaborative, multidimensional and inter/transdisciplinary approaches which address the SDGs interactions, synergies and trade-offs. Nexus approaches to sustainability reflect the interconnectedness of climate change, energy, and development, as well as the impacts of poverty on human progress. Poverty is a central barrier to sustainability and a root cause and result of energy, gender and climate inequalities especially in emerging economies and marginalized communities globally. Social sustainability through decent work requires a focus on balancing human rights, social protection and economic growth. The justice nexus provides a critical lens for investigating how equitable governance, legal frameworks, and participatory processes can drive sustainable development, especially when combined with STEM education and Indigenous knowledge systems. SDGs aim to balance human progress and environmental sensitivity. STEM education that goes beyond workplace readiness by integrating UNESCO's Education for Sustainable Development Roadmap values of systems thinking, futures literacy and ethical reasoning can act as a catalyst for equitable and sustainable transformations.

Luisa Duarte Milani

Tracing the Spatial-Temporal Transformation of Environmental Injustice in São Paulo, Brazil

Department of Geography & Planning/ Department of Geography, Geomatics and Environment

Similar to the rest of Brazil, São Paulo is defined by segregation and exclusion (Fischer, 2021). Environmental injustices in the city relate to a combination of the longstanding practices of altering waterways and residential and racial segregation (Bartalini, 2014; Maricato, 2003). In this presentation, I will analyse how the spatial distribution of environmental risks, informal housing, and marginalized groups has changed since 2000 in São Paulo. Using spatial analysis, I compare demographic changes in the city's neighborhoods from the past three national censuses, correlating that with policy data, such as zoning maps, and land cover and land use imagery from the past 25 years. This work seeks to understand, in a context where informality is prevalent, whether planning policies have been guiding development or if the policies have mostly stayed on paper. By understanding the policy limitations, it is possible to develop better ways to advance environmental justice.

CA2: Policy and Sustainability (MN 1190)

Chair: Prof. Michael Marin

Michael Marin

Digital Sales Taxes: The Effects of Mandatory Collection by Foreign Digital Platforms

Institute for Management & Innovation (IMI) | Jillian R. Adams, Alexander Edwards

This paper examines how digital sales tax collection by foreign digital platforms affects pricing and competition among individual vendors. In July 2021, Canada imposed a new digital sales tax in accordance with the OECD's Base Erosion and Profit Shifting Action 1. The tax was imposed on the foreign digital platforms instead of on domestic vendors (like a traditional sales tax would be). We document that vendors impacted by the digital sales tax significantly decrease their prices after the implementation, relative to unaffected vendors. We find that these price reductions are more pronounced in markets with highly elastic demand where consumers have more substitutes and vendors are under greater pressure to remain competitive. However, the price decreases are not to the full extent of the tax, suggesting that consumers bear some of the economic incidence of the digital sales tax. We also find that impacted vendors de-list from the digital platform to a greater extent than unaffected vendors, decreasing consumers' options. Consistent with the concerns of policymakers and business groups, our results document a

significant impact of digital sales tax beyond the digital platforms that bear the statutory incidence. Our results provide valuable insights for policymakers considering digital tax reforms in the ever-evolving digital economy.

Morley Cromwell

The Diffusion of Unilateral Climate Policy: The EU CBAM

UTM | Dr Laurel Besco

Situated at the intersection of international trade and climate governance, the EU's Carbon Border Adjustment Mechanism (CBAM) is the first operationalized national carbon border adjustment. By levying imports from high-emission sectors, it aims to equalize carbon costs between EU industries and foreign producers. This study investigates CBAM's transnational implications, with particular attention to its potential to catalyze climate policy diffusion among major trading partners. Using policy diffusion frameworks, it examines how unilateral climate instruments exert extraterritorial influence by shaping domestic policy trajectories. While current debates emphasize fairness and effectiveness in curbing carbon leakage, little research considers CBAM's diffusion effects. Addressing this gap, the study analyzes WTO submissions, domestic policy discourse, and media from 23 of the EU's most exposed trade partners. Findings suggest CBAM's greatest influence may lie less in directly reducing emissions than in reframing trade norms and incentivizing ambitious climate policy adoption internationally.

Omoyemen Lucia Odigie-Emmanuel

Assessment of Impact of Developments in Sustainability Law, Policy, and Institutions

Nigerian Law School/ Centre for Human Rights and Climate Change Research

Developments in sustainability laws, policy and institutions have left a lasting impact in the global development landscape. Apart from broadening the scope of law and policies at the global, regional and national level, new institutions have been created and existing ones strengthened. It is imperative to take stock on how these developments have created transformative change in Africa.

This paper seeks to highlight how developments in sustainability laws and policies has strengthened global to local action and responses to sustainable development challenges. The paper will also assess existing weaknesses and gaps in law, policy and institutions that requires further attention and action to achieve desired outcomes.

Paige Wise

Exploring the role of actors in the negotiation and implementation of a Global Plastics Treaty

MScSM | Laurel Besco

The rapidly increasing levels of plastic pollution represent a serious global environmental issue that negatively impacts the environmental, social, economic and health dimensions of sustainable development. In March 2022, at the resumed fifth session of the UN Environmental Assembly (UNEA-5.2), a historic resolution was adopted to develop an international legally binding instrument on plastic pollution, including in the marine environment. The ongoing negotiations for the UN Plastics Treaty, represent one of the most significant international efforts to address the growing crisis of plastic pollution, yet disparate perspectives have led to this process being frustrated, and no agreement reached even after two INC meetings. Interestingly, as global environmental treaty negotiations have evolved, no longer are states the only actors present and engaged, which leads to new and evolving dynamics. This research explores how these various actors see their role and those of other actors in the INC negotiation process and implementation of a treaty (once it is concluded). Through a series of semi-structured interviews with actors attending INC 5.1 in Busan and INC 5.2 in Geneva, varying perspectives were captured in terms of their viewpoints on issues such as the circular economy, ultimate outcome of the treaty, format of the treaty, and the role of various actors. Findings provide insight into how non-state actors and state actors engage with one another and the international negotiating process.

CA3: Interrogating the Links Between Economic Growth, Development, and Sustainability (MN2110)

Chair: Prof. Brett Caraway

Mark Brodrick

Municipalities and Sustainability

School of Environment, Resources and Sustainability, University of Waterloo

Where do people experience global issues such as heat waves and floods attributed to climate change? In their respective communities where they live. Municipalities play a key role in addressing sustainability because most of the global population live in urban areas and urban areas are focal points for wealth, power, and politics. Yet few municipalities are actively pursuing sustainability. Municipalities are typically driven by unsustainable development and growth.

Assuming municipalities can be encouraged to advance sustainability, how then do you determine sustainability and how do you measure it at the local level? Ill-conceived or inappropriate indicators can be both ineffective and cultivate greenwashing. Acceptance of the planetary boundaries framework suggests that human activities need to respect limits and function within

thresholds. Which threshold indicators appropriately measure impact, and capture both positive and negative impacts? How many indicators are necessary to capture the breadth of sustainability? What indicators are appropriate for municipalities?

Professor Feng Chen

Indigenous Engagement by Canadian Resource Companies

University of Toronto | Yue Li and Mike Marin

This study examines how Canadian mining and oil & gas companies engage Indigenous communities as part of their ESG strategies to promote sustainability. Drawing on the International Council on Mining and Metals (ICMM) position statement, we develop an Indigenous Engagement Index based on nine key practices: (1) formal policies respecting Indigenous rights, (2) due diligence to mitigate adverse impacts, (3) inclusive engagement processes, (4) obtaining consent, (5) resolving disagreements, (6) benefit sharing aligned with Indigenous aspirations, (7) incorporating Indigenous knowledge, (8) honoring Indigenous cultural heritage, and (9) providing remediation when rights are infringed. We apply this index to assess company disclosures over time in annual reports, Annual Information Forms, and CSR reports. The findings offer insights into the motivations behind Indigenous engagement and provide guidance for management seeking to strengthen these practices.

Victor Perez-Amado

Parks in Action – Community Climate Action Hubs

Toronto Metropolitan University, School of Urban and Regional Planning | Fadi Masoud

Parks in Action is a multi-year, multidisciplinary design-research initiative addressing the role of suburban parks and open spaces in Toronto's climate adaptation and mitigation strategies. Focusing on "tower in the park" neighbourhoods, the project redefines underutilized open spaces as vital infrastructure for resilience against urban heat, air pollution, and flooding. Through participatory "Knowledge Exchange" sessions with community leaders, residents, city staff, and NGOs, the team produced climate risk and opportunity maps, "Climate Design Action Cards," and spatial scenarios to guide equitable, nature-based interventions. These informed the creation of eleven Community Climate Action Hubs—co-designed installations integrating green infrastructure, accessibility, and placemaking in underserved neighbourhoods. The project culminated in a participatory exhibition at the World Urban Pavilion, fostering public engagement on themes such as ecology, mobility, and public space activation. By coupling design innovation with community co-creation, Parks in Action advances strategies for inclusive, climate-resilient urban landscapes.

Amit Lahiri

Ecologies, Communities and Livelihoods

University of Waterloo, School of Environment, Resources and Sustainability (SERS), Faculty of Environment

Community-Based Conservation (CBC) has become a key governance model, attracting over 75% of global biodiversity aid between 1980–2008 and providing a lens to explore links between economic growth, development, and sustainability. This is urgent as biodiversity loss and climate change undermine ecosystem services supporting nearly half of global GDP (IPBES, 2019). Yet CBC's outcomes remain mixed—often shaped by trade-offs, context-specific dynamics, and limited integration of ecological thresholds such as carrying capacity.

This presentation examines a CBC case study in India's Western Ghats, one of thirty-six global biodiversity hotspots. Although covering just 2.5% of Earth's land, such regions sustain two billion marginalized people, many from Indigenous Peoples and Local Communities (IPLCs). Drawing on sustainability science, the study develops a social-ecological systems (SES) model of the Anthropocene, illustrating how science-based governance aligned with carrying capacity can foster climate-resilient livelihoods and guide more sustainable development pathways.

CA4: Education and Sustainability: K-12 (MN 2100)

Chair: Claire Westgate

Brittany Palmer

Building a Culture of Sustainability from the Ground Up: The Case of Oakville NE #3 Public School

Wilfrid Laurier University; Viessmann Centre for Engagement and Research in Sustainability (VERiS) | Manuel Riemer

While sustainability initiatives are common in Canadian K-12 schools, few have cultivated the culture of sustainability required for lasting, systemic change. Harvest Oak Public School, a newly established elementary school, seeks to change this by intentionally making sustainability a core value from the start. This presentation will provide context on cultures of sustainability in schools through a literature review, share early insights into the school's development, and reflect on our collaborative work with the principal, sustainability manager, and a consultant from the organization Learning for a Sustainable Future. Through regular co-learning meetings, we created a plan to establish a strong culture of sustainability from the onset. We will also outline our plans for a four-year longitudinal study tracking the school's culture of sustainability journey and discuss implications for both established and new schools aiming to foster strong cultures of sustainability.

Kaitlyn Ashmore

Exploring Engagement with the EcoSchools Platform: An Interactive Display Board Exploratory Evaluation

Wilfrid Laurier University (WLU)

This presentation features a study exploring strategies to enhance engagement with EcoSchools Canada, an online platform promoting sustainability used across the country. The program connects EcoSchools activities with the United Nations Sustainable Development Goals (SDGs), highlighting their role in advancing global sustainability. Using an exploratory case study of two schools in the Waterloo Region District School Board (WRDSB), the research evaluates the effectiveness of interactive, in-person tools, such as an Interactive Display Board (IDB) and action cards, in boosting student participation, self-efficacy, and action skills related to sustainability. By examining user experiences and feedback from Eco-teams and staff, the study aims to determine if and how these tools add value to EcoSchools activities. While not a complete solution, these tools support deeper engagement when integrated into EcoSchools and Eco-team programs. The research points to the need for future studies on the long-term effects of such tools within the EcoSchools framework, especially regarding sustained participation. Ultimately, this work enhances understanding of sustainability education and fills a gap in EcoSchools research, especially after its shift to an online platform.

Manuel Riemer

Developing Cultures of Sustainability in K-12 Schools: A multi-case inquiry

Viessman Centre for Engagement and Research in Sustainability (VERiS), Wilfrid Laurier University | Jennifer Dobai, Kaitlyn Ashmore, Sarah Ranco, Maria Aziz

For schools to effectively contribute to Canada's transition to sustainability, as reflected in the UN Sustainability Development Goals, they themselves must transform into sustainability centres by integrating formal and informal learning seamlessly and comprehensively within their sociophysical environment. Strong organizational cultures of sustainability (COS) are at the core of this. This presentation features the insights from a cross-sectional multi-case mixed-method study in six schools that have committed to become Sustainable Future Schools (SFS), an initiative by Learning for a Sustainable Future (LSF) which promotes a whole institution approach to sustainability in schools. Interviews with principals, LSF consultants, and SFS lead teachers, focus groups with teachers and students, and observations during site visits indicate that most schools are still at relatively early stages in their COS development journeys, often relying on a few committed champions. Implications for schools, sustainability researchers, and policy-makers will be discussed.

Jane Ji

A Case Study of Game-based Approach on Sustainability Education

Springbay Studio

This case study highlights an innovative collaboration between Springbay Studio and the Toronto District School Board (TDSB) Eco School to advance environmental and climate education through game-based learning. Over a semester, elementary and middle school classrooms piloted the League for Green Leaders, a digital platform combining interactive challenges, civic engagement, and hands-on sustainability projects. Teachers reported that students demonstrated heightened curiosity, stronger connections between science concepts and real-world issues, and an increased sense of environmental agency. The gamified approach motivated learners to track their ecological footprint, collaborate on climate action, and reflect critically on their choices. Beyond knowledge acquisition, the study revealed measurable improvements in student engagement, empowerment, and problem-solving skills. We will demo the League program, share the case study findings, illustrate practical classroom applications, and discuss how meeting students where they are can help promote sustainability education with positive behavior change in schools.

2:30-3:00pm

Break (MN Grand Hall)

3:00-4:30pm

Concurrent Sessions

P5: Love and Sustainability: Perspectives and Experiences of MScSM Alumni and Students (Part II) (MN 2130)

Chair: Prof. Shashi Kant

Moderator: Randa Ali, MScSM Alum

Panelists

1. Abby Zhang, MScSM Alum, Procurement Specialist, Clearlight Energy
2. Rob Lukacs, MScSM Alum, Sustainability and Compliance Team Lead, Minogi, and
3. Hamna Riaz, MScSM Student, Client Relations and Business Development Consultant, Ensogo

CB1: Education and Sustainability: Higher Education (MN 1190)

Chair: Prof. Joan Simalchik

Abdullahi Salad

Campus Lands and Colonial Legacies: Tracing Indigenous Presence in Higher Education Land Stewardship

Department of Geography and Planning | Lita Wanjiru Ngunjiri, Praneeta Mudaliar

Institutions of higher education (IHEs) in the United States (U.S.) have held undeveloped lands (hereafter protected natural areas or PNAs) since the 17th century, often acquired through Indigenous dispossession, genocide, and treaties, facilitated by the Morrill Land-Grant Act of 1862 and private donations. This research examines Indigenous engagement in land stewardship across 137 IHEs by analyzing land management plans. Preliminary findings show that references to Indigenous peoples mainly concern regional land histories, historical use, temporality, and settler/colonial relations, while Indigenous erasure is the prevailing context. These patterns reveal the tension between the colonial origins of university lands and efforts to involve Indigenous communities. Our study highlights opportunities for IHEs to support Indigenous engagement, advance restorative justice, and integrate traditional ecological knowledge into campus conservation practices, addressing both historical injustices and contemporary environmental challenges.

Sanobar Anjum Siddiqui

Tracing education for sustainable development in accounting research: A bibliometric analysis

University of Regina

Accounting education has a role to play in achieving the United Nations' Sustainable Development Goals. This paper surveys the literature using a bibliometric analysis to identify the status and the gaps in education for sustainable development (ESD) in accounting research. Collected using the search terms "education," "sustainable*," and "accounting," a corpus of 120 articles is analyzed using performance analysis and science mapping. Analysis is divided into two decades – one before the appearance of the SDGs in 2015, one after. The first decade reveals the inherent potential within HEIs to effect change toward greater sustainability. In the second decade, this potential is realized mainly through Operationalizing sustainability complemented by attempts at integrating ESD in accounting. These are signs of Paradigm shifts in accounting, another theme which appears in the second decade. Sustainability pedagogy and Perception of sustainability are themes which appear in all decades. Future pathways for greater ESD in accounting are: pairing sustainability with ethics; developing concrete teaching resources for accounting instructors; performing design-based research to ideate the integration of ESD into accounting curriculum; and conducting research on country-specific perceptions.

Sarah Cherki El Idrissi

Leveling Up Sustainability: Gamification in Higher Education

ICCIT

Amid escalating global environmental challenges, sustainability has become a central priority for education, research, and practice. Higher education institutions are tasked with preparing students not only with technical skills but also with the values and mindsets necessary to advance sustainable futures. Various pedagogical strategies—such as project-based learning, experiential learning, and community engagement—have been employed to foster sustainability-oriented thinking. Among these, active learning approaches show particular promise in cultivating deep understanding and lasting behavioral change. This paper explores the use of simulation games as a gamification strategy within an undergraduate course on digital sustainability management. By providing immersive, interactive experiences, these tools enhance comprehension of complex sustainability issues, strengthen problem-solving competencies, and encourage responsible decision-making. We present findings on student skills development, attitudinal shifts, and feedback, highlighting the potential of gamification to shape future sustainability professionals and leaders.

Robert Martellacci

Sustainable AI Learning: A Human-Centered Vision for Future-Ready Education

MindShare Learning

We stand at a pivotal moment in education history—what Dr. Geoffrey Hinton describes as the “second coming of the Industrial Revolution.” But unlike the first, this revolution is intellectual, driven by artificial intelligence. With this power comes immense opportunity—and significant responsibility.

This session explores a strategic, human-centered framework for Sustainable AI Learning that positions Canada as a global leader in equitable, ethical, and impactful AI integration in education. Drawing on insights from C21 Canada's National AI Use Case Project, the Canadian EdTech Summit, and international research, this presentation offers an actionable vision for school districts, policymakers, and thought leaders.

CB2: Sustainability Reporting, Rating, and Economic Issues (MN2100)

Chair: Prof. Yue Li

Jody Grewal

Effects of Mandatory Carbon Reporting on Greenwashing (Virtual Presentation)

University of Toronto - Mississauga (Department of Management and Institute of Management and Innovation), and Rotman School of Management | Gordon Richardson, Jingjing Wang

We study the effects of mandated ESG reporting on greenwashing. Our setting is a regulation in the United Kingdom requiring firms to report carbon emissions, or Mandatory Carbon Reporting (MCR). Measuring greenwashing as the discrepancy between companies' external carbon-related discussions in CSR reports and their underlying carbon performance, we find MCR leads to a decline in three types of greenwashing: excessive length, over-optimism, and vague commitments, relative to performance. MCR also curtails greenwashing in other (non-carbon) environmental disclosures, suggesting a spillover from MCR to firms' broader ESG reporting. Drivers include higher expected reputational and regulatory risks for non-carbon issues after MCR, and a resource spillover, where the increased firm resources allocated to MCR benefit non-carbon reporting.

David Frazer

From Pressure to Progress: Investor Influence, ESG Ratings, and the Tension Between Data and Values

Fruuit Consulting

Drawing on my experience inside ESG ratings agencies (MSCI and Sustainalytics) and now as CEO of Fruuit Consulting, my presentation examines how modern investors attempt to influence corporate environmental and social behavior—and the often-overlooked gap between measurable change and meaningful progress.

I will argue that while ESG frameworks are rooted in scientific risk models, their real-world influence often reflects deeper systems of belief—about responsibility, morality, and what counts as “good.” In particular, I explore three tensions at the heart of investor pressure:

- How ESG ratings incentivize disclosure over action, rewarding surface alignment rather than transformation
- Why capital flows increasingly follow rating scores, even when those scores overlook spiritual or communal values
- When investor engagement does work—especially when values, transparency, and strategic alignment intersect

My contribution to the session bridges the empirical and the philosophical. I offer a practitioner's perspective on the limits of data-led sustainability tools, and invite reflection on what models of influence might look like if we centered justice, dignity, or planetary legacy alongside financial materiality.

For participants interested in how sustainability science interfaces with human motivation, institutional behavior, and value-driven action, this talk will offer both insight and critique. My goal is to challenge prevailing assumptions about how change happens—and to propose a more holistic lens that links finance, purpose, and power.

Eduardo Souza-Rodrigues

Cows and Trees

University of Toronto Mississauga, Dept of Economics | Paul T. Scott, Ted Rosenbaum, and Skand Goel

The Brazilian Amazon plays a crucial role in regulating global climate and preserving biodiversity, yet it faces mounting pressures from deforestation, driven primarily by cattle ranching. The expansion of cattle pastures is shaped by the dual role of cattle as output and capital stock, leading to nontrivial dynamic patterns. We develop a structural empirical model of ranchers' cattle management and land use decisions, accounting for deforestation costs, herd dynamics, and price expectations. The model estimates reveal that deforestation is inelastic to temporary shocks on beef prices but highly elastic to persistent price changes. We also show how conventional reduced-form regressions fail to accurately capture long-run elasticities. The elastic nature of cattle-driven deforestation indicates that policies that increase deforestation costs will be effective, and suggests that forest preservation efforts will suffer from considerable leakage.

Pierre Desrochers

Fictional Drama and Sins of Omissions: The Case against Andreas Malm's Search for the Real Killers of Direct-Drive Waterpower in Fossil Capital

UTM - Geography, Geomatics and Environment

In his influential 2016 book *Fossil Capital*, scholar and climate activist Andreas Malm offered a new explanation for the English cotton manufacturing industry's transition from rural, abundant, and cheap direct-drive waterpower to urban and more expensive stationary coal-generated steam power. After exonerating waterpower's unreliability, non-scalability and geographical inflexibility, Malm argued the real culprits were capitalists who prioritized controlling their workforce in a time of

labor unrest, something more easily achieved in large agglomerations with abundant surplus labor. This essay challenges Malm's historical narrative by revisiting traditional interpretations that emphasized how costlier steam engine and urban locations delivered greater returns on investment because of factors ranging from a reduction in transportation costs of raw materials and finished products to easier access to a much larger and diverse pool of suppliers, service providers and skilled labor.

CB3: Work and Sustainability (MN 2110)

Chair: Prof. Soo Min Toh

Daniel Gulanowski

Mitigating Micro-Barriers: The Role of Online Technologies in International Graduate Employment

Sprott School of Business, Carleton University | Hui Zhang

International student graduates are vital to host countries' economies and innovation ecosystems, yet their long-term workforce integration through online technologies remains underexplored. This qualitative study examines how international MBA graduates in Canada use digital tools to integrate into the labour market. Based on 24 semi-structured interviews, findings reveal a hybrid approach combining online platforms (LinkedIn, university portals, company websites), job alerts, and AI-powered tools with offline strategies (networking events, referrals, job fairs). LinkedIn serves as a central platform for accessing job postings, gaining industry insights, building professional connections, and showcasing skills through optimized profiles. AI tools help reduce micro-level barriers by improving written communication and tailoring application materials. Despite persistent macro factors (market conditions, residency status), meso-level issues (employer attitudes), and micro-level challenges (language, local experience, networks, cultural norms), digital tools significantly ease micro-level barriers. The study highlights digitally facilitated integration practices and offers practical recommendations for universities and employers.

Dunja Palic

The Role of Technology in International Students' Workforce Integration: A Systematic Literature Review

Carleton University | Daniel Gulanowski, Luciana Nardon

Despite international students' (IS) ability to address skilled labour shortages, nations such as Canada have imposed restrictions on work and study permits, increasing the barriers this group faces in finding sustained and productive employment. Scholars have identified factors influencing ISs' workforce integration and the practices they use to improve their employability, including leveraging technology as an accessible resource. To better understand the role of technology in ISs' workforce integration, this systematic literature review examines 53 articles across multiple disciplines, highlighting areas for future research and practical implications. Our thematic analysis shows that ISs utilize online information platforms, social media, and digital pedagogical tools to develop intercultural competence, enhance communication, strengthen social ties with mentors and peers, receive social support, and engage in field-specific knowledge development. Higher education institutions can support these efforts by prioritizing digital literacy among educators and stakeholders.

CB4: Sustainable Building and Technological Innovations (MN 1170)

Chair: Dr. Shardul Tiwari

Dr. Obafemi Olukoya

Sustainable Adaptive Re-use Proposals for Prefabricated Wooden Architectural Heritage: Application of Multi-Criteria Decision Making Using TOPSIS Method

Chair of Environmental Planning, Brandenburg Technical University, Cottbus-Senftenberg

Heritage conservation is consistent with the understanding of sustainability as the reduction of environmental impact by, among others, encouraging the continued use of old buildings. For this reason, since the late 19th century, adaptive reuse of cultural heritage has emerged as a strategy to restore and repurpose heritage buildings in a state of abandonment or underusage. However, in the practice of adaptive re-use, the decisions regarding granting meanings, interpretation, and preserving memories within the adaptation process, there are often tensions within stakeholders as to denote authenticity, and what is authentic memory. Therefore, the aim of this paper is to apply a multidimensional and multicriteria evaluation methodology as a lingua franca for participatory decision-making processes for the adaptive reuse of a prefabricated wooden architectural heritage in Nigeria. TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) multi-criteria evaluation method was used to compare adaptive reuse project alternatives including stakeholder objectives, perceptions and preferences.

Israel Castro

Residential odour impact and well-being in a steel manufacturing city

Muhammet Calayir

Electromagnetic and Electrostatic Energy Harvesting in a Wind-Excited Tall Building Equipped with Tuned Mass Damper Inerter
University of Toronto, Civil and Mineral Engineering | Ruihong Xie, Oya Mercan

Wind-induced vibrations in tall buildings can compromise occupant comfort and serviceability requirements, while their responses also represent an untapped source of mechanical energy that can be harvested to power low-demand devices or support building sustainability goals. Although numerous studies have established the effectiveness of different passive and active structural control strategies, leveraging these configurations for energy harvesting remains limited. This study numerically investigates the dual performance of vibration suppression and energy generation using a Tuned Mass Damper Inerter (TMDI) installed in a 76-story benchmark structure. Electromagnetic and electrostatic transducers are separately integrated into the TMDI to convert structural motion into electrical energy. The building is subjected to spatially correlated wind loading. Optimal tuning of the TMDI and energy-conversion parameters is performed. The findings provide insight into the feasibility of integrated vibration control and energy-harvesting solutions.

Yazan Zamel

Closing the Gap Between Design and Operation: A Mixed-Methods Post-Occupancy Evaluation of Passive House and EnerPHit Multi-Unit Residential Buildings in Cold-Climate Canada

Department of Civil and Mineral Engineering, University of Toronto

High-performance building standards, including Passive House and EnerPHit, aim to deliver substantial energy savings, yet discrepancies between modeled and operational outcomes lead to the concept of performance gap, which affects the wellbeing of elderly who reside in social housing. This thesis examines the energy performance gap through a mixed-methods post-occupancy evaluation of two multi-unit residential buildings (MURBs) in Hamilton, Ontario: Building A, an EnerPHit-certified deep retrofit, and Building B, a newly constructed Passive House. One year of utility and sub-metered data was analyzed against Passive House Planning Package (PHPP) predictions under standard (for both buildings A & B) and Canadian-adjusted assumptions (for building A only). At the whole-building scale, Building A consumed 86% more total primary energy than predicted under Canadian conditions, with ventilation systems operating at twice their design airflow and significant additional loads in non-metered categories, while the space conditioning and DHW performance aligned with the PHPP model. Building B matched total PHPP energy use with minimal discrepancy but recorded space conditioning demand 158% above modeled values, driven by elevated cooling loads linked to occupant behavior and control sequences, while DHW performance was overestimated in PHPP model by 33%. System-level analysis revealed unmonitored loads, labelled as "Other", and ventilation are the dominant contributors to performance gap in Building A, while in Building B, space conditioning is the major contributor. Semi-structured interviews with designers, contractors, and operators as well as surveys with occupants identified recurring drivers of these gaps, including commissioning limitations, operational constraints, and design challenges, and highlighted the importance of integrating operational scenarios into early design, maintaining rigorous quality control, and supporting adaptive building management strategies post-occupancy. The findings provide evidence and practical direction for improving alignment between design intent and measured performance in cold-climate Canadian MURBs.

4:30-6:30pm

Networking Reception (MN Grand Hall)

Cocktail refreshments and bar available.

End of Day 1

October 28th, 2025

Day 2

8:30-9:00am

Registration and Morning Refreshments (MN Grand Hall)

9:00-10:00am

Plenary Session Keynote (MN1210)

Chair: Prof. Shashi Kant

Keynote Speaker: Prof. Andrew Hoffman, University of Michigan Ross School of Business

Business School and the Noble Purpose of the Market: Correcting the Systemic Failures of Shareholder Capitalism

10:00-11:30am

Concurrent Sessions

CC1: Education and Sustainability: Experiential Learning (MN 2100)

Chair: Prof. Monika Havelka

Ana Maria Martinez

Beyond Disciplinary Boundaries: Transformative Sustainability Education through the Las Nubes Study Abroad Program, Costa Rica

Faculty of Environmental and Urban Change, York University | Felipe Montoya

The Las Nubes Study Abroad Program exemplifies how higher education can advance sustainability through interdisciplinary and transdisciplinary approaches that bridge knowledge systems, disciplines, and communities. Rooted in the social-ecological context of southern Costa Rica, the program fosters experiential learning that connects environmental conservation, cultural diversity, and sustainable livelihoods. By engaging students with local communities, Indigenous territories, NGOs, and businesses, the program moves beyond disciplinary silos to address sustainability challenges in integrated and place-based ways. At the same time, it cultivates transformative pedagogy, emphasizing critical reflection, dialogue, and collaboration. Students are encouraged to examine their own assumptions, expand their understanding of sustainability, and envision alternative pathways for socio-ecological wellbeing. This talk will highlight key practices and lessons from Las Nubes, illustrating how interdisciplinary and transdisciplinary approaches, combined with transformative sustainability education, can prepare students to engage meaningfully with complex global challenges.

Ayako Ariga

Sustainability Education for All Through the Pan-University Sustainability Pathways Program

Committee on the Environment, Climate Change, and Sustainability (CECCS), University of Toronto | Kristy Facer

This session will focus on how the Sustainability Pathways Program offers a unique teaching strategy embodying UofT's commitment to sustainability. In particular, it promotes interdisciplinary and transdisciplinary learning to help students understand the complexities of sustainability, merging knowledge and methods from multiple disciplines and encouraging collaboration across academic boundaries. This approach equips students with the diverse skills needed to effectively tackle multifaceted sustainability issues for impactful solutions.

In this program created by the Committee on the Environment, Climate Change, and Sustainability (CECCS), students explore sustainability learning by becoming Sustainability Scholars, Citizens, and Leaders through a tiered framework of curricular and co-curricular tiers, capped with documentation of sustainability leadership in action. The Leader tier launches this fall and will encourage students to define and develop their own leadership skills based on their unique cultural and community contexts, and to articulate how these skills will guide their contributions to sustainability beyond university.

Elisa Zuliani

ExxonMobil's Strategic Disclosure Dilemma

Rotman School of Management: University of Toronto | Michael J. Marin

This case challenges students to critically evaluate ExxonMobil's climate disclosure strategy following its January 2022 net zero pledge, which notably omits Scope 3 emissions. It explores whether the company's public commitments reflect a meaningful shift in business strategy or a continuation of legacy practices under a revised narrative. Students examine whether ExxonMobil's continued fossil fuel investments, its acquisition of Pioneer Natural Resources, and its rejection of climate-related

shareholder proposals in 2023 are consistent with its stated climate commitments. These developments occurred alongside or shortly after the net zero pledge, prompting questions about the alignment between disclosure and strategic direction. The case also considers how ExxonMobil's long-standing posture toward climate science may influence stakeholder perceptions of its current strategy. In addition, it highlights the technical and conceptual challenges involved in measuring emissions, assessing risk, and aligning disclosure practices with evolving reporting frameworks. Through this analysis, students explore the financial, operational, and reputational dimensions of ESG reporting. The case is suitable for upper-level undergraduate and MBA courses in financial reporting, corporate governance, and sustainability accounting. It is designed to develop students' ability to interpret ESG disclosures, assess climate-related risk, and evaluate the credibility of strategic commitments in the context of evolving stakeholder expectations and regulatory change.

Tara Immell

Farmers' Market Experiential Learning for Agriculture Students

Sustainable Agriculture, Kwantlen Polytechnic University

The "Farmers' Market Experiential Learning for Agriculture Students" initiative provides hands-on, community-based learning opportunities by immersing students in the dynamic environment of a local farmers market in the Metro Vancouver Area. Through direct engagement with vendors who grow vegetables and produce small-batch, value-added foods, students gain insight into sustainable agriculture, food systems, and local economies. Collaborations with city employees focused on environmental and sustainability goals further deepen their understanding of urban agriculture policy and green infrastructure. Additionally, students interact with a wide array of community organizations, expanding their perspectives on food access, education, and community resilience. This experiential learning model fosters practical skills in communication, marketing, and collaboration while highlighting the interconnected nature of agriculture, sustainability, and community development. By bridging academic learning with real-world applications, the program equips future agricultural professionals with hands-on practice to contribute meaningfully to resilient, sustainable food systems.

CC2: Indigenous Knowledge and Worldview (MN 21110)

Chair: Prof. Romila Verma

Abdullahi Salad

The Potential of University-Held Lands for Conservation, Climate, and Indigenous Justice

Department of Geography and Planning | Praneeta Mudaliar

Protected natural areas (PNAs) held by institutions of higher education (IHEs) in the United States (U.S.) offer a unique opportunity to address the intersections between habitat conservation, climate change mitigation and Indigenous justice. Our research analysed 581 IHEs and their 1086 PNAs. With a wide geographic distribution across the U.S., PNAs held by IHEs may present significant potential as a resource for biodiversity conservation and carbon sequestration. Moreover, IHEs offer a unique opportunity in reconciling past injustices against Indigenous peoples. Research has shown that Indigenous stewarded lands not only preserve biodiversity at greater rates but also have higher rates of carbon sequestration when compared to non-Indigenous stewarded lands in the same regions. While there are some instances of IHEs returning land to local Indigenous tribes, our presentation covers the feasibility and potential for conservation and Indigenous justice through PNAs held by IHEs.

Jermy Uowolo

Holohol: A Holistic Approach of Remathau Ancestral Seafaring Wisdom Towards Enhancing Post-Disaster Resilience

Julio Lucchesi Moraes

Green Energy, Unequal Powers? An Exploration of the Economics of Renewable Projects and Canadian First Nations

Government of Manitoba, Université de Saint Boniface

In August 2024, the University of Alberta Future Energy Systems updated its Canadian Renewable Energy and Battery Energy Storage Map, now listing 1,502 renewable generation and 141 battery storage projects. Yet, Indigenous ownership - whether minor, major, or total - remains under 10%. This imbalance raises concerns about equity in the green economy and the risk of "green colonialism." A consultation with U of A Prof. Dr. John Parkins confirmed that, while valuable, the GIS-database requires deeper analysis. This research revisits the database's current format, expanding on Indigenous participation. We then want to experiment some cross analysis with the Crown-Indigenous Relations and Northern Affairs Canada First Nations Financial Transparency Act (FNFTA) database. The goal is to position ongoing renewable projects and First Nations' broader financial realities. Integrating spatial and financial datasets aims to offers a novel method to assess equity and inform strategies for just energy transition and economic reconciliation.

Romila Verma

Ground Zero of the Anthropocene: The Role of Storytelling in Advancing Sustainability

Department of Geography

This presentation explores the contested recognition of the Anthropocene Epoch—a proposed geological era defined by humanity’s irreversible impact on Earth. Anchored in the sediments of Crawford Lake, Ontario, known to the Wendat people as Kionywarihwaen (“where we have a story to tell”), it interweaves science, Indigenous wisdom, and lived experience to examine why naming an epoch matter. Though the International Union of Geological Sciences recently rejected Crawford Lake as the formal “golden spike” for the Anthropocene, the debate reveals deeper tensions between scientific authority, cultural meaning, and environmental urgency. By giving voice to the lake itself, this presentation frames Earth as a storyteller whose layers record nuclear fallout, pollution, and climate disruption. This narrative invites audiences to reflect on how official recognition of the Anthropocene could catalyze new forms of sustainability leadership, resilience, and planetary stewardship.

CC3: Artificial intelligence and digital technology impacts on sustainability (MN1170)

Chair: Prof. Brett Caraway

Samar Sabie

AI for Sustainable Campus Buildings? Tensions of Fairness, Privacy, and Climate Governance

ICCIT, UTM | Ethan Rong

Artificial intelligence (AI) is increasingly deployed in campus infrastructure to forecast energy demand, optimize building operations, and model occupancy. While often framed as promising for efficiency and sustainability, these systems surface tensions around fairness, privacy, and oversight that have broader implications for climate governance in the information economy. Drawing on 23 semi-structured interviews with energy professionals, AI researchers, and student representatives at a large university consistently ranked among the most sustainable worldwide, this study identifies three dynamics. First, forecasting and optimization are viewed as promising for reducing energy consumption but limited by unreliable baselines, behavioral variability, and challenges of interpretability. Second, occupancy modeling and thermal comfort demonstrate technical potential yet raise concerns about surveillance, equity, and differential exposure to discomfort. Third, human-in-the-loop decision-making reflects a desire for AI to support rather than supplant professional judgment, foregrounding questions of trust, accountability, and infrastructural governance. We argue that fairness in operational AI is best understood as a situated practice of sustainability governance, where technological interventions are entangled with institutional priorities, contested values, and climate commitments. Our findings contribute to critical discussions on the “social footprint” of AI systems and offer design implications for human–computer interaction around transparency, contestability, and participatory oversight in sustainable infrastructures.

Xiaodi Zhao

Artificial Intelligence Reshaping Global Forest Science: Key Challenges, Enabling Pathways, and Future Blueprint

Chinese Academy of Forestry | Xiangfei Lu, Liyong Fu, Dongbo Xie

Forest science is undergoing a paradigm shift under the combined pressures of climate change and human activity. Global extreme forest fires have more than doubled in 20 years, canopy loss reached a record 13.5 Mha in 2024, and only ~40% of forests remain highly intact. Biodiversity faces unprecedented threats, with one million species at risk of extinction. Advances in remote sensing and IoT now deliver abundant multi-modal, multi-scale data, yet traditional methods struggle to provide rapid, precise insights. Artificial intelligence, particularly large models, offers transformative potential by integrating “perception–cognition–generation” processes to break disciplinary silos and redefine problem-solving in forestry. This paper outlines a 2030 research agenda focusing on six themes: ecosystem disturbance and recovery, carbon sink assessment, biodiversity conservation, forestry social systems, intelligent resource monitoring, and forest–climate feedback. AI is positioned not merely as a tool but as a driver reshaping the structure and methodology of forest science.

Edward Newton

Artificial Intelligence and Digital Technology Impacts on Sustainability.

Sustainability Office, Facilities Management and Planning, University of Toronto Mississauga | Arash Ghorayshi

Digital technologies for monitoring and optimizing building energy performance are considered a crucial component of a sustainable building. More tools, products, and platforms enter the market every day promising savings and a seamless system of data transfer and analysis utilizing cutting edge technology. But what does utilizing these technologies actually look like? And is more data always better?

This presentation will discuss the significant effort that goes into troubleshooting, maintaining, and analyzing data from utility monitoring systems. It will explore how digital technology is just one of the components of running a high-performance building – and perhaps not even the most important one.

Brett Caraway

AI as an extractive industry: supply chain minerals, data, workers, and tailings.

CC4: Sustainability, Spirituality and Science (MN 1190)

Chair: Prof. Shashi Kant

Ashita Allamraju

Holistic Sustainable Development in Action

Institute for Management and Innovation | Pami Dua, Arsh Dhir, D. Bhagwan Das, Prem Sewak Sudhish, Apurva Narayan, V. B. Gupta

This paper presents a model of holistic sustainable development that expands sustainability beyond economic, social, and environmental dimensions to include values, beliefs, attitudes, spiritual and intuitive consciousness, and conscientiousness. It emphasizes the critical role of communities in fostering and sustaining this transformation. Understanding the drivers of individual consumption behavior—especially those amenable to policy intervention—is key to improving sustainability outcomes. We adapt the Attitudes-Facilitators-Infrastructure (AFI) framework to propose that attitudes form the foundation for sustainable lifestyles, shaped by spiritual and intuitive consciousness and conscientiousness. Facilitators (e.g., policies, incentives, social networks) and infrastructure (e.g., systems, resources) are external conditions that support behavior change. Community engagement is essential in cultivating foundational attitudes and co-creating the enabling environment. We conclude with a case study illustrating how community organization and engagement can drive systemic change toward holistic sustainability.

Juan Pablo Rodriguez-Garavito

Building Sustainable Futures: Participatory Governance Lessons from Latin American Landscapes

EcoAgriculture Partners, USA & Latin American Model Forest Network (RLABM), Costa Rica | Bemmy Granados, Leonardo Durán, Fernando Carrera, Max Yamauchi-Levy, Juan Carlos Ramos

In a world facing accelerating environmental degradation, the challenge of managing ecologically valuable territories lies not only in protecting ecosystems but also in ensuring that local communities thrive alongside them. This study examined the Latin American Model Forest Network (RLABM) as a territorial governance platform grounded in Landscape Partnerships (LP) for Integrated Landscape Management (ILM). Using a Community-Engaged Research (CER) approach—combining literature review, participant observation, institutional immersion, and semi-structured interviews with actors from 15 active and former Model Forests—Preliminary results indicate trust, transparency, community leadership, and territorial identity as core attributes for resilient partnerships. Organisational sustainability further requires diversified funding, political legitimacy, and supportive institutional frameworks. Drawing on over two decades of RLABM experience, the study proposes a conceptual model linking Model Forest principles with ILM elements. It offers empirical evidence from a multi-stakeholder Latin American network with strong potential for adaptation in Global South contexts, contributing to global debates on sustainability and landscape governance.

Dr Parul Rishi

Sustainability Consciousness - A Psycho-Spiritual Analysis (Virtual Presentation)

11:30-1:00pm

Lunch and Keynote Session (MN Grand Hall)

Chair: Prof. Sarah Cherki El Idrissi

Keynote Speaker: Prof. Jacqueline Corbett, FSA ULaval, Université Laval

1:00-2:30pm

Concurrent Sessions

P6: Master of Science and Sustainability Management (MScSM) Alumni Panel (MN 1170)

Moderator: Hannah MacRae, Senior Research Associate, ESG at Jarislowsky Fraser, Ltd.

Panelists:

1. Nairika Behboodi, *Corporate Sustainability Specialist at Canada Goose*
2. Samuel Gordon, *Permitting Specialist- Aquatics at Agnico Eagle Mines Limited*
3. Forrest Hisey, *Assistant Professor, Natural Resource Management at Florida Gulf Coast University*
4. Jacob Dwinnell, *Sustainability Coordinator at JLL*
5. Wenhui Yao, *ESG Analyst at Air Canada*

P7: Forest Bioeconomy in Uncertain times of Climate Change and International Trade (MN 2130)

Moderator: Prof. Rasoul Yousefpour

Panelists:

1. Rasoul Yousefpour: Transformation of the Canadian bioeconomy
2. Tamer El Diraby: *Current state and innovation readiness of the forest biomass industry*
3. Shashi Kant: *Sustainable development of local (indigenous and other northern) communities through bioeconomy*
4. Robert Gillezeau: *Bioeconomic innovations history of indigenous communities*

CD1: Community Engaged Collaboration and Learning (MN 1190)

Chair: Alysha Ferguson

Andrea Kosavic

Grassroots environmental stewardship: Building a community-based recycling model in Costa Rica

York University Libraries, York University | Dana Craig, Tom Scott

Casita Azul, York University's library in Costa Rica, has partnered with the Environmental Education Division of the Pérez Zeledón Municipality over the past four years to advance waste diversion, recycling, and waste management community awareness in the communities within the Alexander Skutch Biological Corridor. This collaboration led to the creation of the Environmental Coalition of the Alexander Skutch Biological Corridor, a grassroots alliance involving local associations and NGOs, including the Santa Elena Water Management Association (ASADA), Los Cusingos Bird Sanctuary, and the youth environmental group La Brigada. Supported by municipal resources, such as organic fertilizers and honorific glassware provided as incentives, the coalition has already diverted over 8,000 kilograms of recyclable materials from landfills. Beyond waste management, the coalition mobilizes volunteers, organizes clean-up campaigns, and delivers monthly biodiversity education sessions.

Dana Craig

Reimagining Rural Futures: Casita Azul's Participatory Model for Gender Equality and Community Resilience in Costa Rica

York University Libraries | Andrea Kosavic, Tom Scott

Casita Azul, the library of York University's Las Nubes EcoCampus in southwest Costa Rica, exemplifies sustainability leadership through education, community engagement, and reciprocity. More than a library, Casita Azul functions as an academic resource centre and community hub, fostering inclusive, participatory learning guided by principles of sustainability education and transformative pedagogy. One of our key practices—community reading circles—has become a catalyst for dialogue, reflection, and collective action. From this initiative emerged EnconArte Mujer, a project funded by Costa Rica's Ministry of Youth and Culture that advanced SDG 5: gender equality. Implemented in 2025, the program offered workshops, field trips, and community gatherings focused on women's mental health and self-knowledge in the local biological corridor. Its impact extended beyond individual participants, strengthening families and creating safe spaces for resilience and reflection. This case illustrates/underscores the potential for participatory, grassroots, collaborative approaches in education to reimagine rural gender equality, sustainability leadership, resilience and building capacity in an era of social and environmental uncertainty.

Emily Smit

Don't Lead with Climate: On meaningful engagement of residents in urban climate action

Geography and Planning, U of T; Visionary Communities research group | John Robinson Anne Gloger

Achieving Toronto's ambitious climate action goals will require unprecedented levels of political support and behavioural engagement from residents. Conventional strategies adopted by most cities - including public education campaigns, required actions, and associated co-benefits - have shown limited effectiveness in generating the necessary depth of engagement. This paper outlines the design and preliminary findings of a four-year project located in the Kingston-Galloway-Orton Park (KGO) neighbourhood of Scarborough, Canada, that explores an alternative approach. The Visionary Communities project begins by understanding the aspirations, values and priorities of those involved in working for a better neighbourhood future. Using transdisciplinary knowledge co-production and the Connected Community Approach, the project seeks to articulate a neighbourhood vision and pathways aligned with these locally defined priorities, and only then identify connections to Toronto's climate objectives. The central hypothesis is that this approach will foster higher levels of public support and behavioural engagement than conventional engagement methods.

CD2: Sustainability and Behaviour (MN2110)

Chair: Samantha Dilorio

Radha Maharaj

Beyond Awareness: Materialism, Risk Perception, and the Struggle for Sustainable Practice

ICCIT

This study identifies a "materialism paradox" in sustainability behavior, students with stronger materialistic values report greater climate risk perception (CRP) yet engage less in pro-environmental behavior (PEB). Survey data from 303 business students were analyzed using structural equation modeling within a hybrid framework combining the Theory of Planned Behavior, Value Belief Norm Theory, and Social Practice Theory. Materialism negatively predicted PEB, while CRP had the strongest positive impact on PEB. Self-esteem had a modest positive effect on PEB but did not mediate the materialism–PEB relationship. The positive association between materialism and CRP partially offset materialism's negative influence on behavior, suggesting that climate concern among materially oriented individuals may be driven by self-interest in protecting assets and lifestyle stability. These findings offer a novel explanation for the value–action gap and suggest that sustainability education should both reframe environmental action in ways that resonate with materialistic motivations and challenge structural norms linking success to consumption.

Thomas Galipeau

Does Environmental Policy Support/Opposition Change the Behavioral Responses to Policies?

Political Science | Laurel Besco, Randy Besco

Many environmental policies are designed to affect behaviour by imposing prices, such as carbon taxes or congestion fees. However, these are also often hotly contested political issues. Do attitudes toward policies change their behavioural effects? Using a conjoint experiment we test people's preferences while varying environmental fees. In general, the cost of the price (e.g. higher/lower carbon tax) is important. However, supporters of the policy may actually be less responsive to the price, while opposers are more responsive, precisely because they do not want to pay it. Paradoxically, policies which are widely supported may be actually less effective in changing behavior than those which are disliked.

Derek Vollebregt

Friendlier: Motivating Change Through Reusable Solutions

Friendlier

Consumer behaviour in the circular economy space, specifically in regards to reuse programs. With the majority of North American society seeing plastics as "single-use", Friendlier is here to shake up that mindset. Done in the right methods, reuse within a circular economy shows tremendous net-positive after just a few washes.

CD3: Connecting to a Climate Crisis Café Frame of Mind (MN 2100)

Chair: Prof. Simon Appolloni

Mallory Furlong

From Eco-Anxiety to Eco(h)ope: Putting Theory into Practice

Graduate of the MScSM Program, UTM | Coral Chell, Nolan Scharper

We hear it all the time: 'eco-anxiety is grabbing hold of the joys, hopes fears and energy of the youth of our time.' But do we know as individuals what actually we could do when we encounter someone who is experiencing eco-anxiety? How might we lead others away from despair? This session puts theory into practice and, through role playing exercises, the panel will demonstrate approaches that anyone (no specialists required) can practice in their own encounters with youth experiencing eco-anxiety. Each practice will follow with some follow up discussions and Q&A. The aim of the session is to empower those who wish to help those experiencing eco-anxiety while showing them some of the best practices to do so. No previous experience other than some empathy is required.

Jennifer Dobai

Understanding and Addressing Eco-Anxiety Among Youth: Insights from a Scoping Review and Community Psychology Perspective

Wilfrid Laurier University & Viessmann Centre for Engagement and Research in Sustainability

Climate change generates significant psychological impacts, with eco-anxiety emerging as a prominent response among youth. Despite growing scholarly attention, eco-anxiety remains inconsistently defined and insufficiently explored within the social and developmental contexts of young people. This scoping review of 18 articles synthesizes theoretical frameworks and models used to understand and address eco-anxiety among youth, incorporating insights from Community Psychology (CP) to foreground systemic, social justice, and empowerment perspectives. Findings highlight that youth eco-anxiety is a complex, multi-

dimensional experience shaped by moral, developmental, existential, and systemic factors. There are gaps in youth-specific theorizing, the value of CP in integrating psychological and structural approaches, and opportunities for interventions that strengthen community mental health and foster transformative systems change. These findings are urgent as youth mental health concerns escalate within the global polycrisis, highlighting the role of hope, coping strategies, participatory action, and schools as key spaces for support and engagement.

Prof. Parul Rishi

A Behavioural Analysis of Climate Consciousness and Adaptability through DISEMBARC Framework

Indian Institute of Forest Management

Climate consciousness is closely aligned with Mission LiFE (Lifestyle for Environment), a global mission adopted by India to achieve Net Zero and SDG targets. It is possible through sustainable practices and behaviors at both the individual and collective levels, creating a sustainable future.

For climate consciousness and adaptability across diverse cross-cultural populations, the DISEMBARC framework has been proposed, which includes components like Diversity acceptance (D), Inclusivity (I), Sustainability Behaviour(S), Ethics and Values (E), Mindfulness (M), Benevolence and Wellbeing (B), Adaptability (A), Resilience (R), and Creativity (C). A conceptual framework of DISEMBARC, developed through analysis of transdisciplinary climate change and sustainability literature, can form a basis for the development of a universal assessment tool to obtain comparable component-wise and composite indices to measure Climate Consciousness. An extensive multi-country study is proposed in partnership with various Climate Research Institutions to obtain Climate Consciousness Quotients (CCQ) and use them in fostering differential sustainable behavioural practices as per the respective socio-cultural milieu.

2:30-3:00pm

Break (MN Grand Hall)

3:00-4:30pm

Concurrent Sessions

CE1: Critical Assessment of Carbon Management Policies and Technologies for Sustainable Energy Transition (MN 1190)

Chair: Dr. Shardul Tiwari

Jack O'Grady (virtual)

System Dynamics Modelling of Data Center Emissions: Evidence from Nordic and North American Markets

University of Toronto, Canada & International Centre for Applied System Science for Sustainable Development | Jack O'Grady, Pragyan Nandan Pandey, Sean Hansed, Noah Williams, Ashita Allamraju

This study bridges the gap between theoretical research on data centers and the applied development of sustainability policies, addressing the sector's rapid global expansion and shift into new markets. A systems model of data center policy development is proposed and evaluated through a comparative analysis of the North American and Nordic markets. Primary data are used to examine how operators mitigate environmental externalities and meet sustainability commitments. Methodologically, behavioral patterns are analyzed using Principal Component Analysis (PCA) and Data Envelopment Analysis (DEA) to assess policy effectiveness and efficiency trade-offs. Results demonstrate a distinct divergence between the two regions: North American data centers exhibit higher efficiency in data delivery, while Nordic facilities achieve greater efficiency in emissions optimization. These findings highlight the inherent trade-off between operational and environmental objectives. The refined systems model provides a structured framework for understanding policy dynamics and offers a foundation for future empirical work with larger datasets.

Rit Nanda

Comparing potential demand to regional renewable energy production to meet local needs and support net-zero strategies in South-Eastern Ontario

REDI Lab/School of Environmental Studies, Queen's University

For net-zero strategies to succeed, uptake is needed across society, requiring an understanding of where renewable technologies are feasible. By comparing regional energy supply to demand, stakeholders can design appropriate energy mixes and policies. This study focuses on South-Eastern Ontario, covering municipalities from Peterborough to Ottawa, using census data (2011, 2016, 2021) and updated provincial figures to project 2050 populations through linear, exponential, and accelerated growth curves, yielding maximum, median, and minimum scenarios. Electricity demand was calculated per capita and adjusted for hourly and seasonal variation using IESO data, with supply modeled for wind, solar, hydro, bioenergy, geothermal, and storage. Seasonal efficiencies and real-time weather data from Kingston informed adjustments. Three supply scenarios were

compared against demand. Results show that minimum supply requires possibility of baseload like nuclear, while higher outputs demand storage. These findings guide policymakers in balancing demand, risk, and regional energy exchanges when planning future net-zero pathways.

SiLang Huang (virtual)

Examining Policy Diffusion for Canada's Carbon Capture Utilization and Storage Technologies Through Policy Debates across Jurisdictions

University of Toronto, Political Science Department | Dr. Laurel Besco, Dr. Shardul Tiwari

Policies for carbon capture, utilization, and storage (CCUS) technology have become central to Canada's climate governance, yet the dynamics of policy development across its decentralized federal system remain underexplored. This paper examines mechanisms of CCUS policy diffusion through qualitative coding of Hansard debates in Alberta, British Columbia, Saskatchewan, Manitoba, Ontario, and the federal government. We ask: (1) what mechanisms of policy diffusion and transfer are evident in CCUS debates, (2) how do ideas and practices move across jurisdictions, and (3) which actors drive, shape, or contest these flows? Findings show that diffusion rarely involves direct emulation. Instead, legislators selectively learn, reframe external models to legitimize local priorities, and position provinces relative to others. International norms, interprovincial references, and industry expertise serve discursive functions of alignment, contestation, and adaptation. By tracing how CCUS technology is invoked and reshaped, we demonstrate how policy diffusion is mediated by provincial dynamics and discursive agency.

CE2: Community Engaged Collaboration and Learning (MN 2100)

Chair: Alysha Ferguson

Omoyemen Lucia Odigie-Emmanuel

The Role of Non Governmental Organizations in Environmental Education and Sustainability Education

Nigerian Law School/Centre for Human Rights and Climate Change Research

Environmental Communication and Sustainability Education are key to promoting environmental stewardship and protecting the environment. The role of Non Governmental Organizations in Environmental Education has become increasingly important to sustainable development and providing sustainable solutions to environmental problems especially the triple planetary crisis. This paper will explore the contribution of select NGOs in Nigeria including the Centre for Human Rights and Climate Change Research, the National Conservation Foundation and Women's Environmental Programme, three organizations with headquarters in Nigeria are contributing to environmental communication and sustainability education and the impact of their work. The paper will also explore how a collaborative approach with educational institutions will further strengthen sustainability outcomes.

Robert A. Case

Barriers to grassroots leadership for sustainability: Factors that undermine grassroots participation and how we might overcome them

Social Development Studies, Renison University College, Waterloo

Based on research on the dynamics of community-based opposition to corporate water bottling in Ontario, Maine, and Colorado, in this presentation I explore the potentialities and limits of locally rooted environmental activism as a pathway to sustainability-oriented policy change.

Drawing inspiration from scholarship on the Right to the City (Lefevre 1967), this presentation highlights ways in which locally-rooted conflicts surrounding groundwater extraction reflect a grassroots demand for direct participation in local environmental and social decision-making, and the ways in which corporate power, the state, and the dynamics of local government undermine such efforts. Using insights drawn from my research as a starting point, I aim to engage session participants in a discussion of strategies for overcoming these barriers and strengthening the community role in sustainability leadership.

Tasmia Jamil

Mapping Environmental Justice Discourses of Environmental Non-Governmental Organizations in Ontario

Geography & Planning – UTM | Praneeta Mudaliar

The Black Lives Matter movement and the COVID-19 pandemic highlighted the vulnerability of racialized and low-income communities to environmental burdens. This led to Environmental Non-Governmental Organizations (ENGOS) in Canada committing to anti-racism, removing systemic barriers for racialized communities to nature, and creating environmental justice (EJ). Environmental justice aims to draw attention to questions of how environmental amenities and hazards are allocated, to whom, and why. Despite the growing focus on EJ, it is unclear how ENGOS are operationalizing EJ in their priorities and actions. Thus, more research is needed to understand the kinds of EJ discourses among different ENGOS. My research, therefore, poses two research questions: (1) What are the environmental justice discourses (distributive, procedural, recognition, and restorative) among ENGOS in Ontario? (2) How do these discourses differ across different domains of ENGOS, like energy, waste, pollution, climate action, and biodiversity?

CE3: Urban Sustainability (MN 2130)

Chair: Jae Page

Alexandra Auyeung

Residential odour impact and well-being in a steel manufacturing city

University of Toronto Mississauga; Geography, Geomatics, and Environment | Matthew Adams

Residential malodours have been associated with impaired physical and mental health, which is of particular concern in heavily industrialized cities like Hamilton, Canada where residents experience pungent odours that have largely gone unaddressed by legislators. The purpose of this study is to quantify hydrogen sulphide (H₂S), an odorous compound, in Hamilton's residential areas, determine its association with odour impact, and assess the relationship between odour impact and well-being. We collected H₂S samples inside and outside homes in Hamilton in July 2025 (n=18) and gathered information on well-being and odour reporting. We found H₂S indoors (0.472-3.29 ppb; median=0.692 ppb) and outdoors (0.452-3.61 ppb; median=1.39 ppb) at concentrations oftentimes exceeding the minimum odour detection threshold (0.47 ppb). During sampling, there were 15 instances where residents reported malodours. While data analysis is ongoing, the findings of this study can inform future policies aimed at reducing malodours and improving well-being of Hamilton residents.

Brian Mackay

Benchmarking Urban Sustainability and Resilience: Introducing the Megacity Sustainability Index

Toronto Metropolitan University - Environmental Applied Science and Management Program | Dr. Richard R. Shaker

Despite interest in assessing progress toward sustainability, no indicator framework exists for comprehensively assessing and comparing sustainable development across megacities. This research introduces a multi-indicator Megacity Sustainability Index (MSI) that benchmarks sustainability conditions for 42 megacities. Four research questions guided this study: (i) Could a subset of freely accessible, common indicators be used to formulate a simple, robust index that captures the three core realms of sustainable development? (ii) Do spatial patterns of development emerge based on the MSI? (iii) What statistical associations exist between the MSI, four key global change metrics, and the corrective measure? (iv) What defines the development progress of thriving versus lagging megacities? Created using an 11 sub-metric optimum, the MSI included a novel corrective measure metric to represent the tripartite of sustainability. The MSI is not simply an assessment tool- it is a prototype for a broader shift toward global-level systems thinking in sustainable urbanization.

Emmanuel Apiors

Who may never use a digital financial inclusion tool amidst a pandemic?

Department of Management/University of Birmingham, United Kingdom | Aya Suzuki

The surge in COVID-19 cases in Ghana led to lockdowns and heightened the need for electronic cash transactions. In 2020, we followed up on a sample that was initially not registered on mobile money to understand whether they were committed to being excluded from the mobile money space amidst the pandemic and, if so, what socioeconomic characteristics contributed. Compared to urban and rural dwellers, peri-urban dwellers had the highest number (39%) of unregistered participants. Urban and rural dwellers were 33% and 28%, respectively. We discuss the characteristics of this sample and the implications for digital financial inclusion in Ghana.

Jack Cheng

Spatiotemporal Analysis of Landscape-fire Aerosols and Burned Area in the Context of Urbanization in the East African Community

Geography and Planning, University of Toronto | Matthew Adams, Yuhong He

Climate change is accelerating the frequency and magnitude of landscape fires, and smoke emitted from these fires could be more frequently drifting into urban areas. This study explores this concern, by determining the spatiotemporal trends of remotely sensed Aerosol Optical Depth (AOD) and burned areas across different levels of urbanization between 2000-2024 in the East African Community (Democratic Republic of the Congo, Burundi, Kenya, Rwanda, South Sudan, Tanzania, and Uganda). For median AOD and burned area, we conducted Mann-Kendall tests, constructed space time cubes, created maps using emerging hotspot analysis and hot and cold spot trends, and used zonal statistics to calculate the percent area of hotspots and trends in each degree of urbanization. Our findings show that while burned area has decreased, especially in urban settings, airborne aerosols have risen in concentration, particularly over urban areas. Aerosol Optical Depth has increased over time across the region, with urban areas experiencing larger and more statistically significant increases than rural areas. AOD has increased significantly ($p < 0.05$) over time in a greater number of urban land use classes (3 out of 4) compared to rural classes (1 out of 4). In contrast, the total burned area has generally decreased over time across all levels of urbanization, being statistically significant ($p < 0.05$) in urban centres and low-density rural areas. There was a weak but significant correlation between the hotspot trends of AOD and burned area ($R^2 = 0.1$, $p < 0.05$, $r = 0.32$), suggesting smoke transport and other sources of air pollution. These results align with the observation in other studies that global forest fire emissions have increased despite the decline in

global burned area. This research contributes a novel framework for tracking wildfire metrics across urban gradients using remotely sensed data, space-time cube modelling, trend detection, and hotspot analytics.

4:30-5:00pm

Closing Remarks

End of Conference