INTERNATIONAL SYMPOSIUM ON URBAN ANALYTICS AND CITY SCIENCES

Waipapa Taumata Rau University of Auckland

UNIVERSITY OF CALGARY



OCTOBER 2026

OVERVIEW

The International Symposium on Urban Analytics and City Sciences 2026, hosted by the University of Calgary's School of Architecture, Planning and Landscape (SAPL), brings together researchers, academics, industry professionals, and community voices from Canada and around the world to explore the evolving role of data analytics in shaping our cities.

Through transdisciplinary presentations and discussions, the symposium examines emerging applications of urban analytics in planning, design, and decision-making. Topics span spatial analytics, machine learning, urban growth, human mobility, real estate development, public health, and sustainable urban form. The two-day event highlights opportunities to bridge research and practice, foster international collaboration, and explore how data-driven insights can support more compact, sustainable, and inclusive cities.

Waipapa Taumata Rau University of Auckland

UNIVERSITY OF CALGARY
SCHOOL OF ARCHITECTURE, PLANNING AND LANDSCAPE

Event Details

Date: October 29 - 30, 2026

Location: University of Calgary
School of Architecture, Planning and Landscape (SAPL)

Address: 801 7 Ave SW, Calgary, AB

Room: 701 - Design Commons

Contact

Francisco Alaniz Uribe
Symposium Director | Associate Professor
School of Architecture, Planning and Landscape
University of Calgary

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FOREWORD

Welcome to this symposium, hosted by the University of Calgary's School of Architecture, Planning and Landscape in collaboration with the University of Auckland.

Cities in Canada and New Zealand face a shared question that grows more urgent each year: how should we grow? Housing affordability, rising infrastructure costs, climate commitments and the health and well-being of residents all depend on the choices we make about where and how people live. Here in Calgary, these choices are being debated in real time, as council weighs new suburban neighbourhoods, the future of zoning, and the long-term costs of outward expansion. Auckland, meanwhile, offers valuable experience with upzoning and intensification. Bringing these two contexts together creates a rare opportunity to learn from one another.

This transdisciplinary symposium gathers academics, professionals, community advocates and industry leaders to examine current practices and explore ideas for compact, sustainable urban growth. In the spirit of the Socratic method, we have organized our program around questions rather than conclusions. How can compact development truly be more sustainable than low-density growth? What does the evidence say about municipal and household finances, emissions, health and social connection? What makes upzoning succeed? Who benefits when land values change, and what does that mean for affordability? What would it take for established communities to welcome new neighbours? And can sprawling cities be transformed, politically as well as physically?

Our keynote and panels will draw on recent advances in spatial data, urban analytics, land-use modelling and policy simulation to ground these discussions in evidence. Because lasting change happens in neighbourhoods. Our Community Event, in collaboration with More.Neighbours.Calgary, will centre the voices of residents and community activists working to build affordable housing in established areas. Our Industry Night, supported by the Westman Centre for Real Estate Studies at the Haskayne School of Business and the Alberta Real Estate Foundation, will bring researchers and practitioners together to identify practical strategies for overcoming barriers to sustainable densification.

We are grateful to our partners, speakers and participants for contributing their knowledge and perspectives. We invite you to question assumptions, challenge one another respectfully, and leave with new connections and ideas that help build more compact, inclusive and resilient cities.

Welcome, and enjoy the symposium.
Francisco Alaniz Uribe



Francisco Alaniz Uribe

Symposium Director | Associate Professor
School of Architecture, Planning and Landscape
University of Calgary

PROGRAM: OCT 29, 2026

Location: University of Calgary | School of Architecture, Planning and Landscape (SAPL)
Address: 801 7 Ave SW, Calgary, AB
Room: 701 - Design Commons (7th Floor)

Time	Topic	Presenter(s)
10:00 AM	***Doors Open***	
10:15 AM	Welcome / Opening	**Dr. John Brown** - Dean School of Architecture, Planning and Landscape | University of Calgary
10:30 AM	Introduction to Keynote + Topic	**Francisco Alaniz Uribe** - Associate Professor School of Architecture, Planning and Landscape | University of Calgary
10:40 AM	**Keynote** "Where Would You Want to Live? Measuring What Makes Compact Cities Work for Their Citizens"	**Dr. Milad Malekzadeh** - Lecturer & Senior Researcher Tampere University, University of Helsinki
11:20 AM	Q&A	**Dr. Katarzyna Sila-Nowicka** - Associate Professor School of Environment | University of Auckland
11:35 AM	***Coffee Break***	
12:05 PM	**Panel 1 + Q&A** A discussion on growth analytics, design, and modelling: Spatial analytics and machine learning in planning and urban design	**Dr. I-Ting Chuang** - Senior Lecturer School of Architecture and Planning | University of Auckland **Dr. Yanghe Liu** - Assistant Professor School of Architecture, Planning and Landscape | University of Calgary **Rayner D'Souza + Andrea Buttazzoni** - Senior Planners Growth Analytics, City of Calgary
1:15 PM	***Lunch Provided***	
2:15 PM	**Panel 2 + Q&A** A human habitation multiscalar discussion: Human mobility, data science in architectural design, and energy landscapes	**Dr. Katarzyna Sila-Nowicka** - Associate Professor School of Environment | University of Auckland **Dr. Doug Robb** - Assistant Professor School of Architecture, Planning and Landscape | University of Calgary **Dr. Jinmo Rhee** - Assistant Professor School of Architecture, Planning and Landscape | University of Calgary
3:25 PM	***End of Morning Session***	

Location: University of Calgary | Taylor Institute of Teaching and Learning
Address: 434 Collegiate Blvd NW, Calgary, AB
Room: TI 160

Time	Topic	Presenter(s)
6:30 PM	**Community Event** Urban analytics for densification and tackling sprawl. In collaboration with More.Neighbours.Calgary. ***Light Refreshments Provided***	**Kathryn Davies + Nathan Hawryluk** More Neighbours Calgary **Dr. I-Ting Chuang** - Senior Lecturer School of Architecture and Planning | University of Auckland **Dr. Milad Malekzadeh** - Lecturer & Senior Researcher Tampere University, University of Helsinki **Francisco Alaniz Uribe** - Associate Professor School of Architecture, Planning and Landscape | University of Calgary

PROGRAM: OCT 30, 2026

Location: University of Calgary | School of Architecture, Planning and Landscape (SAPL)
Address: 801 7 Ave SW, Calgary, AB
Room: 701 - Design Commons (7th Floor)

Time	Topic	Presenter(s)
10:00 AM	***Doors Open***	
10:15 AM	Welcome / Opening	**Dr. Enrica Dall'Ara** - Associate Dean (Planning and Landscape Architecture) School of Architecture, Planning and Landscape | University of Calgary
10:30 AM	**Panel 3 + Q&A** Land, development, and value discussion: Real estate market trends, regulatory changes, and their impact on development and property ownership	**Dr. William K.S. Cheung** - Associate Professor + Department Head Department of Property, Business School | University of Auckland **Ann-Marie Lurie** - Chief Economist Calgary Real Estate Board **Jeremy Klaszus** - Independent Journalist | Founder + Editor The Sprawl
11:40 AM	***Coffee Break***	
12:05 PM	**Panel 4 + Q&A** Design and life impacts discussion: Urban design trends and their impacts on health and mobility	**Dr. Lee Beattie** - Associate Professor School of Architecture and Planning | University of Auckland **Dr. Stefania Bertazzon** - Professor + Leader, Geography of Health and GIS Analysis Research Group Department of Geography, O'Brien Institute for Public Health | University of Calgary **Dr. Lina Kattan** - Professor + Canada Research Chair Schulich School of Engineering | University of Calgary
1:20 PM	***End of Morning Sessions***	
2:20 PM	**Student Workshop** A methodology for using mobility data for spatial analytics and urban design	**Dr. Katarzyna Sila-Nowicka** - Associate Professor School of Environment | University of Auckland **Francisco Alaniz Uribe** - Associate Professor School of Architecture, Planning and Landscape | University of Calgary **Dr. I-Ting Chuang** - Senior Lecturer School of Architecture and Planning | University of Auckland
3:25 PM	***End of Workshop Session***	

Location: University of Calgary | School of Architecture, Planning and Landscape (SAPL)
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Time	Topic	Presenter(s)
4:30 PM	**Industry Event** Urban analytics for for densification and tackling sprawl [Mixer at 4:30pm/Start at 5pm] In collaboration with the Westman Centre, supported by the Alberta Real Estate Foundation ***Light Refreshments Provided***	**Dr. William K.S. Cheung** - Associate Professor + Department Head Department of Property, Business School | University of Auckland **Ann-Marie Lurie** - Chief Economist Calgary Real Estate Board **Grace Lui** - VP, Asset Management + Former Senior Lecturer Colliers | Haskayne School of Business | University of Calgary **Francisco Alaniz Uribe** - Associate Professor School of Architecture, Planning and Landscape | University of Calgary

October 29 Keynote

Where Would You Want to Live? Measuring What Makes Compact Cities Work for Their Citizens

Is compact development more sustainable than low-density growth? On emissions, land and infrastructure costs, the evidence increasingly says yes. But compact development must also create places where people enjoy living, walking and cycling, rather than environments they simply have to endure. Experienced quality is not a soft add-on to the density debate, but shapes whether densification is accepted and whether it works. However, it is the dimension we have measured least. This keynote draws on my recent works to show how urban experience can be measured at scale. I examine how generative AI evaluates the attractiveness of urban areas and how its judgements compare with residents'. I present PerceptEarth, which uses geospatial AI embeddings to build a global layer of perceived pleasantness and its applications for planners. I also share evidence from the GreenTravel project on how greenery shapes walking and cycling. I then introduce urban stress islands, where noise, heat, crowding and lack of green concentrate, as the shadow side of compaction. Finally, I argue that data-driven planning needs trustworthy evidence infrastructure, and I introduce the GeoData Registry, a platform for registering urban data collection before it begins.



Dr. Milad Malekzadeh

Lecturer & Senior Researcher
Tampere University, University of Helsinki

Milad Malekzadeh is a University Lecturer in Sustainable Urban Development at Tampere University, Finland, and a senior researcher at the University of Helsinki. He is a quantitative geographer working at the intersection of GIScience, human mobility, urban environments, well-being and artificial intelligence. His research uses spatial big data, GeoAI, and large language and vision-language models to understand how people move through, perceive and experience cities. He holds a PhD in Geography and Environment from Western University, Canada. He is a strong advocate for open, reproducible and privacy-aware geospatial research.

October 29 Panel 1

Beyond Proximity: Rethinking Intensification and Sprawl through Everyday Walking Behaviour

Planners promote compact, intensified cities and the 15-minute city on the assumption that putting daily needs within reach will move people out of cars and towards more sustainable living. This presentation tests that assumption using walking, measured through large-scale mobile phone data, as a behavioural indicator of whether urban form delivers its intended outcomes.

Three studies from New Zealand cities trace the gap between proximity and practice. In sprawling, car-dependent Hamilton, GIS mapping shows that more than 75% of most study districts lie within a 15-minute walk of essential services. Yet mobility data analysis shows people regularly travelling 1.2–3 km beyond their neighbourhoods, mostly by car. In Auckland, analysis of 89 million data points shows that walking depends on how street connectivity, amenities and natural features combine, not on any single factor. Amenities alone do not generate walking where connectivity is poor. A three-year study (2020–2022) of 339 million data points finds that the predominant walking trips identified in Auckland are discretionary. Even utilitarian walks lead mainly to recreational destinations, while trips for grocery, health and shopping are minimal. Residents consistently bypass nearby essentials.

These findings suggest that proximity alone does not produce sustainable living. People walk where environments are connected, safe, comfortable and attractive, and it is this quality, more than distance, that turns density into everyday sustainable behaviour. This calls for meaningful densification: intensification that builds the conditions for people to choose to walk, not just shorter distances.



Dr. I-Ting Chuang

Senior Lecturer, Urban Design
School of Architecture and Planning
University of Auckland

Dr I-Ting Chuang is a Senior Lecturer in Urban Design at the University of Auckland's School of Architecture, Planning and Design. She practised architecture and urban design in New York and Taiwan before moving into academia. Her research brings together urban design and data analytics, using large location datasets to understand how people use cities and experience their public spaces. Her current work examines how urban form shapes everyday behaviour, and what this means for creating more sustainable cities. She holds a PhD in Architecture and Sustainable Design from the SUTD, Singapore and a MDes from Harvard GSD.

October 29 Panel 1

Evaluating Street Suitability for Autonomous Bus Transit in Car-Dependent American Communities

Autonomous shuttles are being piloted across North America, but what makes a street suitable for them? This presentation examines how street design and spatial context shape perceptions of autonomous bus transit across 12 U.S. pilot sites. Combining street view imagery, deep learning, and visual surveys of experienced autonomous vehicle users, the study evaluates their perceived safety, smoothness, efficiency, accessibility, and comfort when sharing streets with autonomous shuttles. The presentation explores how these perceptions can inform assessments of street and infrastructure readiness, guiding future design, site selection, and phased deployment of autonomous transit.



Dr. Yanghe Liu

Assistant Professor
School of Architecture, Planning and Landscape
University of Calgary

Dr. Yanghe Liu is an Assistant Professor of Urban Planning in SAPL. Trained as a professional planner and computer engineer, he brings together planning and artificial intelligence to explore how cities can become more intelligent and responsive to people's needs.

Yanghe's research focuses on urban planning AI and emerging transportation technologies, particularly autonomous vehicles and microtransit. His work uses tools like agentic AI, machine learning, computer vision, and mapping to help planners understand complex urban challenges and make informed decisions.

Yanghe teaches community and regional planning studios, urban design software, GIS, data visualization, and sustainability. His past professional experience includes comprehensive planning, urban design, and real estate development in the United States, China, Indonesia, Laos, and South Africa.

October 29 Panel 1

Telling the Story of Growth: Leveraging Data to Guide Policy and Planning

Suburban Residential Growth and Redeveloping Areas represent the two primary ways Calgary accommodates population and housing growth, with suburban communities providing opportunities for new greenfield development while established communities evolve through redevelopment and intensification. Understanding how and where this growth occurs requires a strong foundation of data, including population change, housing supply, building permit activity, density, land capacity, and demographic trends. Growth-related data provides a common evidence base to support strategic investment decisions. These reports document how growth is occurring, ensuring that policy is informed by measurable outcomes and that planning decisions remain transparent, responsive, and aligned with the city's long-term growth objectives. The goal is to provide a common data foundation that tells the story of growth and change, supports evidence-based policy development, and adapts as new data becomes available.



Andrea Buttazzoni

Senior Planner- Growth Analytics, City of Calgary

Specializing in growth monitoring, demographic analysis, and growth policy in the Redeveloping Areas. Her work focuses on understanding how population, housing, and development patterns are shaping Calgary's redeveloping communities. Andrea leads the Redeveloping Areas Growth and Change reporting tools, including interactive dashboards and data products that support evidence-based planning and policy decisions. She is passionate about transforming complex datasets into accessible insights for planners, decision-makers, industry stakeholders, and the public. Her recent work has focused on modernizing reporting through online, data-driven platforms that help tell the story of how communities evolve and support informed discussions about the city's future growth and development.



Rayner Dsouza

Senior Planner - Growth Analytics, City of Calgary

Rayner Dsouza is a Senior Planner with The City of Calgary's Growth Analytics team, with expertise in strategic planning, urban growth and municipal development. His work brings together colleagues across city departments, external partners, and industry to address complex growth challenges through practical, evidence-informed planning. Rayner leads the Suburban Residential Growth project, which monitors growth and provides short-term forecasts for Calgary's new communities, bringing together information on land supply, housing, population and servicing to support growth and infrastructure decisions. He also champions new technologies and innovative approaches to improve how complex planning data is analyzed and communicated, using interactive storymaps, dashboards, and dynamic visualizations that make growth information more accessible and meaningful.

October 29 Panel 2

From Movement Data to Urban Insights

Human mobility is essential for understanding urban expansion, planning transport services, and analysing the spatial distribution of facilities. Advances in technologies such as GPS trackers and wearable sensors have transformed our ability to collect movement data at high spatial and temporal resolutions. However, while these technologies can capture individual movements with remarkable accuracy, they often fail to reveal essential characteristics of travel behaviour, such as the purpose, mode, and context of movement. In this seminar, I will discuss how raw movement trajectories can be enriched with contextual information to better understand human mobility and travel behaviour. I will also present several examples demonstrating how mobility data can provide valuable insights into urban dynamics and support urban planning and decision-making.



Katarzyna Sila-Nowicka

Associate Professor
School of Environment
University of Auckland

Katarzyna Sila-Nowicka is a GIScientist at the University of Auckland, New Zealand, where she serves as Assistant Dean (Research) in the Faculty of Science. Her research focuses on human mobility, urban analytics, geoprivacy, and spatial data science, with applications in urban sustainability, environmental exposure, transport, and marine mobility. She specialises in analysing large-scale mobility datasets and integrating diverse spatial data sources to better understand human behaviour and interactions with the environment. Before joining the University of Auckland, she held research positions at the Universities of Glasgow and St Andrews. She collaborates internationally with academic, government, and industry partners to address societal and environmental challenges.

October 29 Panel 2

Powering Urban Analytics: Energy Landscapes and the Material Conditions of Computation

Computation is becoming a form of landscape transformation. The analytical tools increasingly used in planning and urban design depend on energy infrastructure, water resources, and territories extending far beyond the screen or project site. Drawing on research into energy landscapes, this lecture examines how expanding computational demand enters existing ecological conditions and policy environments. Alberta's ambitions for AI and data centre development provide a case through which to explore the relationships between digital innovation, natural gas production, water allocation, and cumulative environmental effects. The lecture considers how decisions about infrastructure and siting shape energy and urban futures, and asks what responsibilities follow for designers and educators when the landscapes enabling their tools become part of the project.



Dr. Douglas Robb

Assistant Professor
School of Architecture, Planning and Landscape
University of Calgary

Douglas Robb is an Assistant Professor of Landscape Architecture at the University of Calgary's School of Architecture, Planning and Landscape. He is also an Academic Co-Lead for Energy Futures at UCalgary's Institutes for Transdisciplinary Scholarship. Trained in landscape architecture and human geography, his research examines how energy development transforms landscapes and how design can support more equitable environmental futures. Dr. Robb's work connects energy transitions, cumulative environmental effects, water governance, and climate adaptation through mapping, fieldwork, and design research. Current projects investigate energy infrastructure, aridity in southern Alberta, and approaches to living alongside wildfire.

October 29 Panel 2

Artificial Intelligence and the Changing Concept of the City: From Bounded Object to Spatial Aggregation

Artificial intelligence is increasingly used to analyze and model cities, but its significance extends beyond improving predictive accuracy or computational efficiency. This presentation asks a more fundamental question: How does AI change what we can know about the city? Rather than treating cities as bounded objects described through aggregated statistics and predefined categories, I propose understanding them as spatial aggregations of local urban morphologies. Drawing on three research projects, I demonstrate how deep learning enables three distinct capacities of urban form information: revealing latent morphological structures across post-industrial American cities, associating built form with socioeconomic indicators, and reframing assumptions about morphological homogeneity in Seoul's apartment-dominated urban landscape. Together, these studies suggest that AI offers not simply new analytical tools, but new ways of representing, interpreting, and critically questioning urban environments.



Jinmo Rhee

Assistant Professor
School of Architecture, Planning and Landscape
University of Calgary

Jinmo Rhee is an Assistant Professor at the School of Architecture, Planning and Landscape at the University of Calgary, where he chairs the Computational Design track. He is the founder and director of the DESTECTIC Lab and Associate Director of the Laboratory for Integrated Design. He holds a PhD in Computational Design from Carnegie Mellon University. His research investigates the intersection of artificial intelligence, computational design, and urban analytics, with a particular focus on how machine learning can reveal, interpret, and generate spatial information across architectural and urban scales. Through computational methods and interdisciplinary collaborations, his work explores new approaches to understanding built environments and developing intelligent systems that support architectural design, urban analysis, and evidence-informed decision-making in planning and practice.

October 29 Community Event

You'll Pave for This!: Mapping Road Costs and Tax Productivity in Calgary

Urban3, an Asheville-based consultancy, has become known for its analyses and visualizations. Decision-makers are drawn to their Cost of Service Analysis, which shows tax productivity: tax revenue from a piece of land minus the cost of servicing that land. Similarly, the cost of maintaining Calgary's road pavement can be modelled and mapped. The City of Calgary's Pavement Quality Level of Service Report, by Toronto Metropolitan University, allows the creation of multiple scenarios with budget and planning implications. This analysis has lessons for Calgary's tax productivity, historical and current development patterns, and other infrastructure costs.



Nathan Hawryluk

More Neighbours Calgary
Calgary Planning Comission

Since 2021, Nathan Hawryluk has served on the Calgary Planning Commission. He was the Renfrew Community Association’s traffic director (2017-2018), planning director (2018-2019) and representative on the working group for Calgary’s first local area plan, the North Hill Communities Local Area Plan. He is the community representative on the Established Areas Growth and Change Strategy's Growth Infrastructure Working Group. A father of three and a local Strong Towns member, he hopes his efforts will result in a future that is less bad than our status quo.

October 29 Community Event

Who is this City for?

This presentation draws on the scholarship of Katherine Einstein whose landmark book "Neighbourhood Defenders" highlights the inequity and asymmetry of neighbourhood consultation on housing. Einstein's research and conclusions are highly relevant to Calgary, and applying her methods of analysis to local public engagement processes shows a striking imbalance in whose voices are represented.



Kathryn Davies

More Neighbours Calgary

Kathryn Davies is a local housing advocate and community volunteer. She served as director of planning and development in Banff Trail from 2016-2019, and witnessed firsthand the challenges associated with neighbourhood change. This experience led her to co-found More Neighbours Calgary which formed in 2023 to bring a pro-housing voice to public discourse on urban planning and municipal politics.

She holds undergraduate degrees in music and psychology, and a master's degree in International Affairs. She is currently pursuing a law degree at the University of Calgary with a particular interest in legal solutions to housing shortages. She lives in Banff Trail with her husband and two children and is an avid cyclist, cargo bike enthusiast, and musician.

October 29 Community Event

Rethinking Urban Living: Exploring the Housing and Neighbourhood Preferences of Future Generations

As Calgary continues to navigate population growth, housing affordability, and urban sprawl, understanding the housing and neighbourhood preferences of younger generations offers an important perspective on the future of urban development. This presentation examines a survey administered to undergraduate students in the University of Calgary's Bachelor of Design in City Innovation (BDCI) program, exploring their current living environments, ideal neighbourhoods, housing preferences, and attitudes toward higher-density living. Through an analysis of student perspectives, the presentation considers how emerging expectations around walkability, access to amenities, green space, and community life may inform future approaches to housing and neighbourhood planning. The discussion invites reflection on how Calgary can accommodate growth while creating communities that align with the needs and aspirations of future generations.



Francisco Alaniz Uribe

Associate Professor
School of Architecture, Planning and Landscape
University of Calgary

Francisco is an architect, urban designer, and planner from Monterrey, Mexico. He is an Associate Professor at the School of Architecture, Planning, and Landscape at the University of Calgary. He teaches in the Master of Planning and Master of Landscape Architecture programs, as well as the Bachelor of Design in City Innovation program. He leads SAPL's study abroad program in Zurich, Switzerland. He is Co-Director of the Urban Lab, a research group at the University of Calgary, where he researches sustainable urban design and planning, densification, and high-quality public realm, livability, and the built environment. His methods include urban morphology, community-based participatory research, critical precedent research, extended reality, and drone technology. As a registered architect in Mexico and a registered professional planner in Canada, he has 29 years of professional and academic experience across Mexico, Canada, Switzerland, and New Zealand.

October 30 Panel 3

The Economics of Upzoning: Why Location Matters

Upzoning increases permitted development capacity, but the same planning change can produce different outcomes across locations. Drawing on Auckland's 2016 Unitary Plan, this lecture examines how redevelopment opportunities depend on local demand, existing buildings and the value of retaining their current use. It distinguishes permitted floor area from the additional capacity available on an already developed site, and examines how these measures relate to redevelopment, purchasing patterns among company and individual buyers, and neighbourhood change. The analysis also asks whether upzoning makes housing supply more responsive to prices, rather than assessing its effects solely by the number of additional homes.



Dr. William K.S. Cheung

Associate Professor + Department Head
Department of Property, Business School
University of Auckland

Dr William K.S. Cheung is an Associate Professor of Property and Co-Director of the Urban Analytics and City Science Research Beacon at the University of Auckland Business School. His research examines housing markets, urban development and wellbeing through a transdisciplinary approach combining housing economics, spatial analysis, property data and mobile geolocation. He is a Chartered Surveyor (MRICS) and a full member of the Property Institute of New Zealand. A former U.S. Fulbright Scholar, Australian Endeavour Fellow and Ronald Coase Institute alumnus, he held a Visiting Fellowship at Clare Hall, University of Cambridge, in 2025 and became a Life Member in 2026. He is also an Honorary Research Fellow at the University of Manchester.

October 30 Panel 3

The Costs of Sprawl in Calgary

For decades, Calgary city hall has talked about slowing sprawl and building a more compact city—but has struggled to put this into practice. Now City Hall pegs Calgary's infrastructure needs at $54 billion for the next decade, including $8.5 billion for maintenance. Klaszus will look at why Calgary keeps growing outward—and what it's costing us.For decades, Calgary city hall has talked about slowing sprawl and building a more compact city—but has struggled to put this into practice. Now City Hall pegs Calgary's infrastructure needs at $54 billion for the next decade, including $8.5 billion for maintenance. Klaszus will look at why Calgary keeps growing outward—and what it's costing us.



Jeremy Klaszus

Journalist | Founder + Editor
The Sprawl

Jeremy Klaszus is a Calgary journalist who has been reporting on the city for more than 20 years. He launched The Sprawl in 2017 to help fill the ever-widening gaps in the city's media landscape. Prior to launching The Sprawl, he was a staff writer for Fast Forward Weekly, a columnist for the Calgary Herald and Metro, and a radio reporter for CBC. He is the host of Sprawlcast, Calgary's in-depth municipal podcast, which also airs on CJSW 90.9 FM.

October 30 Panel 3

Supply Shifts and Impact on Price in the Calgary Market

This presentation examines the factors shaping residential housing supply and price movements in Calgary, with a focus on how the resale, new-home, and rental markets interact. It considers the ways conditions in each market may influence the others, offering an integrated perspective on the dynamics affecting Calgary's residential housing landscape.



Ann-Marie Lurie

Chief Economist
Calgary Real Estate Board

Ann-Marie has over 25 years of experience in the real estate sector. She has worked in several different aspects of real estate including commercial brokerage, pension investment, residential real estate analysis and multi-family underwriting. In 2011 Ann-Marie joined CREB® as the Chief Economist, where she is responsible for scoping, developing, and delivering economic analysis and market intelligence products. Ann-Marie has completed both her BA Honors and MA in Economics from the University of Calgary.

October 30 Panel 4

Artificial Intelligence and the Changing Concept of the City: From Bounded Object to Spatial Aggregation

Auckland (New Zealand) like a number of cities globally has been facing a 'housing crisis', both in terms of a housing affability and supply, while seeking to manage its urban growth issues (including infrastructure provision), the impacts of urban sprawl, and its desire to create a more liveable compact urban form. To support these goals the New Zealand's Government has mandated the Auckland Council to significantly increase housing supply through the provision of more liberal and enabling urban planning provision and zoning controls. In essence, enabling development to go 'up and out' with higher densities around town centres and public transport locations, while also enabling greenfield growth. This presentation explores the history and underpinning of the approach and its impacts of Auckland's urban form over the last 10 years. It explores some of the outcomes and unintended consequences this approach has delivered in practice.



Dr. Lee Beattie

Associate Professor
School of Architecture and Planning
University of Auckland

Lee Beattie is a practicing and registered urban designer (UDIA) and urban planner (FNZPI) with almost 30 years' experience in an extensive range of urban design and urban planning matters. He has qualifications in urban planning, urban design, and environmental science. His current research interests explore the factors and barriers that are preventing the delivery of compact and quality urban form that is sustainable, resilient, liveable, meets the needs of local residents and reduces travel demand (sustainable and resilient communities) and effectiveness of transit orientated development in both the local and international (Asia/Pacific rim) context. Lee is an also independent Planning Commissioner for a number Local Government Councils in New Zealand.

October 30 Panel 4

Mapping Urban Health: The Role of Geospatial Analytics

This presentation will critically discuss the need and role of geospatial analytics when working with geospatial urban data. It will then illustrate three examples of urban health geospatial analytics, emphasizing localized analysis and spatial predictive modelling. The three examples will analyze child obesity and the urban environment, air pollution and active transportation, and person-to-person epidemic transmission.



Dr. Stefania Bertazzon

Professor + Leader, Geography of Health and GIS Analysis Research Group
Department of Geography, O'Brien Institute for Public Health
University of Calgary

A health geographer, Stefania Bertazzon thinks about health and disease spatially, that is, she is concerned with questions of where and why there: addressing these questions can lead to unexpected insights into how and why, to help improve public health.
Her research integrates a quantitative approach in health and environmental geography, yielding valuable analyses and models of environmental and socioeconomic determinants of health, at various geographic scales, to assist environmental management and health policies.

She has worked in Canada and Europe, collaborating extensively on a variety of health research projects, contributing to address questions of location, accessibility, and the spatial determinants of health. Her research experience spans from models of urban air pollution, models of ocean pollution and maritime activities, to analyses of the association of health, socio-economic status, and the built environment.

October 30 Panel 4

Transition Fundamental Diagrams: Enabling Traffic State Estimation Using Ubiquitous Speed Data

Every day, urban traffic shifts from free-flowing to congested, then back. Managing it well requires knowing the network's state. That usually means measuring two of three quantities: speed, density (vehicles per kilometre of road), and flow (vehicles passing a point per hour). Density and flow are the hard part, since both usually require fixed sensors on the road. These are expensive, and many cities have too few. Speed is much easier to get. GPS in phones and cars measures it almost everywhere, and because cars move with the traffic around them, those readings are reliable. We asked whether urban traffic follows an underlying pattern as it moves from free flow into congestion, and whether speed alone can tell us enough about the network's state. To find out, we used percolation analysis, a network-science method for understanding how congestion clusters form. Using data from 20 road networks across six countries and three continents (the public UTD19 dataset), we revealed an equilibrium percolation threshold closely tied to vehicle density. We call this relationship the Transition Fundamental Diagram (TFD), and it appears to follow a Quasi-similarity power law. Once a region's TFD is known, density and flow can then be estimated from speed data alone. For cities with few fixed sensors, this is a cheap, scalable way to track and manage traffic.



Dr. Lina Kattan, PEng, PhD

Professor + Canada Research Chair
Schulich School of Engineering
University of Calgary

Lina Kattan is a Professor of Transportation Engineering at Schulich School of Engineering, University of Calgary. Lina holds Canada Research Chair (CRC) Tier I in Integrative Transportation Systems through Automation and Connectivity, and the Urban Alliance Chair in Transportation Systems Optimization. Dr. Kattan also directed the NSERC CREATE program in Integrated Infrastructure for Sustainable Cities (IISC), which focuses on systematic solutions to understand the multifaceted needs of tomorrow's cities. Lina 's research program focuses on developing solutions to urban transportation problems with a special focus on Intelligent Transportation Systems, Emerging Vehicular Technologies, Connected and automated vehicles and their implications; Equity and Fairness in transportation, traffic flow theory and control; Transportation network modelling and optimization; Public transport operation; Transport Electrification; Dynamic Demand Modelling. Lina is a member of the College of Scholars, Artists and Scientists of the Royal Society of Canada. She is the recipient of numerous awards including the NSERC Discovery Accelerator Supplement (DAS) (twice), 2022 Astech Award, the 2022 Killam Annual Professorship Award – NSERC category and the 2023 Apega Summit Research Excellence Award.

October 30 Industry Event

Urban Analytics for Compact, Sustainable Development



Dr. William K.S. Cheung

Associate Professor + Department Head
Department of Property, Business School
University of Auckland

Dr William K.S. Cheung is an Associate Professor of Property and Co-Director of the Urban Analytics and City Science Research Beacon at the University of Auckland Business School. His research examines housing markets, urban development and wellbeing through a transdisciplinary approach combining housing economics, spatial analysis, property data and mobile geolocation. He is a Chartered Surveyor (MRICS) and a full member of the Property Institute of New Zealand. A former U.S. Fulbright Scholar, Australian Endeavour Fellow and Ronald Coase Institute alumnus, he held a Visiting Fellowship at Clare Hall, University of Cambridge, in 2025 and became a Life Member in 2026. He is also an Honorary Research Fellow at the University of Manchester.



Grace Lui

VP, Asset Management | Colliers
Former Senior Lecturer | Haskayne School of Business
University of Calgary

Grace Lui is Vice President, Asset Management at Colliers, a Canadian commercial real estate services firm founded in 1898. Publicly-traded, Colliers operates in 70 countries with over $108 billion of assets and 2 billion square feet under management. In addition to asset management, Grace's expertise includes real estate development, project management, business strategy, regulatory environments, and government relations. Her past roles include Senior Development Manager at Brookfield and Senior Manager, Strategic Initiatives at BILD Calgary Region. She holds an MBA from the Haskayne School of Business and a Master of Urban and Rural Planning from Dalhousie University. Grace has also been teaching a real estate course at the Haskayne School of Business for the past 14 years.



Ann-Marie Lurie

Chief Economist
Calgary Real Estate Board

Ann-Marie has over 25 years of experience in the real estate sector. She has worked in several different aspects of real estate including commercial brokerage, pension investment, residential real estate analysis and multi-family underwriting. In 2011 Ann-Marie joined CREB® as the Chief Economist, where she is responsible for scoping, developing, and delivering economic analysis and market intelligence products. Ann-Marie has completed both her BA Honors and MA in Economics from the University of Calgary.

Symposium Team



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