

**SCHOOL OF CITIES,
UNIVERSITY OF TORONTO**

**SYMPOSIUM ON
CLIMATE
JUSTICE &
CITIES**



WEDNESDAY, MAY 24TH, 2023



**UNIVERSITY OF
TORONTO**





WELCOME TO THE SYMPOSIUM ON CLIMATE JUSTICE & CITIES

Climate change is the defining challenge of our time, simultaneously requiring the transformation of infrastructure, the reconfiguration of financial systems, the mobilization of the electorate, and other changes to facilitate climate adaptation. Cities -- in their role as incubators of innovation, drivers of the economy, magnets for talent, and the birthplace of social movements -- are poised to lead the way in both devising and implementing solutions to address climate change. Yet, urban climate action also has the potential to unleash injustices, creating disproportionate harm for vulnerable populations.

The University of Toronto is a global leader in climate research, with researchers discovering transition pathways to clean energy to reduce greenhouse gas emissions. But much more work is needed to identify the disproportionate burden of both climate change impacts and climate adaptation on climate vulnerable, low-income, and racialized populations to develop solutions that advance climate justice.

Climate justice is highly contingent and linked to place – as is climate injustice. Thus, at the School of Cities, we have supported multidisciplinary research on climate justice via nearly \$600,000 in grants for faculty and postdoctoral fellows.

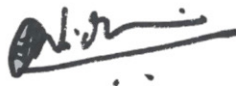
With this round of research, we aim to highlight insights and strategies that identify disparate impacts via new data, improve access to environmental amenities, create new community capacity, and help build more sustainable cities.

Our grantees on climate and justice include 45 faculty and postdocs from over 20 University of Toronto departments, including landscape architecture, climate science, engineering, environmental science, education, geography, planning, public health, demography, business, statistics, and more. Over the past year, this new community of practice has met monthly in webinars to discuss data, research design, and implications. Across the cohort, researchers have engaged with stakeholders from across sectors to ensure that their research is relevant. And over the next year, the School of Cities will be sharing their products, from working papers and journal articles to policy briefs, websites, and videos.

Please join us in celebrating this research -- and seeing it through to implementation!



Karen Chapple, Director, School of Cities and Professor, Department of Geography & Planning



Nidhi Subramanyam, Assistant Professor, Department of Geography & Planning

About the School of Cities Urban Challenge Grants

In 2022, The School of Cities funded 12 new proposals on the theme of climate, justice, and cities. A competitive process led to the award of \$577,000 in grants for 2022-23 to interdisciplinary research teams representing 20 departments across the three campuses of the University of Toronto.

Each initiative focuses on a different aspect of climate change and its impact on urban spaces and disadvantaged groups, and each team works closely with policymakers and stakeholders during the research project.

Learn more about the Urban Challenge Grants program at schoolofcities.utoronto.ca/programs-opportunities/urban-challenge-grant/

PROGRAM OF EVENTS

8:45 AM Welcome from Karen Chapple, Director, School of Cities and Professor, Department of Geography & Planning

9:00 AM Panel 1: Environmental impacts on vulnerable communities

10:00 AM Networking break

10:15 AM Panel 2: Access to environmental infrastructures

11:15 AM Networking break

11:30 AM Panel 3: The viability of strategies for sustainability and GHG emissions reduction

12:30 PM Lunch

1:30 PM Keynote address from Julian Agyeman, Professor of Urban and Environmental Policy and Planning, Tufts University

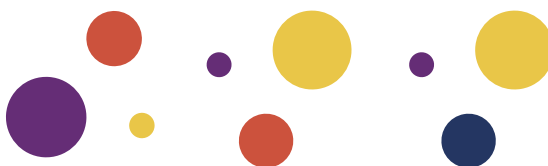
2:30 PM Panel 4: Building community capacity to deal with climate injustice

3:30 PM Networking break

3:45 PM Keynote address from Julie Dabrusin, Member of Parliament for Toronto—Danforth (Ontario) & Parliamentary Secretary to the Minister of Natural Resources and to the Minister of Environment and Climate Change

4:00 PM Closing remarks from Karen Chapple, Director, School of Cities and Professor, Department of Geography & Planning & Nidhi Subramanyam, Assistant Professor, Department of Geography & Planning

4:30 PM Reception



KEYNOTE SPEAKERS



Julian Agyeman, Professor of Urban and Environmental Policy and Planning, Tufts University
Just Sustainabilites in Policy, Planning and Practice

In his talk, Julian will outline the concept of just sustainabilities as a response to the ‘equity deficit’ of much sustainability thinking and practice. He will explore his contention that who can belong in our cities will ultimately determine what our cities can become. He will illustrate his ideas with examples from urban planning and design and the ‘Minneapolis Paradox’.

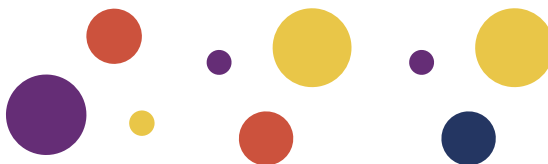
Biography

Julian Agyeman Ph.D. FRSA FRGS is a Professor of Urban and Environmental Policy and Planning at Tufts University. He is the originator of the increasingly influential concept of just sustainabilities, the intentional integration of social justice and environmental sustainability. He centers his research on critical explorations of the complex and embedded relations between humans and the urban environment, whether mediated by governments or social movement organizations, and their effects on public policy and planning processes and outcomes, particularly in relation to notions of justice and equity.

He believes that what our cities can become (sustainable, smart, sharing and resilient) and who is allowed to belong in them (recognition of difference, diversity, and a right to the city) are fundamentally and inextricably interlinked. We must therefore act on both belonging and becoming, together, using just sustainabilities as the anchor, or face deepening spatial and social inequities and inequalities.

He is the author or editor of 13 books, including *Just Sustainabilities: Development in an Unequal World* (MIT Press, 2003), *Cultivating Food Justice: Race, Class and Sustainability* (MIT Press, 2011), and *Sharing Cities: A Case for Truly Smart and Sustainable Cities* (MIT Press, 2015), one of Nature's Top 20 Books of 2015. In 2018, he was awarded the Athena City Accolade by KTH Royal Institute of Technology, Stockholm, Sweden, for his "outstanding contribution to the field of social justice and ecological sustainability, environmental policy and planning". On September 1, 2021, he became the Fletcher Professor of Rhetoric and Debate, an endowed chair at Tufts University. In November 2021, he was invited by then Boston Mayor-Elect Michelle Wu to be a Transition Advisor on her Transition Committee.

For a full biography please visit: <https://julianagyeman.com>



KEYNOTE SPEAKERS



Julie Dabrusin, Member of Parliament for Toronto-Danforth (Ontario) & Parliamentary Secretary to the Minister of Natural Resources and to the Minister of Environment and Climate Change

Biography

Julie Dabrusin was first elected as the Member of Parliament for Toronto—Danforth in 2015.

Ms. Dabrusin has previously served as the Chair of the Standing Committee on Canadian Heritage and the Subcommittee on Agenda and Procedure of the Standing Committee on Canadian Heritage. She was also a member of various other committees, parliamentary associations, and interparliamentary groups.

Ms. Dabrusin grew up in Montréal and completed her undergraduate degree in Near and Middle East Studies at McGill University, before attending law school at the University of Toronto. She then practised litigation, including for a time as commission counsel to the Toronto External Contracts Inquiry, which reviews municipal government procurement.

Ms. Dabrusin was an active volunteer in her community. She founded Friends of Withrow Park, served on the Board of Directors of Park People, and started initiatives such as the local Second Harvest Hunger Squad. In 2012, she was awarded the Queen Elizabeth II Diamond Jubilee Medal for her community service.

Ms. Dabrusin has been a strong advocate for her community on issues of gun control, healthy eating, and banning single-use plastics. She is also a champion of Canada's creative and cultural industries. She and her family have lived in Toronto for over 20 years.



PANEL DISCUSSIONS

Panel 1: Environmental impacts on at-risk communities

How can data-driven approaches help cities plan for, and seek to mitigate, the disparate impacts of climate change on at-risk communities?

Moderator: Professor Kate Mulligan, Dalla Lana School of Public Health, University of Toronto

International Discussant: Professor Priyanka DeSouza, Department of Urban & Regional Planning, UC Denver

Panelists:

- Lief Pagalan, Dalla Lana School of Public Health, University of Toronto
- Assistant Professor Karen Smith, Department of Physical & Environmental Sciences, University of Toronto Scarborough
- Amanda Norton, Department of Geography, Geomatics & Environment, University of Toronto Mississauga

Panel 2: Access to environmental infrastructures

How can we better understand, and plan to overcome, urban challenges pertaining to unequal access to environmental infrastructures?

Moderator: Professor Robert Soden, Department of Computer Science and School of the Environment, University of Toronto

International Discussant: Professor Maya E Carrasquillo, Department of Civil & Environmental Engineering, UC Berkeley

Panelists:

- Assistant Professor Nidhi Subramanyam, Department of Geography & Planning, University of Toronto
- Dr. Alessandro Filazzola, ApexRMS
- Associate Professor Amy Bilton, Centre for Global Engineering, University of Toronto



Panel 3: Achieving sustainable land use and reducing greenhouse gas emissions

Can we achieve sustainable land use and reduce greenhouse gas emissions in cities?

Moderator: Professor Marc Johnson, Department of Biology,
University of Toronto Mississauga

International Discussant: Professor Mikhail Chester, School of
Sustainable Engineering & the Built Environment,
Arizona State University

Panelists:

- Associate Professor Shoshanna Saxe, Department of Civil & Mineral Engineering, University of Toronto
- Dr. Françoise Cardou, Department of Biological Science, University of Toronto Scarborough
- Dr. Md Abdul Halim, Faculty of Architecture, Landscape and Design, University of Toronto

Panel 4: Building community capacity to deal with climate injustice

What are best practices with respect to building local capacity to empower communities to pursue climate justice?

Moderator: Assistant Professor Praneeta Mudaliar, Department of Geography, Geomatics and Environment, University of Toronto Mississauga

International Discussant: Assistant Professor Linda Shi, Department of City & Regional Planning, Cornell University

Panelists:

- Dr. Joanna Kocsis, SSHRC Postdoctoral Fellow, Department of Geography, Politics, and Sociology, Newcastle University
- Rebecca McMillan, PhD Candidate, Department of Geography & Planning, University of Toronto
- Assistant Professor Imara Rolston, Dalla Lana School of Public Health, University of Toronto
- Assistant Professor Fikile Nxumalo, Department of Curriculum, Teaching & Learning at the Ontario Institute for Studies in Education, University of Toronto



OVERVIEW OF THE URBAN CHALLENGE GRANTS

PANEL 1: Disparate environmental impacts on vulnerable communities

Predicting the impact of climate change adaptation and mitigation strategies on premature deaths in Canadian

Research Team:

- Laura Rosella (Dalla Lana School of Public Health)
- Hong Chen (Dalla Lana School of Public Health)
- Jeffrey R. Brook (Dalla Lana School of Public Health & Department of Chemical Engineering and Applied Chemistry)
- Andy Hong (Department of City and Metropolitan Planning, University of Utah)
- Lief Pagalan (Dalla Lana School of Public Health)



Panelist: Lief Pagalan, PhD Candidate

City planners are looking for new tools, anchored in local data, that can support decision-making in addressing the disproportionate health impacts of climate change. This study proposes a new way to apply urban environmental data to decision-making and health, urban, and climate policy. The research will help health professionals and city planners inform climate policy for urban populations, especially marginalized groups who face greater environmental vulnerability. Premature mortality is a robust population health metric because it is amenable to targeted policy and programmatic interventions and can be used to compare regions and populations. We propose to enhance a validation population planning tool that we developed, known as the Premature Mortality Risk Tool (PreMPoRT), with environmental data. This innovation will enable decision-makers to model scenarios that predict the benefits of urban environmental interventions, measure changes in population-level risk, and describe risk distribution across neighbourhoods and sociodemographic characteristics of the population. Our goal is to link urban environmental data and our validated premature mortality risk prediction model to inform climate adaptation and mitigation solutions for Canadian cities. Working collaboratively with stakeholders from Peel and Toronto, this research will support city-based climate mitigation and adaptation interventions and enable planners and policymakers to leverage urban environmental data for decision-making and equitable climate change preparedness.



Climate change, extreme heat, and human mortality in the City of Toronto

Research Team:

- Rohan Alexander (Departments of Information & Statistical Sciences)
- Monica Alexander (Departments of Statistical Sciences & Sociology)
- Karen Smith (Department of Physical & Environmental Sciences)
- William Gough (Department of Physical & Environmental Sciences)
- Samantha Green (Dalla Lana School of Public Health)
- Edward Xie (Department of Family and Community Medicine)
- Laura Tozer (Department of Physical and Environmental Sciences)
- Micah Hewer (Department of Physical and Environmental Sciences)



Panelist: Assistant Prof. Karen Smith

According to the World Health Organization, climate change is the greatest challenge to human health in the 21st century. The most recent Canada in a Changing Climate Report concluded that extreme heat events, increasing under climate change, are the greatest threat to people living in urban centres like Toronto. Meanwhile, public health units are overburdened and understaffed due to the ongoing COVID-19 pandemic. Previous applied research has already demonstrated the impact of climate change on heat-related illness and death in the City of Toronto. However, historical climatological analysis that quantifies changes in the frequency, intensity, and duration of extreme events is lacking. Furthermore, few studies have made future projections concerning the impacts of climate change on extreme heat events and human mortality in the city; studies that have done so are limited by outdated climate models, unrealistic emissions scenarios, and exaggerated temperature anomalies. The goal of this project is to develop meaningful indicators of extreme heat events in Toronto and to quantify historical trends and project future changes in the frequency, intensity, and duration of heatwaves to better inform public health policy and on-the-ground community health care practitioners. This proposal will also act as a catalyst for the collaborative development of new undergraduate and graduate curriculum at the interface of health sciences, public policy, and climate science.



Air quality and environmental justice: The growing impact of climate change on disproportionate air quality exposure

Research Team:

- Matthew Adams (Department of Geography, Geomatics & Environment)
- Christopher Higgins (Department of Geography & Planning)
- Jue Wang (Department of Geography, Geomatics & Environment)
- Kathi Wilson (Department of Geography, Geomatics & Environment)
- Madeleine Mant (Department of Anthropology)
- Mitchell Bonney (Department of Geography, Geomatics & Environment)
- Shayamila Mahagammulla Gamage (Department of Civil & Mineral Engineering)
- Tingting Zhu (Department of Geography, Geomatics & Environment)
- Tracy Galloway (Department of Anthropology)
- Vincent Kuuire (Department of Geography, Geomatics & Environment)

Research Associates:

- Amanda Norton (Dept. of Geography, Geomatics & Environment, UTM)
- Elysia Fuller-Thomson (Dept. of Geography, Geomatics & Environment, UTM)
- Priya Patel (Dept. of Geography, Geomatics & Environment, UTM)
- Simran Persaud (Dept. of Geography, Geomatics & Environment, UTM)



Panelist: Amanda Norton, PhD Candidate

Climate change's harmful effects in cities are increasing in frequency and magnitude, for example, increased urban heat, flooding events and storm intensity. These burdens often disproportionately affect populations with high social vulnerability, such as low-income residents. Air pollution and greenhouse gas emissions that cause climate change originate from the same source – the use and burning of fossil fuels such as gas and oil for transportation and industrial activities. Air pollution effects are felt locally because concentrations are reduced by dispersion further away from emission sources. This research project will provide the Region of Peel Public Health with an evidence-based assessment of air pollution exposure and environmental justice, which they can use for decision-making, planning, and prioritizing activities to support health protection and promotion, and disease prevention. These could include targeted interventions with at-risk communities and influencing land use and transportation decision-making through processes such as Official Plans, or active transportation, public transit, and long-range transportation plans. The data could also be used when evaluating air quality studies through the Environmental Assessment process.

PANEL 2: Unequal access to environmental amenities

Research Team:

- Sheng Liu (Rotman School of Management)
- Nidhi Subramanyam (Department of Geography & Planning)



Panelist: Assistant Prof. Nidhi Subramanyam

Toronto's resilience strategy identifies resilience to floods as a priority action for the city as it prepares to address climate impacts. Flood resilience is the ability of communities and systems to survive, adapt, and recover from flooding events in ways that positively transform future adaptive capacities. Toronto's Flood Resilient Charter notes that scientific research can contribute to resilience by developing methods to measure, quantify, and account for the worst- case rainfall scenarios. Critical social scientists argue for the importance of mapping which areas and communities are most vulnerable in worst-case scenarios to prioritize interventions, equity-deserving communities and achieve just and transformative adaptation. This study aims to combine predictions of worst-case rainfall events, and analyses of, social vulnerability and coping capacity to predict where adaptation solutions could be implemented in a just and cost- efficient manner to increase Toronto's flood resilience.



Community adoption of ecotechnology and grassroots approach to climate change adaption: A participatory study of rainwater harvesting initiatives in Mexico City

Research Team:

- Yu Chen (Centre for Global Engineering)
- Amy M. Bilton (Department of Mechanical & Industrial Engineering)
- Ronald Hofmann (Department of Civil and Mineral Engineering)
- Karlye Wong (Department of Civil and Mineral Engineering)



Panelist: Associate Prof. Amy Bilton

Rainwater harvesting (RWH) initiatives are becoming increasingly influential in Mexico City in recent years. NGOs play a key role in R&D, installation of RWH systems, and community engagement. Decentralized solutions like RWH can potentially offer a great opportunity to address network water loss, outages, and infrastructure challenges in the expanding Mexico City peri-urban interface. Yet, there is not yet any systematic review of the phenomenon. We will conduct a comprehensive survey on RWH initiatives in Mexico City as part of a broader grassroots movement in response to climate change and environmental injustice, with focus on community engagement, user experience, community appropriation of technology, and public policy. This project will explore strategies for community capacity building and community appropriation of technology, while also examining technical innovations, management, and operations models to optimize the effectiveness and sustainability of drinking water treatments.



Urban parks for people: Anonymized movement data to determine access and equity

Research Team:

- Scott MacIvor (Department of Biological Sciences)
- Alessandro Filazzola (ApexRMS)
- Namrata Shrestha (Watershed Planning and Reporting, Toronto & Region Conservation Authority)
- Danny Brown (Parkland Strategy Implementation, City of Toronto)



Panelist: Dr. Alex Filazzola

Urban parks provide many ecosystem services and are especially important for the mitigation of extreme heat and associated climate impacts on human health and well-being. Since cities experience an urban heat island effect, urban parks can be instrumental in mitigating the negative impacts of extreme heat by providing an area for recreation, socialization, or refuge during peak heat hours. However, many studies have demonstrated disparity in both park location and quality in proximity to income levels. It is critical to assess accessible park usage by the public in relation to climate patterns and demographics to support the health of city residents. With the widespread adoption of mobile cell phones among urban residents, hourly and daily human activity within city locations (e.g., urban parks) can be achieved through analysis of anonymized movement data determined from cellular phone usage. We will partner with Mapbox (www.mapbox.com) to acquire anonymized movement data for the city of Toronto trace activity in urban parks to demographics of users, determine the effects of climate on urban park activity, and predict patterns of park use for City of Toronto neighbourhoods under extreme climate scenarios.



PANEL 3: The viability of strategies for sustainability and GHG emissions reduction

Evolving cities: Access to nature in Toronto over three generations

Research Team:

- Françoise Cardou (Department of Biological Sciences)
- Scott MacIvor (Department of Biological Sciences)
- Daniel Silver (Department of Sociology)
- Marc Cadotte (Department of Biological Sciences)



Panelist: Dr. Françoise Cardou

The spatial distribution of nature in cities determines who benefits from urban green spaces. Over generations, social and ecological processes like development, abandonment, and forest regeneration interact to shape the urban mosaic that we have today, creating land cover legacies that can have strong effects on climate-related ecosystems services. When compounded by socio-economic dynamics, historical access to nature has repercussions on well-being that transcend generations. In increasingly warm and dense cities, this makes proximity to nature a key component of environmental equity. One challenge to the study of land cover legacies is the availability of empirical data on historical access to nature at the scale of whole cities. Spurred by increasingly available satellite imagery, next generation methods based on artificial intelligence are emerging that can automate land cover classification, yielding continuous land cover layers for dense time series. Our aim is to quantify historical access to nature across the city of Toronto between 1939 and 2016 and to map land cover legacies in order to produce critical knowledge for the study of environmental inequities over time in cities. Using a Convolutional Neural Network, we will convert an unprecedented aerial photo time series spanning 75 years (incremented by decade) into continuous land cover layers, generating critical quantitative landscape-level information for a period of rapid change in the Toronto area. By combining this information with historical Canadian censuses, we will investigate how the amount and configuration of different land cover types (woodlands, grasslands) have changed over time and what has been the impact of these changes on historical access to nature and environmental equity over time. Because this project was developed in partnership with practitioner partners, these results will feed directly into policy decisions surrounding habitat conservation and restoration (Toronto and Region Conservation Authority). By quantifying fine-scale land cover change at a spatial and temporal resolution that capture the pace of urbanization in Toronto over three generations, this pilot study will provide a critical historical basis for further research on historical access to nature, land cover legacies today and their impact on environmental equity, with strong potential to inform both policy and research spanning a broad range of disciplines.

Urban form pathways, affordable housing, and the reduction of greenhouse gas emissions

Research Team:

- Shoshanna Saxe (Department of Civil and Mineral Engineering)
- Christopher Essert (Faculty of Law)
- Gabriel Eidelman (Munk School of Global Affairs & Public Policy; Director, Urban Policy Lab)



Panelist: Associate Prof. Shoshanna Saxe

Cities are forced to simultaneously meet two of the defining challenges of our time: 1) the demands of a growing population for more housing and infrastructure and 2) the need to shrink urban greenhouse gas (GHG) footprints to meet international climate commitments. The proposal explores the tension between the need to build more to pursue housing justice while consuming much less to pursue climate justice. The research will ask: how much more housing do we need? What is the greenhouse gas budget we can allocate to building more housing? What pathways to development and city form meet both housing and climate needs simultaneously? The research will then examine the gap between these pathways and current legislation and policy around buildings and land use. The research will also compare relevant Canadian policy and law around provision and sustainability of the built environment compared to international leaders. Overall, the research will address the question: what policy and laws do we need in cities to deliver enough housing while reducing GHG emissions in line with local and international commitments? This interdisciplinary research will draw on civil engineering, urban planning, public policy, legal and philosophical methods. The research will produce a better understanding of the limited pathways to build more housing without overly burdening the environment, and specific policy and legal advice for the changes needed to our regulatory environment to drive rapid delivery of sustainable housing. Toronto, Kingston and Halton Hills will be case study cities for this work representing small to large municipalities and the challenge of growth in the era of climate change faced by cities across Canada (and internationally).



Developing remote sensing tools for monitoring the success of Toronto's green roofs

Research Team:

- Md Abdul Halim (John H. Daniels Faculty of Architecture, Landscape & Design)
- Jennifer Drake (Department of Civil and Mineral Engineering)
- Liat Margolis (John H. Daniels Faculty of Architecture, Landscape & Design)
- Sean C. Thomas (John H. Daniels Faculty of Architecture, Landscape, & Design)



Panelist: Dr. Md Abdul Halim

Green roofs are primarily designed for stormwater management to control flood risks by minimizing total surface runoff. Recent studies show that green roofs can also mitigate urban heat island effects, reduce sound and air pollutions, lower building energy consumption, enhance biodiversity, and potentially sequester carbon. Considering their essential ecosystem services and economic benefits, Toronto was the first North American city to enact a bylaw in 2009 requiring green roofs on all establishments with flat roofs larger than 2,000 m². The City also initiated a pilot incentive program for the private sector to encourage green roofs, which, combined with the bylaw, has resulted in more than 700 green roof projects associated with more than 2000 green roofs. While these numbers seem promising, our preliminary analysis shows many of these green roofs are degrading, and some are already missing. However, there is no monitoring scheme in place to support the bylaw. This proposed research aims to develop a simple and automatic remote sensing-based toolbox for the City of Toronto to remotely monitor the distribution and health of green roofs using very high resolution orthoimages that the City collects annually for other purposes. In addition to the efficient monitoring system, we will also investigate potential drivers of green roof health. Using building permit data and visual inspection of orthoimages, we will identify representative green roofs to train a Deep Convolution Neural Network engine to automatically detect green roofs and their boundaries. Our toolbox will allow the City of Toronto to assess the efficiency of the 2009 bylaw, verify the use of subsidies, estimating the current and potential environmental benefits from green roofs. As the urban population continues to grow and climate changes rapidly, the ability to efficiently monitor green infrastructure will aid in the climate-smart management of our cities.



PANEL 4: Building community capacity to deal with climate injustice

Urban climate justice: Policymaking for transformative resilience

Research Team:

- Professor Amrita Daniere (Department of Geography, Geomatics and Environment, University of Toronto Mississauga)
- Dr. Joanna Kocsis (Department of Geography and Planning, Politics, and Sociology, Newcastle University)
- Rebecca J. McMillan (Department of Geography and Planning)



**Panelist: Rebecca McMillan,
PhD Candidate**



**Panelist: Dr. Joanna Kocsis,
SSHRC Postdoctoral Fellow**

Understanding the climate crisis and its impacts on cities through a social justice lens has the potential to transform the ways in which we respond to global environmental change. There is a growing body of work that explores the importance of the rights and entitlements of citizens in building climate resilience. While the value of such work has been made more salient thanks to the COVID-19 pandemic, most policymakers are ill-equipped to apply either the theory, or what we have learned, to policy. The proposed research project seeks to proactively engage policymakers in implementing transformative change to support climate justice in Southeast Asian secondary cities. Building on our ongoing work with a network of policymakers, researchers, and civil society actors through the Urban Climate Resilience in Southeast Asia Partnership, this transdisciplinary initiative defines urban resilience as development that is sustainable and socially just in the face of urbanization and environmental change. Further, the project pursues such transformative change by simultaneously producing knowledge on, and strengthening, stakeholders' capacities to understand and use climate change knowledge for inclusive and just climate adaptation.



The Reconciling Racial Justice and Climate Resilience Project

Research Team:

- Imara Rolston (Dalla Lana School of Public Health)
- Cheryl Teelucksingh (Department of Sociology, Metropolitan University)
- Blake Poland (Dalla Lana School of Public Health)



Panelist: Prof. Imara Rolston

The impacts of climate change will not be felt equally and will undoubtedly follow the fault lines of historically entrenched racialized urban inequity creating disproportionate levels of climate vulnerability in historically marginalized neighbourhoods in cities like Toronto. COVID-19's disproportionate impacts on lower-income Black and racialized residents and Neighbourhood Improvement Areas (NIAs) is arguably a portal into the types of destabilization we can expect. The dominant climate mitigation discourse often emphasizes the need for drastic global cuts in CO2 while at the same time dominant climate resilience discourses emphasize transformation through hard infrastructure projects like building retrofits, flood preparedness, and electrical grid transformation.

Within dominant climate narratives the voice, activism, and radical imaginative potentials of Black and racialized residents on the margins are overlooked. The Reconciling Racial Justice and Climate Resilience Project will intentionally centre the experiences and sensemaking of activists, advocates, not-for-profit leaders, policymakers, and academics working at the intersections of racial justice and climate resilience. The aim is to identify new knowledge around the potential of community-centred resilience using a racial justice approach and, through an action-research process, to develop Toronto's first Racial Justice Climate Resilience (RCJR) framework. Specifically, this project will examine how Black and racialized climate change actors from across six North American cities make sense of the intersections of racial justice and climate resilience in urban settings and what policy actions they recommend in response.



Designing for climate justice education in a Canadian city: Learning with Black ecologies

Research Team:

- Fikile Nxumalo (Ontario Institute for Studies in Education & School of the Environment)



Panelist: Assistant Prof. Fikile Nxumalo

Despite facing disproportionate environmental precarity, the educational experiences of Black children living in cities throughout Canada stand in stark contrast to the specific climate injustices that they face in their particular geographic regions. For Black children, engagements with the specificities of their communities' place and land relationships, also referred to as Black ecologies, are marked by absence in curriculum. Black children living in cities are often constructed as separate from or deprived of 'normal' relationships with natural world. In these framings, Black people's relationships with and sensemaking of the natural world, are framed by discourses of un-belonging. The proposed study aims to contribute to needed counter- narratives that disrupt erasures and deficit framings of Black ecological relationships and knowledges in environmental and climate change education. The specific goals of the project are to:

- (1) advance understandings of how climate justice education can respond to the collective desires of Black families living in cities,
- (2) generate insights on how Black ecologies can inform the design of culturally-sustaining climate justice education, and...
- (3) provide recommendations for the development of climate change education policies that are responsive to climate injustice.

In collaboration with Black families with young children attending Toronto schools, this project will use participatory approaches to document how climate justice education can be grounded in and responsive to the local ecological relationships and concerns of Black urban families. As a result of this study, significant new knowledge will be generated about what is important for developing interdisciplinary and anti-oppressive climate change education in urban Canadian contexts.



Event Credits

Academic leads:

Karen Chapple, Director, School of Cities & Professor, Department of Geography & Planning

Nidhi Subramanyam, Assistant Professor, Department of Geography & Planning

Event leads:

Taylor Brydges, Research Officer, School of Cities

Lara Muldoon, Senior Partnerships, Engagement and Projects Officer, School of Cities

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Trish McGrath, Director of Development

We extend our sincere gratitude to our panelists, moderators, discussants, and keynote speakers for their invaluable contributions to the Symposium. We would also like to express our appreciation to the entire Massey College team for their exceptional assistance in organizing this event.

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