City Logistics for the Urban Economy

CLUE 2022 SYMPOSIUM

Friday, June 24, 2022 – 8:30 A.M. to 2:00 P.M.

Faculty Club, University of Toronto

Building partnerships for safe, sustainable and efficient goods movement.

clue.utoronto.ca

CLUE 2022 SYMPOSIUM

AGENDA

8:30 A.M.	**Registration and light breakfast available.**
9:00	**Welcome** - Professor Matt Roorda, Principal Investigator, City Logistics for Urban Economy (CLUE)
9:05	**Opening Remarks** - Dr. Chris Yip, Dean, Faculty of Applied Science & Engineering, U of T
9:10	**CLUE Update** - Professor Matt Roorda, CLUE Principal Investigator

Session 1: Harnessing Freight Data and Curb-side Management Data

Moderator: Dale Lynch, Transport Canada

9:15	Telematics: Review and Applications in Freight Transportation - Yunfei Ma, McMaster University
9:30	Crowdsensing and Parking Data - Elham Heydari, York University
9:45	Smart Infrastructure Enabled by Video-as-a-sensor Technology - David Heath, Robert Bosch Inc.
10:00	Moderated discussion
10:10	**BREAK**

Session 2: E-Cargo Tricycle Deliveries in Toronto and Montreal

Moderator: Dr. Judy Farvolden, University of Toronto Mobility Network

10:30	Pilot E-Cargo Tricycle Deliveries at U of T campus - Matt Roorda, Professor, University of Toronto
10:45	Electric Cargo Cycles Research at York University - Adonai García, York University
11:00	City of Montreal E-Cargo Tricycle Delivery Pilot - Khelil, Khelil, Purolator Inc.
11:15	Moderated discussion
11:25	**LUNCH**

Lunch Panel Discussion "Decarbonizing Freight"

Moderator: Professor Daniel Posen, Department of Civil & Mineral Engineering, U of T

11:50	Carolyn Kim, Pembina Institute
12:00 P.M.	Marianne Hatzopoulou, Professor, U of T
12:10	Chad Saliba, Geotab
12:20	Moderated discussion
12:40	**BREAK**

Session 3: Freight, Health, and the Environment

Moderator: Professor Mehdi Nourinejad, Lassonde School of Engineering, York University

1:00	COVID-19 Vaccine Distribution with Equity Considerations - Elkafi Hassini, Professor, McMaster University
1:15	Contribution of Diesel Trucks to Climate & Air Quality and Implications for Environmental Justice - Sara Torbatian, U of T
1:30	Why Reducing Transportation Emissions Matters! - Louise Aubin, Region of Peel Public Health
1:45	Moderated discussion
1:55	**Closing Remarks** - Professor Elkafi Hassini, Chair, Smart Freight Centre

CLUE 2022 SYMPOSIUM PRESENTERS

Louise Aubin

Louise Aubin is currently the Director for the Health Protection division of Peel Public Health. Her current responsibilities include food and water safety programs, public health hazard investigations, the prevention and management of vector borne diseases, tobacco control, and vaccine prevention programs. She has worked on air quality modelling for the region of Peel, the built form and public health issues, climate change adaptation, and other local environmental health issues. She holds a Masters degree in Environmental Studies from York University and a Bachelor of Science in Microbiology from the University of Toronto.

Judy Farvolden

Dr. Judy Farvolden is the founding executive director of Mobility Network at the University of Toronto. Through an extensive network of industry and government partners she identifies opportunities to apply UofT's broad and deep transportation research expertise to realize a future of seamless, integrated mobility that enhances access and equity, and mitigates climate impacts. Prior to joining University of Toronto, Dr. Farvolden held senior management positions in several Toronto start-up companies and consulted on financial technology.

Adonai García

I'm from the Dominican Republic with an MSc in Smart Mobility from Universidad Alfonso X El Sabio, Spain; and starting a MASc on transportation at York University. I've been working on road safety, sustainable mobility and bike inclusion in urban planning strategies and policies since 2016. Recently, focusing on electric cargo bikes as part of my research with Dr. Kevin Gingerich and promoting alternative modes of transportation in Toronto as the events coordinator of the ITE York U students' chapter.

Elfaki Hassini

Elkafi Hassini is a professor of supply chain management at the DeGroote School of Business at McMaster University. He is currently holds the title of McMaster University Scholar and has won several other university and national research awards. Professor Hassini specializes in data-driven optimization with applications in supply chain management. His current research interests include big data optimization, supply chain analytics, food supply chains, and last mile
e-commerce logistics.

Marianne Hatzopoulou

Marianne Hatzopoulou is Professor in the Department of Civil and Mineral Engineering at the University of Toronto. She leads the Transportation and Air Quality (TRAQ) research group studying the interactions between transportation, air quality, climate change, and public health; she published over 140 publications on these topics. Prof. Hatzopoulou is also the Director of Positive Zero Transport Futures, a living lab ecosystem for testing transport decarbonization innovations with positive societal outcomes. She received funding from provincial, federal, and international agencies to conduct integrative research in transportation, climate change, air pollution, and public health. Prof. Hatzopoulou held a Tier2 Canada Research Chair in Transportation and Air Quality (2013-2021) and a Natural Sciences and Engineering Research Council (NSERC) Discovery Accelerator Supplement (2016-2019), an award recognizing research programs that are highly rated for originality and innovation. She is on the Canadian team of researchers who were the 2021 recipients of the NSERC Brockhouse Canada Prize for Interdisciplinary Research in Science and Engineering. In 2022, she received the University of Toronto Engineering Alumni Network 2T5 Mid-Career Achievement Award. Since 2012, she has been serving on the Transportation Research Board standing committee on Air Quality and Greenhouse Gas Mitigation as the committee research coordinator. She is also an associate editor of the journal Transportation Research Part D: Transport and Environment. She supported municipal governments and community groups in the appraisal of transportation policies in terms of climate and air impacts and served on national and international expert panels, providing advice on the development of strategies to reduce transportation-related emissions.

David Heath

David is a graduate of the University of Guelph (1995). David has been in the industry representing technology solutions for 26 Years. Currently David is the Sales Manager for Bosch Building Technologies Division in Canada and has held the position since 2017. During his career David has extensive experience working with departments of transportation at municipal and provincial levels. David is part of the solution team from Bosch applying video-as-a-sensor technology and analytics to curbside management for CLUE.

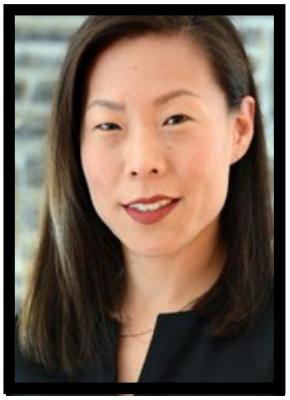
Elham Heydari

Elham Heydari-Gharaei is a PhD candidate at the Civil Engineering Department of York University. She received her BSc and MSc from the Industrial Engineering Department of Sharif University of Technology, Tehran, Iran. Her research focuses on Parking Management under the supervision of Dr. Mehdi Nourinejad.

Khelil Khelil

Khelil Khelil holds an MBA in Logistics and Transport from UQAM University in Quebec, and is a certified Black Belt in Lean & Six Sigma in addition to being Certified Chief Auditor on Quality Management Systems (ISO 9001). Khelil has more than 34 years of experience in various fields such as strategic planning, risk management, management of credit lines granted by international financial institutions (i.e., World Bank), continuous improvement and development of research and development programs and projects. He is also an expert in continuous improvement in Lean and Six Sigma methodology for various industries like banking and finance, agg agriculture, IT, manufacturing and especially transport and logistics. He joined Purolator Inc. in 1997 and as its Head of Research and Business Development group since 2014, he has developed several research and development initiatives and programs with Major OEM in Transportation and logistics solutions. With Canadian Academia, he has launched the first Purolator Research Chair in Data Intelligence for Logistics and Transportation with University of Montreal and CIRRELT consortium regrouping six major universities in Montreal as well as with U of T, Waterloo, and McMaster. This consortium allow Purolator to have a network of high-caliber researchers at the national and international levels, all working around improving its supply chain processes and distribution networks. He also contributed to the introduction and deployment of several innovative solutions to improve Purolator Sort Center's productivity and efficiency as well as the deployment of urban logistic concepts and technologies for its first and last mile deliveries Internationally and in addition to his activities with Purolator, Khelil has provided several courses in Lean management in the areas of services, transport and information systems and technology (IT- IS) as well as in IT security, strategic and forecasting in human resources management. These training courses have been given both in Canada and internationally (Africa and Europe).

Carolyn Kim



Carolyn Kim is the senior director of the Pembina Institute's communities and decarbonization group. She brings 15 years of policy and planning experience from the public, private and non-government sectors to the role. Carolyn is a skilled collaborator, bringing organizations together to accelerate low-carbon solutions in Canadian cities and communities. In 2019, Carolyn initiated Pembina's Urban Delivery Solutions Initiative to tackle freight emissions. Carolyn is a registered planner with the Ontario Professional Planners Institute and a member of the Canadian Institute of Planners. She holds a master's degree in public policy from the University of Toronto and a bachelor's degree in urban and regional planning from Ryerson University. She currently serves on Blue Green Canada's board of directors.

Dale Lynch

Dale Lynch, P.Eng., currently works with Transport Canada supporting initiatives around supply chain visibility and digitalization. He has 20 years of experience in the transportation sector, having worked across Canada in both the public and private sectors, and at all levels of government. His areas of practice and expertise include land development, making streets more liveable, goods movements and supply chains. Dale also gives back to the community by volunteering with grass-roots organizations that help at-risk youth and speaking at schools to encourage students to pursue higher learning. Dale lives in Montreal with his wife, two children and their golden retriever.

Yunfei Ma

Yunfei Ma graduated from University of Illinois at Urbana-Champaign with a bachelor's degree major in Mathematics and Statistics. He is now a first-year master's student in Computational Science and Engineering at McMaster University and is transferred to PhD starting September 2022. His current research focuses on telematics with a focus on origin-destination visualization.

Mehdi Nourinejad

Mehdi Nourinejad is an assistant professor at the Civil Engineering Department of York University. He received his PhD from the University of Toronto and was a post-doctoral fellow at the Rotman School of Management for two years. Mehdi's research focuses on optimal planning and control of transportation systems in smart cities with autonomous vehicles. He is the academic editor of Journal of Advanced Transportation. His research on autonomous vehicles has received media coverage and is published in outlets including Forbes, Rotman Magazine, Global News, and others.

Daniel Posen

Daniel Posen is an assistant professor in Civil & Mineral Engineering at the University of Toronto. Drawing on his academic training in Engineering & Public Policy, Economics and Chemistry, Dr. Posen's research uses a mix of technical and economic modeling to supply quantitative, system-level analysis to support environmental decision making. His expertise is grounded in the tools of life cycle assessment and life cycle thinking, with application to various different systems. Current and past projects have examined the greenhouse gas impact of biofuels and other biobased chemicals, vehicle lightweighting, emissions from adoption of electric vehicles and their interaction with electricity systems, greenhouse gas emissions from infrastructure construction, and the design of low carbon fuel standards. He is a contributing author to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC AR6) and he holds a Tier 2 Canada Research Chair in System-Scale Environmental Impacts of Energy and Transport Technologies.

Matt Roorda

Matt Roorda is a Professor of Civil Engineering and has been a faculty member at the University of Toronto since 2005. He is the Canada Research Chair in Freight Transportation and Logistics and is the Principal Investigator of the CLUE project. His research focuses on modelling, data analytics and pilot projects promoting efficient and sustainable urban freight systems.

City Logistics for the Urban Economy

CLUE

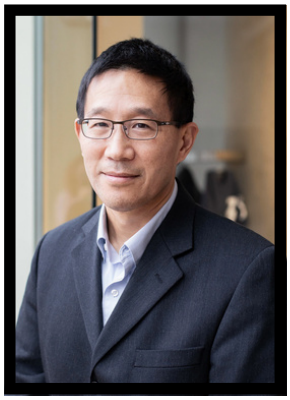
Chad Saliba

Chad Saliba is a Senior Business Development Manager, Sustainability Solutions at Geotab. Chad works with our partners and customers to leverage tools and analytics within Geotab's portfolio that help drive a transition to more sustainable fleets. He has previous experience in product and solutions go-to-market and account management in mobility, IoT, and distribution.

Sara Torbatian

Sara Torbatian is currently a second-year PhD student working with the Transportation and Air Quality research group (led by Prof. Marianne Hatzopoulou) at the Department of Civil & Mineral Engineering of the University of Toronto. She has a background in air quality analysis and completed her MSc studies in Atmospheric Science at Dalhousie University. Her research interests are mostly involved in setting up air quality modeling capability to explore the air quality effects of using alternative fuels and electricity for the transportation sector. She is particularly interested in greening goods movements and assessing the benefits of alternative energy sources to diesel.

Christopher Yip



Christopher Yip was appointed Dean of the Faculty of Applied Science and Engineering in July 2019. He is appointed to the Departments of Chemical Engineering and Applied Chemistry, and the Institute of Biomedical Engineering, and holds cross-appointments to the Donnelly Centre for Cellular and Biomolecular Engineering, and the Department of Biochemistry. He completed his BASc in Chemical Engineering at the University of Toronto in 1988 and his PhD in Chemical Engineering at the University of Minnesota in 1996. He began his academic career at the University of Toronto in 1997 after completing a post-doctoral fellowship at Eli Lilly and Company in Indianapolis. Prior to his PhD studies, he worked as a Research Engineer at Dupont Canada Research in Kingston, Ontario from 1988-1991. His research focus is in the area of single molecule biophysics with a specific focus on the development and implementation of novel combinatorial imaging strategies to study molecular and cellular assembly and interactions. His research has been supported by NSERC, CIHR, CFI and the Canada Research Chairs program as well as various industry partners. He is a Fellow of the American Association for the Advancement of Science, and the Engineering Institute of Canada.