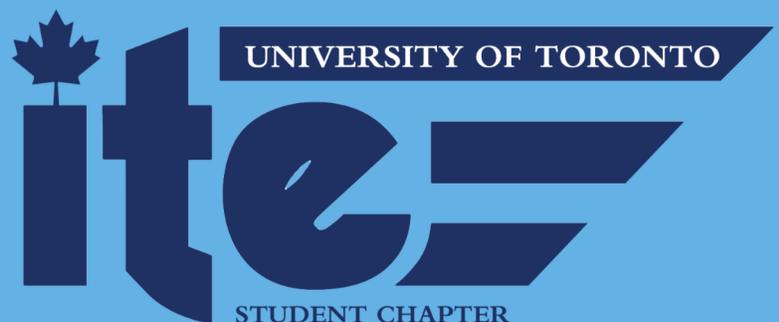


# University of Toronto ITE Student Chapter



February 1<sup>st</sup>, 2018—January 31<sup>st</sup>, 2019 | **Annual Report**



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The U of T ITE Student Chapter is recognized as an official student group by the University of Toronto. The Chapter receives funding from the Department of Civil and Mineral Engineering, the Division of Engineering Science, and the Engineering Alumni Association.



Number of Student Chapter Members: 55

# Meet the Team!

## Academic Advisor: Professor Marianne Hatzopoulou

Dr. Hatzopoulou research area bridges between transportation and environmental analysis; her main expertise is in modelling of road transport emissions and urban air quality as well as evaluating population exposure to air pollution. She is interested in capturing the interactions between the daily activities and travel patterns of urban dwellers and the generation and dispersion of traffic emissions in urban environments. She leads an active research group focusing on modelling traffic emissions and near-road air quality as well as near-road air pollution monitoring and characterization.



## President: Laura Minet

Laura is a PhD candidate in the department of Civil and Mineral Engineering. Her research focuses on modeling the emission and dispersion of air pollutants to understand urban air quality and characterize population exposure to air pollution. Originally from France, she completed her MSc in Environmental Engineering at McGill University, Montreal. In her spare time, Laura loves hiking, camping and traveling!



## Financial Executive: Jason Hawkins

Jason is a PhD candidate in the Department of Civil and Mineral Engineering. His research focuses on the interaction between transportation and land use. He is investigating the effects of emerging transportation technologies (AV, MaaS, etc) on residential location. He completed his BSc and MSc at the University of Calgary in Civil Engineering, with a focus on energy policy. He enjoys watching movies and cooking with his wife in his spare time.



## Webmaster: Ran Tu

Ran finished her undergraduate in 2014 at Tongji University, Shanghai, and got her MSc at Virginia Tech in 2016. Her PhD research is focused on the improvement of current emission models, and urban traffic policies for emission reduction. She is also interested in air quality related traffic control with emerging technologies, such as autonomous vehicles, and shared mobility. She loves running and cooking. TV drama is another of her favorite activities.



## Seminar Director: Luna Xi

Luna achieved her BAsC degree in Civil Engineering at the University of Toronto in 2017. Her research interest is transportation planning and operations. In her spare time, she enjoys travelling, movies, and playing board games



## Social Media Director: Patrick Loa

Patrick received a BAsC in Engineering Science from the University of Toronto. He is currently completing his MASc in transportation engineering at the University of Toronto. His research interests include travel demand modelling and forecasting. In his spare time, Patrick enjoys cooking and watching sports.



# 2018 at a Glance

2018 was a great year for the U of T ITE Student Chapter. Despite having a smaller executive team than usual, the Chapter was able to organize the weekly seminar series and a number of social and networking events. Highlights of 2018 include:

## iCity-CATTS Monthly Seminars

Beginning this year, U of T ITE teamed up with the iCity Centre for Automated and Transformative Transportation Systems (iCity-CATTS) to deliver a monthly seminar to an audience of students, professors, and post-doctoral fellows. iCity-CATTS is a multi-disciplinary research team that strives to create analysis tools, methods, models, and decision systems to help quantify and understand the impacts of transformative technologies on transportation demand. iCity-CATTS aims to address the mobility, social, economic, and environmental implications of emerging transportation options, including automated vehicles, e-sharing (ride hailing, car sharing, bike sharing), electrification, robotics, and new paradigms of multi-modality. Each month, a member of the iCity-CATTS team is invited to deliver a seminar on their current work.

## Webinars—Youtube channel

In addition to posting presentations on the website, U of T ITE has now a Youtube channel where videos of the weekly seminars are posted: [https://www.youtube.com/channel/UCnMd2TaVTIPL1gV\\_jrVGrA/featured](https://www.youtube.com/channel/UCnMd2TaVTIPL1gV_jrVGrA/featured). This allows anyone who was unable to attend the seminar to not only access the presentation but also get comments from the speaker and listen to the questions of the audience.

## Advertising on U of T Engineering Connect

Beginning this year, the Chapter began advertising on U of T Engineering Connect, a networking platform for engineering students that is operated by the Faculty of Applied Science and Engineering. The platform allows alumni to reconnect with old classmates, network with industry professionals, and engage in mentorship programs. The Chapter hopes that their involvement with the platform can lead to the creation of new opportunities for both current students as well as alumni.

# Chapter Activities — Friday Seminar Series

The weekly seminar series established by the U of T ITE Student Chapter invites transportation professionals from a wide variety of backgrounds to share the details and findings of a project that they have recently completed. The seminars provide attendees with the opportunity to learn about the work that is currently done by professionals in the transportation industry, and to get a sense of the current state of the transportation field. Seminars have been delivered by industry professionals, current graduate students, post-doctoral fellows, and professors from both the University of Toronto and other institutions. Presentations are typically 40 minutes long and are followed by a short question-and-answer period.

## Seminar Series — Key Changes

Beginning in the 2018-2019 academic year, presentation slides and videos of seminars are posted on the Chapter website, when permitted by the guest speaker. These materials can be found at: <http://www.ut-ite.ca/tagged/seminars2018to2019>.

## Seminar Series Highlight — Dr. Greg Erhardt

Visiting from the University of Kentucky, Dr. Greg Erhardt shared the results of his study on the impacts of Transportation Network Companies (TNCs), such as Uber and Lyft, on the transportation system. Dr. Erhardt's seminar focused on two key questions: 1) Do TNCs increase or decrease transit ridership? and 2) Do TNCs increase or decrease traffic congestion? The seminar addressed an issue that is currently a hot topic among transportation practitioners across North America, and accordingly was attended by a large audience of students, post-doctoral fellows, and professors.



## Seminar Series Highlight — Tyrone Gan

Tyrone Gan, senior vice-president of HDR Corporation, returned to his alma mater to deliver a seminar on a hot button issue in Toronto — the planning of public transit. The seminar focused on the downtown relief line, a subway line that has been conceptualized and planned several times over the course of the past century but has ultimately never been constructed. Tyrone Gan discussed the lessons that he believed transportation professionals should learn from the history of the relief line, as well as the need to take a more holistic view of public transit service and infrastructure. He also outlined the different ways in which transportation can influence cities as a whole and the everyday lives of its residents. The seminar was attended by a large audience of students, alumni, post-doctoral fellows, professors, and visitors.



# Chapter Activities — Friday Seminar Series

## Seminar Series Highlight — Dr. Eman Hammad

Dr. Eman Hammad, chair of the Toronto chapter of the IEEE Communication Society, delivered an informative presentation on cybersecurity, an essential component of an increasingly digital world. Dr. Hammad discussed this issue within the context of autonomous vehicles, which are vulnerable to cyber attacks that can lead to the theft of the personal information or the assumption of control by hackers. The seminar also included a discussion of key components of a cybersecurity framework and the presentation of the resources and tools used by researchers in the field to develop and sustain a secure-by-design approach to system development. Dr. Hammad's presentation served as a reminder to the attendees that transportation systems rarely exist in isolation and that the design of these systems should be approached in a holistic manner.



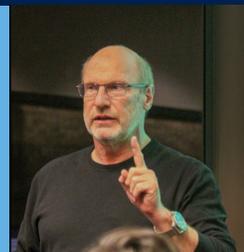
## Seminar Series Highlight — David Kuperman

David Kuperman, manager of Surface Transit Projects for the City of Toronto, delivered a presentation on one of the most contentious transit projects in the recent history of Toronto—the King Street Pilot project. He provided an overview of the process that informed the design of the project and discussed the results of the project to date. The seminar drew a large audience, and question-and-answer period that followed was a reflection of the amount of interest that the project has and continues to draw.



## Seminar Series Highlight — Dr. Mark Fox

Dr. Mark Fox, Distinguished Professor of Urban System Engineering, Professor of Industrial Engineering and Computer Science, and Associate Director (Research) at the School of Cities of U of T delivered a seminar on the importance of representing city data, using a series of four stories. The many attendees were fascinated by the presentation, which discussed the importance of ensuring that data display interoperability, using case studies to explain the necessity and challenges of city data representation.



## Seminar Series Highlight — Other Seminars

A complete list of the seminars conducted in 2018, including the name of the speaker and title of their presentation, is provided on the following page.

# Chapter Activities — Friday Seminar Series

## Seminar Series — All Presentations

| Speaker                            | Presentation Title  |
|------------------------------------|---|
| Dr. Dena Kasraian                  | Transport Networks, Land Use and Travel Behavior: a Long Term Investigation   |
| Dr. Markos Papageorgiou            | Freeway Traffic Control   |
| Chris Day                          | Automated, Connected and Electric (ACE) Vehicles  |
| Zohreh Rashedi                     | Dealing with Complexities in Mode Choice Modelling Coming from Input Data Sources   |
| Catalina Parada Hernandez          | Analysis of Automated Fare Collection Data from Montevideo, Uruguay for Planning Purposes   |
| Chris Stogios                      | Investigating the Effects of Automated Vehicle Driving Operations on Road Emissions and Traffic Performance   |
| Dr. Amir Khataie                   | E-commerce Last-mile Delivery Capacity Management   |
| Dr. Panos Papaioannou              | Public Transit service quality and contracting  |
| Yan Zhuang                         | Leveraging Smart Card Intelligence to Improve Transit Planning: A Case Study of PRESTO in the Greater Toronto and Hamilton Region                   |
| Puyuan Deng                        | A Vehicle Routing Problem with Movement Synchronization of Drones, Sidewalk Robots, or Foot-Walkers   |
| Dr. Merve Bodur                    | Integrated Staffing and Scheduling for Service Systems via Stochastic Integer Programming   |
| David Kuperman                     | King Street Transit Pilot and Other Strategies to Improve Surface Transit Performance in the City of Toronto  |
| Dr. Moataz Mohamed                 | What hinders the Adoption of Battery Electric Buses in Transit: A Techno-Economic Analysis  |
| Md. Sami Hasnine                   | Tour-based mode choice model in activity-based modelling framework  |
| Marc-Paul Gauthier and Ana Graovac | Arup: Shaping A Better Transportation System  |
| Dr. Greg Erhardt                   | Using Big Data to Quantify the Effect of TNCs on Transit Ridership and Congestion   |
| Yousaf Shah                        | Demand forecasting for land use and transportation planning in the Greater Toronto and Hamilton Area  |
| Dr. Mark R. Ferguson               | The Evolution of Canadian Consumer Attitudes on Electric Vehicles (2015-2018)   |
| Tyrone Gan, MASc                   | Rapid Transit Planning in the GTA – What Have We Learned?   |
| Yijun Gai and An Wang              | Emissions Reduction Potential of Electric Vehicle Deployment in the GTHA: Operationalizing the Concept of Marginal Emission Factors and Uncertainty |
| Luke Mellor                        | Profiling new Technology in Belleville Transit On-Demand Night Bus Service  |
| Dr. Eman Hammad                    | Cybersecurity & Innovation: Digital Trust   |
| Adam Rosenfield                    | How MIT Got a Handle on Parking: The Behavioural Impact of Commuter Benefits  |
| Dr. Ahmadreza Faghieh Imani        | Passive data for transportation modeling: imputing mode and purpose information from cellphone traces   |
| Dr. Mark Fox                       | City Data: Four Journeys  |
| Ashley Hammerbacher                | EVE Park: Re-imagining the neighborhood in the Autonomous Vehicle Future  |

# Chapter Activities — Traffic Bowl

The U of T ITE Student Chapter once again participated in the CITE Traffic Bowl. In addition to sending a team to the Canadian district Traffic Bowl, the Chapter also hosted a trivia night to allow teams in the Toronto area to practice and prepare for the competition. The U of T chapter sent three participants to the Traffic Bowl — Kianoush Mousavichashmi, Samuel Abiola, and Lian Zhang.

## Traffic Bowl Trivia Night

As part of our preparation for the Canadian District Traffic Bowl, the U of T ITE Student Chapter hosted the 2018 Traffic Bowl Trivia Night on April 25<sup>th</sup>. Teams from the University of Toronto, Mohawk College, Ryerson University, and McMaster University competed in several practice sessions for the Jeopardy-style game. In addition, former CITE (Toronto section) president Sean Nix also attended and provided many suggestions on strategies for the competition.



## 2018 ITE Collegiate Traffic Bowl

The U of T ITE Student Chapter sent a team of three to compete in the Collegiate Traffic Bowl at the CITE 2018 Annual Conference held from June 3 to June 6 in Edmonton, Alberta. The team did their best but unfortunately were unable to reach the final round, losing to the eventual district champions, the University of Manitoba. The entire Chapter is proud of the effort and dedication shown by the team throughout the process.



# Chapter Activities — Social and Networking Events

The U of T ITE Student Chapter also organized a number of social and networking events in 2018. These events, which ranged from formal to casual, provided students, post-doctoral fellows, professors, and alumni with the chance to network and get to know one another. Highlights of the events hosted by the Chapter in the past year include:

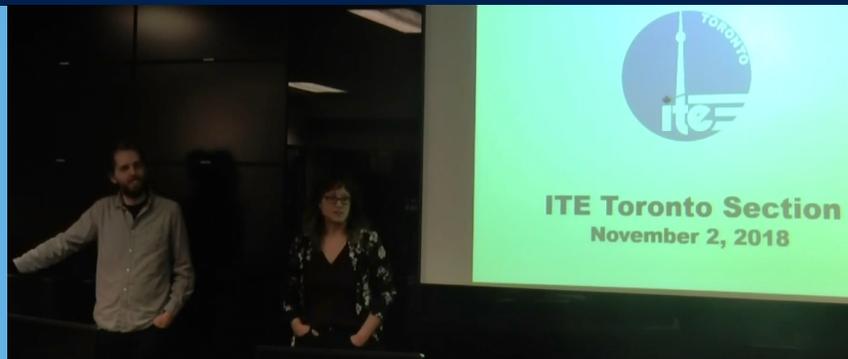
## Industry-Student Mixer

The Chapter continued its annual tradition of hosting a student-industry mixer on March 14<sup>th</sup>. The goal of the mixer is to provide transportation engineering and planning students, as well as alumni, with the chance to network with industry professionals. The mixer allows students to learn about potential job opportunities and to connect with professionals in the field. A total of 149 students from 16 institutions attended the event, along with representatives from the industry. Thanks to the work of the members of the Student Chapter, along with our industry partners, the event was a great success!



## 2018 UT-ITE Open House

The Chapter held its annual open house on November 2<sup>nd</sup>. Guest speakers Kelsey Waugh and Jason Dahl from Toronto ITE section spoke to the attendees about the activities of the section and the benefits of becoming a member. The goal of the open house is to provide students with information on the activities that the ITE carries out, and to encourage students to join as members.



# Chapter Activities — Social and Networking Events

## Civil and Mineral Engineering Scholarship and Awards Reception

On November 21<sup>st</sup>, members and executives of U of T ITE participated in the Civil Engineering Scholarships and Awards reception. This event was hosted by the Civil and Mineral Engineering Department at the University of Toronto. Several student members of the U of T ITE Chapter were awarded various scholarships by the Department due to their distinguished academic excellence and community commitment.



## End of year potluck and Secret Santa



The Chapter organized an end-of-year gathering of graduate students, professors, and postdoctoral fellows. The event offered the chance to celebrate a year of hard work and the beginning of the winter break.



## UT-ITE Dinner at the TRB Annual Meeting



The Chapter held its annual dinner at the 98<sup>th</sup> annual TRB meeting at Circa Bistro in Washington, D.C., on January 15<sup>th</sup>, 2019. The dinner was well attended by current students, alumni, post-doctoral fellows, and professors. Those in attendance enjoyed great food and great conversation!



# Chapter Activities — Upcoming Events

## Public Transit Scavenger Hunt

The Chapter is incredibly excited to start what we hope will be an annual event, the public transit scavenger hunt. Teams of four will be given a list of items to find, with each item earning a certain number of points based on how difficult it is to find. The list of items will be based on common items that are found in a public transit system (such as signs, vehicles, and food stands) with a Toronto theme. Teams will navigate their way through the public transit system, hopefully learning about and discovering new things along the way. The game will conclude with a social event among the participants and Chapter members. The event will take place on March 2<sup>nd</sup>, 2019.

## 2019 Industry-Student Mixer

An annual event at the University of Toronto, the Chapter will host a mixer for students with an interest in a career in the transportation industry. The mixer brings together students, alumni, and professionals from the transportation industry, providing the opportunity to network and connect with practitioners in the field. The mixer will take place on March 27<sup>th</sup>, 2019, and will host students from a variety of institutions. 10 companies have already signed up!

## 2019 Collegiate Traffic Bowl Team

The Chapter is planning to once again send a team of students to compete in the Canadian District Traffic Bowl, to be held in Ottawa, Ontario. The team consists of Alaa Itani, Marc Saleh, and Patrick Loa. In addition, the Chapter will also host a Traffic Bowl trivia night, to allow teams from the Toronto area to practice for the competition.

## U of T ITE Student Chapter Elections

Another academic year is reaching its end, which means that a new executive team will be elected for the upcoming year. The election will be held during the Chapter's Annual General Meeting on March 8<sup>th</sup>, 2019. The election will be held to fill four positions: President, Vice-President, Financial Officer, and Administrative Officer. In addition, the Chapter is also looking for a Social Event Director and a Seminar Director.

# Financial Report

| Revenues                                       | to January 31, 2019 |
|--|---------------------|
| Carryforward                                   | 430.42              |
| Department of Civil & Mineral Engineering      | 1,000.00            |
| Engineering Alumni Association / Dean's Office | 200.00              |
| Department of Engineering Science              | 50.00               |
| Corporate Sponsors for Student/Industry Mixer  | 2,151.87            |
| CITE Traffic Bowl Sponsorship                  | 1,810.00            |
| <b>Total Revenues</b>                          | <b>\$5,642.29</b>   |

| Expenses                                 | to January 31, 2019 |
|--|---------------------|
| <b>Open House</b>                        |                     |
| Food and drinks                          | <b>186.06</b>       |
| <b>ITE Luncheons</b>                     |                     |
| Registration                             | <b>120.00</b>       |
| <b>Student-Industry Mixer</b>            |                     |
| Printing costs (posters, name tags, etc) | 200.00              |
| Hart House catering                      | 867.79              |
| Photography                              | 400.00              |
|  | <b>1,467.79</b>     |
| <b>Web Services</b>                      |                     |
| Hover.io                                 | 20.53               |
| Jotform upgrade                          | 24.59               |
|  | <b>45.12</b>        |
| <b>Traffic Bowl</b>                      |                     |
| Registration (4x\$105)                   | 420.00              |
| Plane tickets, Accomodation              | 1,539.65            |
|  | <b>1,959.65</b>     |
| <b>Other</b>                             |                     |
| Fees, Materials,etc                      | <b>88.38</b>        |
| <b>Total Expenses</b>                    | <b>\$ 3,867.00</b>  |

| Summary           | to January 31, 2019 |
|-------------------|---------------------|
| Total Revenues    | 5,642.29            |
| Total Expenses    | 3,867.00            |
| <b>Difference</b> | <b>\$ 1,775.29</b>  |