



## Séminaire du CIRRELT Seminar

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### INCORPORATING ADVANCED BEHAVIORAL MODELS IN INTEGER OPTIMIZATION

**Abstract:** Modern demand models rely on discrete choice models. These models are able to predict the choice behavior of individuals in a detailed way, accounting not only for the price and quality of the goods, but also for the characteristics of the customers. Consequently, they allow to capture the heterogeneity of the behavioral patterns in the population, that generate the demand. Unfortunately, these models are highly non linear and non convex in the variables of interest, and are therefore difficult to include in an integer optimization framework. In this talk, we propose a new modeling framework that leads to a linear formulation of any discrete choice model, allowing to include them in an integer optimization framework. As the project is at an early stage, the fundamental concepts will be presented, together with some illustrative examples. The pros and cons of the approach will also be discussed.

**Note:** Michel Bierlaire is professor at the Transport and Mobility Laboratory – TRANS-OR, director of TraCE, the Transportation Center, and director of the Doctoral Program in Civil and Environmental Engineering. His main expertise is in the design, development and applications of models and algorithms for the design, analysis and management of transportation systems. Namely, he has been active in demand modeling (discrete choice models, estimation of origin-destination matrices), operations research (scheduling, assignment, etc.) and Dynamic Traffic Management Systems.

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MERCREDI / WEDNESDAY

26 août 2015 /  
August 26<sup>th</sup>, 2015  
10h30

Salle / Room 5441  
Pavillon André-Aisenstadt  
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer  
Bernard Gendron



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