



## SÉMINAIRE DU CIRRELT SEMINAR

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### A LINK BASED NETWORK ROUTE CHOICE MODEL WITH UNRESTRICTED CHOICE SET

**Résumé / Abstract:** This talk concerns the estimation and application of probabilistic route choice models using the random utility framework. Such models that can be estimated using observations of real choices (e.g. GPS data) are in general path based and therefore require choice sets of paths. Sampling paths is costly and most importantly it is unclear how to correct for sampling when the model is used for prediction. In this talk a link based approach that can be consistently estimated without sampling paths is presented. Starting from a dynamic formulation of logit based link choices, it can be shown that it is equivalent to a static multinomial logit model but with infinitely many alternatives. The model can easily be used for prediction. Estimation results for two applications are discussed. First one uses GPS data collected in a Swedish city where the underlying network is static and contains 3000 nodes and 7000 links. The second application uses data collected in The Netherlands where link travel time data was collected in collaboration with TomTom at the same time as the route choice observations (GPS data). In this case the underlying network is dynamic. Finally we discuss potential extensions of the model, including accounting for correlated utilities. The methodological contributions are joint work with Mogens Fosgerau (Technical University of Denmark) and Anders Karlstrom (Royal Institute of Technology, Stockholm) and the application to a dynamic network using data from The Netherlands is joint work with Giselle de Ramos, Winnie Daamen and Serge Hoogendoorn (Delft University of Technology).

**Note:** Emma Frejinger is professor at the department of computer science and operations research. She is also Chairholder of the CN Chair in Economics and Intermodal Transportation at CIRRELT. She has received her Ph.D. in operations research applied to transportation at EPFL (Switzerland) in 2008. She has then worked as researcher, then professor at the Stockholm Royal Institute of Technology. [frejinge@iro.umontreal.ca](mailto:frejinge@iro.umontreal.ca)

**DATE / DATE**

**Vendredi / Friday**

**15 février 2013 /**

**February 15th, 2013**

**10h30**

**Salle/Room 5441**

**Pavillon André-Aisenstadt**

**Université de Montréal**

**Bienvenue à tous / Welcome to all**

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