



Joint Seminar CIRRELT, MobilOpt and Canada research chair in integrated logistics

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Faculty of Business Administration
MobilOpt: Mobility Optimization



Canada research chair
in integrated logistics

JOINT INVENTORY AND FULFILLMENT OPTIMIZATION FOR AN OMNICHANNEL RETAILER

Abstract: We study an inventory optimization problem for a retailer that faces stochastic online and in-store demand in a selling season of fixed length. The retailer has to decide the initial inventory levels and an order fulfillment policy such that the expected total costs are minimized. We approximate the problem by a two-stage stochastic optimization on a reduced number of scenarios. For deciding the representative scenarios, we propose a new similarity measure and a novel technique that combines the framework of Good-Turing sampling and Linear Programming. On randomly generated instances, the proposed algorithm obtains an average cost reduction of 7.56% compared to a state-of-the-art algorithm in the literature. The proposed algorithm works considerably better for short time horizons and a relatively large proportion of in-store customers.

About the speaker: Adriana Gabor (Associate Professor, Department of Applied Mathematics at Khalifa University, United Araba Emirates), has obtained a PhD in Operations Research from University of Twente in The Netherlands. Prior to joining Khalifa University, she worked at Eindhoven University of Technology, Erasmus University Rotterdam in the Netherlands and United Arab Emirates University in UAE. Adriana's research interests lie in developing algorithms and mathematical techniques for solving optimization problems, especially for applications in supply chain and telecommunication. In particular, she worked on location, inventory and transportation problems as well as network design problems in the telecom sector.

<https://ulaval.zoom.us/j/62427234782?pwd=ekdlRXhyTFIsWUlnTW1iMDVuMlcydz09>

Meeting ID: 624 2723 4782– Passcode: 855940

JEUDI / THURSDAY

8 juin / June 8th

10h00

Pavillon Palasis-Prince

Local / Room

1307

**Ouvert à tous
Open to all**

Café et viennoiseries

Responsable / Organizer

Leandro Coelho