



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

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Faculty of Business Administration
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Canada research chair
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OPTIMAL FIBER-TO-THE-HOME RING DESIGN USING VRP FORMULATIONS

Abstract: Telecom companies aim to design reliable Fiber-To-The-Home (FTTH) networks at minimum costs. Gigabit Passive Optical Network (GPON) is the technology typically used in fiber cables to transmit data. Such networks can transmit data over large distances, with very high bandwidth, less interference, and low cost. Furthermore, ring topology is used for the FTTH/GPON networks to increase the reliability of the connection. In this talk, a Mixed-Integer Linear Programming (MIP) model based on Vehicle Routing Problem (VRP) formulation will be discussed along with its implementation particularities. This problem has certain similarities with a Heterogenous Fleet Vehicle Routing Problem (HFVRP) variant of a VRP. The main parameters include the number of customers, their locations, their fiber demand, and the set of different cable types that exist with their capacities and costs. The main objective is to find the optimal number of rings and select the cable type for each ring while minimizing the total cost of the network. This research was done in collaboration with the Emirates ICT Innovation Center (ebtic.org) established by Etisalat, BT, and Khalifa University.

About the speaker: Dr. Andrei Sleptchenko is an Associate Professor member at the Department of Industrial and Systems Engineering at Khalifa University. His primary research interests are in stochastic modeling and optimization of Logistics and Manufacturing Systems. Before joining Khalifa University, Dr. Sleptchenko served as a faculty member at the Department of Mechanical and Industrial Engineering at Qatar University. Prior to that, Dr. Sleptchenko worked for several years for different consulting companies in the area of Supply Chain and Transportation and as an Assistant Professor and a researcher at various Universities in the Netherlands and the USA.

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Meeting ID: 698 3679 0927- Passcode: 344598

MARDI / TUESDAY

27 juin / June 27th

10h00

Pavillon Palasis-Prince

Local / Room

1307

Ouvert à tous

Open to all

Café et viennoiseries

Responsable / Organizer

Leandro Coelho