



Fausto Errico

École de technologie supérieure (ÉTS), Montréal



THE VEHICLE ROUTING PROBLEM WITH HARD TIME WINDOWS AND STOCHASTIC SERVICE TIME

Abstract: In this talk I will consider a variant of the vehicle routing problem with time windows, where service times are affected by uncertainty. This problem appears in various practical applications where drivers (e.g., repairmen) perform specific services at customers, without knowing service durations beforehand. Previous literature mostly focused on situations where customer time windows might be violated (soft time windows). I will instead address the case where such violations are not allowed (hard time windows), as required in many practical settings. In the first part of the talk, I will model the problem as a chance constraint stochastic program. In the second, I will adopt a two-stage stochastic model and compare alternative recourse strategies. For each model setting, I will show how to develop efficient branch-cut-and-price algorithms. These methods solved problem instances derived from the Solomon database with up to 50 customers.

This is a joint work with G. Desaulniers, M. Gendreau, W. Rei and L.-M. Rousseau.

Note: Fausto Errico is professor at the construction engineering department of ÉTS since September 2013. His research interests can be placed in the general field of Operations Research, with focus on freight and people transportation. He has received his Ph.D. in 2008 from Politecnico di Milano, Italy. Then, he conducted postdoctoral studies under the supervision of prof. Teodor Gabriel Crainic and Walter Rei and, in 2012, with Guy Desaulniers, Michel Gendreau, Walter Rei and Louis-Martin Rousseau.

fausto.errico@etsmtl.ca and <http://www.etsmtl.ca/Bottin/ETS/Alphabetique/FicheEmploye?Numero=5554>

MERCREDI / WEDNESDAY

5 novembre 2014 /
November 5th, 2014
10h

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer
Bernard Gendron



UNIVERSITÉ
LAVAL



McGill



UNIVERSITÉ
Concordia
UNIVERSITY



Le génie pour l'industrie

UQÀM

HEC MONTRÉAL



POLYTECHNIQUE
MONTRÉAL

Université
de Montréal