CIRRELT

SÉMINAIRE CONJOINT / JOINT SEMINAR
Chaire de recherche du Canada en logistique et en transport et
Chaire de recherche du Canada en distributique

Raf Jans

HEC Montréal

SYMMETRY BREAKING IN MIP OPTIMIZATION PROBLEMS

Résumé / Abstract

This talk will provide an overview of the work I have done on symmetry breaking in Mixed Integer Programming Optimization (MIP) problems in the last years. I will discuss problems related to production planning, job grouping, and joint production distribution planning. Standard formulations for these problems contain a lot of symmetry due to the presence of identical machines, clusters or vehicles. Given a feasible solution, alternative solutions with an equal objective function value can be constructed by permuting the numbering of these identical objects. This leads to a lot of duplication in the branch-and-bound tree when the alternative solutions have to be investigated, and hence results in long CPU times. I will discuss how the techniques of symmetry breaking constraints and reformulation can be used to counter this problem.

Note : Raf Jans est professeur agrégé au service de l'enseignement de la gestion des opérations à HEC Montréal. / Raf Jans is Associate Professor at the Department of Logistics and Operations Management at HEC Montréal. raf.jans@hec.ca et/and Web

JEUDI / THURSDAY

28 mars 2013 /
March 28th, 2013
10h30
Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

Bienvenue à tous / Welcome to all

Responsable/Organizer : Jean-François Cordeau
Information : Pierre Marchand
Responsable des communications du CIRRELT
pierre.marchand@cirrelt.ca

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