



Séminaire des étudiants du CIRRELT Students Seminar*

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DECOMPOSITION-BASED MATHEURISTIC FOR THE PRODUCTION AND INVENTORY ROUTING WITH AN ASSEMBLY STRUCTURE

ABSTRACT: First, I will present a new problem, assembly routing problem (ARP). ARP deals with the reverse production routing problem (PRP) or in other words, models the upstream supply chain. ARP as well as PRP is a problem that arises at the intersection of lot-sizing and inventory routing problems. However it has its own unique assumptions that make it a new problem. Then, I present a decomposition based matheuristic to solve the ARP. The quality of the results on three large data sets, was a motivation to apply our algorithm to solve other problems, PRP and IRP. The most important data sets of these problems are solved by our algorithm. Many state-of-the-art algorithms that are applied to solve one or some of these data sets are considered (19 algorithms) and the results are compared in detail with our algorithm. It is a real challenge to compete against state-of-the-art exact solution structures on small instances and at the same time defeat the best tailor-made heuristics/metaheuristics for medium and large instances. It becomes even more complicated and harder when it is about more than one problem. The results show that our decomposition approach and matheuristic algorithm resulted in high quality results for ARP, PRP and IRP."

VENDREDI / FRIDAY

**15 avril 2016, à 12h
April 15th, 2016, at 12:00**

**Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal**

***Pizza et boisson gazeuse fournies
Pizza and soft drink offered***

**Réservé aux membres du CIRRELT
FOR CIRRELT MEMBERS ONLY**

Inscription obligatoire au plus tard le 14 avril / Registration required no later than April 14th
<https://symposia.cirrelt.ca/SeminaireEtudiant/fr/register>

*** Étudiants de 2^e et 3^e cycle intéressés à présenter / Graduate students interested in presenting : Mehdi.Mahnam@cirrelt.ca**

