



Séminaire des étudiants du CIRRELT Students Seminar*

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Étudiant au doctorat, sous la direction de
Éric Pinson (IMA-UCO**, France) et
Louis-Martin Rousseau (Polytechnique)

SCHEDULING MAINTENANCE IN WIND FARMS: A CP-BASED LNS APPROACH

ABSTRACT: Having a low environmental impact, the wind energy industry keeps increasing in recent years. In this context, it faces two major issues: reliability and efficiency. Consequently, timely maintenance plays an essential role reducing breakdowns and ensuring a high productivity level. To deal with the last purpose, we define a challenging maintenance scheduling problem arising in wind farms, in which the objective is to maximize the production of the turbines. Focusing on a short-term horizon, the problem considers alternative execution modes for each task and includes the assignment of a skilled workforce. To solve this problem, we present a CP-based adaptive large neighborhood search. We also propose an integer linear programming formulation solved by a commercial solver to assess the quality of our approach. Finally, we briefly present the research we are now conducting to solve this problem with exact methods.

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Note: Aurélien Froger is a Ph.D. student at IMA-UCO, Angers, France. He is presently doing an internship at CIRRELT, under the supervision of Professors Michel Gendreau and Louis-Martin Rousseau.

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VENDREDI / FRIDAY

**2 octobre 2015, à 12h
October 2nd, 2015, 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

Inscription obligatoire au plus tard le 1^{er} octobre / Registration required no later than October 1st
<https://symposia.cirrelt.ca/SeminaireEtudiant/register>

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



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