



**FACULTEIT ECONOMIE
EN BEDRIJFSKUNDE**

**TWEEKERKENSTRAAT 2
B-9000 GENT**
Tel. : 32 - (0)9 - 264.34.61
Fax. : 32 - (0)9 - 264.35.92

WORKING PAPER

An Experimental Investigation of Metaheuristics for the Multi-Mode Resource-Constrained Project Scheduling Problem on New Dataset Instances

Vincent Van Peteghem^{*}

Mario Vanhoucke[†]

November 2011

2011/758

^{*} Faculty of Economics and Business Administration, Ghent University, Tweekerkenstraat 2, 9000 Gent (Belgium), vincent.vanpeteghem@ugent.be

[†] Faculty of Economics and Business Administration, Ghent University, Tweekerkenstraat 2, 9000 Gent (Belgium) and Operations and Technology Management Centre, Vlerick Leuven Gent Management School, Reep 1, 9000 Gent (Belgium), mario.vanhoucke@ugent.be

Abstract

In this paper, an overview is presented of the existing metaheuristic solution procedures to solve the multi-mode resource-constrained-project scheduling problem, in which multiple execution modes are available for each of the activities of the project. A fair comparison is made between the different metaheuristic algorithms on the existing benchmark datasets and on a newly generated dataset. Computational results are provided and recommendations for future research are formulated.