Editorial

Three interesting papers are included in this first issue of ORiON volume 31. All three papers cover practical applications of operations research. It spans from mining through credit scoring to timetabling. I wish that all readers of ORiON will find something of interest in this issue.

Fanie Terblanche and Andreas Bley are the authors of the first paper under the title: "An improved formulation of the underground mine scheduling optimisation problem when considering selective mining". They introduced an alternative mixed integer programming model to solve the underground mine scheduling problem. Their formulation improves on existing models by introducing a piecewise linear grade tonnage curve that is mining method dependent. The use of this curve eases the computational burden when solving problem instances at different levels of resolution. Experimental results show that the proposed approach method outperforms existing models, especially in the cases with a low profit margin.

The second paper is authored by five authors from two institutions — they are Riaan de Jongh, Erika de Jongh, Marius Pienaar, Heather Gordon-Grant, Marien Oberholzer and Leonard Santana. Their paper is titled "The impact of variance inflation factor thresholds on the stability and predictive power of logistic regression models in credit rating". In this paper the authors investigate the influence of a too conservative choice of a variance inflation factor on the predictive and discriminatory performance of logistic regression in credit scoring models by means of a simulation and an empirical study. Results of the study show a clear pattern that the current threshold of about 2.5 is too conservative for the large data sets that are typically used in industry.

The final paper by Rushil Raghavjee and Nelishia Pillay is titled "A genetic algorithm selection perturbative hyper heuristic for solving the school timetabling problem". As the title indicates this paper investigates the use of a genetic algorithm selection perturbative hyper-heuristic (GASPHH) for solving the school timetabling problem. The authors adapted a two phase approach. During the first phase the algorithm's objective is to minimise the number of violations of hard constraints, while the number of violations of soft constraints is minimised during the second phase. The performance of GASPHH was compared to known solutions from literature and performs favourably over the five different types of school timetabling problems considered.

Scholarly journals cannot exist without the contribution of authors and reviewers. Ten authors contributed to this issue. I want to thank all ten these authors for submitting their high quality papers to ORiON. Thank you to the anonymous reviewers who contributed their time to supply quality feedback to authors. The feedback from reviewers increased the quality of the papers.

As always, I want to thank Martin Kidd (journal manager) for the outstanding job he performs in managing ORiON. My life as editor-in-chief would have been considerably harder without his dedication. A warm welcome to Elmien Thom who has taken over from Anton de Villiers as typesetting assistant. She has put in numerous hours to edit and typeset the papers for this issue of ORiON in LaTeX. My sincerest thanks to Elmien

for the high quality of work she performs for ORiON.

I would like to end the editorial in the usual way by encouraging subscribers and readers of ORiON to submit their research papers to ORiON. Readers are welcome to contact the editor-in-chief with any recommendations or suggestions regarding this publication.

Stephan Visagie
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