

Editorial

This year is speeding towards its end. The activity in the Operations Research Society of South Africa is reflected in the diverse papers that usually fills ORiON. This issue is no exception. The topics of blending problems, workforce-mix problems as well as the ranking of schools in South Africa are covered in this issue.

I would like to thank the associate editor, Prof Wim Gevers, for handling the review process of the first paper. It is authored by Lieschen Venter and Stephan Visagie. The paper is titled “On the solution of petrochemical blending problems with classical metaheuristics.” The authors took three blending instances from literature and supplied a larger, real life size problem to compare the solution methods. The solution times and quality of random search algorithms, continuous tabu search algorithms, genetic algorithms and simulated annealing was compared on these instances. Comparisons of the results for the different approaches shows that the tabu search technique delivers the best results with respect to solution quality and execution time for all three the smaller problems under consideration. However, simulated annealing delivers the best result with respect to solution quality and execution time for the introduced real life size problem.

The second paper with the title “On the dynamics of workforce-mix in a manpower system” is authored by Virtue Ekhosuehi. In this paper the author models a manpower system with the objective to find the most economical workforce-mix. The objective is constrained by fluctuation in the workforce and workload. Under the necessary assumptions the author provides a number of useful propositions that are supported by their proofs. The model is also illustrated by means of a real life setting.

The final paper by Gerhard Kent, Hennie Kruger and Tiny du Toit is titled “Class ranking of secondary schools in the North-West province of South Africa.” In this very interesting paper Gerhard, Hennie and Tiny present an DEA-model to evaluate the performance of different schools in the North West Province of South Africa. Their model uses the idea of Pareto optimality to find groups of similarly performing schools. Not only can their model identify efficient schools, it can also compare schools to similar schools in their group. The dual formulation can also provide schools that are not on their groups Pareto front with measures that can be taken to improve their performance relative to their group. The model provides a more reliable alternative to evaluate, monitor and improve the performance of schools ranked as inefficient.

As always, I want to extend a big thank you to the three major parties involved in publishing ORiON. The first two parties are the authors and the reviewers. Without authors choosing ORiON as their publishing vehicle and reviewers that contribute countless hours to the standard of ORiON it would not be possible to have ORiON. The third party is the editorial staff of ORiON. Thank you to Martin Kidd and the typesetting assistant Gavin le Roux for performing outstanding jobs in respectively handling the management of ORiON and the typesetting of papers in L^AT_EX.

I want to encourage subscribers and readers of ORiON to seriously consider ORiON as a vehicle to publish their quality research. We offer a quick turnaround time and are accredited at the Department of Higher Education and Training for research subsidy.

My best wishes to all the authors, reviewers, subscribers and readers of ORiON for the coming festive season. I hope you will enjoy reading this issue of ORiON. May 2017 be a prosperous year!

Stephan Visagie
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