

## CEJOR special issue of Croatian Operational Research Society

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We are very glad to introduce this first special issue of the Croatian Operational Research Society, which was established in 1992 and has a fruitful collaboration with the Central European Journal of Operational Research since its inception.

The area of OR has been one of the core subjects at Croatian universities decades ago. In today's age of advanced computing technologies that are able to process large quantities of data, it is becoming even more attractive and involved. Croatian Operational Research Society gathers more than 150 researchers with the mission to promote operational research in Croatia and worldwide which has been realized through several goals: (1) to encourage collaboration of scientists and researchers in the area of operational research in Croatia and worldwide through seminars, conferences, lectures and other ways of collaboration, (2) to organize the International Conference on Operational Research (KOI), and (2) to publish scientific journal Croatian Operational Research Review (CRORR). Since 1994, CRORS is a member of the Association of

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European Operational Research Societies (EURO) and the International Federation of Operational Research Societies (IFORS), and actively participates in their activities. The contribution of CRORS was rewarded in 2008 by a Charter of recognition from Elise A. del Rosario, the president of EURO at that time. On the occasion of publishing this special issue, we would like to thank the former presidents of CRORS: Luka Neralić, Tihomir Hunjak, Kristina Šorić, Valter Boljunčić, and Zoran Babić, as well as to other members of CRORS for their efforts in developing the society and its impact in OR research. The CRORS has organized 16 international conferences KOI so far in different cities in Croatia, and continuously publishes Croatian Operational Research Review journal (now included in relevant databases such as WoS ESCI and Scopus), as well as CRORS News Magazine.

The sixteen (16) papers in this issue bring into the light some recent research results of CRORS members and their international collaborators. There are four (4) papers in honor of Goran Lešaja's birthday that cover various optimization problems and methods. The paper written by Csizmadia et al. (2018) considers the primal quadratic simplex method for linearly constrained convex quadratic programming problems. The paper of Darvay and Takács (2018) proposes a large-step IPM in the new wide neighborhood of the central path for. In the paper Cvetković et al. (2017) discuss some new complexity indices for traveling salesman problem (TSP). The paper of Peric et al. (2018) suggests a new method based on the cooperative game theory (MP method) and compare its efficiency with a STEM method.

There is a group of papers in the area of multicriteria optimization such as the paper of Targiel et al. (2018) which suggests a model for scheduling non-critical activities under uncertainty and follows up some previous results of multicriteria optimization under uncertainty published in CEJOR (Gaspars-Wieloch 2017). Uncertainty was also the subject in the paper of Kvet and Janáček (2017) who compare scenario and fuzzy values approaches. Kadoić et al. (2018) propose a new method for strategic decision making in higher education based on the analytical network process (ANP) and social network analysis (SNA) using centrality measures which were also discussed in previous issues of CEJOR (Csató 2017). Kojić and Lukač (2018) suggest an alternative approach to solving cost minimization problem with Cobb–Douglas technology based on weighted arithmetic–geometric mean inequality without using calculus. The two papers in this issue propose new approaches for using optimization algorithms and clustering in the domain of policy; Marošević and Soldo (2018) suggest a modification for calculating indices of political power within a parliament, while Jelić and Ševerdija (2017) provide a model inspired by the team formation problem in a social network that suggests a subset of candidates for positions in the new government using integer linear programming.

One of the frequent topics among Croatian OR researchers is the Data Envelopment Analysis (DEA) in various domains. The paper of Borozan and Borozan (2018) explores the total-factor energy efficiency and change trends in technical efficiency in the Croatian counties by DEA, while Gardijan and Lukač (2018) use DEA to measure relative efficiency of food and drink industry in EU.

The paper of Majstorović et al. (2018) deals with graph theory, namely growth curve clustering problem, and analyzes its connection with the spectral relaxation method, showing that the eigendecomposition of a specific matrix associated with a

similarity graph can be a solution. There are two papers in the area of statistics. The paper of Hamedović et al. (2018) estimates the size of an object from a noisy image by using two one-dimensional parametric models to construct confidence intervals and statistical tests. Kramarić et al. (2018) use nonhierarchical cluster analysis to explore insurance companies in selected post-transition countries. Finally, this issue contains a paper that deals with mapping of seismic parameters of the Iberian Peninsula by means of a geographic information system (Amaro-Mellado et al. 2018).

It is worth to mention that some of the authors in this special issues are young researchers such as Jelić and Ševerdija (2017) who were awarded with the Best Student Research Paper Award at KOI 2016 conference. The special issue contains papers with wide range of relevant and contemporary topics in the area of OR which were also discussed by other authors in previous issues of this journal and other OR journals, such as the topics of IPM (Meszaros 2015), multicriteria optimization (Trdin and Bohanec 2018), social network analysis (Csató 2017), game theory (Aust and Buscher 2016; McCormick and Owen 2018), DEA (Šegota et al. 2017), clustering (Scitovski et al. 2017), and graph theory (Vinkó and Gelle 2017).

The collaboration and exchange of ideas is one of the key factors of success and development in modern science. We believe that Croatian OR Society researchers engaging in collaboration and cooperation with each other and with researchers from other OR societies will continue to produce high quality research results and advance the field of OR in Croatia and abroad. We hope that this Special Issue is a good representation of such efforts and will spark interest and future research in featured areas and beyond.

Osijek, April 2018.

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