Guest Editorial Preface

Special Section from the 1st International Symposium and 10th Balkan Conference on Operational Research

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HELORS (Hellenic Operational Research Society) was founded nearly 50 years ago (in 1963) by pioneer Greek scientists aiming to promote teaching and use of Operational Research methodologies for the benefit of the Greek economy and society. HELORS was developed as a scientific society with an important presence in the scientific and economical life of Greece with 300 members and several activities (conferences, organization of events, seminars, participation in many projects, publication of the international journal IJOR, etc.). In 1984 a group of HELORS members had the initiative to promote society's activities in Northern Greece and established the Thessaloniki Branch which was later renamed as Macedonia-Thrace Branch. It has now over 120 members and its activities include the organization of four Balkan Conferences in OR, several seminars and active participation in international projects funded by the European Union.

The 1st International Symposium and 10th Balkan Conference on Operational Research (BALCOR 2011) took place in Thessaloniki, Greece, on the premises of University of Macedonia from 22 to 24 September 2011. The conference has been organized by the Macedonia – Thrace Branch of the Hellenic Operational Research Society (HELORS). The general aim of the conference was to facilitate the exchange of scientific and technical information related to Operational Research and promote international cooperation, especially among the Balkan countries. The international academic and business communities have shown significant interest for submitting their research work and participating in BALCOR 2011. More than one hundred research articles have been presented and included after review in the conference proceedings, originating from twenty countries. Three papers in the field of Decision Support Systems were selected to be included in this special section of IJDSST, after a double-blind peer review process, according to the high standards set by the journal.

In the first paper of this section, professor S. Petrovic from the University of Kragujevac in Serbia argues that the increasing complexity and diversity of management problem situations in organizations, on the one hand, and the increasing variety of theories, methodologies, methods, techniques, models that can be

employed in problem situation structuring and problem solving, on the other hand, ought to be considered as relevant aspects of management process in contemporary circumstances. Creative holism in dealing with management problem situations in organizations is enabled by means of Critical Systems Thinking (CST) as well as Critical Systems Practice (CSP), as the resulting metamethodology. In other words, through CST and CSP, it can be significantly contributed to the management of the increasing diversity and variety of methodologies, methods, techniques, models, with the aim of improving the management of the problem situations in organizations.

D. Kremmydas, A. Petsakos, and S. Rozakis present a paper about a web based Spatial Decision Support System (web SDSS) that has been implemented in Thessaly, the most significant arable cropping region in Greece, in order to evaluate selected energy crop supply. The web SDSS uses an optimization module to support the decision process launching mathematical programming (MP) profit maximizing farm models. Energy to biomass raw material cost is provided in supply curve form incorporating physical land suitability for crops, farm structure and Common Agricultural Policy (CAP) scenarios. In order to generate biomass supply curves the optimization problem is parametrically solved for a number of steps within a price range determined by the user. The more advanced technique used to solve the MP model, the higher the delay of response to the user. They are examining how effectively they can reduce the web SDSS response time to the user requests using parallel solving of the corresponding optimization problem. The results are encouraging, since the total solution time drops significantly as the problem‘s size increases, improving the users‘ experience even when the underlying optimization models use advanced, thus time demanding modeling techniques. These statements are illustrated by comparing lp and non-lp agricultural sector models.

In the final paper of this section, P. Delias, G. Kyriakaki, E. Grigoroudis, and N. Matsatsinis report that innovation is anticipated to be a critical factor in building an organization's culture of growth. Provided that it is properly blended with organizational development initiatives and aligned with the organization's strategy, it supplies a compelling advantage for the growth process. On the contrary, neglecting to encompass innovation in an organization's culture could lead to the organization's shrinkage and even extinction, in case of an intensively competitive market. Executive staff should tightly regard the innovative technologies and be constantly aware of all the opportunities to accelerate organization's growth. However, the same staff is relentlessly stressed under information overload. There emerges a need to reduce the information load and filter the available technologies according to the specific individual needs of each organization. In this work, we propose a recommendation approach to match the customized needs of an organization against the existing technologies (innovative products or services). The organization (or its executives) expresses its customized needs by declaring its preferences over a small reference set of indicative technologies. Each technology is characterized by multiple attributes, in a way that the organization ultimately expresses the trade-offs between the attributes' significance weights. This information is used to create the organization's profile. The profile is used to guide a recommendation process, according to which, available technologies are evaluated against the profile and are proposed to the organization in a descending order.

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Jason Papathanasiou is a full time lecturer at the department of Marketing and Operations Management, University of Macedonia, Greece. He holds a PhD in Operational Research and Informatics and a degree in Physics, both from the Aristotle University of Thessaloniki. He has worked for a number of years at the Technical Institute of Technology in Thessaloniki and on the University of Western Macedonia. He has organized and participated in a number of international scientific conferences and workshops and has published papers in international scientific peer referred journals like the Environmental Monitoring and Assessment, Regional Studies, Proceedings of the National Academy of Sciences of the United States of America *and E*uropean Journal of Operational Research*; in all he has more than 50 papers published in conferences, books and journals. He has participated in many national and international research projects in FP6, FP7, Interreg and COST and he is a member of the Committee of Senior Officials of COST.*

Vassilis Kostoglou is professor and director of the research laboratory "Information Systems and Management" at the Department of Information Technology of Alexander TEI of Thessaloniki, Greece. He received his PhD for his thesis on "The employment of information and communications technologies' specialties in the enterprises". He also holds a BSc degree in Engineering (Greece) and an MSc in Operational Research (UK). He is/has been the leader of five research projects and took part in several research and educational projects (Alpha, Socrates, Med Campus, Erasmus, Leonardo da Vinci, Life Long Learning, Grundtvig, and Tempus). He is the author or co-author of 5 books and published 20 articles in journals and 35 articles in refereed conference proceedings. He is invited visiting professor at Warsaw University of Life Sciences, Poland. His research interests include employment analysis, management information systems, decision support systems, and project management techniques.

Rita A. Ribeiro obtained the BA (5 years degree) from Instituto Superior de Economia e Gestão (PT), her M.Sc. from George Washington University (USA) and the PhD from the University of Bristol (UK). Since 2001 she is a senior researcher and coordinator of the Computational Intelligence research group (www.ca3-uninova.org) at UNINOVA. Since 2007 she is an invited associate professor at University Nova Lisboa, Faculty of Sciences and Technology, Dept Electrical Eng. (UNL/FCT/DEEC) and she also got a Ciência2007 grant from FCT/MCES (5-year contract). From 1994 to 2002 she was and assistant and assistant professor at UNL/FCT/DI. From 2005-2008 she collaborated with HOLOS as Consultant for R&D. She has been involved in national and international research projects, 16 financed by ESA (European Space Agency), 4 with national funding, 4 financed by the EU. She published more than 120 scientific articles, mainly in the topics of fuzzy multicriteria decision making, fuzzy optimization and decision support systems.