Special Issue of CEJOR,
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on OR for Better Management of Sustainable Development

The EURO XXI conference in Iceland (http://www.euro2006.org/) had as special theme *OR for Better Management of Sustainable Developement.* Within the Third World – as well as in many other countries on Earth – development is a major concern. People in these countries look for continuous improvement in their living and working conditions, with enough to eat in a healthy environment, provided with good education and affording chances for everyone to master their own lives whilst contributing to the happiness of the others. However, there is a need, as the UN says, to look towards the very long term since the well-being of future generations can only be ensured if that development is *sustainable*. By its conference theme, EURO XXI aimed to demonstrate how OR can improve the management of this important topic.

This special issue contains a selection of papers presented at EURO XXI. The papers broadly cover the special theme of sustainable development, and they consider ways for improving its management, whilst promoting future research and collaboration among the countries of EURO and in the world as a whole.

The paper of Mateusz Tykierko *"Using Invariants to Determine Change Detection in Dynamical System with Chaos"* stands for the rich contribution given by the theory of dynamical and anticipatory systems at EURO XXI. This pioneering work introduces a methodology for detecting changes in dynamics beyond linear and some ones, but now for systems with chaos also. Herewith, it addresses many real-world phenomena in modern OR.

In their *paper "Analysis and Control of Maritime Transit Traffic Through the Istanbul Channel: A Simulation Approach"*, Birnur Özbaş and İlhan Or guide us to a very scenic but also very risky place on Earth: Istanbul Channel with its maritime transit. Indeed, by modern OR methods and simulation it provides a platform to analyze the effects of factors such as rules and regulations, number of tugboats and pilots, vessel type, traffic density and meteorological conditions.

"The Importance of Systems Thinking in Ethical and Sustainable Decision-Making" is one of the central criteria of OR used better management of sustainable development, and it became the title of Pierre L. Kunsch's, M. Michel They's and Jean Pierre Brans' contribution. Here, OR provides insight into the way how complex nonlinear living systems and human societies function, and it educates and trains young people in systems thinking. Examples for the classroom are presented.

Harald Günzel, Hubertus Th. Jongen and Oliver Stein in their paper *"On the Closure of the Feasible Set in Generalized Semi-Infinite Programming"* contribute to the deep OR area and tool "GSIP". In this field of continuous optimization, there can be infinitely many indices of inequality constraints which, in addition, depend on the state. This refined study can be expected to valuably contribute to OR in theory, methods and applications such as mentioned in this article.

The paper by Luigi Fusco Girard and Pasquale De Toro entitled *"Integrated Spatial Assessment: A Multicriteria Approach to Sustainable Development of Cultural and Environmental Heritage in San Marco dei Cavoti, Italy"* presents a novel method in the field of land-use planning. Given a piece of land, which parts should be used for residential areas, industrial areas, agricultural areas etc.? The authors integrate territorial and environmental aspects into a multicriteria approach, and present a case study in which a master plan for a municipality in Southern Italy is developed.

Guest Editors: Prof. Dr. Stefan Pickl, Prof. Dr. Gerhard-Wilhelm Weber and Prof. Dr. Martin Zachariasen.

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