Editorial

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Biographical notes: Maria Franca Norese is an Associate Professor of Operations Research at Politecnico di Torino. Her research interests are in the areas of multiple criteria decision aiding and DSS and currently focus on systems and methodologies that facilitate understanding, collaboration and decision in organisation. She has articles published in journals including *Group Decision and Negotiation*, *Decision Support Systems*, *International Journal of Decision Support System Technology*, *European Journal of Operations Research*, *International Transactions in Operational Research* and *Journal of Multi-Criteria Decision Analysis*.

The 71st Meeting of the European Working Group 'Multiple criteria decision aiding (MCDA)' was held in Turin, Italy, the 25–27 of March 2010 and the main theme for the meeting was 'Decision aid applications in private and public organisations: today and in the future'. At the end of the meeting a call for papers was proposed for a special issue of the *International Journal of Multicriteria Decision Making*.

Some studies, involving real-world applications of MCDA over a wide spectrum of fields, have been submitted, together with methodological studies that might facilitate future applications.

Each paper has been evaluated by two reviewers and, after a long review process, four papers have been selected in order to be included in this special issue. They are an interesting example of the several problems that characterise the MCDA context and the ways to approach them.

The first paper by Franck Taillandier and Irène Abi-Zeid presents a multicriteria and multilevel model and methodology to evaluate the state of real estate properties, as a first step towards the elaboration of action plans for improving the environmental characteristics of the building stock. The outranking method ELECTRE TRI is proposed not only to obtain a multicriteria aggregation of all the relevant aspects but also to facilitate the transition from data at a specialist's level to information at a decision maker's level. The paper focuses on the transition mechanisms of the evaluations between the two types of actors.

In the second paper, Céline Verly and Yves De Smet study the rank reversal problem in the context of the PROMETHEE methods. They focus their attention on the problem of the deletion of a non-discriminating criterion, the deletion or addition of a copy of actions and the rank reversal occurrences caused by the addition or the deletion of a randomly chosen alternative.

The third paper by Maria Franca Norese, Ersilia Liguigli and Chiara Novello proposes an integrated use of mathematical programming and multiple criteria methods

to support engineering design processes in a company of the aeronautical sector. Some multiple criteria approaches are described in relation to the evaluation of design alternatives, and the integrated use of two multicriteria methods is proposed to support communication with the clients, in order to better define their needs and expectations.

In the last paper, Sarah Ben Amor and Jean-Marc Martel propose a general multicriteria modelling framework for processing additional information in a multiple criteria decision context, in order to face different types of information imperfections (stochastic, possibilistic, 'evidential', fuzzy…). The proposed unified procedure leads to prior and posterior global preference relations including the strict preference, the indifference, the incomparability and the weak preference relations.