Invited Session: Multicriteria Optimization and Decision Support

Session Organizers:

Janusz Granat (Warsaw University of Technology and National Institute of Telecommunications , Warsaw, Poland)

Marek Makowski (International Institute for Applied System Analysis, Laxenburg, Austria)

Session Description:

Decision-making typically involves analysis of tradeoffs between conflicting criteria. The traditional ways of dealing with multiple criteria is to either treat all but one of them as constraints or to aggregate the criteria into one goal (utility) function. Such approaches have serious drawbacks therefore diverse methods for multicriteria optimization have been developed.
Multicriteria optimization is more and more broadly used, and can substantially improve the quality of model-based decision-making support.

The purpose of the session is to present and discuss recent advances in multicriteria analysis focused on model-based decision-making support (including model-based problem solving) in a possibly wide range of applications including (but not restricted to) engineering, environment, and policy-making. In particular, the presentations will deal with novel multicriteria methods and applications to the following types of problems:
- characterized by large number of criteria that are organized in hierarchical structure, and have multimodal distributions of values;
- objective classification;
- event mining;
- teaching support.

The invited presentations deal with a wide spectrum of application fields, including energy, market, telecommunication, education. However, the presented methods are applicable also to other areas.

Organization:

The session was originally planned for up to eighth 30 minutes presentations. We choose the method of organizing the session by inviting 6 prospective participants to submit extended abstracts for the session, and left room for 2 more presentations that can be selected from the abstracts submitted directly to the IPC. The organizers shall however adjust the size of the session to the number of accepted presentations.