

ROAD development perspectives

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Content

- COST IC 0602 “*Algorithmic Decision Theory*”
- Decision Deck Project
- Rubis Decision Aid Approach
 - Best choice decision method
 - Inverse MCDA
 - Metaheuristics for MCDA

Algorithmic Decision Theory

- <http://cost-ic0602.org/>
- Forthcoming events:
 - International Doctoral School on Algorithmic Decision Theory: Computational Social Choice. Session 2010 : 9--14 April 2010, Estoril, Lisbon, Portugal.
 - International Conference on Uncertainty and Robustness in Planning and Decision Making, University of Coimbra, 15--17 April 2010
<http://www.inescc.pt/urpdm2010>

Decision Deck Project

- <http://www.decision-deck.org/>
- generic decision analysis platform
 - D2 rich java client
 - D3 web service manager
<http://ernst-schroeder.uni.lu/d3/>
 - XMCDA 2.00
- 27 June - 8 July 8 2010: 10th MCDA Summer School at Ecole Centrale Paris, France,
<http://www.gi.ecp.fr/mcda-ss>

Decision Aid Approaches

- Decision Theory (descriptive + normative)
- Social Choice (algorithmic + normative)
- Multiple Attribut Value Theory
(normative or prescriptive)
- Multiple Criteria Decision Analysis
(descriptive + prescriptive)
- Multiple Criteria Decision Aid
(constructive + prescriptive)
- **Rubis Decision Aid**
(algorithmic + prescriptive)

Rubis Decision Aid

- **Best single choice decision aid**

R. Bisdorff, P. Meyer and M. Roubens (2008). **RUBIS: a bipolar-valued outranking method for the choice problem.** *4OR, A Quarterly Journal of Operations Research*, Springer-Verlag, Volume 6 Number 2 pp. 143-165.

- **Inverse Decision Analysis**

R. Bisdorff, P. Meyer and **Thomas Veneziano** (2009). **Inverse analysis from a Condorcet robustness denotation of valued outranking relations.** In F. Rossi and A. Tsoukiás (Eds.), *Algorithmic Decision Theory*. Springer-Verlag Berlin Heidelberg, LNAI 5783, pp. 180-191

- **Metaheuristics for a Rubis clustering aid**

starting now (**Alexandru Olteanu**)

Computational resources

- [<claude-berge.uni.lu>](mailto:claude-berge@uni.lu)
 - HP 4 Itanium-2 processors (Dec 2004) Cplex 9.0 4 threads
- [<charles-sanders-peirce.uni.lu>](mailto:charles-sanders-peirce@uni.lu)
 - Standard Dell web server (Dec 2006)
- [<ernst-schroeder.uni.lu>](mailto:ernst-schroeder@uni.lu)
 - Dell PE 2950, 2 Quad-Core Xeon X5355 2.66GHz, 32 Gb, RIA Server, Cplex 11.0 8 threads (Dec 2007)
- [<leopold-loewenheim.uni.lu>](mailto:leopold-loewenheim@uni.lu)
 - Dell PE R610, 4 Quad-Core Xeon 5570 2.93 GHz, 96 Gb, RIA Server (Sep 2009)