





Publications and communications of Raymond Bisdorff [raymond.bisdorff@uni.lu]

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Dissertations and Theses







Doctoral Thesis










-  Bisdorff, R. (2002). *Design and Implementation of Decision Making Checkers for Industrial Production Scheduling, Control, and Maintenance*. Unpublished doctoral thesis, Université de Liège, Liège, Liège.
<http://hdl.handle.net/10993/23927>
Jury: Crama, Y. (Promotor), De Bruyn, C., Barthélemy, J.-P., Colson, G., Roubens, M., & Teghem, J.
-  Bisdorff, R. (1981). *Evaluations distributionnelles sur une échelle de préférence qualitative*. Unpublished doctoral thesis, Université Paris Dauphine, Paris, France.
<http://hdl.handle.net/10993/45343>
Jury: Roy, B., Vincke, P., Jaffray, J.-Y., & Jacquet-Lagrèze, E.

Publications

1. Articles in Academic Journals


With peer reviewing

-  Bisdorff, R., Meyer, P., & Veneziano, T. (2014). Elicitation of criteria weights maximising the stability of pairwise outranking statements. *Journal of Multi-Criteria Decision Analysis*, 21(1-2), 113-124.
<http://hdl.handle.net/10993/23701>
-  Bisdorff, R. (2013). On polarizing outranking relations with large performance differences. *Journal of Multi-Criteria Decision Analysis*, 20, 3-12.
<http://hdl.handle.net/10993/245>
-  Olteanu, A.-L., Meyer, P., & Bisdorff, R. (2013). Descriptive profiles for sets of alternatives in multiple criteria decision aid. *Lecture Notes in Computer Science, 8176 LNAI*, 285-296.
<http://hdl.handle.net/10993/23715>
-  Bisdorff, R. (2008). On Clustering the Criteria in an Outranking Based Decision Aid Approach. *Communications in Computer and Information Science*, 14, 409-418.
<http://hdl.handle.net/10993/23718>
-  Bisdorff, R., & Marichal, J.-L. (2008). Counting non-isomorphic maximal independent sets of the n-cycle graph. *Journal of Integer Sequences*, 11(5), 1-16.
<http://hdl.handle.net/10993/387>
-  Bisdorff, R., Meyer, P., & Roubens, M. (2008). R UBIS: A bipolar-valued outranking method for the choice problem. *4OR: a quarterly journal of operations research*, 6(2), 143-165.
<http://hdl.handle.net/10993/23716>
- Bisdorff, R., Meyer, P., & Siskos, Y. (2008). OR and the management of electronic services - EURO'2004. *European Journal of Operational Research*, 187(3), 1293-1295.
<http://hdl.handle.net/10993/23717>


- Bisdorff, R., & Lundberg, G. (2007). Human centered processes: Toward a naturalistic decision making paradigm. *European Journal of Operational Research*, 177(3), 1313-1316.
<http://hdl.handle.net/10993/23719>
-  Bisdorff, R. (2006). On enumerating the kernels in a bipolar-valued digraph. *Annales du LAMSADE*, 6, 38.
<http://hdl.handle.net/10993/38741>
-  Bisdorff, R., Pirlot, M., & Roubens, M. (2006). Choices and kernels in bipolar valued digraphs. *European Journal of Operational Research*, 175(1), 155-170.
<http://hdl.handle.net/10993/23720>
-  Bisdorff, R. (2004). Preference aggregation with multiple criteria of ordinal significance. *Annales du LAMSADE*, 3, 25-44.
<http://hdl.handle.net/10993/42420>
-  Bisdorff, R. (2004). Concordant outranking with multiple criteria of ordinal significance: A contribution to robust multicriteria aid for decision. *4OR: a quarterly journal of operations research*, 2(4), 293-308.
<http://hdl.handle.net/10993/23721>
-  Bisdorff, R., & Roubens, M. (2004). Choice procedures in pairwise comparison multiple-attribute decision making methods. *Lecture Notes in Computer Science*, 3051, 1-7.
<http://hdl.handle.net/10993/23722>
- Barthélemy, J. P., Bisdorff, R., & Coppin, G. (2002). Human centered processes and decision support systems. *European Journal of Operational Research*, 136(2), 233-252.
<http://hdl.handle.net/10993/23725>
-  Bisdorff, R. (2002). Electre-like clustering from a pairwise fuzzy proximity index. *European Journal of Operational Research*, 138(2), 320-331.
<http://hdl.handle.net/10993/23723>
-  Bisdorff, R. (2000). Logical foundation of fuzzy preferential systems with application to the electre decision aid methods. *Computers and Operations Research*, 27(7-8), 673-687.
<http://hdl.handle.net/10993/23724>
-  Bisdorff, R. (1999). Bipolar ranking from pairwise fuzzy outrankings. *Belgian Journal of Operations Research, Statistics and Computer Science*, 37(4), 379-387.
<http://hdl.handle.net/10993/38738>
- Bisdorff, R. (1999). Cognitive support methods for multi-criteria expert decision making. *European Journal of Operational Research*, 119(2), 379-387.
<http://hdl.handle.net/10993/23726>
-  Bisdorff, R., & Laurent, S. (1995). Industrial linear optimization problems solved by constraint logic programming. *European Journal of Operational Research*, 84(1), 82-95.
<http://hdl.handle.net/10993/23727>

2. Books

Written as unique author

-  Bisdorff, R. (2022). *Algorithmic Decision Making with Python Resources: From multicriteria performance records to decision algorithms via bipolar-valued outranking digraphs* (1). Heidelberg, Germany: Springer.
<http://hdl.handle.net/10993/48296>

Written in collaboration

-  Bisdorff, R., Dias, L. C., Meyer, P., Mousseau, V., & Pirlot, M. (2015). *Evaluation and decision models with multiple criteria: Case studies*. Springer.
<http://hdl.handle.net/10993/23698>
- Bisdorff, R., Dias, L. C., Meyer, P., Mousseau, V., & Pirlot, M. (2015). *Introduction*. Springer.
<http://hdl.handle.net/10993/23702>

Director and/or editor of collective works

Bisdorff, R., Lundberg, G., & Marichal, J.-L. (Eds.). (2007). Human centered processes: Toward a naturalistic decision making paradigm. *European Journal of Operational Research*, 177(3), 1313-2118.

<http://hdl.handle.net/10993/7195>



Bisdorff, R., Marichal, J.-L., & Meyer, P. (Eds.). (2005). *Proc. of the 61st Meeting of the Eur. Working Group "Multiple Criteria Decision Aiding" (Luxembourg, March 10-12, 2005) - Theme: Preference Modelling*. Luxembourg, Luxembourg: SMA - University of Luxembourg.

<http://hdl.handle.net/10993/7263>

3. Chapters of Collective Works (including conference proceedings published in collective works)

Contribution to Collective Works



Bisdorff, R. (2015). The EURO 2004 best poster award: Choosing the best poster in a scientific conference. In R., Bisdorff, L. C., Dias, P., Meyer, V., Mousseau, & M., Pirlot, *Evaluation and Decision Models with Multiple Criteria : Case Studies* (pp. 117-165). Heidelberg, Germany: Springer.

<http://hdl.handle.net/10993/23714>



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

<http://hdl.handle.net/10993/23454>



Bisdorff, R. (2002). Logical foundation of multi-criteria decision-aiding. In P., Perny, R., Slowinski, D., VanderPooten, P., Vincke, D., Bouyssou (Ed.), & E., Jacquet-Lagrèze (Ed.), *Aiding decisions with multiple criteria: Essays in Honor of Bernard Roy* (pp. 379-403). Dordrecht, The Netherlands: Kluwer Academic Publishers.

<http://hdl.handle.net/10993/45313>



Bisdorff, R. (2000). Professional Careers of Retired Working Persons. In E., Diday & H.-H., Bock (Ed.), *Analysis of Symbolic Data: Exploratory methods for extracting statistical information from complex data* (pp. 356-374). Springer.

<http://hdl.handle.net/10993/47406>

Scientific congresses, symposiums and conference proceedings: Paper published in a book



Wagle, S. S., Guzek, M., Bouvry, P., & Bisdorff, R. (2016). Comparisons of Heat Map and IFL Technique to Evaluate the Performance of Commercially Available Cloud Providers. In IEEE, *2016 IEEE 9th International Conference on Cloud Computing* (pp. 529-536). US: IEEE.

<http://hdl.handle.net/10993/29528>



Wagle, S. S., Guzek, M., Bouvry, P., & Bisdorff, R. (2015). An Evaluation Model for Selecting Cloud Services from Commercially Available Cloud Providers. *2015 IEEE 7th International Conference on Cloud Computing Technology and Science (CloudCom)* (pp. 1-8).

<http://hdl.handle.net/10993/24793>



Bisdorff, R., Meyer, P., & Olteanu, A. (2011). A Clustering Approach using Weighted Similarity Majority Margins. *Advanced Data Mining and Applications ADMA, Beijing spring 2013* (pp. 15-28). Springer-Verlag.

<http://hdl.handle.net/10993/285>



Meyer, P., Marichal, J.-L., & Bisdorff, R. (2008). Disaggregation of bipolar-valued outranking relations. In H. A., Le Thi, P., Bouvry, & T., Pham Dinh (Eds.), *Modelling, Computation and Optimization in Information Systems and Management Sciences* (pp. 204-213). Berlin, Germany: Springer.

<http://hdl.handle.net/10993/14485>



Bisdorff, R., & Roubens, M. (2004). On clear choices with ordinal valued binray relations. In C., Henggeler Antunes, J., Figueira, & J., Clímaco (Eds.), *Multiple Criteria Decision Aiding* (pp. 43-66). Coimbra, Portugal: Faculdade de Economica da Universidade de Coimbra.

<http://hdl.handle.net/10993/52477>





Bisdorff, R. (2004). On a natural fuzzification of Boolean logic. In P. E., Klement, Erich Peter, *Proceedings of the 25th Linz Seminar on Fuzzy Set Theory, Mathematics of Fuzzy Systems* (pp. 6). Linz, Austria: Bildungszentrum St. Magdalena.





<http://hdl.handle.net/10993/38740>

6. Reports

Expert Reports



-  Bisdorff, R. (2011). *Modern MCDA software: requirements and opportunities*. EURO working group on Multiple Criteria Decision Aid.
<http://hdl.handle.net/10993/256>
-  Bisdorff, R. (2009). *The Decision Deck Project*. Geiger, Martin Josef (editor).
<http://hdl.handle.net/10993/22786>

8. Learning Materials

-  Bisdorff, R. (2022). *Digraph3 Documentation: Advanced topics*.
<http://hdl.handle.net/10993/42390>
-  Bisdorff, R. (2022). *Tutorials for using the Digraph3 Python software collection*.
<http://hdl.handle.net/10993/37886>
-  Bisdorff, R. (2020). *Algorithmic Decision Theory: Lecture notes and presentation slides* (Spring 2018, UUniversity of Luxembourg, MICS2 - 18 Algorithmic Decision Theory).
<http://hdl.handle.net/10993/37933>
-  Bisdorff, R. (2018). *Computational Statistics: Lecture notes and presentation slides* (University of Luxembourg, MICS2-26 Computational Statistics Course).
<http://hdl.handle.net/10993/37870>

9. Computer Developments




Software

-  Bisdorff, R. (2020). *Digraph3 Python Software Collection*.
<http://hdl.handle.net/10993/43505>
-  Bisdorff, R. (2014). *Documentation of the Digraph3 Python software resources*.
<http://hdl.handle.net/10993/23919>


Communications (excluding conference proceedings)


















Symposia and Conferences

By invitation





-  Bisdorff, R. (2020, January 28). *Etudes universitaires sur le Luxembourg: Mots d'accueil*. Paper presented at Conférence interdisciplinaire d'Etudes sur le Luxembourg, Chambre des députés, Luxembourg.
<http://hdl.handle.net/10993/43782>
-  Bisdorff, R. (2012, December). *Algorithmic Decision Theory*. Paper presented at ICOCBA2012 International Conference on "Optimization, Computing and Business Analytics", Kolkata, India.
<http://hdl.handle.net/10993/23916>
-  Bisdorff, R. (2011, June 21). *Aide à la Décision Concentrée sur l'Expertise Humaine*. Paper presented at Journée en hommage à Jean-Pierre Barthélemy, Paris, France.
<http://hdl.handle.net/10993/23923>

By personal proposal





-  Bisdorff, R. (2016, November). *Computing linear rankings from trillions of pairwise outranking situations*. Paper presented at DA2PL'2016 From Multiple Criteria Decision Aid to Preference Learning, Paderborn, Germany.
<http://hdl.handle.net/10993/28613>

-  Bisdorff, R. (2016, July 05). *A sparse outranking digraph model for HPC-ranking of big performance tableaux*. Paper presented at 28th European Conference on Operational Research, Poznan, Poland.
<http://hdl.handle.net/10993/28393>
-  Bisdorff, R. (2016, January). *Ranking big performance tableaux with multiple incommensurable criteria and missing data*. Paper presented at ORBEL 30 30th Belgian Conference on Operations Research, Louvain-la-Neuve, Belgium.
<http://hdl.handle.net/10993/23921>
-  Bisdorff, R. (2015, February 06). *On boosting Kohler's ranking-by-choosing rule with a quantiles preordering*. Paper presented at ORBEL 29 29th Belgian Conference on Operations Research, Antwerp, Belgium.
<http://hdl.handle.net/10993/23911>
-  Bisdorff, R. (2014, November 11). *On confident outrankings with multiple criteria of uncertain significance*. Paper presented at DA2PL'2014 From Multiple Criteria Decision Aid to Preference Learning, Paris, France.
<http://hdl.handle.net/10993/23910>
-  Bisdorff, R. (2014, October 27). *On ranking-by-choosing with bipolar outranking digraphs of large orders*. Paper presented at Conference Graphs & Decisions, Luxembourg, Luxembourg.
<http://hdl.handle.net/10993/23912>
-  Bisdorff, R. (2014, January 31). *On weakly ordering by choosing from valued pairwise outranking situations*. Paper presented at ORBEL 28 28th Belgian Conference on Operations Research, Mons, Belgium.
<http://hdl.handle.net/10993/23913>
-  Bisdorff, R. (2012, November 15). *On measuring and testing the ordinal correlation between bipolar outranking relations*. Paper presented at DA2PL'2012 From Multiple Criteria Decision Aid to Preference Learning, Mons, Belgium.
<http://hdl.handle.net/10993/23909>
-  Bisdorff, R. (2012, February). *On polarizing outranking relations with large performance differences*. Paper presented at ORBEL 26 26th Belgian Conference on Operations Research, Brussels, Belgium.
<http://hdl.handle.net/10993/23918>
-  Bisdorff, R. (2011, February 10). *K-Sorting with multiple ordinal criteria*. Paper presented at ORBEL 25 25th Belgian Conference on Operations Research, Ghent, Belgium.
<http://hdl.handle.net/10993/23924>
-  Bisdorff, R. (2010, April 14). *On a bipolar foundation of the outranking concept*. Paper presented at URPDM-2010, 25th Mini EURO Conference Uncertainty and Robustness in Planning and Decision Making, Coimbra, Portugal.
<http://hdl.handle.net/10993/23925>
-  Bisdorff, R. (2010, January 28). *Enumerating chordless circuits in directed graphs*. Paper presented at ORBEL 24 24th Belgian Conference on Operations Research, Liège, Belgium.
<http://hdl.handle.net/10993/23926>
-  Meyer, P., Bisdorff, R., & Marichal, J.-L. (2008, January). *Disaggregation of bipolar-valued outranking relations and application to the inference of model parameters*. Paper presented at 19th Int. Conf. on Multiple Criteria Decision Making (MCDM 2008), Auckland, New Zealand.
<http://hdl.handle.net/10993/10989>
-  Meyer, P., Marichal, J.-L., & Bisdorff, R. (2007, September). *Disaggregation of bipolar-valued outranking relations and application to the inference of model parameters*. Paper presented at 38th Meeting of the Eur. Mathematical Psychology Group (EMPG 38), Decision Science Symposium, Luxembourg, Luxembourg, Sep. 13, 2007, Luxembourg, Luxembourg.
<http://hdl.handle.net/10993/10993>
-  Meyer, P., & Bisdorff, R. (2007, February). *Exploitation of a bipolar-valued outranking relation for the choice of k best alternatives*. Paper presented at FRANCORO V / ROADEF 2007, Grenoble, France.
<http://hdl.handle.net/10993/45336>
-  Bisdorff, R., & Marichal, J.-L. (2007, January). *Counting non-isomorphic maximal independent sets of the n-cycle graph*. Paper presented at 21st Annual Conf. of the Belgian Operational Research Society (ORBEL 21), Luxembourg, Jan. 18-19, 2007, Luxembourg, Luxembourg.
<http://hdl.handle.net/10993/10987>
-  Bisdorff, R. (1998, November 20). *On Designing an L-valued Prolog Engine*. Paper presented at BENELOG'98, the 9th Benelux Workshop on Logic Programming, Amsterdam, NL.
<http://hdl.handle.net/10993/38737>
-  Bisdorff, R. (1996, September 09). *On computing kernels on fuzzy simple graphs by combinatorial enumeration using a CPL(FD) system*. Paper presented at 8th Benelux Workshop on Logic Programming, Louvain-la-Neuve, Belgium.
<http://hdl.handle.net/10993/46933>

Scientific Presentations in Universities or Research Centres

-  Bisdorff, R. (2018, June 13). *UL HPC users'session: Mastering big data*. Paper presented at UL HPC School 2018, Belval, Luxembourg.
<http://hdl.handle.net/10993/36270>
-  Bisdorff, R. (2017, May 03). *Algorithmic Decision Theory for solving complex decision problems*. Paper presented at Distinguished ILIAS Lecture IV, Luxembourg.
<http://hdl.handle.net/10993/31196>
-  Bisdorff, R. (2013, August). *The Electre like outranking approach to MCDA*. Paper presented at 11th MCDA|M Summer School, Hamburg, Germany.
<http://hdl.handle.net/10993/23915>
-  Bisdorff, R. (2005, October 11). *Exploitation en problématique du choix d'une relation de surclassement évaluée*. Paper presented at Séminaire du LAMSADE, Université Paris-Dauphine, France.
<http://hdl.handle.net/10993/47659>

E-Prints/Working Papers

-  Bisdorff, R. (2010). *On detecting and enumerating chordless circuits in a digraph*. Eprint/Working paper retrieved from <http://charles-sanders-peirce.uni.lu/bisdorff/documents/chordlessCircuits.pdf>.
<http://hdl.handle.net/10993/23920>
-  Bisdorff, R. (2007). *On maximal independent sets in circulant digraphs* (Final version). Eprint/Working paper retrieved from <http://orbi.ulg.ac.be/handle/10993/35522>.
<http://hdl.handle.net/10993/35522>
-  Bisdorff, R. (1996). *On linear decompositions of L-valued simple graphs*. Eprint/Working paper retrieved from <http://orbi.ulg.ac.be/handle/10993/38736>.
<http://hdl.handle.net/10993/38736>
-  Bisdorff, R. (1995). *Quel est l'intérêt d'une approche multi-dimensionnelle du jugement de préférence ?* (08.02.1995). Eprint/Working paper retrieved from <http://orbi.ulg.ac.be/handle/10993/45300>.
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