

International Society on Multiple Criteria Decision Making



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Letter from the President-Elect

Dear Members,

I am happy to tell you that the long-term project of centralizing web-activities of the International Society on Multiple Criteria Decision Making has been finished. This means that all main functions of the Society are now under the domain <http://www.mcdmsociety.org>. In practice, we have our website, membership information management system, newsletter, voting system etc. under the same domain. As the last step, the discussion list has been relocated. The electronic discussion list MCRIT-L is now MCDM-Discussion list and further information about it is available at <http://www.mcdmsociety.org/discussion.html>.

MCDM-Discussion is an electronic discussion list for sharing information about multiple criteria decision making in all its aspects. The list is non-moderated and non-digested. This means that any message that is received goes out immediately to everyone on the MCDM-Discussion mailing list. MCDM-Discussion is a great place to ask questions and communicate with the membership, so remember to use it. I'd like to clarify that being a member of the Society and being included in the discussion list are not interlined. In other words, one can be a member in one without being in the other. Naturally, we hope that members of the discussion list are members of the society but please note that even if you are a member of the society you must subscribe to the discussion list to be able to send and receive messages.

I hope that you share with me the happiness of our society having a coherent face and our own domain. Behind it, we have a virtual server taking care of technical matters. In case there is some website related to some aspect of MCDM that you would like to be responsible for, please contact me. We can connect it to the virtual server and provide new information to our members to serve them better. Furthermore, if you are interested in further developing the outer appearance of our web-pages, we warmly welcome help. Do not hesitate to contact me. Many people have significantly contributed to the process of setting up the new web-system with the virtual server. In technical matters, we are indebted to Mr. Tapani Tarvainen from the University of Jyväskylä and from the society's side to our secretary Prof. Francisco Ruiz from the University of Malaga. Prof. Ralph E. Steuer and Dr. Craig A. Piercy from the University of Athens and Prof. Rudolf Vetschera from the University of Vienna have worked hard with the membership directory during the years and deserve warmest thanks. Special thanks to Prof. Steuer for his collaboration in the transition phase and in particular for his efforts with the MCRIT-L discussion list. Thanks to him, the list was established and he has been the moderator of the list for years. The kind support of the president of our society, Prof. Jyrki Wallenius from the Helsinki School of Economics, and the newsletter editor Prof. Martin Josef Geiger from the Helmut Schmidt University are not to be forgotten.

I would also like to remind you of the email addresses President (at) mcdmsociety.org, President-elect (at) mcdmsociety.org, Secretary (at) mcdmsociety.org and Newsletter (at) mcdmsociety.org. Thus, if you wish to contact some officers of the society, you do not necessarily need to remember who that person is!

With the best wishes for the New Year 2010,

Kaisa Miettinen
President-Elect
International Society on MCDM
President-elect (at) mcdmsociety.org

P.S. Remember that the 21st International Conference on Multiple Criteria Decision Making will be organized at the University of Jyväskylä, Finland on June 13-17, 2011. Further information is available at <http://www.jyu.fi/mcdm2011>. You are all warmly welcome!

1 Society News

1.1 10th MCDA Summer School, Ecole Centrale Paris, France, June 27–July 7, 2010

Vincent Mousseau, Ecole Centrale Paris, France



<http://www.gi.ecp.fr/mcda-ss/>

Multiple Criteria Decision Analysis

Complex decision problem often requires to explicitly consider several points of view. The classical approaches in the field of operations research consider only a single objective function to be optimized; hence, such single criterion models one aspect of the decision problem, or aggregates relevant aspects into a single criterion (such aggregation being usually rather simplistic). Many multidimensional approaches have been proposed as extensions of the classical ones. A first was the so called Multicriteria Decision Making (MCDM), developed by the so-called American School. More recently, the European School has created a new type of approach to these problems, called Multicriteria Decision Aid (MCDA). Many real life applications have successfully validated the feasibility of this approach. MCDM/MCDA is today an important research fields in Operation Research.

MCDA/MCDM deals with different classes of decision problems (choice, classification, sorting, ranking), taking explicitly into consideration several points of view (multiple attributes or criteria, i.e. attributes with ordered domain), in order to support Decision Makers (DMs) to find a consistent solution of the problem at hand. Modern tools in preference modeling have been successfully applied in the framework of MCDA. The scientific aspects and the practical applications have attracted numerous researchers and practitioners towards MCDA world, stimulating both theoretical and methodological developments, as well as real life applications and specific software implementation.

Goals of the Summer School

The aim of the school is to give to doctoral students/young researchers a state-of-the-art presentation of multiple criteria methods, applications and software. Multicriteria decision aid (MCDA) is a rapidly evolving domain which scientific developments are altogether based on fundamental sciences as mathematics, computer science, operation research, engineering, etc. and on social sciences and management science as sociology, management, political sciences. Interdisciplinarity needs a special involvement and will to insure full collaboration. The field of application is continuously expanding and social demands are numerous. The specific objectives of the school are:

- to exchange knowledge to provide an efficient approach of real life decision problems;
- to present recent developments in MCDA methods and practices;
- to present software developments;
- to analyse and discuss several applications of MCDA to complex evaluation situations.

Target audience

The ideal number of participants is about 40 and, in any case, less than 50. The summer school will host:

- young researchers who wish to achieve a thesis on the subject or to carry on a personal work which uses Multicriteria decision aid or to in-depth their knowledge in this discipline in order to complete their training,
- professionals (staff members in Government and Industry, managers, consultants) who wish to familiarize with the tools on Multicriteria decision aid in view to use them in the frame of their work;

Lectures and Case Studies

40h lectures will be provided by senior professors internationally recognised by the MCDA community for their excellence in the field. Among the possible lecturers, let us mention: Denis Bouyssou, Ralph Keeney, Don Kleinmütz, Murat Köksalan, Roman Slowinski, Ahti Salo, Alexis Tsoukias, Jyrky Wallenius, . . .

Language

The official language of the School is English. No simultaneous translation will be provided.

Welcoming institution

LGI (Industrial Engineering Laboratory), Ecole Centrale Paris, France

Supporting institutions

- [International Society on MCDM](#),
- [Euro Working Group “Multiple Criteria Decision Aid”](#)

Multicriteria Summer School Scientific Committee

Jose Figueira, Martin Josef Geiger, Vincent Mousseau, Roman Slowinski, Theodor Stewart, Benedetto Matarazzo

Local Scientific Committee

Denis Bouyssou, Vincent Mousseau (Chair), Meltem Öztürk, Alexis Tsoukiàs

Organizing Committee

Olivier Cailloux, Stéphane Deparis, Sylvie Guillemain, Vincent Mousseau, Corinne Olliver, Anne Prévot, Jun Zheng

Participation, fee and registration

The early registration fee (including lectures, accomodation, lunches and social program) is 400 € for two weeks. Due to the limited size of the summer school audience, participants are asked to register as soon as possible, or even to announce their intention to participate.

1.2 21st International Conference on Multiple Criteria Decision Making, Jyväskylä, Finland, June 13–17, 2011

Kaisa Miettinen, University of Jyväskylä, Finland

<http://www.jyu.fi/mcdm2011>

Welcome to the land of Midsummer Sun and University of Jyväskylä in June when the days are the longest: the sun shines about 21 hours a day with a few hours of twilight in between. This gives conference participants an opportunity to enjoy the unique northern nature and life style during the outing and even after the conference days.



If you wish to be informed of calls for proposals and papers etc., contact us at mcdm2011@mcdmsociety.org. Further information: <http://www.jyu.fi/mcdm2011>.

A call for sessions will be opened this spring.

I wish you all most welcome to MCDM2011!

Prof. Kaisa Miettinen
Chair of the Conference

2 Upcoming Events and Call for Papers

2.1 Mini EURO Conference on Continuous Optimization and Information-Based Technologies in The Financial Sector, June 23–26, 2010, Izmir, Turkey



<http://cs.ieu.edu.tr/europt-2010/index.php>

It is our pleasure to announce the 24th Mini EURO Conference on Continuous Optimization and Information-Based Technologies in the Financial Sector, MEC-EurOPT-2010, which will be held in Izmir University of Economics, Izmir, Turkey, from 23 to 26 June 2010.

For the last 10 years, continuous optimization has become a key technology for practitioners as well as researchers in the financial sector, which in return poses new and interesting research topics and projects for the optimization community.

This Mini EURO Conference will be prepared in close collaboration with Izmir University of Economics, which will be the host institution in the very scenic city of Izmir and surrounding region of the Aegean Sea, and with its various renowned partner organizations and institutes. Izmir, historically, the ancient Smyrna, is the third most populous city of Turkey and the country's second largest port. It is located in the Gulf of Izmir, by the Aegean Sea, with a population of about 2.6 million. There are world-famous historical places around such as the nearby ancient cities of Ephesus, Pergamon, House of Virgin Mary, Sardis and Klazomenai, and centers of international tourism such as Kusadasi, Çesme, Mordogan and Foça.

Mini EURO Conference will bring together practitioners and researchers from a variety of disciplines to focus on topics that are in the joint area of interest of both financial mathematics and continuous optimization. The conference will (i) provide an overview of, and (ii) present some important recent developments in continuous optimization regarding the analysis and prediction of financial processes with sessions focusing on theory, methodology, and applications. There will be a special emphasis on financial sector applications of information based technologies. Main topics of the conference are: (a) Financial Risk Management with Continuous Optimization, (b) Portfolio Optimization, (c) Stochastic Optimization and Control in Finance, and (d) Global Optimization and applications.

Deadline for abstract submission: March 22, 2010.

2.2 OR52 Annual Conference, September 7–9, 2010, London, UK

Alessio Ishizaka & Philippe Nemery, University of Portsmouth, United Kingdom

Dear friends and colleagues,

After the terrific success of the MCDA stream at OR50, we are organising a new Multi-Criteria Decision Aid (MCDA) stream at the OR52, London, 7–9 September 2010 ([http://www.orsoc.org.uk/orshop/\(sdgu1c55eyrpat45ibxvuqzt\)/orcontent.aspx?inc=or52_main.htm](http://www.orsoc.org.uk/orshop/(sdgu1c55eyrpat45ibxvuqzt)/orcontent.aspx?inc=or52_main.htm)).



This stream welcomes papers from researchers and practitioners engaged in using MCDA, in isolation or combined with other techniques, to assist individuals or groups in their decision.

Both practical and theoretical papers are welcomed. For papers with a practical nature we expect innovative applications, which bring important insights about the way MCDA methods can be deployed and provide in-depth reflections about their application.

Contributions to the conference are sought in areas including:

- Conflict Resolution
- Environmental Applications
- General Resource Allocation & Optimization – Group Decision Making
- Human Resources
- Marketing Decisions
- Medical Decision Making
- Military Applications
- Finance and Accounting Decision Making
- Operations Management Decision Making

A selection of outstanding papers from this stream will be published in the special issue “Multi-Criteria Decision Aid Methods for Modelling and Solving Business & Management Problems” in the Journal of Modelling in Management.

Key Deadlines:

26 March 2010: Submission of paper title, names of the authors and abstract (http://www.orsoc.org.uk/conference/papersubmission/conference_submit.asp?cid=31)

16 July 2010: Presenter should have booked their place at the conference, thereby ensuring their talk will appear in the final programme.

30 September 2010: Submission of the full paper for the special issue in the Journal of Modelling in Management

2.3 11th International Workshop on Optimization and Inverse Problems in Electromagnetism, September 14–18, 2010, Sofia, Bulgaria



<http://oipe.tu-sofia.bg/>

The aim of the workshop is to discuss recent developments in optimization and inverse methodologies and their applications to the design and operation of electromagnetic devices. It is intended to establish with the workshop an occasion when experts in electromagnetics and other areas (e.g. engineering, mathematics, physics, etc.), involved in research or industrial activities, can discuss on the theoretical aspects and on the technical relevance of optimization and inverse problems, in the general framework of the innovation in electromagnetic methods and applications. Previous editions were held in Pavia, Italy (1989), Warsaw, Poland (1992), Geneva, Switzerland (1994), Brno, Czech Republic (1996), Jyväskylä, Finland (1998), Torino, Italy (2000), Lodz, Poland (2002), Grenoble, France (2004) Sorrento, Italy (2006), and Ilmenau, Germany (2008).

Deadline for submission of two-page digest: March 31, 2010.

2.4 3rd Workshop on Computational Optimization (WCO 2010), October 18–20, 2010, Wisla, Poland

in the framework of IMCSIT 2010 - International Multiconference on Computer Science and Information Technology

<http://www.imcsit.org>

We invite original contributions related with both theoretical and practical aspects of optimization methods. The list of topics includes, but is not limited to:

- unconstrained and constrained optimization
- combinatorial optimization
- global optimization
- multiobjective and multimodal optimization
- dynamic and noisy optimization
- large scale optimization
- parallel and distributed approaches in optimization
- random search algorithms, simulated annealing, tabu search and other derivative free optimization methods
- interval methods
- nature inspired optimization methods (evolutionary algorithms, ant colony optimization, particle swarm optimization, immune artificial systems etc)
- hybrid optimization algorithms involving natural computing techniques and other global and local optimization methods
- memetic algorithms
- optimization methods for learning processes and data mining
- computational optimization methods in statistics, econometrics, finance, physics, medicine, biology, engineering etc.

Important dates:

31.05.2010 (May 31, 2010) - Full paper submission

12.07.2010 (July 12, 2010) - Notification of acceptance

23.08.2010 (August 23, 2010) - Camera-ready version of the accepted paper

3 Past Conferences, Workshops, and Other News

3.1 Väisälä Award of the Finnish Academy of Science and Letters for Kaisa Miettinen

On December 14, 2009, Prof. Kaisa Miettinen was, on the basis of her research achievements in mathematics, awarded the *Väisälä Award* of the *Finnish Academy of Science and Letters*.



Prof. Kaisa Miettinen

The following background information on the activities of the Finnish Academy of Science and Letters, as well as on the award, are notable:

The Finnish Academy of Science and Letters finances its own activities and makes grants and awards out of its own funds which have accumulated as a result of donations, legacies and investments.

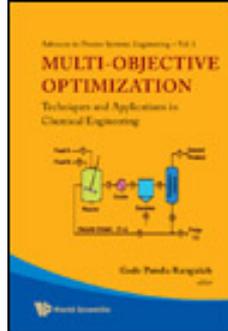
On the Väisälä Fund:

The most notable of the dedicated funds at present is the Vilho, Yrjö and Kalle Väisälä Fund, which is based on shares in the company Vaisala Oy donated to the Academy in 1963 by a member and former chairman, Vilho Väisälä. The company has been successful internationally, so that both the value of the share capital and the dividends paid have risen considerably. The same applies to the value of the fund's other share investments. This allows substantial grants to be made annually for research in mathematics, physics, astronomy, geophysics and meteorology. The Väisälä Award, set up in the year 2000 to benefit 1–3 promising scientists each year who are at an active stage in their careers, is also financed out of the foundation's funds.

4 New Books

4.1 Multi-objective Optimization – Techniques and Applications in Chemical Engineering

Editor: Gade Pandu Rangaiah (National University of Singapore)



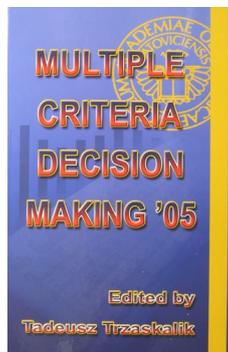
Optimization has been playing a key role in the design, planning and operation of chemical and related processes for nearly half a century. Although process optimization for multiple objectives was studied by several researchers back in the 1970s and 1980s, it has attracted active research in the last 10 years, spurred by the new and effective techniques for multi-objective optimization. In order to capture this renewed interest, this monograph presents the recent and ongoing research in multi-optimization techniques and their applications in chemical engineering.

Following a brief introduction and general review on the development of multi-objective optimization applications in chemical engineering since 2000, the book gives a description of selected multi-objective techniques and then goes on to discuss chemical engineering applications. These applications are from diverse areas within chemical engineering, and are presented in detail. All chapters will be of interest to researchers in multi-objective optimization and/or chemical engineering; they can be read individually and used in one's learning and research. Several exercises are included at the end of many chapters, for use by both practicing engineers and students.

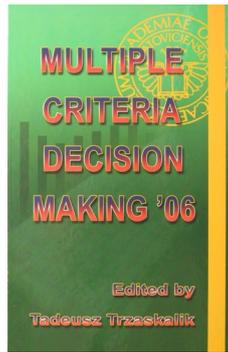
<http://www.worldscibooks.com/engineering/7088.html>

4.2 MCDM Book Series, edited by Tadeusz Trzaskalik

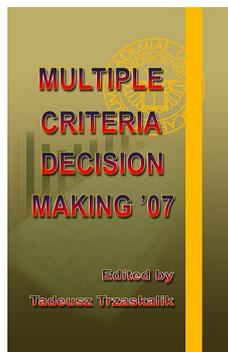
Tadeusz Trzaskalik is editing an MCDM book series, see also <http://mcdm.ae.katowice.pl/publications.php>. So far, the following issues appeared:



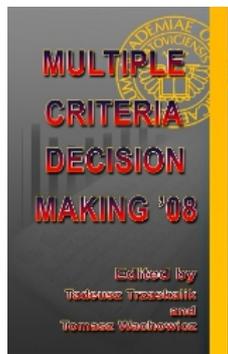
Multiple Criteria Decision Making '05. Edited by Tadeusz Trzaskalik. Publisher of The Karol Adamiecki University of Economics in Katowice. Scientific Publications. Katowice 2006. ISBN 83-7246-843-5; 340 pp.



Multiple Criteria Decision Making '06. Edited by Tadeusz Trzaskalik. Publisher of The Karol Adamiecki University of Economics in Katowice. Scientific Publications. Katowice 2007. ISBN 978-83-7246-965-6; 164 pp.



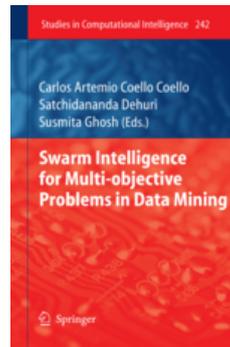
Multiple Criteria Decision Making '07. Edited by Tadeusz Trzaskalik. Publisher of The Karol Adamiecki University of Economics in Katowice. Scientific Publications. Katowice 2008. ISBN 978-83-7246-489-7; 264 pp.



Multiple Criteria Decision Making '08. Edited by Tadeusz Trzaskalik. Publisher of The Karol Adamiecki University of Economics in Katowice. Scientific Publications. Katowice 2009.

4.3 Swarm Intelligence for Multi-Objective Problems in Data Mining

Editor: Carlos A. Coello Coello, Satchidananda Dehuri and Susmita Ghosh



<http://www.springer.com/engineering/book/978-3-642-03624-8>

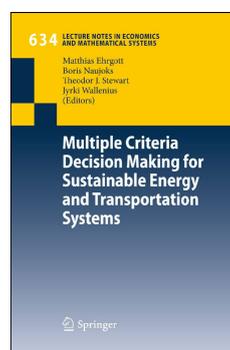
The purpose of this book was to collect contributions that are at the intersection of multi-objective optimization, swarm intelligence (specifically, particle swarm optimization and ant colony optimization) and data mining. Such a collection intends to illustrate the potential of multi-objective swarm intelligence techniques in data mining, with the aim of motivating more researchers in evolutionary computation and machine learning to do research in this field.

This volume consists of eleven chapters, including an introduction that provides the basic concepts of swarm intelligence techniques and a discussion of their use in data mining. Some of the research challenges that must be faced when using swarm intelligence techniques in data mining are also addressed. The rest of the chapters were contributed by leading researchers, and were organized according to the steps normally followed in Knowledge Discovery in Databases (KDD) (i.e., data preprocessing, data mining, and post processing).

We hope that this book becomes a valuable reference for those wishing to do research on the use of multi-objective swarm intelligence techniques in data mining and knowledge discovery in databases.

4.4 Multiple Criteria Decision Making for Sustainable Energy and Transportation Systems

Editors: M. Ehrgott, The University of Auckland, New Zealand; B. Naujoks, Login GmbH, Schwelm, Germany; T.J. Stewart, University of Cape Town, South Africa; J. Wallenius, Helsinki School of Economics, Finland



<http://springer.com/978-3-642-04044-3>

In the twenty-first century the sustainability of energy and transportation systems is on the top of the political agenda in many countries around the world. Environmental impacts of human economic activity necessitate the consideration of conflicting goals in decision making processes to develop sustainable systems. Any sustainable development has to reconcile conflicting economic and environmental objectives and criteria. The science of multiple criteria decision making has

a lot to offer in addressing this need. Decision making with multiple (conflicting) criteria is the topic of research that is at the heart of the International Society of Multiple Criteria Decision Making. This book is based on selected papers presented at the societies 19th International Conference, held at The University of Auckland, New Zealand, from 7th to 12th January 2008 under the theme “MCDM for Sustainable Energy and Transportation Systems”.

5 Sources of Information

- Homepage of the International Society on Multiple Criteria Decision Making. Website: <http://www.mcdmsociety.org>
- Kaisa Miettinen’s website has several interesting links with Operational Research and Multi-Criteria websites (scientific societies, journals, conferences, etc.). Website: <http://users.jyu.fi/~miettine/lista.html>
- The website of the EURO Working Group on Multicriteria Decision Aiding has lots of useful information on multi-criteria. Website: <http://www.inescc.pt/~ewgmcda/index.html>
- Vincent Mousseau’s database of research publications on MCDA has more than 2400 records, and it is a good source of information. Website: <http://www.lamsade.dauphine.fr/mcda/biblio/>
- Carlos A. Coello Coello maintains the EMOO web page, an archive of publications, software and other material related to multi objective optimization. Website: <http://www.lania.mx/~ccoello/EMOO/>
- Information on the Analytic Hierarchy Process (AHP) and the related International Symposia Series: <http://www.isahp.org/>
- - The Continuous Optimization Working Group of EURO: <http://www.iam.metu.edu.tr/EUROPT/>

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We are working on publishing the newsletter of the International Society on Multiple Criteria Decision Making three times a year. Contributions can be sent at any time to the editor (please see the address provided above).