International Society on Multiple Criteria Decision Making

MCDM

Contents

Front: Chania, Crete, Greece. © Martin J. Geiger

Letter from the Editor

Dear Friends,

I am delightedly presenting the July-issue of the newsletter of the International Society on Multiple Criteria Decision Making. As the year 2006 is half over, numerous interesting events have been carried out in the world of MCDM. In particular, the biennial International Conference on MCDM in Chania (see page 2) brought together old and new friends, and stimulated exchange of new research ideas in a positive, friendly atmosphere. Following the tradition of previous years, the awards of the society were presented there, too (see page 3).

And more workshops and conferences took place. Some with the particular focus on Multiple Criteria Decision Making, others with special sessions devoted to our field of research. A comprehensive overview is given in Section 2.

But, we're not there yet, and there's more work to be done. Besides the upcoming events listed in Section 3, the elections related to four vacant positions in the Executive Committee will be carried out soon (see page 2). Jyrki Wallenius is going to be in touch with you about this soon. In the context of the upcoming elections, please verify and, if necessary, update your personal data in the membership database under `http://orgwww.bwl.univie.ac.at/mcdm`.

Please let me finish with thanking everybody who contributed to this newsletter: Thank you! Do not hesitate to get in touch with me under `mjgeiger@uni-hohenheim.de`. Upcoming events, reports on past activities, and any other information being of interest to the community are highly welcome.

Martin Josef Geiger
July 2006

1 Society news

1.1 Upcoming Elections related to four vacant positions in the Executive Committee

Jyrki Wallenius, Helsinki School of Economics

There are nine candidates (Ami Arbel, Fouad Ben Abdelhaziz, Luiz F. Autran M. Gomes, Salvatore Greco, Jacinto Gonzalez-Pachon, Kathrin Klamroth, Antonie Stam, Daniel Vanderpooten, Luis Vargas) for the four posts in the Executive Committee. The Elections Committee chaired by Jyrki Wallenius nominated five candidates and four more candidates were nominated by the Members of the Society in the Chania Conference.

The voting will be electronic. The voting method will be approval voting. The members of the Society will receive further information about the voting procedure by email at the beginning of August. All those who are members of the Society at the end of July 2006 can vote. You can become a member by contacting Kaisa Miettinen (Secretary): `kaisa.miettinen@hse.fi`.

1.2 18th International Conference on Multiple Criteria Decision Making

Constantin Zopounidis, Technical University of Crete

The 18th International Conference on Multiple Criteria Decision Making was successfully held, for the first time in Greece. The conference took place on June 19-23, 2006 and organised in the Mediterranean Agronomic Institute of Chania. The presented papers were dealing with the the-

oretical approaches of multicriteria decision analysis, as well as their real-world applications to several different areas, such as energy, environment, management, financial engineering, marketing, agriculture development, and tourism. Overall, more than 215 presentations were included in the final scientific program, organized in 55 parallel sessions. The most important researches will be reviewed, edited and published in special issues of major MCDM and OR journals.

Participants during the opening session

1.3   2006 MCDM Awards

Murat Köksalan, Middle East Technical University

International Society on Multiple Criteria Decision Making (MCDM) presented the 2006-awards at the 18th International Conference on MCDM in Chania, Greece.

The *MCDM Gold Medal* is the highest honor that the Society bestows upon a scholar who, over a distinguished career, has devoted much of his talent, time, and energy to advancing the field of MCDM, and who has markedly contributed to the theory, methodology, and practice of MCDM. The Gold Medal was awarded to Professor *M. Murat Köksalan*, Middle East Technical University, Ankara, Turkey.
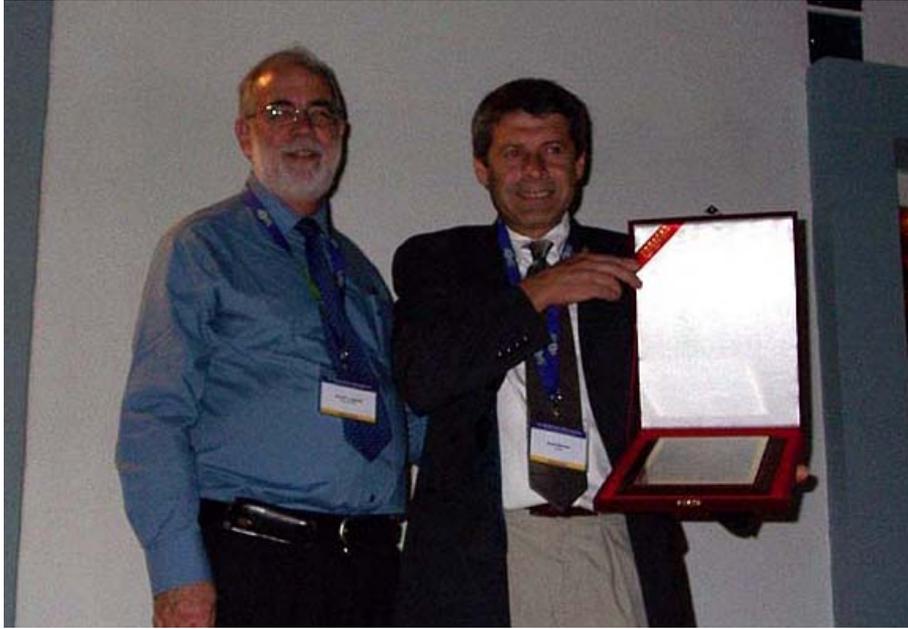
Theo Stewart, Murat Köksalan

The *MCDM Edgeworth-Pareto Award* is the highest distinction that the Society bestows upon a researcher who, over his career, has established a record of creativity to the extent that the field of MCDM would not exist in its current form without the far-reaching contributions from this distinguished scholar. The award was given to Professor *James S. Dyer*, The University of Texas, Austin, U.S.A.

Theo Stewart, James S. Dyer, Murat Köksalan

The *Georg Cantor Award* is the highest form of recognition that the Society bestows upon a researcher who, over his distinguished career, has personified the spirit of independent inquiry and whose many innovative ideas and achievements are decidedly reflected in the theory, methodology, and current practices of MCDM. The award was given to Professor *Carlos Romero*, Technical University of Madrid, Madrid, Spain.

Theo Stewart, Carlos Romero, Murat Köksalan

MCDM Conference Chairmanship Award was presented to Professor *Constantin Zopounidis*, Technical University of Crete, Chania, Greece, for his most gracious hospitality, and for his outstanding leadership and resourcefulness in organizing, managing, and chairing the Eighteenth International Conference on Multiple Criteria Decision Making, Chania, Greece.

Theo Stewart, Constantin Zopounidis, Murat Köksalan

1.4 Journal of Multicriteria Decision Analysis and the Wiley Prize for the Best Paper on an Application of MCDA

Valerie Belton, University of Strathclyde

During the past year Wiley have appointed Tom Clark to the new position of specialist publisher with responsibility for Business and Management journals, including JMCDA. Tom is very keen to promote interest in JMCDA and to develop stronger links with the International Society for MCDM and other groups with interests in the area of MCDA. Towards this end Wiley are sponsoring the following two initiatives:

- An enhanced Wiley Prize: this will be awarded to the best paper on an application of MCDA, presented at the 18th International Conference on MCDM held in Chania from 19-23 June 2006, and submitted for publication in the special issue of JMCDA on "Applications of MCDA" associated with the Conference. This special issue will be edited by Professor Constantin Zopunidis, the Conference Chair; the deadline for submissions is 30 September 2006. The prize will be an honorarium on 1000US\$.

- Free electronic subscription to the journal, for all participants in the International Conference on MCDM, for a 1 year period. Details of how this will be organised and the exact timing of the subscription are currently being discussed and will be announced a future newsletter.

2 Past conferences, workshops, and other news

2.1 Series in Vector Optimization

Springer Verlag
Series Editor: Johannes Jahn, Friedrich-Alexander University Erlangen-Nuremberg

The *Series in Vector Optimization* contains publications in various fields of optimization with vector-valued objective functions, such as multiobjective optimization, multi criteria decision making, set optimization, vector-valued game theory and border areas to financial mathematics, biosystems, semidefinite programming and multiobjective control theory. Investigations of continuous, discrete, combinatorial and stochastic multiobjective models in interesting fields of operations research are also included. The series covers mathematical theory, methods and applications in economics and engineering. These publications being written in English are primarily monographs and multiple author works containing current advances in these fields.

Please contact the series editor by e-mail: jahn@am.uni-erlangen.de

2.2 Special Issue of the International Journal of Computational Intelligence Research (IJCIR)

A special issue of the International Journal of Computational Intelligence Research has appeared on the topic 'Evolutionary Multiobjective Optimization', edited by Marco Laumanns, Sanaz Mostaghim, Günter Rudolph and Jürgen Teich. Articles with the following titles are available online under http://www.softcomputing.net/ijcir/volume2-issue3.html:

- Julia Handl and Joshua Knowles: Feature Subset Selection in Unsupervised Learning via Multiobjective Optimization

- Christian Haubelt, Thomas Schlichter, and Jürgen Teich: Improving Automatic Design Space Exploration by Integrating Symbolic Techniques into Multi-Objective Evolutionary Algorithms

- Matthieu Basseur and Eckart Zitzler: Handling Uncertainty in Indicator-Based Multiobjective Optimization

- Kalyanmoy Deb, J. Sundar, Udaya Bhaskara Rao N. and Shamik Chaudhuri: Reference Point Based Multi-Objective Optimization Using Evolutionary Algorithms

- Margarita Reyes-Sierra and Carlos A. Coello Coello: Multi-Objective Particle Swarm Optimizers: A Survey of the State-of-the-Art

2.3 Annual Workshop of the German GOR Working Group on Decision Theory and Practice, March 6–7, Kaiserslautern, Germany

Christiane Tammer, Martin-Luther-Universität Halle-Wittenberg, and Martin Josef Geiger, Universität Hohenheim

The annual workshop of the German Working Group on Decision Theory and Practice within the 'Gesellschaft für Operations Research (GOR)' took place March 6–7, 2006, in Kaiserslautern, Germany. The workshop was jointly organized with the German Working Group on Fuzzy Systems, Neural Networks and Artificial Intelligence. The two group coordinators, Prof. Dr. Christiane Tammer (Martin-Luther-Universität Halle-Wittenberg) and Prof. Dr. Heinrich Rommelfanger (Universität Frankfurt) managed to attract a total of 22 scientific talks, organized in seven sessions, each of which was dedicated to a certain theme like e. g. theory/ methods/ applications/ etc. The local organizing committee, led by PD Dr. Karl-Heinz Küfer (*Fraunhofer Institut für Techno- und Wirtschaftsmathematik*, Kaiserslautern), made everybody feel welcome to the venue and ensured a perfect organization of the whole workshop. This included a brief sight-seeing of the impressive new building of the *Fraunhofer Institut* in Kaiserslautern and a marvelous workshop dinner on the evening of the first day which is certainly going to be remembered by all participants.

An important and positive aspect of the workshop is the fact that the talks were held without the need of having parallel sessions. Following the tradition of previous workshops of the working groups, this allowed the exchange of current research results to the upmost possible level and provided room for fruitful discussions. The concept of bringing two working groups and their corresponding members together in a single event turned out to be of advantage as it fueled the cross-fertilization of specific research with ideas from another field.

Moreover, taking into account the discussions during the workshop we are hopeful to find some fields for a joint work within the scope of an interdisciplinary project.

The talks given at the workshop can be divided into three groups:

Theory

- F. Heyde: Coherent risk measures and vector optimization

- A. Löhne, C. Tammer: A new approach to duality in vector optimization and its application to linear problems

- C. Tammer: Lagrangian conditions for vector optimization on Banach Spaces

- M. Vlach: Links between extended topologies and approximations of rough set theory

Methods

- G. Eichfelder: The ϵ-constraint method with parameter control in nonlinear multi-objective optimization and an application in intensity-modulated radiotherapy

- J. Jahn: Ein Suchverfahren zur globalen Lösung von Vektoroptimierungsproblemen

- M. Monz: An interactive multiobjective optimization method

- S. Ruzika: Repräsentantensysteme mit Gütegarantie für die nichtdominierte Menge bei bikriteriellen kombinatorischen Optimierungsproblemen

- M. Treitz, J. Geldermann, O. Rentz: Sensitivitätsanalysen in PROMETHEE

- H. G. Zimmermann: Die Behandlung von Sicherheit und Unsicherheit im Modellbau mit Neuronalen Netzen

Applications

- J. Biethahn, L. H. Meier, N. Klettner: Agenten in der Hafenlogistik - Systematisierung von Interdependenzen und Planungsschwierigkeiten zwischen Entscheidungsproblemen

- E. Bijick: Optimierung von HF-Feldern bei der Magnetresonanzbildgebung

- O. Brodersen, A. Höhn, J. Biethahn: Anwendung der Particle Swarm Optimization auf ein stochastisches 2-Produkte-Lagerhaltungsproblem

- W. A. Eiden: Potentiale der Nutzung und des Zusammenspiels von Fuzzy-Daten und -Techniken zur Lösung von Scheduling-Problemen unter Vagheit

- H. Flores Cantu, M. Schröder: A tool for multicriteria reverse engineering of fleece production processes

- M. J. Geiger: Entscheidungsunterstützung in der Maschinenbelegungsplanung

- N. Golowko: Die Beurteilung betrieblicher Weiterbildung in einem Fuzzy-Kredit-Rating-System

- T. Hanne: Multiobjective evolutionary algorithms for industrial applications

- G. Neumann: Anwendung von Genetischen Algorithmen zur touristischen Tourenoptimierung

- R. North: Visuelle Entwicklung von Anwendungen der Fuzzy-Logik und der künstlichen Intelligenz

- W. Wenger, M. J. Geiger: Ein quantitativer Ansatz zur Seminarthemenvergabe in der universitären Lehre - Präferenzmaximierung unter Einsatz lokaler Suchverfahren und multikriterielle Erweiterungen

- K. Winkler: A generalized assignment problem with imprecise restrictions - modelling and solving it via fuzzy programming or as a multicriteria optimization problem.

As an outcome of the workshop, a book containing state-of-the-art results in the fields of the two GOR working groups is going to be published.

It has been agreed during the meeting of the working group members to jointly organize the upcoming workshop in 2007 in conjunction with the GOR working group on optimization of biosystems. The workshop is going to be held at the *Universität der Bundeswehr München* in early 2007.

2.4   CORS/Optimization Days, May 8–10, Montreal, Canada

Belaïd Aouni, Laurentian University

The Canadian Operational Research Society/Optimization Days 2006 joint Conference took place at Montreal (Quebec, Canada) on May 8-10, 2006. A cluster on Multi-Criteria Decision Aid and Multi-Objective Programming was organized. The submitted papers covered a wide range of topics such as applications of the Goal Programming Model and the Data Envelopment Analysis, Multi-Criteria Decision Making, AHP Methodology and Rough Set. The papers were dealing with both methodological developments and applications. The authors that they have submitted papers are as follows: Belaïd Aouni, Tarja Joro, Susan Budge, Mohamed Dia, Habib Chabchoub, Mohamed Sadok Cherif, Amin Chaabane, Amar Ramudhin, Loubna Benabbou, Adel Guitouni, Pascal Lang, Hamdjatou Kane, Maciej Nowak, Kazimierz Zaras, Houssine Tlig, Rebai Abdelwahab, Soumaya Yacout, Badaweya Kamal, Ozan Cakir, Mustafa S Canbolat, Michel Gagnon, Gilles R. D'Avignon.

The cluster's participants were researchers and practitioners. They are from different disciplines and they have a common interest in the Decision Aid activity. This cluster was a forum where the participants had some exchanges about the recent developments in the field of Multi-Criteria Decision Aid. In addition, the participants highlighted the fact that the Multi-Criteria Decision Aid and Multi-Objective Programming researchers must put more emphasize on the application of the models developed within this research field.

The same cluster will be organized for the coming CORS' 2007 Conference (May 14-16, 2007, London, Ontario). The details about the submission are available on the conference website at: http://www.cors2007.ca/. You can also send me your abstract at baouni@laurentian.ca.

2.5   Stan Zionts Honorary Doctor at Helsinki School of Economics

Jyrki Wallenius, Helsinki School of Economics

Stan Zionts, founder and first President of the International Society on Multiple Criteria Decision Making, was awarded the honorary doctorate at the Helsinki School of Economics Conferment of Degrees Ceremonies (in latin Promotio) May 19th, 2006. There were 8 other honorary doctors, among them Sir James Mirrlees (University of Cambridge) and Kirsti Paakkanen (Marimekko Oyj). The festivities are organized every five years. They lasted three days, following the medieval tradition from Paris and Bologna. In Finland such ceremonies have taken place for over 300 years.

In the picture, the Mercurius Maiden Ms. Sissi Korhonen (Professor Pekka Korhonen's daughter), attaches three bay leaves on the tailcoat lapel of the awardee.

2.6 MOPGP'06: the 7th International Conference devoted to Multi-Objective Programming and Goal Programming, June 12–14, 2006, Loire Valley, France

Xavier Gandibleux (University of Nantes) and Vincent T'kindt (University of Tours)

MOPGP is an international conference series devoted to multi-objective programming and goal programming (MOP/GP). This conference brings together researchers and practitioners from different disciplines of Computer Science, Operational Research, Optimisation Engineering, Mathematical Programming and Multi-criteria analysis. Theoretical results and algorithmic developments in the field of MOP and GP are covered, including practice and applications of MOP/GP in real-life situations.

The Seventh meeting (MOPGP'06) has been organised in the Loire Valley (Center-West of France) in collaboration with Xavier Gandibleux (chairman), University of Nantes, and Vincent Tkindt (co-chairman), University of Tours. The conference was hosted during 3 days (June 12–14, 2006) by the old city hall of Tours which is a beautiful building located in the center of the town.

The conference was sponsored by the University of Nantes, the LINA (Computer laboratory of Nantes-Atlantique), city of Tours, Regional Council of the Center, EURO, ESTECO and ILOG. It has been strongly supported by the LI (Computer laboratory) of the University of Tours and its Polytechnic school. Also the conference has been promoted by the CNRS through the GDR "Operations Research" and the ROADEF (French OR society). All these financial supports and partners allowed us to set the registration fees low for the students and to keep the fees as in the edition of 2004 for academic participants.

Three external events welcomed the conference participants: a blue sky with high temperatures during the 3 days, an oldtimer race (cars and motorbikes) Sunday in front of the conference building, and a paint exposition of a Morocco artist at the ground floor of the conference building.

The conference was composed by 4 plenary sessions (M. Ehrgott, NZ; P. Perny, FR; R. Caballero and Fr. Ruiz, ES; S. Oussedik, FR) and 6 semi-plenary sessions (N. Jussien and V. Barichard,

FR; D. Corne and J. Knowles, UK; H. Hoogeveen, NL; M. Wiecek, USA; E. Bampis, FR; F. Ben Abdelaziz, LB) and 82 regular talks. The (semi-) plenary speakers were invited, while the regular talks were selected by the International Scientific Committee composed by 61 eminent researchers on basis of a 4-pages abstract.

75% of submissions were finally accepted, covering 25 countries. A very low no-show rate was recorded since it is less than 2%. 125 participants attended to the meeting, including academics and practitioners (like Renault, Electricit de France, Ilog, Airbus). The biggest delegations were coming from France (22 + the 10 members from the local organising committee), Spain (21), USA (10), Japan (7), Germany (6), Tunisia (6), UK (6).

Beautiful Tours, social activities, and the conference banquet.

The Loire Valley is well-known for their historical traditions, its food and its wine. It was of course the opportunity to taste and enjoy them. The social events were based on the visit of the Langeais' castle, wine production, wine museum, taste the local food. The conference has been closed by the banquet which was organised in a cave with a medieval atmosphere (troubadours, magician, etc).

A MOPGP'06 post-conference volume is now in on the track. The editors of this volume are V. Barichard, M. Ehrgott, X. Gandibleux and V. T'kindt. It will be published by Springer as a volume of the Lecture Notes in Economics and Mathematical Systems series. The authors who presented a paper during the MOPGP'06 conference are invited to prepare a full version of their work. All papers submitted to this volume will be refereed by the MOPGP'06 international scientific committee, according to the standard reviewing process. The volume is expected for June 2007.

All the feedbacks from the participants were very positive and this edition of MOPGP has been perceived as a big success from both scientific and social viewpoints.

2.7   INFORMS International, June 25–28, Hong Kong

Wolf Wenger, Universität Hohenheim

This years INFORMS International Conference took place in Hong Kong, June 25–28. Traditionally being a massive event, the conference covered virtually all aspects of Operations Research / Management Science and offered an extensive platform for exchange of scientific ideas. Due to its substantially growth in the past ten years INFORMS established itself as a leading international platform for research within the mentioned fields.

Located in two lovely hotels, the Sheraton Hotel & Towers and the Holiday Inn Golden Mile, almost 1.200 submitted talks were given, perfectly organized and supervised by Prof. Chung-Yee Lee, General Chairman of the Organizing Committee. Despite this huge number of presentations, at most 21 parallel tracks were scheduled, so it was possible to participate in numerous sessions within those four days.

Furthermore three interesting Plenary Talks were provided by Prof. Ya-xinag Yuan, among other things the current president of the Operations Research Society of China, Prof. Hau L. Lee from Stanford University and Prof. Marshall Fisher from the University of Pennsylvania.

The already worm and friendly atmosphere even improved during the two evening events on Sunday and Monday, where typically traditional Hong Kong Food was served in the Ballroom of the Sheraton Hotel. Besides, a wonderful entertainment including Chinese dragon dance and illusionists was presented.

Among the numerous clusters and streams, two special sessions devoted to multicriteria decision making and multicriteria optimization have been organized to which we want to draw your attention in particular. Presented talks comprised:

Multicriteria Decision Making

- Z. Haiping: An Approach to Determine the Uncertain Weights in Multiple Criteria Decision-Making

- M. D. Sorkhab, F. Jola, M. Rabbani, R. T. Moghadam: Fuzzy Multi-Criteria Multi-Mode Resource Constrained Project Scheduling Problem

- J. Wang: A Hybrid Decision-Aid Model for Partner Selection in Collaborative Product Development

Multicriteria Optimization

- D. Jones, M. Tamiz: Multiple Objectives in Theory and Application

- W. Wenger, M. J. Geiger: The Multiobjective Faculty Assignment Problem How we solved it

- Ö. Özpeynirci, M. Köksalan: Bicriteria Travelling Salesperson Problem

- B. Soylu, M. Köksalan: A Multi-Criteria Evolutionary Algorithm for Generating the Efficient Frontier

- C.-I Chiang: On the Multiple-Objective Linear Production Games with the Concept of Resource Allocation

The website of the conference is online available under <http://www2.informs.org/Conf/Hongkong06/>. Further information, such as brief abstracts of the talks and contact information of the authors

may be obtained there.

The upcoming and certainly equally successful INFORMS International Conference will take place in Rio Grande, Puerto Rico, July 8 – 11 2007. Abstracts can be submitted under http://www.informs.org/Conf/PuertoRico2007/.

3 Upcoming events

3.1 Multidisciplinary ECAI-06 Workshop on Advances in Preference Handling, August 28–29, Riva del Garda, Italy

Although preferences have traditionally been studied in fields such as economic decision making, social choice theory, and Operations Research, they have nowadays found significant interest in computational fields such as Artificial Intelligence, Databases, and Human-computer interaction. This broadened scope of preferences leads to new types of preference models, new problems for applying preference structures, and new kinds of benefits. Explicit preference modelling provides a declarative way to choose among alternatives, whether these are solutions of problems to solve, answers of data-base queries, decisions of a computational agent, plans of a robot, and so on. Preference-based systems allow finer-grained control over computation and new ways of interactivity, and therefore provide more satisfactory results and outcomes. Preference models may also provide a clean understanding, analysis, and validation of heuristic knowledge used in existing systems such as heuristic orderings, dominance rules, and heuristic rules. Preferences are studied in many areas of Artificial Intelligence such as knowledge representation, multi-agent systems, constraint satisfaction, decision making, decision-theoretic planning, and beyond. Preferences are inherently a multi-disciplinary topic, of interest to economists, computer scientists, operations researchers, mathematicians and more. The workshop promotes this broadened scope of preference handling and continues a series of multidisciplinary workshops on preference handling (a AAAI-02 workshop, a Dagstuhl-Seminar in 2004, and a IJCAI-05 workshop) which have been very successful. The workshop provides a forum for presenting advances in preference handling and for exchanging experiences between researchers facing similar questions, but coming from different fields. The workshop builds on the large number of AI researchers working on preference-related issues, but also seeks to attract researchers from databases, multi-criteria decision making, economics, etc. These different research areas are represented in the program committee.

A list of accepted papers is available online.

Conference website: http://www.mycosima.com/ecai2006-preferences/

3.2 Operations Research 2006, September 6–8, Karlsruhe, Germany

The annual conference of the 'Gesellschaft für Operations Research (GOR)', the German society for OR, in conjunction with the Swiss and Austrian Societies SVOR and ÖGOR, will take place September 6–8 in Karlsruhe, Germany.

Christiane Tammer and Matthias Ehrgott are organizing a stream on *Multi Criteria Decision Theory* and would like to cordially invite you to participate in the conference.

Conference website: http://www.or2006.de/
Contact: Christiane Tammer: tammer@mathematik.uni-halle.de
Matthias Ehrgott: m.ehrgott@auckland.ac.nz

3.3 64th Meeting of the EURO Working Group in Multicriteria Decision Aiding, September 28–30, 2006, Larissa, Greece

The conference has a focus on the frontier topics in the theoretical and applied science subjects on Multicriteria Decision Support Systems. The Conference aims to bring together researchers and practitioners who address Multiple Criteria Decision Aiding and Decision Support Systems. The conference theme "Multicriteria Decision Support Systems" emphasizes the advanced methodologies and techniques in the development of Multicriteria Decision Support Systems. Participants are particularly welcomed to submit work relevant to this theme. However, all contributions relating to the wider area of multi criteria decision analysis are also welcomed.

The deadline for submission of papers is July 25, 2006.

Conference website: http://dde.sdo.teilar.gr/mcda64

3.4 The Fifth International Conference on Rough Sets and Current Trends in Computing (RSCTC'2006), November 6–8, 2006, Kobe, Japan

Rough set theory, proposed by Zdzislaw Pawlak in 1982, has been attracting researchers and practitioners in various fields of science and technology. The interest in rough set theory and applications is remarkable since the beginning, and it is still growing. The ingenious concepts of rough set have been a base for original developments in both theoretical research, including logics, algebra and topology, and applied research, including knowledge discovery, data mining, decision theory, artificial intelligence and approximate reasoning.

The biennial international conference on Rough Sets and Current Trends in Computing (RSCTC) provides state-of-the-art in rough set theory and its applications. It is intended to bring together researchers and practitioners from universities, laboratories and industry, to facilitate dialogue and cooperation.

Conference website: http://rsctc2006.med.shimane-u.ac.jp/

3.5 Evolutionary Multicriterion Optimization EMO 2007, March 5–8, 2007, Matsushita, Japan

The Institute of Fluid Science (IFS), Tohoku University, is proud to invite you to the Fourth International Conference on Evolutionary Multi-Criterion Optimization (EMO 2007), which will be held at Hotel Taikanso, Matsushima, near Sendai, Japan, from 5 to 8 March, 2007. Sendai is two hours north from Tokyo the by bullet train.

Following the very successful EMO 2001, EMO 2003 and EMO 2005 conferences, which were held at Zurich, Switzerland, Faro, Portugal, Guanajuato, Mexico, respectively, this will be the fourth international conference dedicated entirely to this important topic.

The EMO 2007 conference will highlight recent research in the rapidly growing field of evolutionary multi-criterion optimization (EMO). Theory, practice and applications of all forms of evolutionary computation related to multi-criterion decision-making (MCDM) will be covered.

The deadline for submission of papers is September 30, 2006

Conference website: http://www.is.doshisha.ac.jp/emo2007/

4 Sources of information

- Homepage of the International Society on Multiple Criteria Decision Making. Website: http://www.terry.uga.edu/mcdm/

- Kaisa Miettinen's website has several interesting links with Operational Research and Multi-Criteria websites (scientific societies, journals, conferences, etc.). Website: http://www.mit.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/