

# International Society on Multiple Criteria Decision Making



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## Letter from the Editor

Dear friends,

Dow Jones and NASDAQ might be down, MCDM is up and rising. A strong year 2009 lies ahead of us. Several major conferences ask for your participation, and interesting call for chapters and other publications want you to contribute.

First of all, there will be the 20th International Conference on Multiple Criteria Decision Making in Chengdu, see Section 1.5. Following the long tradition of MCDM conferences, this premier event of our society is for the first time taking place in China. An interesting program awaits you, both in terms of the scientific talks and the social events. On behalf of the organizers, I kindly invite you to come and join us there.

It is important to mention that the MCDM Awards are going to be presented at the Chengdu conference, too. In this context, please consider the Call for Nominations in Section 1.1.

Besides, many other MCDM-related events are scheduled for 2009, see Section 2. Some of them, like EMO'2009, with a particular focus on Multiple Objective Optimization, others, like EURO 2009, with special streams and invited talks devoted to our field.

There is also good news from the International Society on Multiple Criteria Decision Making itself. As Kaisa Miettinen already pointed out in the previous issue of the Newsletter, a new domain has been registered on behalf of the society: <http://www.mcdmsociety.org>. Along with this comes the possibility of getting directly in touch with some members of the executive committee, such as:

- Jyrki Wallenius, President of the Society, [president@mcdmsociety.org](mailto:president@mcdmsociety.org)
- Kaisa Miettinen, President-Elect, [president-elect@mcdmsociety.org](mailto:president-elect@mcdmsociety.org)
- Francisco Ruiz, Secretary of the Society, [secretary@mcdmsociety.org](mailto:secretary@mcdmsociety.org)
- Myself, the Newsletter Editor, [newsletter@mcdmsociety.org](mailto:newsletter@mcdmsociety.org)

In the light of these news, I am sure that we are going to see a strong year for the development of MCDM. This brings me to my last point: You are welcome to recommend the society to colleagues and students in our field. Anyone interested in becoming a member is asked to contact Francisco Ruiz under [secretary@mcdmsociety.org](mailto:secretary@mcdmsociety.org).

Best wishes,

Martin J. Geiger

March 2009

# 1 Society News

## 1.1 Call for Nominations: MCDM Awards

*Murat Köksalan, Middle East Technical University, Turkey*

The International Society on Multiple Criteria Decision Making (MCDM) has been presenting awards at each of its meetings since 1992. The next set of awards will be presented at the 20th International Conference on MCDM in Chengdu/Jiuzhaigou, China, June 22-26, 2009 (<http://www.mcdm2009.cn/>). The Society welcomes nominations for the following awards:

- MCDM Gold Medal,
- Edgeworth-Pareto Award, and
- Georg Cantor Award.

Submit nominations to: Professor Murat Köksalan, Industrial Engineering Department, Middle East Technical University, 06531 Ankara, Turkey or (preferably) by e-mail, [koksalan@ie.metu.edu.tr](mailto:koksalan@ie.metu.edu.tr). Contact him for further information.

To assure full consideration:

1. Make the nominations by March 16, 2009.
2. Indicate the name of the nominee, why he or she is worthy of the award, his/her contributions to the field, and anything else that is relevant to the award.
3. Provide a CV of the nominee.

Awardees are expected to attend the conference and give a talk. More information concerning the awards and past awardees may be found on the web site at <http://www.mcdmsociety.org/intro.html#Awards>.

## 1.2 MCDM Society Directory Update

We have found out that many e-mail addresses of our membership directory do not work properly. It is important that everyone has a valid address, in order to be able to participate in future voting, and to get relevant information from the Society including information about the electronic Newsletters (published three times a year). For this reason, we decided to start the updating process of the directory.

To this end, the secretary of the society has contacted one representative of each country and asked her/him to assist us in this process. May be this representative has contacted you to help in checking the data.

If you have not received information about the Newsletters from Newsletter-Editor Martin J. Geiger or you were not invited to vote in the last elections, or if you have reasons to think that your email address is not updated in the database, please contact the secretary at [secretary@mcdmsociety.org](mailto:secretary@mcdmsociety.org). We would like to point out that everyone is required to have an address of one's own (that is, shared addresses are not valid).

Please, also contact the secretary if you know of some person who, for some reason, has to be removed from the database. Please, take into account that having an up-to-date database can be crucial for a correct functioning of the Society. We appreciate your collaboration!

Last but not least we wish to remind you that Ralph E. Steuer, Craig Piercy and Rudolf Vetschera have been doing a lot of work with membership database management and we want to take this opportunity to thank them for their most valuable work and effort!

*Francisco Ruiz, [secretary@mcdmsociety.org](mailto:secretary@mcdmsociety.org)*

*Jyrki Wallenius, [president@mcdmsociety.org](mailto:president@mcdmsociety.org)*

*Kaisa Miettinen, [president-elect@mcdmsociety.org](mailto:president-elect@mcdmsociety.org)*

### 1.3 Help needed: MCDM Website

*Kaisa Miettinen, University of Jyväskylä, Finland*

As mentioned in the previous newsletter, we have a new website for the Society: <http://www.mcdmsociety.org>. We would like to set up a system in our new server where the membership directory is easily connected to the electronic voting system used, where members could update their own contact information and it would be easy to form email lists for e.g. mailing the newsletter. If you have experience and interest in such work, please contact [president-elect@mcdmsociety.org](mailto:president-elect@mcdmsociety.org).

### 1.4 Changed Editorial Structure for the *Journal of Multi-Criteria Decision Analysis*

*Theodor Stewart, University of Cape Town, South Africa*

The *Journal of Multi-Criteria Decision Analysis* was launched by Wiley in 1992, and from the outset has aimed to be the repository of choice for papers covering all aspects of MCDA/MCDM. The editorial policy refers to “providing an international forum for the presentation and discussion of all aspects of research, application and evaluation of multi-criteria decision analysis”. The Journal publishes material from a variety of disciplines and all schools of thought. Papers addressing mathematical, theoretical, and behavioural aspects are welcome, as are case studies, applications and evaluation of techniques and methodologies.

The undersigned has recently been appointed editor-in-chief, following on from Simon French and Valerie Belton. The new appointment is linked to a restructuring of the editorial processes of the journal. A number (possibly about eight) of topic areas within MCDA/MCDM/multiobjective optimization are being defined, and an “area editor” will be appointed for each such area. The purpose of this restructuring is two-fold:

- To more formally involve representatives of different MCDA/MCDM/multiobjective groups into the editorial process, and thereby to gain greater buy-in to the idea of JMCDA as the natural repository of papers in these fields;
- To spread the editorial load more widely so as to achieve a more rapid turnaround in editorial decisions.

In the coming weeks I shall be approaching various individuals and groups in order to fully define the “areas” as indicated above, and I would welcome suggestions in this regard. We can nevertheless report on one group which were involved in the preliminary discussions, and who have already enthusiastically bought in as organizing one area. This is the EMO (evolutionary multiobjective optimization) community who have in recent years emerged as a very active group and were looking for a flagship journal for their material. This group was represented by Kalyanmoy Deb and Eckart Zitzler, and have agreed to establish the first editorial area.

The editorial changes of the journal will also be reflected in an updated format, and an extension of the title to include a subtitle reflecting the perhaps slightly broadened focus, which will now read: **Journal of Multi-Criteria Decision Analysis – Optimization, Learning and Decision Support**.

I look forward to the continued cooperation of the International Society of Multiple Criteria Decision Making in really making the journal properly represent the importance of our field within the broader OR/MS context.

Theodor Stewart  
February 2009



## 1.5 The 20th International Conference on Multiple Criteria Decision Making, June 21–26, 2009, Chengdu/ Jiuzhaigou, China

Theme: New State of MCDM in 21st Century

<http://www.mcdm2009.cn/>

Hosted by University of Electronic Science and Technology of China



The International Conference on Multiple Criteria Decision Making has emerged as the global forum dedicated to the sharing of original research results and practical development experiences among researchers and application developers from different multiple criteria decision making related areas such as multiple criteria decision aiding, multiple criteria classification, ranking, and sorting, multiple objective continuous and combinatorial optimization, multiple objective metaheuristics, multiple criteria decision making and preference modeling, fuzzy multiple criteria decision making.

The theme for MCDM 2009 is “New State of MCDM in 21st Century”. The conference seeks solutions to challenging problems facing the development of multiple criteria decision making, and shapes future directions of research by promoting high quality, novel and daring research findings. With the MCDM conference, these new challenges and tools can easily be shared with the multiple criteria decision making community. MCDM 2009 will invite a number of well-known MCDM scholars to deliver keynote speeches which include their experiences with the remarkable MCDM history, important contributions to MCDM and/or creative thinking towards the future development of MCDM. As the tradition of MCDM Conference Series, the main conference sessions on June 22-26, 2009 have an equal emphasis on all aspects of MCDM related topics that will affect scientific, social and economic development of the 21st century. Moreover, MCDM 2009 creates new tutorial and workshop programs on June 21, 2009 before the main conference. The tutorial program of this conference will cover emerging MCDM technologies and the state-of-the-art of MCDM developments. The workshop program will focus on new research challenges and initiatives.

### Programme:

Tutorial and Workshop Date: June 21, 2009.

Main Conference Dates: June 22-26, 2009.

The following is the tentative agenda of the whole conference:

- Sunday, June 21: Tutorials and parallel workshops. Most of the attendees are expected to arrive on this day. We will have a “Welcoming Reception” on this evening.
- Monday, June 22 : Main conference with keynote speeches. We plan to have a local tour in the evening, with dinner provided at cafeteria.
- Tuesday, June 23: Main conference with keynote speeches. We plan to have a banquet in this evening.
- Wednesday, June 24: Main conference with award plenary speeches.
- Thursday, June 25: Conference continues, social gathering and exchanges of research ideas at Jiuzhaigou and Mt. Emei separately.
- Friday, June 26: Conference continues, social gathering and exchanges of research ideas at Jiuzhaigou and Mt. Emei separately. The conference closes in late afternoon. All participants to either Jiuzhaigou or Mt. Emei should be returned to Chengdu in the evening of June 26. Please book your returning ticket from Chengdu in afternoon of June 27 in case there is flight or bus delay from Jiuzhaigou or Mt. Emei on June 26.

## 2 Upcoming Events and Call for Papers

### 2.1 EMO'09 – 5th International Conference devoted to Evolutionary Multi-Criterion Optimization April 07–10, 2009, Nantes, France

<http://www.emo09.org/>

*Xavier Gandibleux, University of Nantes, France*

EMO is an International conference series devoted to Evolutionary Multi-Criterion Optimization. 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 EMO will be covered, including practice and applications of EMO in real-life situations.

After Zurich (Switzerland) in 2001, Faro (Portugal) in 2003, Guanajuato (Mexico) in 2005 and Matsushima-Sendai (Japan) in 2007, Nantes (Brittany, West of France) will host EMO in 2009: the Fifth International Conference on Evolutionary Multi-Criterion Optimization (EMO'09), “where optimization technologies meet EMO”.

The conference will take place in the Faculty of Sciences, University of Nantes, which is located downtown along the Erdre river. The event is organized in collaboration with Ecole Centrale de Nantes, Ecole des Mines de Nantes, University of Angers, University of South Brittany, and the National Center for Scientific Research.

The EMO 2009 conference will highlight recent research in the rapidly growing field of evolutionary multi-criterion optimization. Traditionally an EMO meeting includes the following types of sessions:

- Invited keynote lectures
- Invited tutorial sessions
- Selected technical talks assigned to single track plenary sessions
- Selected talks assigned to interactive poster sessions
- Exhibits are also organized to encourage industrial participation.

#### **Topics:**

Algorithmic aspects of evolutionary-based algorithms

- Constraint handling
- Diversity preservation
- Elitism techniques
- Interactive EMO
- Handling high number of objectives and/or decision variables
- Theoretical analysis of EMO algorithms
- Test problems, performance metrics and comparative studies

Interface/integration with other technologies

- Particle swarm optimization
- Memetic algorithms
- Local Search based metaheuristics (simulated annealing, tabu search, etc.)
- Constructive metaheuristics (ant colony optimization, GRASP, etc.)
- Others aspects of metaheuristics (path relinking, hybridisation, neural networks)
- EMO and MCDA/MCDM

Real-world applications and EMO softwares

- Transportation, networks (telecommunications, vehicle routing problems, etc.)
- Scheduling (Activities, Machines, Staffs, etc.)
- Engineering
- Timetabling
- Business (portfolio selection, finance, management, marketing)
- Bioinformatics
- Datamining, data discovering, clustering
- Cutting and Packing
- Health
- Military

### **MCDM Track**

To foster the interaction between the EMO community and other scientific communities, a special Multiple Criteria Decision Making (MCDM) Track will be held as an integral part of the EMO'09 Conference. The objective is to take the opportunity of this conference for blending ideas from EMO and MCDA/MCDM/MOPGP.

Papers on all aspects of multiobjective optimization and/or multicriterion decision making are invited for submission to the MCDM track, including those not related to evolutionary multiobjective optimisation. The topics include, but are not limited to:

- Multiple Criteria Decision Aiding
- Multiple Criteria Classification, Ranking, and Sorting
- Multiple Objective Continuous and Combinatorial Optimisation
- Goal Programming
- Multiple Objective Metaheuristics
- Preference Modelling
- Fuzzy Multiple Criteria Decision Making

### **Tutorial speakers**

- “Scatter Search” by Manuel Laguna, Professor of Operations Management in the Systems Division of the Leeds School of Business, University of Colorado at Boulder (USA).
- “Ant Colony Optimization” by Thomas Stuetzle, Research Associate of the FNRS (Belgian National Center for Research) in position at IRIDIA, Université Libre de Bruxelles (Belgium)

### **Keynote speakers**

- “Constraint Programming” by Pascal Van Hentenryck, Professor of Computer Science at Brown University (USA) where he leads the optimization laboratory
- “Discrete multiobjective optimization” by Kathrin Klamroth, Professor of Applied Mathematics at University of Wuppertal (Germany) where she leads the group “Optimization and Approximation”
- “Choice and Preferences” by Denis Bouyssou, Director of research at the CNRS (French National Center for Research) in position at LAMSADE, University Paris - Dauphine (France)

### **Industrial session's speakers**

- “Enhancement of the applicability of optimal design technologies to various industrial applications” by Jean-Jacques Maisonneuve (Sirehna, France)
- “Design optimization and uncertainty handling with modeFRONTIER: the role of EMO” by Carlo Poloni (Esteco, Italy)
- “EMO: a good companion to enhance creativity in innovative design” by Silvia Poles (EnginSoft, Italy)
- “An innovative application of EMO techniques in Supply Chain Management” by Heinrich Braun and Benedikt Scheckenbach (SAP, Germany)

### **Satellite event**

PM2O: french national working group on MultiObjective Mathematical Programming. PM2O is the french national working group on MultiObjective Mathematical Programming. The aim of the working group is to emphasize exchanges in between french community about PM2O topic, also called Multicriteria Optimization.

### **EMO'09 Conference Proceedings**

As for the previous EMO conferences, the EMO'09 proceedings will be published by Springer-Verlag as a volume of the Lecture Notes in Computer Sciences (LNCS) series (volume 5467). LNCS series reports on new developments in computer science and information technology research and teaching. It is published by Springer. The editors in duties for this volume are: Matthias Ehrgott, Carlos Fonseca, Xavier Gandibleux, Jin Kao Hao and Marc Sevaux.



## About Nantes



Nantes is the administrative centre for the ‘Pays de Loire’ region and headquarters for the ‘Loire Atlantique’ department. Nantes is the major city (6th largest town in France) of the region which is delimited by the ‘Atlantic Ocean’ on the West, Brittany on the North, the ‘Val de Loire’ on the East and the ‘Vendée’ on the South.

The city of Nantes has a particularly rich historical heritage, dating right back to the Gallo-Roman period. But the first written records were absent until the Middle Ages. At that time, it was the capital of the independent Duchy of Brittany, and it grew up around its castle, the last on the Loire.

Nantes is the 5th French region in information technology services, is in 3rd financial position in France, in the 2nd position for wholesale trade markets, and 1st position as boat building centre. The metropole counts 50 000 students shared between the University of Nantes (32 000 students) and 15 high schools, plus 2 200 researchers active in more than 200 research laboratories.



## 2.2 IFAC Workshop on Control Applications of Optimization, May 6–8, 2009, Jyväskylä, Finland

*Kaisa Miettinen, University of Jyväskylä, Finland*

Welcome to the IFAC Workshop on Control Applications of Optimization

Department of Mathematical Information Technology, University of Jyväskylä, Finland

May 6–8, 2009, <http://cao09.automaatioseura.fi/>

The purpose of the Workshop is to present and share ideas on new developments on optimisation and control. Both theoretical research and practical applications are covered, some of the main topics including numerical optimisation techniques, applications in control problems, advances in optimal control, multiobjective optimisation, robust and adaptive control, differential games etc. Sharing ideas between researchers from universities and industry in both theoretical research and applications in this area is especially encouraged to show where the optimisation in today’s technological society faces its most important challenges.

The plenary speakers are Prof. Roland Glowinski (University of Houston), Prof. Luca Lambertini (Università di Bologna) and Prof. Stefan Pickl (Universität der Bundeswehr München).

The program contains almost 90 contributed talks in the fields of Multiobjective optimization, Optimization with uncertainties, Optimal control, Robust control and stabilisation, Numerical

methods in optimization, Applications in environmental sciences, economics and management, Optimal PDE control, Model-predictive control, Stochastic optimization, Differential games and Adaptive control.

Registration: The regular early bird fee (before 16 March 2009) is 500 EUR. After March 16, the fee is 550 EUR. The fee for students is 350 EUR.

The registration fee includes admission to all the sessions during the three days, workshop preprint in CD, book of abstracts, lunches, coffees, get-together party and workshop dinner. Students are entitled to workshop dinner on extra fee.

For further information, see <http://cao09.automaatioseura.fi/> or contact [office@atu.fi](mailto:office@atu.fi).

The workshop is organized by the Finnish Society of Automation and sponsored by IFAC TC on Optimal Control and Co-sponsored by IFAC TC on Control Design and IASAS.

Welcome!

NATIONAL ORGANIZING COMMITTEE: K. Miettinen, Chair; K. Zenger, Co-chair; H. Hautala, Secretary; J. Hakanen; P. Neittaanmäki; H. Toivonen T. Tuovinen

INTERNATIONAL PROGRAM COMMITTEE: A. Tarasyev (RU), Chair; P. Neittaanmäki (FI), Co-Chair; H. Abou-Kandil (FR); R. Bars (HU); F. Chernousko (RU); C. Deissenberg (FR); G. Feichtinger (AT); L. Hammarström (FI); A. Kryazhinskii (RU); A. Kurzhanskii (RU); L. Lambertini (IT); B. Mordukhovich (US); T. Palokangas (FI); S. Pickl (DE); J. Shinar (IL); C. Watanabe (JP); J.-B. Yang (UK)

## 2.3 International Conference on Operations Research applications in Engineering and Management (ICOREM), May 27–29, 2009, Tiruchirappalli, India

*Muthu Mathirajan, Anna University Tiruchirappalli, India*

The Anna University Tiruchirappalli is pleased to announce that the International Conference on Operations Research applications in Engineering and Management (ICOREM) will be held from the 27th to 29th of May 2009. The conference will be held in the Academic Block, Anna University Tiruchirappalli, BIT Campus, Tiruchirappalli 620 024 (<http://www.virtourist.com/asia/india/tiruchirappalli/index.html>).

The conference programme will include the following broad topics related to the conference theme and other areas of Operations Research.

- Operations Research applications in Engineering Disciplines; Functional Area of Management; Agricultural & Natural Resources; Industries & Software applications; Infrastructural Problems; Port Development / Management / Operations; and Urban / Town Planning.
- Artificial Intelligence in Engineering & Management
- Heuristics / Meta-Heuristics in Engineering & Management
- Data Mining and Warehousing in Engineering & Management
- Neural Network in Engineering & Management

On behalf of the organizers of the international event: ICOREM, I request you to participate by contributing a research paper. Also request you to disseminate the conference-announcement to your professional-friends and peers and encourage them to participate by contributing a research paper.

The deadline for an extended abstract [maximum of 500 words] is 20 February 2009.

For any questions concerning the ICOREM program please go to the conference Web site at <http://www.tau.edu.in/~icorem>. Alternatively you are most welcome to contact Dr M. Mathirajan, Conference Secretary at 0091-431-2407667 or 0091-9840776331 or [mathirajan@tau.edu.in](mailto:mathirajan@tau.edu.in), or [msdmathi@mgmt.iisc.ernet.in](mailto:msdmathi@mgmt.iisc.ernet.in) or [drmuthu.mathirajan@gmail.com](mailto:drmuthu.mathirajan@gmail.com)

## 2.4 23rd European Conference on Operational Research, July 5–8, Bonn, Germany

<http://www.euro-2009.de/>

The 23rd European Conference on Operational Research, EURO XXIII, is organized by the Gesellschaft fuer Operations Research (GOR) e.V. in co-operation with the University of Siegen and will be held in the Gustav-Stresemann Institute and the Maritim Hotel in Bonn. The Programme and Organising Committee are preparing a high quality academic programme of the Conference. In addition to this, you will have an excellent opportunity to exploit the city and vicinity of Bonn! A history of more than 2000 years has given the city most appealing and memorable facets. Bonn is an international center of science, arts and politics. You will enjoy the picturesque impressions along the romantic Rhine, Bonn's international and political life or the magnificent Ahr wine region. Culture is inseparably linked to the works of Ludwig van Beethoven, but also of Robert Schumann, August Macke and Ernst Moritz Arndt.

On behalf of all organizers, we wish you will have a pleasant stay in Bonn, with many unforgettable memories to take back home.

Gerhard Woeginger (Chair, Programme Committee)

Erwin Pesch (Chair, Organizing Committee)

### Important Dates

Submission for abstracts starts: October 2008

Deadline for abstract submission: March 20, 2009

Notification of acceptance: March 31, 2009

Deadline for early registration: April 1, 2009

Deadline for author registration (for inclusion in the programme): April 15, 2009

Conference: July 5–8, 2009

Closer information about Bonn, Accommodation, Conference Venue, Book and Software Exhibitions and the Social Programme you will find under <http://www.euro-2009.de/>.

### Program committee

Chair: Gerhard Woeginger, The Netherlands; Horst Hamacher, Germany; Graham Kendall, Great Britain; Bernhard Korte, Germany; Jan Karel Lenstra, The Netherlands; Ulrike Leopold-Wildburger, Austria; Silvano Martello, Italy; Benny Moldovanu, Germany; George Nemhauser, USA; Erwin Pesch, Germany; Juan-José Salazar-González, Spain; Roman Slowinski, Poland; Gerhard-Wilhelm Weber, Turkey

### Organizing committee

Chair: Erwin Pesch, Germany; Co-chair: Peter Letmathe, Germany; Josef Jablonsky, Czech Republic; Florian Jaehn, Germany; Jose M.P. Paixao, Portugal; Frank Schultmann, Germany; Gerhard Wäscher, Germany (VP EURO); Gerhard-Wilhelm Weber, Turkey

### Contact

Prof. Dr. Erwin Pesch, Institute of Information Systems, FB 5, University of Siegen, 57068 Siegen, Germany. Phone: 0049 271 - 740 2420, Fax: 0049 271- 740-2940

### Conference topics

We invite all researchers, academicians, practitioners, as well as students interested in all branches of operational research, mathematical modeling and economic analyses to participate at the conference and to present their papers in the following areas:

- Continuous optimization and control
- Data mining; knowledge discovery; artificial intelligence
- DEA and performance management
- Decision analysis; decision support systems; modelling languages
- Discrete optimization; graphs & networks
- Energy, environment & climate
- Financial modelling; risk management; banking
- Fuzzy sets; softcomputing
- Game theory; mathematical & experimental economics
- Health, life sciences & bioinformatics
- Location; logistics; transportation; traffic

- Metaheuristics & biologically inspired approaches
- Multiple criteria decision making, optimization & group decision
- OR education, history & ethics
- OR for development and developing countries
- OR in agriculture & natural resources
- OR in industries & software applications
- Production management; supply chain management
- Revenue management & managerial accounting
- Scheduling, time tabling & project management
- Stochastic programming; stochastic modelling; simulation
- System dynamics; dynamic modelling
- Telecommunication & network analysis

### Sessions

Invited and contributed papers will be organized in parallel sessions of 90 minutes, with three or four papers in each session. Abstracts can be submitted via the Conference web page - <http://www.euro-2009.de/>. Every participant can present no more than one paper at the Conference.

Invited and contributed sessions will generally be a part of conference Streams which are grouped by Main Streams. Their lists together with responsible organizers are presented on the conference web page (see Main Streams and Accepted Streams). Researchers who want to organize an invited session or contribute a paper within an invited session should contact the stream organizer, Main Stream organizer or a corresponding member of the PC with their proposals.

### Keynote speakers

Ramji Balakrishnan (University of Iowa, USA)  
 Rainer Burkard (Graz, Austria, EURO Gold Medal 1997)  
 Edmund Burke (Nottingham, UK)  
 Ulrich Dorndorf (INFORM Aachen, Germany)  
 Salvatore Greco (Catania, Italy)  
 Toshihide Ibaraki (Kobe, Japan)  
 Hubertus Th. Jongen (Aachen, Germany)  
 Andrea Lodi (Bologna, Italy)  
 Rolf Moehring (Berlin, Germany)  
 Noam Nisan (Jerusalem, Israel)  
 Christos Papadimitriou (IFORS distinguished lecturer)  
 Franz Rendl (Klagenfurt, Austria)  
 Bernard Roy (Paris, France, EURO Gold Medal 1992) / Jose Figueira (Coimbra, Portugal)  
 Nitin Saxena (Bonn, Germany; Goedel Prize 2006, Fulkerson Prize 2006)  
 Reinhard Selten (Bonn, Germany; Nobel Prize 1994)  
 Michael Trick (Pittsburgh, USA)  
 Jens Vygen (Bonn, Germany)  
 Gideon Weiss (Haifa, Israel)

### Prices and awards

During the EURO XXII conference the following prizes will be awarded:

- The EURO Gold Medal The EURO Distinguished Service Medal
- The EURO Excellence in Practice Award (EEPA 2009)
- The EURO Management Science Strategic Innovation Prize (MSSIP 2009)
- The EURO Doctoral Dissertation Award (EDDA 2009)

### Satellite events

There are some scientific events in preparation already, organized by EURO Working Groups and their friends:

- 7th EUROPT Workshop 'Advances in Continuous Optimization', University of Applied Sciences, Remagen (near Bonn), Germany, July 3-4, 2009.
- A EURO ORD Workshop on OR for Developing Countries — Young Researchers and PhD Symposium, Remagen, July 4, 2009.

Please visit the link [Workshops](#).

### **Special issues**

We are collecting and at the homepage announcing Calls for Papers for precious special issues succeeding EURO 2009.

The organizers of EURO XXIII 2009 are looking forward to welcoming you to Bonn and sharing with you an exciting time of premium science and precious community and everlasting friendship—truly, a Once-in-a-Lifetime experience!

## **2.5 ISAHP 2009 Symposium, July 29-August 1, 2009, Pittsburgh, PA, USA**

*Birsen Karpak, Youngstown State University, USA*

The tenth international symposium on the Analytic Hierarchy Process, ISAHP 2009 will be held from July 28 to August 1, 2009, at the University of Pittsburgh, Katz Graduate School of Business in Pittsburgh, Pennsylvania, USA. A special workshop on the ANP will be held on July 28 with the main meeting sessions beginning July 29. The University has graciously accepted to provide facilities and help to organize and facilitate the meeting.

Pittsburgh has twice been chosen as the most livable city in the United States, most recently in 2007. It is advertised to have the most beautiful night view in America and is home to more than 100 corporations each with over a billion dollar international business.

### **About ISAHP**

The Analytic Hierarchy Process (AHP) is a structured method for helping people deal with complex decisions. It provides a comprehensive and rational framework for structuring a problem, for representing and quantifying its elements, for relating those elements to overall goals, and for evaluating alternative solutions. Rather than prescribing a “correct” decision, the AHP helps people to determine one. Based on mathematics and human psychology, it was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. It is used throughout the world in a wide variety of decision situations, in fields such as government, business, industry, healthcare, and education. Its most general framework applies to decision making with dependence and feedback and with benefits, opportunities, costs and risks synthesized using strategic criteria with sensitivity applied in determining the stability of the outcome. The AHP/ANP use main core mathematics to derive priorities by making comparisons using the idea of dominance both for criteria, subcriteria and alternatives. It is validated in practice when actual measurements exist or when answers can be derived probabilistically. Thousands of applications around the world have been made using the AHP, not only by researchers but by practitioners, particularly those who allocate resources to projects, to vendors, and to military operations. Dozens of books have been written on the subject along with more than five thousand published articles in a diversity of languages.

Making good decisions is one of the most important things we can do; our organizations’ survival and success and our own well-being depend on our decision-making ability, and this international forum is dedicated to helping us make better decisions. The International Symposium on the Analytic Hierarchy Process (ISAHP) takes place every two years. It brings together researchers, teachers and users of AHP and ANP to share their research and experiences in decision making. The ISAHP 2005 meeting in Honolulu, Hawaii, took place on the University of Hawaii campus. The ISAHP 2007 meeting was held in Viña del Mar, Chile.

The conference organizing and program committees represent 17 countries and all five continents, bringing the research, applications and perspectives of their areas of the world to this truly international forum.



## 2.6 19th International Jyväskylä Summer School, University of Jyväskylä, Finland, August 5–21, 2009

*Kaisa Miettinen, University of Jyväskylä, Finland*

Welcome to the 19th International Jyväskylä Summer School, University of Jyväskylä, August 5–21, 2009, <http://www.jyu.fi/summerschool>



The Jyväskylä Summer School is organized by the Faculty of Mathematics and Science and the Faculty of Information Technology at the University of Jyväskylä, Finland. The Summer School annually offers courses for advanced Master's students, postgraduate students and post-docs in the various fields of science and information technology. Finnish and international students of these fields are encouraged to take advantage of the high quality interdisciplinary teaching of the School.

Application period February 16–April 30, 2009.

There are 26 courses in Biology, Chemistry, Mathematics, Physics, Renewable Energy, Scientific Computing, Statistics. Among others, courses in Scientific Computing include the following:

- Large-Scale Nonlinear Programming: Concepts, Algorithms and Applications by Prof. Lorenz T. Biegler, Department of Chemical Engineering, Carnegie Mellon University (USA)
- Network Flow Programming by Prof. Margaret M. Wiecek, Department of Mathematical Sciences, Clemson University (USA)
- Evolutionary Computing Methodologies for Single and Multi-objective Optimization, Prof. Kalyanmoy Deb, Helsinki School of Economics (Finland)

For further information, see <http://www.jyu.fi/summerschool> or contact [jss@jyu.fi](mailto:jss@jyu.fi).

Please, forward information about this summer school to all those who may be interested!

## 2.7 Call for Chapter Proposals: Computational Methods Applied to Agricultural Research—Advances and Applications

*Homero Chaib Filho, Brazilian Agricultural Research Corporation, Brazil*

### **Computational Methods Applied to Agricultural Research: Advances and Applications**

A book edited by Dr. Hércules Antonio do Prado (Embrapa – Brazilian Agricultural Research Corporation, and Catholic University of Brasília), Dr. Alfredo José Barreto Luiz (Embrapa – Brazilian Agricultural Research Corporation) and Dr. Homero Chaib Filho (Embrapa – Brazilian Agricultural Research Corporation)

#### **Introduction**

Agricultural research refers to the application of broad scientific knowledge to problems found in the agriculture context. This book aims at providing a comprehensive and up-to-date reference on computational methods applied to agricultural research. In the last 3 decades, the increasing need for an adequate management of agricultural production in the world has motivated many initiatives on the production side. Initially, this led to the expansion of farmable land. Now, this expansion will reach its limits in the near future. Considering the drastic reduction in the availability of crop fields and the mandatory sustainability of production, a huge research effort to



overcome the productivity limits is necessary. Innovations in the way we explore natural resources are required, especially in regards to sustainable development. In the context of maximizing and sustaining resources, computational tools, like simulation models, *multi criteria decision models*, remote sensing, expert systems, machine learning, bioinformatics, data/text mining, and descriptive data analysis, allow for the analysis of large data sets, creating understanding for decision making. Such techniques have been extensively applied to support agricultural research. The proposed book will convey successful cases in which computational techniques have led to improved results in solving agricultural research problems. We are interested in ground results and the related conceptual approaches rather than generic theoretical models. This book is mainly addressed to those researchers and students that are looking for practical applications of sound theories.

### **Objective of the Book**

The proposed book aims at providing a comprehensive text of the best and most up -to-date results in computational methods applied to the agricultural research. This book will provide researchers and practitioners of agricultural development with a powerful tool to improve results when searching for solutions to the serious problem of managing agricultural production in the world. By gathering the most relevant results in computational methods applied to agricultural research, this book will be a reference for a large, world wide audience that includes academia, governmental, and non-governmental agencies.

### **Target Audience**

The target audience is scholars, researchers, graduate and undergraduate students in the agriculture field from universities all around the world and researchers at governmental and non-governmental agencies interested in applying advanced methods to support the current agricultural research practices.

**Recommended topics** include, but are not limited to, the following:

Methods for assessing the agricultural expansion dynamics; Use of multi-agent systems for agricultural decision making; Qualitative reasoning for conceptual modeling in agricultural research; Methods for estimating the agricultural production; Building prospective scenarios for agricultural research planning; Building taxonomies from textual files; Environmental impact analysis; Clustering analysis in genetic sequencing; Connectionist models for agricultural typology; Methods for weather forecasting; Modeling pedotransfer functions with connectionist models; Image processing for fraud detection in the agricultural research; Geographical information systems for natural resources management; Methods for uncertainty assessment; Meta-analysis applied in groups of field experiments.

### **Submission Procedure**

Researchers and practitioners are invited to submit on or before May 13, 2009, a 2–3 page chapter proposal clearly explaining the mission and concerns of his or her proposed chapter. Authors of accepted proposals will be notified by May 31 about the status of their proposals and sent chapter guidelines. Full chapters are expected to be submitted by August 31, 2009. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

### **Publisher**

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), publisher of the “Information Science Reference” (formerly Idea Group Reference), “Medical Information Science Reference,” and “IGI Publishing” imprints. For additional information regarding the publisher, please visit <http://www.igi-global.com>. This publication is anticipated to be released in 2009.

### **Important Dates:**

May 13, 2009: Proposal Submission Deadline

May 31, 2009: Notification of Acceptance

August 31, 2009: Full Chapter Submission

September 17, 2009: Review Result Returned

October 17, 2009: Final Chapter Submission

### **Editorial Advisory Board Members:**

Dr. Carlos Romero Espanha, Universidad Politécnica de Madrid, Spain; Dr. Cláudio Chauke Nehme Brasil, Catholic University of Brasília, Brazil; Dr. Eduardo Delgado Assad, Embrapa Agriculture Informatics, Brazil; Dr. Eliseu Roberto de Andrade Alves, Brazilian Agricultural Research Corporation, Brazil; Dr. Fernando Luis Garagorry Cassales, Embrapa Management

and Strategy, Brazil; Dr. Lucinio Júdez Asencio, Universidad Politécnica de Madrid, Spain; Dr. Miguel de Castro Neto, Universidade Nova de Lisboa, Portugal; Dr. Pierre Bommel, Cirad Ur Green, France; Dr. Russell S. Yost, University of Hawaii, USA; Dr. Wilson Alberto Contreras Espinosa, Universidad de Pamplona, Colombia

Inquiries and submissions can be forwarded electronically (Word document) or by mail to:

**Dr. Hércules Antonio do Prado, Dr. Alfredo José Barreto Luiz or Dr. Homero Chaib Filho**

### 3 Past Conferences, Workshops, and Other News

#### 3.1 Honorary degree from the University of Catania to Bernard Roy

*Benedetto Matarazzo, University of Catania, Sicily, Italy*

The University of Catania has awarded an honorary degree in Economics to Bernard Roy, professor emeritus at the Université Paris-Dauphine.

In a degree ceremony held on 30 January in the great hall of the University's Palazzo Centrale, the University of Catania conferred the seventh honorary degree of his prestigious career on eminent French scholar Professor Bernard Roy. The proceedings were opened by Deputy-Rector, Maria Luisa Carnazza. The Dean of the Faculty of Economics, Carmelo Buttà, then read the conferment proposal and Benedetto Matarazzo, senior lecturer in Financial Mathematics in the University of Catania's Faculty of Economics, gave the traditional laudatio in praise of the candidate, after which Professor Roy gave his lectio doctoralis.



The conferment committee was chaired by deputy-rector Maria Luisa Carnazza and the panel of examiners was composed of the Deans of the University's twelve Faculties. "In his academic and professional career," declared the deputy-rector, "Bernard Roy stands out as an example of how it is possible to combine scientific research with its application to concrete problems in the real world, more often than not transforming those same problems into opportunities for developing new methods and techniques to be used in supporting decision-makers in their tasks, in a range of fields spanning economics, transport, social and building policies".



In proposing Professor Roy for the honorary degree, Carmelo Buttà declared: "Our faculty is honoured to count a figure of the calibre of Bernard Roy among our graduates. In the course of his prestigious career he has cultivated a wide range of interests, combining a commitment to research with consultancy work at the highest levels". As Dean Buttà went on saying: "Faced with the daily need to deal with highly complex decision-making issues without the support of suitable tools or appropriate software, hampered by the lack or poor quality of available data, and acutely aware of the presence of multiple – and, more often than not, conflicting – objectives, Bernard Roy became increasingly convinced of the weaknesses of traditional (albeit formally elegant) approaches that aimed for the optimization of a single objective function. He



was prompted instead to seek out more operationally effective responses which may at times have seemed like ‘compromises’ but which were, in final analysis, much more readily useful in dealing with the problems at hand”.



As Benedetto Matarazzo reminded the public, “Bernard Roy proposed a multi-criteria methodology for decision-making support which focused on the dynamic nature of the whole decision-making process as part of a purposefully constructive approach. This does not mean that traditional optimization, the classical decision-making tool, is useless; rather that optimality within a given model does not guarantee that the solution will be acceptable”. In an emotionally-delivered speech in praise of Bernard Roy, Professor Matarazzo not only outlined the many professional and scientific merits in a lot of different fields of the honorary graduate, pioneer in the field of multi-criteria decision analysis and very active chairman since 1975 of the EURO Working Group on MCDA; he also painted a very humane picture of the man himself. “Bernard Roy is a man of great scientific calibre, moral rigour, and absolute intellectual openness, who never ceases to transmit his boundless enthusiasm to others. These rare gifts are the hallmarks of a true master, and he was actually able to train many highly-esteemed students who are now working the world over.”



The deputy-rector presented Bernard Roy with the volume scientiae, a gold ring bearing the Catania University crest, and the traditionally decorated degree parchment. The ceremony ended with Bernard Roy’s lectio doctoralis on “Deux conceptions de l’aide la decision”.



### **3.2 Matthias Ehrgott appointed as new area editor of the Asia-Pacific Journal of Operational Research**

In December 2008 Matthias Ehrgott was appointed as the new area editor for “Decision Analysis and Decision Making Techniques” of the Asia-Pacific Journal of Operational Research (<http://www.worldscinet.com/apjor/apjor.shtml>).

Below is the editorial statement. High quality papers on MCDM are very welcome and can be submitted online via the journal homepage.

Operations Research offers a variety of quantitative techniques to support decision making processes with single or multiple decision makers and involving single or multiple criteria. This area of APJOR covers all aspects of Operations Research relating to decision analysis at all stages of decision making processes, from the problem formulation stage through modelling aspects and solution methods to implementation.

We invite high quality papers on all aspects of decision analysis and decision making techniques. Topics may range from fundamental theoretical aspects of decision science to methods for decision analysis and decision support and real world applications of decision making techniques.

Submitted papers should either focus on theoretical and methodological aspects or describe novel applications. All submissions will be judged on originality, technical quality, and presentation and papers published in APJOR should be of interest to a wide audience within the OR community. Theoretical and methodological papers will present new ideas, important new results, new methods and algorithms, or unification of existing knowledge. Application oriented papers may report on the use of new methods in practice or the application of existing techniques in new areas. It is expected that a publication in APJOR extends current knowledge and helps solve decision problems in new ways.

## 4 New Books

### 4.1 Series Vector Optimization by Springer

*Johannes Jahn, University of Erlangen-Nürnberg, Germany*

The series **Vector Optimization** published by Springer 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. Studies 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.

This series has started with the following two books.



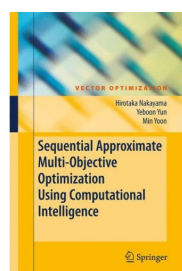
G. Eichfelder, *Adaptive Scalarization Methods in Multiobjective Optimization*, Springer 2008, 242 p., ISBN: 978-3-540-79157-7.

This book presents new adaptive solution methods for multiobjective optimization problems based on parameter dependent scalarizations. With the help of sensitivity results an adaptive parameter control is developed so that high-quality approximations of the efficient set are generated. These examinations are based on a general scalarization approach for arbitrary partial orderings defined by a closed pointed convex cone in the objective space. The application of the results to many other well-known scalarization methods is also presented. Background material of multiobjective optimization and scalarization approaches is concisely summarized at the beginning. The effectiveness of these new methods is demonstrated by test problems and a recent problem in intensity-modulated radiotherapy. The book concludes with a further application: a procedure for solving multiobjective bilevel optimization problems.

The book consists of three parts: theory, numerical methods and results, and multiobjective bilevel optimization. The 7 chapters are: Theoretical Basics of Multiobjective Optimization, Scalarization Approaches, Sensitivity Results for the Scalarizations, Adaptive Parameter Control, Numerical Results, Application to Intensity Modulated Radiotherapy, Application to Multiobjective Bilevel Optimization.

More information: <http://www.springeronline.com/978-3-540-79157-7>

Online version: <http://www.springerlink.com/content/978-3-540-79157-7>



H. Nakayama, Y. Yun and M. Yoon, *Sequential Approximate Multi-Objective Optimization Using Computational Intelligence*, Springer 2009, approx. 200 p., ISBN: 978-3-540-88909-0.

This book highlights a new direction of multi-objective optimization which has never been treated in previous publications. When the function form of objective functions is not known explic-



itly as encountered in many practical problems, sequential approximate optimization based on metamodels is an effective tool from a practical viewpoint. Several sophisticated methods for sequential approximate multi-objective optimization using computational intelligence are introduced along with real applications, mainly engineering problems, in this book.

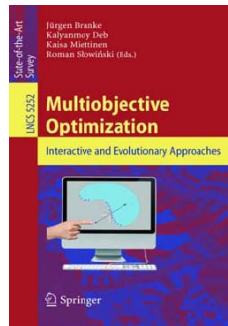
This book consists of 7 chapters entitled: Basic Concepts of Multi-Objective Optimization, Interactive Programming Methods for Multi-Objective Optimization, Generation of Pareto Frontier by Genetic Algorithms, Multi-Objective Optimization and Computational Intelligence, Sequential Approximate Optimization, Combining Aspiration Level Approach and SAMO, Engineering Applications.

More information: <http://www.springeronline.com/978-3-540-88909-0>

Online version: <http://www.springerlink.com/content/978-3-540-88909-0>

## 4.2 Multiobjective Optimization: Interactive and Evolutionary Approaches

*Kaisa Miettinen, University of Jyväskylä, Finland*



*Multiobjective Optimization: Interactive and Evolutionary Approaches* by Branke, J.; Deb, K.; Miettinen, K.; Slowinski, R. (Editors). Volume 5252 of the series *Lecture Notes In Computer Science*, Springer-Verlag, ISBN: 978-3-540-88907-6.

Multiobjective optimization deals with solving problems having not only one, but multiple, often conflicting, criteria. Such problems can arise in practically every field of science, engineering and business, and the need for efficient and reliable solution methods is increasing. The task is challenging due to the fact that, instead of a single optimal solution, multiobjective optimization results in a number of solutions with different trade-offs among criteria, also known as Pareto optimal or efficient solutions. Hence, a decision maker is needed to provide additional preference information and to identify the most satisfactory solution. Depending on the paradigm used, such information may be introduced before, during, or after the optimization process. Clearly, research and application in multiobjective optimization involve expertise in optimization as well as in decision support.

This state-of-the-art survey originates from the International Seminar on Practical Approaches to Multi-objective Optimization, held in Dagstuhl Castle, Germany, in December 2006, which brought together leading experts from various contemporary multiobjective optimization fields, including evolutionary multi-objective optimization (EMO), multiple criteria decision making (MCDM) and multiple criteria decision aiding (MCDA).

This book gives a unique and detailed account of the current status of research and applications in the field of multiobjective optimization. It contains 16 chapters grouped in the following 5 thematic sections: Basics on Multiobjective Optimization; Recent Interactive and Preference-Based Approaches; Visualization of Solutions; Modelling, Implementation and Applications; and Quality Assessment, Learning, and Future Challenges.

More information: <http://www.springeronline.com/978-3-540-88907-6>

Online version: <http://www.springerlink.com/content/978-3-540-88907-6/>

### 4.3 Multiobjective Programming and Goal Programming— Theoretical Results and Practical Applications

*Matthias Ehrgott, University of Auckland, New Zealand*



Series: Lecture Notes in Economics and Mathematical Systems, Vol. 618

Barichard, V.; Ehrgott, M.; Gandibleux, X.; T'Kindt, V. (Eds.) 2009, XV, 298 p. 98 illus., Softcover

ISBN: 978-3-540-85645-0

[Online version available](#)

This book gives the reader an insight into the state of the art in the field of multiobjective (linear, nonlinear and combinatorial) programming, goal programming and multiobjective metaheuristics. The 26 papers describe all relevant trends in this fields of research. They cover a wide range of topics ranging from theoretical investigations to algorithms, dealing with uncertainty, and applications to real world problems such as engineering design, water distribution systems and portfolio selection. The book is based on the papers of the seventh international conference on multiple objective programming and goal programming (MOPGP06).

## 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/~ewgmcdai/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/>

### Imprint

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