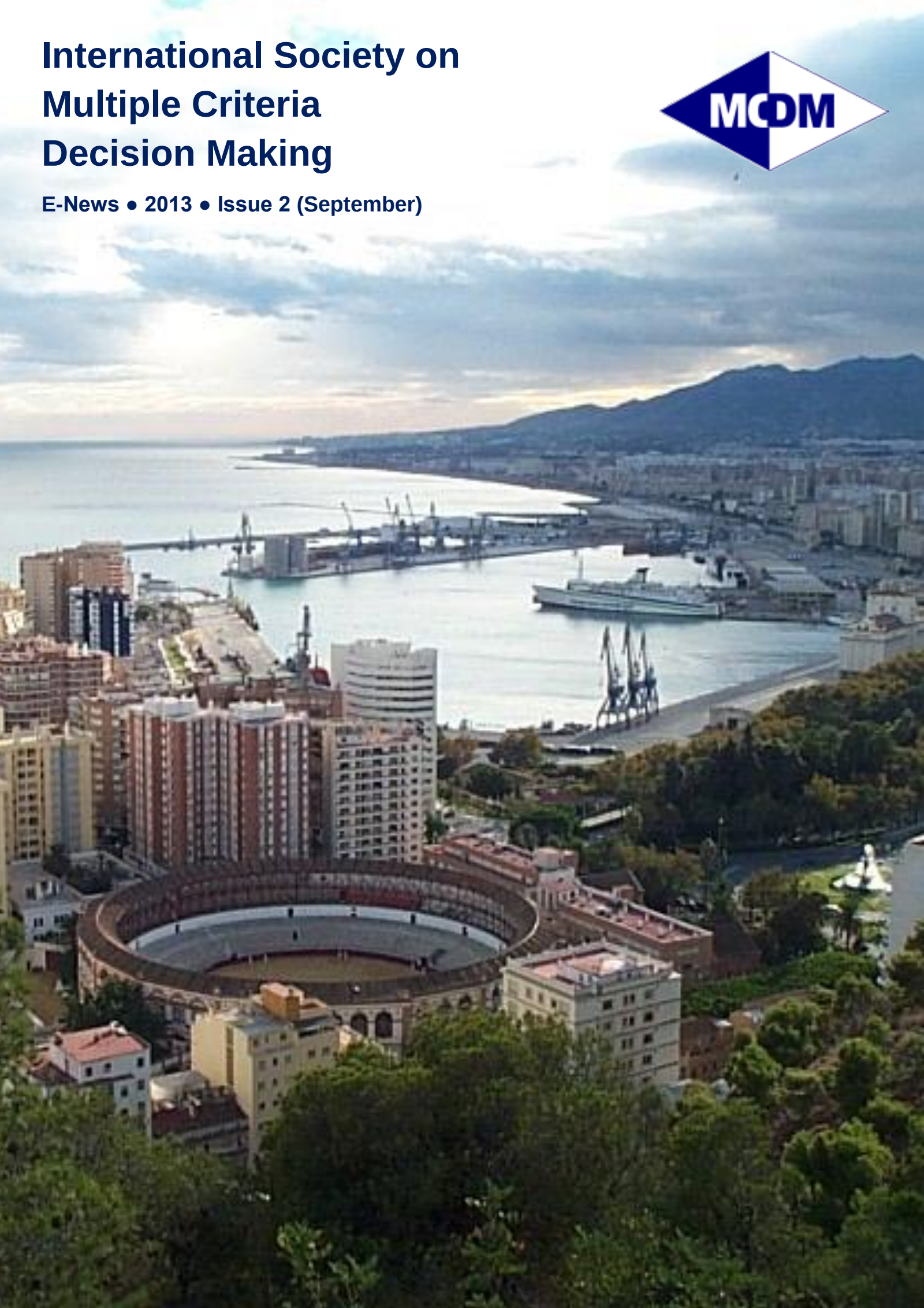
International Society on Multiple Criteria Decision Making

E-News • 2013 • Issue 2 (September)



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Front: Malagá, Spain © Francisco Ruiz

Letter from the President

Dear Members of the International Society on Multiple Criteria Decision Making,

Summer 2013 has been very active in the field of Multiple Criteria Decision Making. In June, we had the 22nd International Conference on Multiple Criteria Decision Making in Malaga, Spain, and a new record was made: 359 participants attended the conference and for about 100 of them this was their first MCDM conference! It was a very well organized and fruitful conference and I want to sincerely thank conference organizers, organizers of invited sessions, plenary speakers and all participants for making it such a memorable event!

During the conference, many awards were given (the three Awards of the Society, the MCDM Doctoral Dissertation Award and the Wiley Practice Prize) and more information about the awards and awardees as well as the conference itself can be found in this newsletter. I want to take this opportunity to thank all the Awards and Prize Committees for working hard in evaluating the candidates and making the decisions and congratulate all award winners.

The other important event of this summer was the International Summer School in Hamburg, Germany, which had 49 participants and it was so popular that not all interested participants could be accepted. This newsletter contains information about the summer school from both organizer's and participants' point of view. Many thanks to organizer, lecturers and participants.

The venue of the 23rd International Conference on MCDM was announced in Malaga. The next main conference of our Society will be organized in Hamburg, Germany, on August 3-7, 2015 and the Conference Chair will be Martin Josef Geiger. Some information about the conference is already available and further information will be announced, so I urge you to follow the conference website http://www2.hsu-hh.de/logistik/MCDM-2015/.

Please, reserve the above-mentioned dates for the conference and start advertising it by telling your colleagues and students. Let us together make the next conference a success as well!

Over the summer, we have had the elections to fill four open positions in the executive committee of our Society. Once again, many thanks to all those whose term ended. And very warm thanks to you all for voting actively: 526 members of our Society voted! The results of the election and the whole executive committee are listed in this newsletter. We have included some more information about two new members of the committee who have not served in it during the past term: Professors Kathrin Klamroth and Hirotaka Nakayama.

In the business meeting in Malaga (directed to all members of the society attending the conference) we started the process of updating the bylaws of the Society. The bylaws were accepted in 1998 and they have not been updated since. According to the bylaws, the updating process requires two business meetings but as the business meeting in Malaga supported the updates, we decided to already start living as much as possible according to the updated bylaws. The biggest changes are that the Chair of the MCDM Doctoral Dissertation Award Committee

will be selected among the Executive Committee members and the Editor-in-Chief of the Journal of Multi-Criteria Decision Analysis (currently Theodor Stewart) will become a member of the Executive Committee. Jyrki Wallenius will serve as the Chair of the MCDM Doctoral Dissertation Award till 2015 and as Theodor Stewart was selected as the Chair of the Awards Committee, we has already become a member of the Executive Committee.

This newsletter also included an anecdote by Theodor Stewart, information about upcoming events, calls for papers and recent publications, awards received by members of our Society and a research group description. I hope that you will find all this interesting and useful.

Finally, I want to remind you of the approaching deadline of the four special issues devoted to the MCDM2013 conference. Special issues will be published in the Journal of Multi-Criteria Decision Analysis (on Distance Based Approaches for Multi-Criteria Optimization), in the Journal of Global Optimization (on Global Optimization with Multiple Objectives), in the European Journal of Operational Research (on Evolutionary Multiobjective Optimization) and in Annals of Operations Research (on Multiple Criteria Decision Making and Economics). The deadline is September 30, 2013 and these special issues are open to all high-quality submissions relevant to MCDM and the topic of the special issue. It is important to note that they are *not* restricted to conference presentations. The calls for papers can be found in this newsletter and at http://www.mcdm2013.decytec.ccee.uma.es/programs-and-presentations/special-issues.html.

I want to thank the editorial team for preparing this newsletter and remind you, dear readers, that your feedback and your contributions to the next newsletter, which will be published at the beginning of next year, are most welcome!

Remember that the officers of our Society can easily be contacted at the following email addresses:

president (at) mcdmsociety.org,

president-elect (at)mcdmsociety.org,

secretary (at) mcdmsociety.org,

mcdm-award (at) mcdmsociety.org and

newsletter (at) mcdmsociety.org.

Kaisa Miettinen

President of the International Society on MCDM

President (at) mcdmsociety.org

Professor and Vice-rector

University of Jyväskylä, Finland

P.S. It is important that you are active and **keep your contact information up to date** at http://mcdmsociety.org/members/ by typing in your email address and password. If you have forgotten your password, please, click the "Forgot your password" link, type in your email address and you will receive instructions by email. If you face any problems in updating your data, e.g. your email address has changed, please, contact the Secretary at secretary (at) mcdmsociety.org.

1 Society News

1.1 The 22nd International Conference on Multiple Criteria Decision Making

The 22nd International Conference on Multiple Criteria Decision Making (MCDM2013) was held in Málaga (Spain) from June 17th to June 21st. The conference was hosted by the University of Málaga, and the venue was the Faculty of Economy and Business Administration.

The MCDM2013 Conference broke a new record of 359 participants, coming from 46 countries around the world. It is also important to point out that there were 109 students registered, that is, over 30% of the participants were students. 332 abstracts were accepted and 114 invited talks, 198 contributed talks and 17 posters were presented at the conference. In addition, three finalists of the MCDM doctoral dissertation award competition gave a brief talk and a poster. These works were distributed into 33 invited sessions and 53 contributed sessions, plus one posters session. Six parallel sessions were needed to accommodate all the contributions.

The MCDM2013 organization waived 16 registration fees in an attempt to aid participants from developing countries to attend the conference. In addition, the International Society on Multiple Criteria Decision Making supported 5 participants by covering their accommodation expenses.

Three plenary talks were delivered by Profs. Ralph L. Keeney (Duke University, Durham, NC, USA), Dylan F. Jones (University of Portsmouth, UK) and Carlos Bana e Costa (Technical University of Lisbon, Portugal).

The social program was designed in order to provide the participants with an overview of the traditions, culture and gastronomy of the province of Málaga.

The welcome reception was a typical "moraga", a cocktail held in a restaurant by the seaside, with the tables laid on the sand, where the participants could taste our fried fish and our sardines "espetos".

Traditionally, in all MCDM conferences there is a half day outing designed to show the traditions of the hosting country to the participants. This time, we went to Moclinejo, a small village located within the region of Axarquía, 27 kilometres away from Málaga, on a ridge of a hill.

Upon arrival at Moclinejo, we were taken to a panoramic viewpoint from which we had a privileged view of the Axarquía, with its grape vines and dryers. Once in town, we had short walk through the streets, to the Town Hall Square, where we were greeted by the mayor. Then, we enjoyed a tasting, pairing Málaga wines and goat cheeses, taught by a professional sommelier. After this, we were left some free time to walk through the typical narrow alleys of this Andalusian white village. During this time, it was possible to visit the church, a traditional cellar, some museum, or a street market displaying typical products and handicraft. During this time, it was also possible to enjoy several performances, including "verdiales", which is an ancient traditional music and dance of our province, or to taste some sweets. Finally, we joined the villagers to try the huge paella they were cooking during our visit, and we ended the evening dancing with a local orchestra.

The conference dinner was held in Álora, a village on the valley of river Guadalhorce, the main river of the province. The dinner included different typical dishes of the Andalusian cuisine, and it was ended with a fiesta held outdoors.

During the conference dinner, the Awards of the Society were announced. This time, the awardees were:

Georg Cantor Award: João Climaco.

Edgeworth-Pareto Award: Constantin Zopounidis.

MCDM Gold Medal: Salvatore Greco.

The three awardees delivered their talks during a plenary session on Friday morning. Besides, the MCDM Doctoral Dissertation Award was for Miłosz Kadziński, and the Wiley Practice Prize was for the paper *Triple bottomline, hyper--radial--visualisation--based 'decision--making by shopping' for a land use management problem using evolutionary multi-objective optimisation*, by O. Chikumbo, E. Goodman and K. Deb.

Figure 1. Kaisa Miettinen, Francisco Ruiz, João Climaco, Salvatore Greco, Constantin Zopounidis, Pekka Korhonen.

As the general chair of the conference, I would like to warmly thank all the people who have made this conference possible: the program committee (co-chaired by Profs. Rafael Caballero and Carlos Romero), the organizers of the invited sessions, the plenary speakers, the chairpersons, and all the presenters and authors of communications. Also, thank you to the different committees that worked hard before and during the conference: the MCDM Society Executive Committee (chaired by Kaisa Miettinen), the MCDM Awards Committee (chaired by Pekka Korhonen), the Doctoral Dissertation Award Committee (chaired by Yong Shi) and the Wiley Practice Prize Committee (chaired by Theo Stewart). I would also like to thank the sponsors of the event, including Novasoft, Tenturismo.com, Unicaja, Málaga Convention Bureau, and very especially, the University of Málaga and the Faculty of Economy and Business Administration for their support. And last but not least, this conference was possible thanks to the enthusiastic work of the local organizing committee formed by José M. Cabello, Ana B. Ruiz and Rubén Saborido, and aided by the local team: T, Gómez, M. González, M. Hernández, M. Luque, O.D. Marcenaro, F. Miguel, J. Molina, F. Pérez, F. Pineda, B. Rodríguez, A. Cano, C. Rod and C. Boateng.

Finally, I would like to remind all members of the Society that there will be four special issues containing (but not limited to) papers that have been presented at the conference (see Section 3 and http://www.mcdm2013.decytec.ccee.uma.es/programs-and-presentations/special-issues.html):

- **Journal of Multicriteria Decision Analysis**,
  - Guest editor: Dylan F. Jones,
  - Theme: Distance based approaches for Multi-Criteria Optimisation.
- **Journal of Global Optimization**,
  - Guest editors: Kaisa Miettinen, Jussi Hakanen, Dmitry Podkopaev and Ingrida Steponavice,
  - Theme: Global optimization with Multiple Objectives.
- **European Journal of Operational Research**,
  - Guest editors: Dimo Brockhoff, Bilel Derbel, Arnaud Liefooghe and Sébastien Verel,
  - Theme: Evolutionary Multiobjective Optimization
- **Annals of Operations Research**,
  - Guest editors: Rafael Caballero, Carlos Romero and Francisco Ruiz,
  - Multiple Criteria Decision Making and Economics.

Francisco Ruiz

General Chair

1.2 Report on the MCDM Awards 2013

The International Society on MCDM has three scientific awards for scholars who have made an exceptional career in the field of MCDM. In addition to the three scientific awards, the society also presents The MCDM Presidential Service Award to a retiring President and the MCDM Conference Chairmanship award to the organizer of the conference.

The scientific awards are The MCDM Gold Medal, The MCDM Edgeworth-Pareto Award, and The Georg Cantor Award. The awards will be traditionally announced and presented in the banquet of the international conference of the society. The conferences will be held approximately every second year. The awardees are expected to give a lecture at the same international conference at which they receive an award.

The awards were presented for the first time in 1992 at the 10th international conference on MCDM (Taipei). The father of the idea, Ralph Steuer, discussed the awards with various people already in 1990 in Fairfax (Virginia). Ralph's idea was not only to present the awards, but also to make their appearance prestigious. In Taipei, Ralph together with Yacov Haimes and Wolfram Stadler formulated the texts for the awards. My wife Kaiju was invited to help the committee in the artistic design of the plaques for the awards. Gwo-Hshiung Tzeng offered the possibility to produce the plaques in Taiwan. The society has not succeeded to find any other place, where so nice plaques could be produced as cheap as in Taiwan. Hence, Tzeng has taken care of the production of those plaques since 1992 and carried them to all international MCDM-conferences. Each plaque with its box weighs about 1.3 kg. The society really appreciates his contribution.

All members of the Society are eligible to make nominations to the Awards Committee. The final decision is made by the Awards Committee, which is appointed by the Executive Committee of the Society. The committee of years 2009-2013 consisted of the following members: Pekka Korhonen (chair), Murat Köksalan, Benedetto Matarazzo, Kaisa Miettinen (ex officio), Hirotaka Nakayama, Carlos Romero, Francisco Ruiz (ex officio), Jaap Spronk, and Detlof von Winterfeldt. All elected members of the committee are ex-awardees.

This year the committee received 12 proposals. All candidates were good and each of them could have been a possible awardee. The final decision of the committee was to present The MCDM Gold Medal to Professor Salvatore Greco, The MCDM Edgeworth-Pareto Award to Professor Constantin Zopounidis and The Georg Cantor Award to Professor João Clímaco.

Salvatore Greco was born in 1965. He received his degree from the Faculty of Economics of the University of Catania in 1988. He has been researcher of the Faculty of Economics of the University of Catania since 1994, associate professor since 1998 and full professor since 2001. His research interests consist of preference modeling and multiple criteria decision analysis with a specific attention to application of rough set theory. In the Web of Science (ISI) reports, there are mentioned 124 publications, which are cited more than 2000 times. The h-index is 23, which is outstanding for the field. His most cited paper published 2001 in the European Journal of Operational Research has received more than 420 citations. He published the first ISI-article in 1999.

João Clímaco has made his academic career at the University of Coimbra, first as an assistant (1973) and then from year 1990 on as a full professor. He finished his PhD in 1982. He describes his research area as follows: "Most of my research life has been dedicated to MCDM methods, software and energy and telecommunication applications." He has published more than 150

papers dealing with MCDM methods, software and applications. 75 papers are published in ISI-journals and those papers are cited more 700 times. The first paper was published in 1982. Furthermore, he has supervised twelve PhD students on MCDM research topics and other two are still in progress. He organized the 11th International Conference on MCDM.

Constantin Zopounidis is Professor of Financial Management and Operations Research at the Technical University of Crete (Greece) and Distinguished Research Professor at Audencia Nantes – School of Management (France). He finished his PhD in 1986. He is one of the pioneers in MCDM methodologies for classification and sorting. He has published more 180 international papers in international journals and 120 papers in conference proceedings, edited volumes and encyclopedias. At least 90 papers of those international papers are published in so-called ISI-journals. Those papers have been cited almost 1200 times. Furthermore, he has edited or authored more than 65 books and volumes and prepared about 30 journal special issues. Recently he launched a new journal on MCDM (the International Journal of Multicriteria Decision Making), in which he serves as the co-editor in chief. He has organized the 18th International Conference on MCDM in Chania (Greece) and three meetings of the European Working Group on MCDA (1992, 1998, 2008).

The MCDM Conference Chairmanship Award was presented to Professor **Francisco Ruiz** for his hospitality and for his outstanding leadership in organizing, managing, and chairing the 22nd International Conference on Multiple Criteria Decision Making, Malaga, Spain, June 17-21, 2013. Francisco and his staff made an outstanding job for the success of the conference. Dinners and outings are unforgettable.

On my behalf, I would like once more to congratulate all awardees!

Pekka Korhonen

Chairman of the Awards Committee

1.3 Report about the 2013 MCDM Doctoral Dissertation Award

Based on the proposals submitted by 15 individuals from 10 countries: Algeria, Austria, Canada, Finland, Italy, New Zealand, Poland, Spain, Tunisia, Turkey, the committee of the 2013 MCDM doctoral dissertation award has selected three individuals as the finalists to present at the award competition in the afternoon of June 17, 2013. They are:

1. Milosz Kadzinski: Ph.D. degree (2012) from University of Technology Poznań, Poland of Intelligent Decision Support Systems. His research area is in decision support, particularly in robust ordinal regression, multiple objective optimization, and exploratory data analysis. He published 12 journal papers in EJOR, Omega, Compu&OR, and IT&DM as well as others.
2. Juan Durillo: Ph.D. degree (2011) from University of Malaga. Juan's research interests are Multi-objective optimization, parallel computing and software engineering. Juan published eight journal papers in IEEE Trans. on Evolutionary Computing, Engineering Optimization, International Journal of Intelligent Systems and others.
3. Karthik Sindhya: Ph.D. degree (2011) from University of Jyväskylä. His research is primarily focused on developing efficient evolutionary multi-objective optimization (EMO) algorithms for handling a wide range of objective functions that may be encountered in industries. He published four papers in IEEE Trans. on Evolutionary Computing, Natural Computing, Soft Computing and others.

According to a majority vote of the committee, **Dr. Milosz Kadzinski** became a recipient of the 2013 MCDM doctoral dissertation award. Congratulations to the recipient, finalists and candidates!

Yong Shi (Chair), Chinese Academy of Sciences, China
Andrzej Jaszkiewicz, Poznań University of Technology, Poland
Kathrin Klamroth, University Wuppertal, Germany
Gang Kou, Southwest University of Finance and Economics, China
Heeseok Lee, Korea Advanced Institute of Science and Technology, Korea
Hirotaka Nakayama, Konan University, Japan
Serpil Sayin, Koç University, Turkey
Francisco Ruiz, University of Málaga, Spain
Lothar Thiele, Swiss Federal Institute of Technology Zurich, Switzerland
Margaret Wiecek, Clemson University, USA

Yong Shi

Chair of the MCDM Doctoral Dissertation Award

1.4 A First Announcement: 23rd International Conference on Multiple Criteria Decision Making (MCDM 2015)

Dear friends and colleagues,

a warm *Moin* from Hamburg!

It is my pleasure to announce the dates of the 23rd International Conference on Multiple Criteria Decision Making MCDM 2015: We are proud to organize and host the conference from **August 3rd to 7th, 2015**, at the Helmut-Schmidt-University in Hamburg, Germany. Please note that on **August 2nd, 2015,** we'll have a pre-conference get-together. So please save the date!

The 23rd biannual conference of the International Society on Multiple Criteria Decision Making will be organized under the motto of "Bridging Disciplines". We have chosen this for several reasons. Clearly, MCDM is an interdisciplinary field of research. Many of us work on the intersection of several areas, and thus are architects of bridges in science.
From this perspective (but not only), Hamburg as a city is a good place for a conference: The city possesses more bridges than any other in the world…! Apparently (but I must admit that I have this off the internet and did not check it myself), more than London, Amsterdam and Venice put together!
We also think that our university can contribute to this motto, as we have several science and engineering faculties that closely collaborate both on the research and on teaching level. This will ensure an excellent local support for the MCDM 2015 (and this I don't have taken from the internet, but know for sure☺).

In the next newsletter, I'll be back with a more detailed announcement, and we'll have a website up and running. Nevertheless, I kindly invite you already now to the MCDM 2015!

Sincerely,

Martin Josef Geiger

1.5 Executive Committee Election

Every two years four Members of the Executive Committee are elected for a four-year-period. In this year election 526 members of our society voted. The new members in alphabetical order are:

Matthias Ehrgott, Kathrin Klamroth, Pekka Korhonen and Hirotaka Nakayama

In the following, you find detailled information on Kathrin Klamroth and Hirotaka who were not Members of the Executive Committee the last years.

Kathrin Klamroth is full professor for mathematical optimization at the Department of Mathematics and Natural Sciences, University of Wuppertal, Germany (since 2008). She obtained her PhD in Mathematics at the Technical University of Braunschweig, Germany, in 1994, and the venia legendi (habilitation) for Mathematics at the University of Kaiserslautern in 2000. She was an associate professor at the University of Applied Sciences in Dresden (1999-2002) and at the University of Erlangen-Nuremberg (2002-2008). She has been a visiting scholar at universities in Denmark, France and in the USA.

Her main research areas are multicriteria optimization and applications, with a focus on combinatorial and discrete problems and on discrete-continuous optimization. She was a member of the executive committee of the International Society on MCDM before (2006-2010), and she was a member of the MCDM Dissertation Award Committee (2011-2013). She is a member of the Institute for Operations Research and Management Science (INFORMS), the Mathematical Optimization Society (MOS), the German Operations Research Society (GOR), and a managing board member of the Continuous Optimization working group of EURO (EUROPT, since 2012).

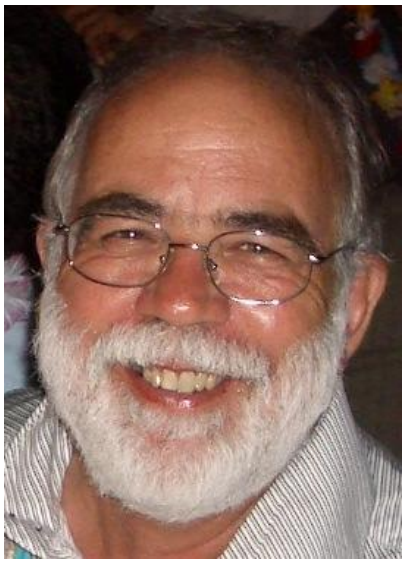
Hirotaka Nakayama received the B.E., M.E., and D.E. degrees from Kyoto University, Japan, in 1969, 1971 and 1975, respectively. After he was with Konan University, Kobe, Japan for 39 years, he retired from it at the end of March 2013. At present, he continues collaborative researches with several Japanese industries. His research interests include multi-objective optimization, sequential approximate optimization using computational intelligence, machine learning, along with their applications to engineering design problems and communication robots.

He received the Pareto-Edgeworth Award from the International Society of Multiple Criteria Decision Making in 1995.

The following table provides an overview on the Members of the Executive Committee of the International Society on MCDM:

Kaisa Miettinen, President of the Society University of Jyväskylä President (at) mcdmsociety.org	Finland	2011-2015
Kalyanmoy Deb Michigan State University	USA	2011-2015
Matthias Ehrgott Lancaster University	Great Britain	2013-2017
Martin J. Geiger, Next Meeting Ex-Officio Helmut Schmidt University	Germany	2013-2017
Salvatore Greco University of Catania	Italy	2011-2015
Birsen Karpak, Vice-President of Finance Youngstown State University	USA	2011-2015
Kathrin Klamroth Bergische Universität Wuppertal	Germany	2013-2017
Pekka Korhonen Aalto University, emeritus	Finland	2013-2017
Murat Köksalan, President-Elect Middle East Technical University President-elect (at) mcdmsociety.org	Turkey	2011-2015
Hirotaka Nakayama Konan University, emeritus	Japan	2013-2017
Carlos Romero Technical University of Madrid	Spain	2011-2015
Johannes Siebert, Newsletter Editor University of Bayreuth newsletter (at) mcdmsociety.org	Germany	2011-2015
Jaap Spronk Erasmus University of Rotterdam	Netherlands	2011-2015
Theo Stewart, Chairman of the Awards Committee University of Cape Town, emeritus	South Africa	2013-2017
Jyrki Wallenius, Immediate Past-President, Chairman of the MCDM Doctoral Dissertation Award Committee Aalto University	Finland	2011-2015
Francisco Ruiz, Secretary, Past Meeting Ex-Officio University of Málaga Secretary (at) mcdmsociety.org	Spain	2013-201

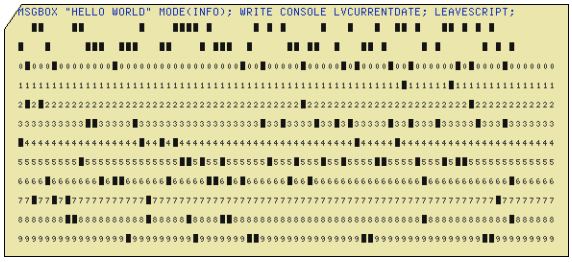
2 Early exposure to MCDM problems: An Anecdote by Theodor Stewart



I well remember two events that occurred in the mid-1970s, while I was a young researcher at the South African Council for Scientific and Industrial Research (CSIR). At the time, I had vaguely heard of goal programming, but not of MCDM as a discipline, even though the first conference had happened a couple of years earlier.

The first event arose when officials in the government town planning directorate, having heard about OR, approached us with a problem. They were tasked with planning an almost wholly new urban development in a region about 100km north of Cape Town around an ore-loading dock that had recently been constructed. There was a need to zone the region for various activities, and to design the main arterial transport routes. A number of different interest groups had suggested plans, but they had seemed irreconcilable, and we were asked to use our OR skills to find the optimal plan.

In order better to understand the different proposals, we placed a grid over the map, and asked each interested party to indicate their zonings together with the locations of the initial activities within each zone. Other properties such as altitude and slope in each grid were also recorded.



This information was transferred on to punch cards (one card for each row of grid cells on the map) ...hands up those readers who have even seen punched cards! A simple gravity model was used to predict how activities would grow and the resultant traffic movements, if each actor sought their own best interests within the zoning constraints. We could then get snapshot patterns of how the resulting layout and transportation densities would look as populations reached certain critical levels. However, what was the optimization objective?

Without any background at that time of problem structuring and value trees, it was still obvious how different stakeholders had different interests, including investment costs, infrastructural costs (water and sewage), travel times, air pollution effects, impacts on environmentally sensitive areas, etc. We would now call these “criteria”; but that was not a concept I yet understood! Each stakeholder provided me with some means of assessment of each effect, which I built into the model (all written in FORTRAN for our only mainframe computer). I then produced tables of the various impacts at different phases of development for each proposed plan, which I supplied to the committee tasked with the decisions. The tabling of these plans was meant as a preliminary step towards “optimization”. To my amazement, however, there was no need to go further. Once the tables were presented, there were many reactions such as “Oh is that what you were worried about with my plan? We can get round that problem by moving this zone to there.” As a result,

after one meeting, a new zoning plan was submitted to my model, and it was confirmed that a near-to-ideal plan had been found. This was submitted to cabinet for final approval after a few small adjustments. (For political reasons, the development was never properly implemented, but that was for totally different reasons that had nothing to do with the quality of the zoning plan.)

The early valuable lesson I thus learnt was that a clear and systematic structuring of the alternatives in terms of impacts on relevant concerns (criteria) can be the most valuable part of the MCDA process, facilitating consensus simply by providing communication and understanding between interests.

The background to the second event started before I joined the CSIR. Essentially all maize grown in the country was purchased by a statutory organization called the Maize Board (MB). In good (high harvest) years, they guaranteed farmers a good price, and exported surpluses to build up funds. In poor years, they imported maize, using the surplus funds to keep the consumer price down. All bulk consumers of maize (about 100-150 organizations, including wholesalers, millers and exporters) had to buy from the MB. The MB charged a fixed FOR (free on rail) price to all bulk consumers. Maize was delivered by farmers to some 300-400 depots across the growing region. The MB operated the depots, and determined from where each bulk user would be supplied. The aim was to minimize costs of distributing maize nationally.

The distribution problem was thus a "classic". My predecessors in the CSIR OR group had written FORTRAN code for a specially tailored transportation algorithm for the MB, and this I inherited. I performed some refinements. (It is worth recalling that the computer cost charged to the client for one run of the model exceeded my gross monthly salary!) I soon realized that there was a fair degree of redundancy in the model so that many minimum cost solutions existed. I noticed that my predecessors had listed all variables (supply-demand links) which had zero reduced cost, which they termed "null paths", but I thought little about it, until one day ...

Two officials from the MB came to see me. A difficulty they had was the time they spent in adjusting my solution! "Adjusting the optimal solution"! ...What's going on? The problem had manifested itself when they had two bulk users at similar geographical locations who were having to pay substantially different amounts per ton for railage (as their supplies came from different depots). What these officials were doing was to try to equalize the costs by distributing the supplies over multiple depots, using the "null paths", in a largely "hit-or-miss" process.

Only then did I come to the realization that optimization problems could have multiple and possibly conflicting objectives. The problem here involved not only minimization of cost but also maximization of fairness across consumers. The client was mainly concerned about users in the same region having similar rail costs, but we soon extended the thinking to defining a "fair" railage cost to every consumer, as a function of demand and distance from the growing areas, and

to be achieved as closely as possible. Once again, this led to a structuring of the problem in terms of multiple criteria (multiple objectives), but we still had to find a solution. At the time, given the relative cost of computing and of linear programming software, we initially developed a heuristic modification to the standard transportation algorithm. I still enjoy the challenge of designing specially tailored heuristics! But times were changing quickly. Within no more than 2 or 3 years, computing costs had dropped dramatically (both because of increased speed and because of reduced costs per processing minute), and we obtained access to a mathematical programming software system. It was easy then to implement a complete goal programming solution, which was to be used for many more years.

The above two episodes exposed my thinking from an early stage to the challenges of both discrete choice MCDA and to multiobjective optimization, and I still regularly confront both problem settings. It is the involvement with such wide ranges of problems that enriches ones understanding of multicriteria decision making from both the user and the analytical perspectives.

Theo Stewart

Emeritus Professor of Statistical Sciences and Senior Research Scholar, University of Cape Town

Part-time Professor of Decision Science, Manchester Business School

Editor-in-Chief, Journal of Multi-Criteria Decision Analysis

3 Upcoming Events and Call for Papers

3.1 Special Issue of Journal of Multi-Criteria Decision Analysis On Distance-Based Approaches to Multi-Criteria Decision Making

Guest Editor

Dr Dylan Jones

Logistics and Management Mathematics Group, Department of Mathematics, University of Portsmouth, UK.

Distance-based MCDM approaches are defined as those methods, which minimize the distance between the actual and the desired or ideal solutions for a multi-criteria problem. Techniques in this category include goal programming, compromise programming, the reference-point method, and distance-based evolutionary approaches.

The aim of this special issue is to present and advance the state-of-the-art in the theory and application of distance-based MCDM approaches. Theoretical issues include, but are not limited to: development of new methodologies; refinement and improvement of existing methods; enhanced preference elicitation and modelling techniques; computational, visualization, and decision maker(s) interaction considerations; and combination and integration with other MCDM/A, operational research, or artificial intelligence techniques. Application papers can arise from any field with papers concerning emerging or novel situations particularly welcome. This call is related to the 22nd International Conference on Multiple Criteria Decision Making that will take place on 17-21 June 2013 in Málaga (Spain). However, the call is open to any researcher interested in the field.

The submitted papers will be reviewed according to the editorial policy of the Journal of Multi-Criteria Decision Analysis. The papers should be original, unpublished, and not currently under consideration for publication elsewhere. Authors should upload their papers using the submission webpage http://mc.manuscriptcentral.com/mcda indicating in their cover letter that the paper is intended for consideration in this special issue. The submission deadline is 31/10/2013. For more information, please do not hesitate to contact the guest editor, Dr. Dylan Jones (Dylan.Jones@port.ac.uk).

3.2 Special Issue on Global Optimization with Multiple Objectives of the Journal of Global Optimization (published by Springer)

Guest editors:

Kaisa Miettinen, Jussi Hakanen, Dmitry Podkopaev and Ingrida Steponavice

Submission deadline:

September 30, 2013

The goal of this special issue is to present advanced research at the intersection of global and multi objective optimization. We invite unpublished high quality papers, which address challenges of global optimization with multiple objectives. Many optimization problems (such as nonconvex, stochastic or combinatorial optimization problems) have both global and local optima. For solving such problems one needs to implement sophisticated global search strategies. In problems with multiple objectives an additional challenge is posed by the fact that the notion of a solution to such problems is not unique.

The special issue is connected but not restricted to the 22th International Conference on Multiple Criteria Decision Making (to be held in Malaga, Spain, in June 2013; www.uma.es/mcdm2013/). We welcome papers with a significant amount of new scientific contribution in theory, methods and applications of global optimization with multiple objectives in line with the scope of the Journal of Global Optimization–an international journal dealing with theoretical and computational aspects of seeking global optima and their applications in science, management and engineering.

Submission:

Authors should follow the Instructions for Authors of the Journal of Global Optimization and submit their high quality manuscript via Springer's online Editorial Manager www.editorialmanager.com/jogo/ by September 30, 2013. The maximum number of pages is 15 (plus an online supplement, if needed). While submitting, please make sure to choose in the Editorial Manager **SI: MCDM2013** as the Article Type

3.3 Special Issue of the European Journal of Operational Research on "Evolutionary Multiobjective Optimization"

Guest edited by:

Dimo Brockhoff, Bilel Derbel, Arnaud Liefooghe, and Sébastien Verel

Submission deadline:

September 30, 2013

Special Issue Aims and Scope:

The goal of this special issue is to present salient current research and application studies, using evolutionary multiobjective optimization (EMO) methodologies to the general multi-criteria decision making (MCDM) and Operations Research audience. We welcome high quality papers in all theoretical, developmental, implementation, and applied aspects of EMO and decision making, though papers focusing on combining EMO and MCDM methodologies are highly encouraged.
Potential topics of research include, but are not limited to:

- EMO for dynamic optimization
- distributed and parallel EMO
- handling a large number of objectives
- hybrid EMO methodologies
- innovative applications
- interactive EMO
- multiobjectivization studies
- neighborhood and variation operators
- performance metrics
- preference articulation in EMO
- search space analysis of multiobjective problems
- set-based MCDM approaches
- theoretical foundations of EMO
- uncertainty handling

Key Dates:

- Submission deadline for full-length papers: September 30, 2013
- Tentative notification about acceptance: March 2014
- Tentative deadline for final submission: May 2014
- Expected publication date: second half of 2014

Submission Process:
Manuscripts should be submitted via the online system of Elsevier which can be accessed via the Elsevier submission page. All papers will be reviewed by at least three different reviewers and should contain unpublished material that is not under review elsewhere.
Papers must comply with the author guidelines of Elsevier. Elsevier's LaTeX article style file and corresponding explanations can be downloaded from their Quickguide.

3.4 Annals of Operations Research, Special Volume: Multiple Criteria Decision Making and Economics

The Annals of Operations Research seeks submissions for a special volume on Multiple Criteria Decision Making and Economics. The deadline for submission is September 30, 2013. The goal of this special volume is to present theoretical and applied research at the intersection of multi-criteria decision analysis and economics. Economics (broadly understood) has undeniably been one of the main fields of application of Operations Research, and economists have encouraged research in the field. In fact, economic problems can be expressed as particular cases of optimization problems.

Until recently, economics has been basically underpinned by a classic optimization theory based upon the optimization of a single criterion subjected to a feasible set defined by rigid constraints. However, in the last decades a shift in optimization theory has occurred with the birth and evolution of the Multiple Criteria Decision Making paradigm.

This special volume will publish original research papers dealing with potential effects of this shift of paradigm on a great variety of problems in economic analysis, related to such areas as business and industrial management, energy economics, environmental and ecological issues, financial economics, health and welfare, public economics, etc. The step from optimization to decision making in economics has surely allowed the consideration and study of more complex and realistic problems, which we would like to encourage to be submitted for this special volume.

This call for papers is connected to but not restricted to the 22nd International Conference on Multiple Criteria Decision Making that will be held on 17-21 June 2013 in Málaga (Spain).

Instructions for authors can be found at:

http://www.springer.com/business/operations+research/journal/10479

Authors should submit a cover letter and a manuscript before the deadline via the Journal's online submission site. Manuscripts submitted after the deadline may not be considered for the special volume and may be transferred to a regular volume.

Please see the Author Instructions on the web site if you have not yet submitted a paper through Springer's web-based system,

Editorial Manager. Be sure to note in the Manuscript Comment box text that your work is intended for the special volume and to select the article type **S.I.:MCDM2013**. Papers will be subject to a strict review process managed by the Guest Editors and accepted papers will be published online individually, before print publication.

Guest Editors:

Professor Rafael Caballero (Málaga University. E-mail: r_caballero@uma.es).

Professor Carlos Romero (Technical University of Madrid. E-mail: carlos.romero@upm.es)

Professor Francisco Ruiz (MálagaUniversity. E-mail: rua@uma.es)

3.5 7th Annual Day, Operational Research Society of Nepal

7th Annual Day
Operational Research Society of Nepal
February, 01-02, 2014
International Conference on "OR: Applications in Developing Countries"
http://www.orsn.org.np

INVITATION

With the theme *Operations Research: Applications in Developing Countries*, the conference seeks to bring together OR researchers, academicians and practitioners, whose collective work has sustained continuing OR contribution to decision-making. The conference aims to provide a forum where:

- Participants can exchange ideas on how OR methodologies have been or could be used to enhance national competitiveness.
- Researchers will present their findings dealing with the theoretical, computational, and application aspects of operations research;
- Practitioners will share their experiences on the problems, methodologies and outcomes of applying OR to solve real-world problems;
- Decision-makers could gain insights from experiences of others who have benefited from the use of OR in the public and private sectors.

KEYNOTE AND INVITED SPEAKERS

Number of academicians and practitioners from Nepal, India, USA and other countries are attending the conference.

WORKSHOP

Workshop on "Teaching Operation Research and Mathematics" is the attraction of the conference.

VENUE/ACCOMMODATION

The Conference will take place at Chitwan

ABSTRACT SUBMISSION

The abstract should be typed in English, and should not include any mathematical notations. Each submission must contain the following:

- Paper/proposal title
- Abstract of not more than 200 words
- Author(s) name(s), Organization, full mailing address, email address, with an indication of author(s) presenting the paper
- Topic of paper (at most three, chosen from the Conference Topics List) and additional topics if not included in the list.

Authors can email their abstracts to info@orsn.org.np and/or to sunity.shresthahada7@gmail.com
Accepted abstracts of registered authors will be published.

International Journal of Operational Research/ Nepal (IJORN)

IJORN is a peer review research journal published each year at the occasion of annual day of ORSN i.e. February 01. The third issue will be published at February 01, 2014. The research articles are invited at its earliest and send them to sunity.shresthahada7@gmail.com and dhamala@yahoo.com.

PROCEEDING BOOK

A Proceeding Book with full papers of only presented papers will be published immediately after the completion of conference. The contributors are requested to send full paper during or after within a week of the conference.

CONFERENCE TOPICS

Papers in the THEME in following sectors are solicited: Application in Education, Health, Financial Institutions, Corporate sector, Public and Private sectors with various OR models.

IMPORTANT DATES

Deadline for abstract submission	December 10, 2013
Notification of acceptance	December 20, 2014
Deadline for author registration for inclusion in Abstract Book	January 01, 2014

REGISTRATION DETAILS

	ORSN Member (NRs.)	Others (NRs.)	Institutional
Regular	7,000	10,000	NRs. 15,000
Student		. 5,000	
SAARC		10,000	
Foreign Participan	US $300		

Registration forms are available at http://www.orsn.org.np.
Registration fee includes accommodation during conference, breakfast, lunch & dinner, transportation to the venue and seminar kits.
Reservation/ Payment Methods:

1. Payment may be deposited directly to saving Account No. 19154 under the name of Operations Research Society of Nepal
2. You may also issue a crossed check payable to the Operational Research Society of Nepal and bring to the office address.

3.6 MCDA Workshop PROMETHEE 2014

MCDA WORKSHOP PROMETHEE 2014

INTERNATIONAL MCDA WORKSHOP ON PROMETHEE: RESEARCH AND CASE STUDIES

22nd OF JANUARY 2014
9.00-18.30

Vrije Universiteit Brussel

The workshop

The VUB in collaboration with the ULB is pleased and proud to welcome you in Brussels for the first international workshop on **Multi Criteria Decision Aid (MCDA) with focus on PROMETHEE: Research and Case Studies**.
This one-day workshop will be held on the:

22nd of January 2014 at the
Vrije Universiteit Brussel,
Promotiezaal D2.01 "Aloïs Gerlo"

The aim of the workshop is to bring together researchers and practitioners from all the disciplines that engage with the PROMETHEE methods. The PROMETHEE methods have effectively been functional in many areas of research and several case studies. Globally, in thirty years, several hundreds of scientific papers related to PROMETHEE have been published in scientific journals. The number of practitioners who are applying the PROMETHEE method to operational multiple criteria decision problems, and researchers who are interested in studying in-depth the PROMETHEE method, increases constantly.

Call for paper

The workshop will cover, but not be limited to the following themes for discussion:

- Theoretical advances in the PROMETHEE methods
- PROMETHEE applications in:
    - *Environment Management*
    - *Hydrology and Water*
    - *Business and Financial Management*

- *Chemistry*
- *Transport, Logistics and Urban Mobility*
- *Energy Management*
- *Social Public Welfares*
- *Manufacturing and Assembly*
- *International Cooperation*
- PROMETHEE software packages with demonstration stands during the workshop
- Round table with Industrial & Governmental PROMETHEE practices

We invite original contributions that reflect on these concerns and expect interesting viewpoints from different planning contexts. Contributions that consider both content and process issues are highly appreciated.

We offer one plenary session with the following key note speakers on the topic:

Prof. Em. Jean-Pierre Brans, Vrije Universiteit Brussel, historical founder of the PROMETHEE methods

Prof. Thierry Marchant, Universiteit Gent

Prof. Yves De Smet, Université Libre de Bruxelles

Inscription and Workshop fee

Regular	**30 €**	Workshop fees include: Conference Proceedings, Attendance at all scientific sessions, Coffee breaks and workshop walking lunch, Cocktail and award event
Student	**10 €**	

Important dates

Extended submission deadline for abstracts	**15th of September 2013**
Notification of acceptance/rejection abstract	**1st of October 2013**
Full paper submission for special issue and best paper award	**1st of December 2013**
Deadline for registrations	**15th of December 2013**
Workshop in Brussels	**22nd of January 2014**

For more information on this workshop, please visit the following link:
http://cs.ulb.ac.be/conferences/imw2014/

With kind regards,

Prof. Cathy Macharis (VUB), Prof. Em. Jean-Pierre Brans and Prof. Yves De Smet (ULB)

3.7 International Journal of Production Research, Special Issue on "Green Manufacturing Supply-Chain Design and Operations Decision-Support"

Call for paper: (http://www.tandf.co.uk/journals/cfp/tprscfp2.pdf)

Scope, relevance and significance:

The next generation manufacturing firms are producing products using sustainable manufacturing techniques. These firms are "sensitive to sustainability-related metrics, standards and infrastructures". There are articles integrating sustainability in strategic decision-support systems for new product development. However, robust decision-support tools that combat the green issues in manufacturing supply-chain are still inadequate. Today's global manufacturing supply chain issues are broadly related to design, operational, economic, environmental and societal aspects. The design, operational and economic aspects of supply-chain, if coerced with the environmental and societal aspects long term sustainability could be achieved. Theoretically and empirically it is an established fact that such "green initiatives can lower not only the environmental impact of a business but also raise efficiency, possibly creating major competitive advantages in innovation and operations". Further, it has been reported that "Green Supply Chain Management (GSCM) is an increasingly widely-diffused practice" among some manufacturing firms. The determinants and effects of GSCM on environmental and business performance have also been reported in literature. While theoretical and empirical research in 'green initiatives' within supply-chain is abundant robust decision-support tools in sustainable manufacturing supply-chain design and operations are scant.

Papers should present **novel and original research outputs** that have not been published or considered for publication. Manuscripts with real-world novel applications of decision-support tools in green manufacturing supply-chain design and operations are welcome from practitioners and researchers. The broad areas includes, at least (but not limited to), the following research themes:

- Green operations of manufacturing supply-chain decision-support
- Low carbon, green and clean manufacturing supply-chain design & operations
- Reverse manufacturing supply-chain
- Performance measurement
- Economics and cost engineering
- Case studies from industries
- Decision-support softwares and manufacturing supply-chain

Time Scale:

Full manuscript submission:	30 September 2013
Notification of review reports:	31 December 2013
Revised final manuscript due date:	31 March 2014

Final Manuscript Submission to Publisher: 30 June 2014
Online publication of the Special Issue: July/August 2014

Submission procedure:
Please use the online submission system for International Journal of Production Research: http://mc.manuscriptcentral.com/tprs

The length of the submitted article should be within 8,000 words including tables, references and appendices. Authors should conform to the instructions given in the "*Instructions for Authors*" for "**International Journal of Production Research**" while preparing their manuscripts:
http://www.tandfonline.com/action/authorSubmission?journalCode=tprs20&page=instructions
http://www.elsevier.com/wps/find/journaldescription.cws_home/621920/authorinstructions

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4 New Books/Publications

This section presents a list of papers published in 2012, 2013 or to appear. This list is by no means exhaustive. If you want your recent publications to appear in the next newsletter, please send an email with the complete citation of your work to lucie.galand@dauphine.fr.

4.1 Books and Book Chapters

Dridi Olfa, Saoussen Krichen, Adel Guitouni, **Un algorithme génétique multicritère pour la résolution du problème d'ordonnancement de tâches avec contraintes de ressources**, *Métaheuristiques pour l'ordonnancement multicritère et les problèmes de transport*, Hermes Science publications, Paris, 161-183, 2013.

Gomes C.F.S., Gomes L.F.A.M., Lucas S.F., **Evolutionary modelling in discrete multicriteria decision aiding: determining the parameters of ELECTRE methods,** In: A.T. de Almeida; A.P.C.S. Costa; F.C.M. de Souza; J.C.N. Clímaco (orgs.). *Selected contributions from presenters of REDS - Recife decision Support School: First seven editions*, 1st. ed. Recife: Ed. Universitária da UFPE, 1: 109-124, 2013.

Jahan A., Edwards K. L., **Multi-criteria Decision Analysis for Supporting the Selection of Engineering Materials in Product Design**, Butterworth-Heinemann, 2013.

Pereira J., **Gomes L.F.A.M.**, Paredes F., **Towards robustness analysis for ranking problems in multicriteria decision aiding,** In: A.T. de Almeida; A.P.C.S. Costa; F.M.C. de Souza; J.C.N. Clímaco (orgs.). *Selected contributions from presenters of REDS - Recife decision Support School: First Seven Editions*, 1st. ed. Recife: Ed. Universitária da UFPE, 1: 101-108, 2013.

4.2 Journal Papers

Abbasi M., Paquete L., Liefooghe A., Pinheiro M., Matias P., **Improvements on bicriteria pairwise sequence alignment: algorithms and applications**, *Bioinformatics*, 29(8): 996-1003, 2013.

Altuzarra A., Gargallo P., Moreno-Jiménez J.M., Salvador M., Influence, **Relevance and Discordante of Criteria in AHP-Global Bayesian Prioritisation**, *International Journal of Information Technology and Decision Making*, 12(3): 1-25, 2013.

Askan A., Sayin S., **SVM Classification for Imbalanced Data Sets Using a Multiobjective Optimization Framework**, *Annals of Operations Research*, DOI 10.1007/s10479-012-1300-5, printed online Jan 15, 2013.

Bhattacharya A., Geraghty J., Young P., Byrne P.J., **Design of a resilient shock absorber for disrupted supply chain networks: a shock-dampening fortification framework for mitigating excursion events**, *Production Planning & Control: The Management of Operations*, 24(8-9): 721-742, 2013.

Bhattacharya A., Mohapatra P., Kumar V., Dey P.K., Brady M., Tiwari M.K., Nudurupati S.S., **Green supply chain performance measurement using fuzzy ANP-based balanced scorecard:**

a collaborative decision-making approach, *Production Planning & Control: The Management of Operations*, iFirst, 1-17, 2013.

Dobson F., Hinman R.S., Roos E.M., Abbott J.H., Stratford P., Davis A.M., Buchbinder R., Snyder-Mackler L., Henrotinhttp://www.sciencedirect.com/science/article/pii/S1063458413007905 - aff10 Y., Thumboo J., Hansen P., Bennell K.L., **OARSI recommended performance-based tests to assess physical function in people diagnosed with hip or knee osteoarthritis**, *Osteoarthritis & Cartilage*, 21: 1042-1052, 2013.

Eppe S., De Smet Y., **An adaptive questioning procedure for eliciting PROMETHEE IIs weight parameters**, *International Journal of Multicriteria Decision Making*, to appear

Eppe S., Roland J., De Smet Y., **On the use of Valued Action Profiles for Relational Multi-criteria Clustering**, *International Journal of Multicriteria Decision Making*, to appear.

Fernandes J.E. de M., Gomes L.F.A.M., Mello J.C.C.B.S., Gomes Jr. S.F., **Selection of an airship for regional charter by using a median-based modified Borda method**, *Journal of Transport Literature*, 7: 171-191, 2013.

Giri B.K., Hakanen J., Miettinen K., Chakraborti N., **Genetic Programming through Bi-objective Genetic Algorithms with Study of a Simulated Moving Bed Process Involving Multiple Objectives**, *Applied Soft Computing*, 13: 2613-2623, 2013.

Gomes L.F.A.M., Machado M.A.S., Costa F.F. da, Rangel L.A.D., **Criteria Interactions in Multiple Criteria Decision Aiding: A Choquet Formulation for the TODIM Method,** *Procedia Computer Science*, 17: 324-331, 2013.

Gomes L.F.A.M., Machado M.A.S., González X.I., Rangel L.A.D., **Behavioral multi-criteria decision analysis: the TODIM method with criteria interactions,** *Annals of Operations Research* (Online), 2013: 1-18, 2013.

Hakanen J., Sahlstedt K., Miettinen K., **Wastewater Treatment Plant Design and Operation under Multiple Conflicting Objective Functions**, *Environmental Modelling and Software*, 46(1): 240-249, 2013.

Hodgett R. E., Martin E. B., Montague G., Talford M., **Handling uncertain decisions in whole process design**, *Production Planning and Control (online)*, 1-11, DOI:10.1080/09537287.2013.798706, 2013.

Ishizaka A., Nguyen H. N., **Calibrated fuzzy AHP for current bank selection**, *Expert Systems with Applications*, 40(9): 3775–3783, 2013.

Ishizaka A., Nemery P., **A Multi-Criteria Group Decision Framework for Partner Grouping when sharing Facilities**, *Group Decision and Negotiation*, 22(4): 773-799, 2013.

Kangas A., Hartikainen M., Miettinen K., **Simultaneous Optimization of Harvest Schedule and Measurement Strategy**, *Scandinavian Journal of Forest Research*, to appear.

Kirlik G., Sayin S., **A New Algorithm for Generating All Nondominated Solutions for Multiobjective Discrete Optimization Problems**, *European Journal of Operational Research*, to appear.

Lawrence H., Silas S., **Efficient Qos based resource scheduling using PAPRIKA method for cloud computing**, *International Journal of Engineering Science & Technology*, 5: 638-643, 2013.

Lidouh K., **On the motivation behind MCDA and GIS integration**, *International Journal of Multicriteria Decision Making*, 3(2/3): 101-113, 2013.

Marín, L., Isern, D., Moreno, A., Valls, A., **On-line dynamic adaptation of fuzzy preferences**, *Information Sciences*, 2020(20): 5-21, 2013.

Miettinen K., **Survey of Methods to Visualize Alternatives in Multiple Criteria Decision Making Problems**, *OR Spectrum*, to appear.

Miettinen K., Mustajoki J., Stewart T.J., **Interactive Multiobjective Optimization with NIMBUS for Decision Making under Uncertainty**, *OR Spectrum*, to appear.

Moreno-Jiménez J.M., Cardeñosa J., Gallardo C., de la Villa-Moreno M.A., **A new e-learning tool for cognitive democracies in the Knowledge Society**, *Computers in Human Behavior*, to appear.

Muerza V., De Arcocha D., Larrodé E., Moreno-Jiménez J.M., **The Multicriteria Selection of Products in Technological Diversification Strategies: an Application to the Spanish Automotive Industry based on AHP**, *Production Planning and Control*, 1-14, DOI: 10.1080/09537287.2013.798089, 2013.

Passos A.C., Teixeira M.G., Garcia K.C., Cardoso A.M., Gomes, L.F.A.M., **Using the TODIM-FSE method as a decision-making support methodology for oil spill response,** *Computers & Operations Research*, 2013: 1-9, 2013.

Punkka A., Salo A., **Preference Programming with incomplete ordinal information**, *European Journal of Operational Research*, 231(1): 141-150, 2013.

Sindhya K., Miettinen K., Deb K., **A Hybrid Framework for Evolutionary Multi-Objective Optimization**, *IEEE Transactions on Evolutionary Computation*, 17(4): 495-511, 2013.

Taylor WJ, Brown M, Aati O, Weatherall M, Dalbeth N., **Patient preferences for core outcome domains for chronic gout studies do not support the validity of composite response criteria**, *Arthritis Care & Research*, 65: 1259-64, 2013.

Tofallis C., **An automatic-democratic approach to weight setting for the new human development index**. *Journal of Population Economics*, 26(4): 1325-1345, 2013.

Tsoukiàs A., Montibeller G., Lucertini G., Belton V., **Policy Analytics: An Agenda for Research and Practice**, *EURO Journal on Decision Processes*, 1: 115-134, 2013.

Tarkkanen S., Miettinen K., Hakanen J., Isomäki H., **Incremental User-Interface Development for Interactive Multiobjective Optimization**, *Expert Systems with Applications*, 40: 3220-3232, 2013.

4.3 Conference Proceedings

Dridi O., Krichen, S., Guitouni, A., **Solving Resource-Constrained Project Scheduling Problem by A Genetic Local Search Approach**, Proceedings of the *5th Conference on Modeling, Simulation and Applied Optimization (ICMSAO'13)*, 1-5, 2013.

Galand L., Ismaili A., Perny P., Spanjaard O., **Bidirectional Preference-Based Search for State Space Graph Problems**, Proceedings of the *Sixth Annual Symposium on Combinatorial Search*, SOCS 2013, 2013.

Galand L., Lesca J., Perny P., **Dominance Rules for the Choquet Integral in Multiobjective Dynamic Programming**, Proceedings of the *23rd International Joint Conference on Artificial Intelligence (IJCAI'13)*, 2013.

Gomes L.F.A.M., Machado M.A.S., Costa F.F., Rangel L.A.D., **Criteria interactions in multiple criteria decision aiding: A Choquet formulation for the TODIM method,** Proceedings of the *First International Conference on Information Technology and Quantitative Management (ITQM 2013),* 2013.

Moreno-Jiménez J.M., Pérez Espés C., Rivera P., **Notes on an EF3-evaluation of e-Cognocracy**, In Miltiadis D. Lytras et al., E-learning and Knowledge Management for Human Capital Development, WSKS 2012, *Communications in Computer and Information Sciences* (CCIS) 277, to appear.

Turón A., Aguarón J., Cardeñosa J., Escobar M.T., Moreno-Jiménez J.M., Ruiz-Mas J., Toncovich, A., **PRIOR-W&K: A Collaborative Tool for Decision Making in the Knowledge Society**, In Miltiadis D. Litras et al., Information Systems, E-learning, and Knowledge Management Research, WSKS 2011, *Communications in Computer and Information Sciences (CCIS)*, 278: 155-161, 2013.

4.4 Research Reports and PhD Thesis

Byrne T., **Development and comparison of breeding objective methodologies for the genetic improvement of sheep**, University of Otago, PhD thesis, 2012.

Mustajoki J., Marttunen M, **Comparison of multi-criteria decision analytical software – Searching for ideas for developing a new EIA-specific multi-criteria software**, *IMPERIA Project Report*, 2013.

Harding A., **Anticipating future urban forms with restricted transport fuel availability: Location preferences of out-of-centre businesses in the Wellington region**, *Opus Central Laboratories Working paper*, 2012.

Sullivan T., **Using MCDA (Multi-Criteria Decision Analysis) to prioritize publicly-funded health care**, PhD thesis, University of Otago, 2012.

5 Past Conferences, Workshops, and other News

5.1 MCDM Summer School, Helmut-Schmidt-University, Hamburg, Germany

The 11th MCDA/M Summer School was held from July 22nd to August 2nd, 2013, at the Helmut-Schmidt-University, University of the Federal Armed Forces Hamburg, Hamburg, Germany. The 11th summer school follows a tradition that now spans back 30 years!

The aim of the school was to give to doctoral students/young researchers a state-of-the-art presentation of multiple criteria methods, applications and software. This did include:

- 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 analyze and discuss several applications of MCDA to complex evaluation situations.

Besides, we wanted to stipulate a network of young researchers in MCDA. For this purpose, and as an element to the summer school, a student poster session was organized, giving an opportunity to the participants to present and promote their work.

A strong scientific program spanned over two weeks (see http://logistik.hsu-hh.de/MCDAM-2013), and did include 25 invited lectures (90 minutes each), and 14 casework sessions (also 90 minutes each). Topics covered: Problem structuring, AHP, Outranking (ELECTRE, PROMETHEE, and approaches beyond those), Robust Ordinal Regression, Rule-based approaches, Multi Objective Optimization (theory, approximation, and combinatorial optimization), Interactive Methods, Multi Objective Evolutionary Algorithms, Fuzzy Sets and Fuzzy Logic, Decision Deck, and other software.

All lectures were well-done, nicely presented, and well-attended. I here would like to express my gratitude to the colleagues who helped delivering the scientific program, namely Raymond Bisdorff, Yves De Smet, Salvatore Greco, Alessio Ishizaka, Murat Köksalan, Patrick Meyer, Enrico Rigoni, Heinrich Rommelfanger, Johannes Siebert, Karthik Sindhya, and Roman Slowinski. Roman also gave a special "meet the editor" session: this is an important topic, especially for young researchers which are still at the beginning of their career.

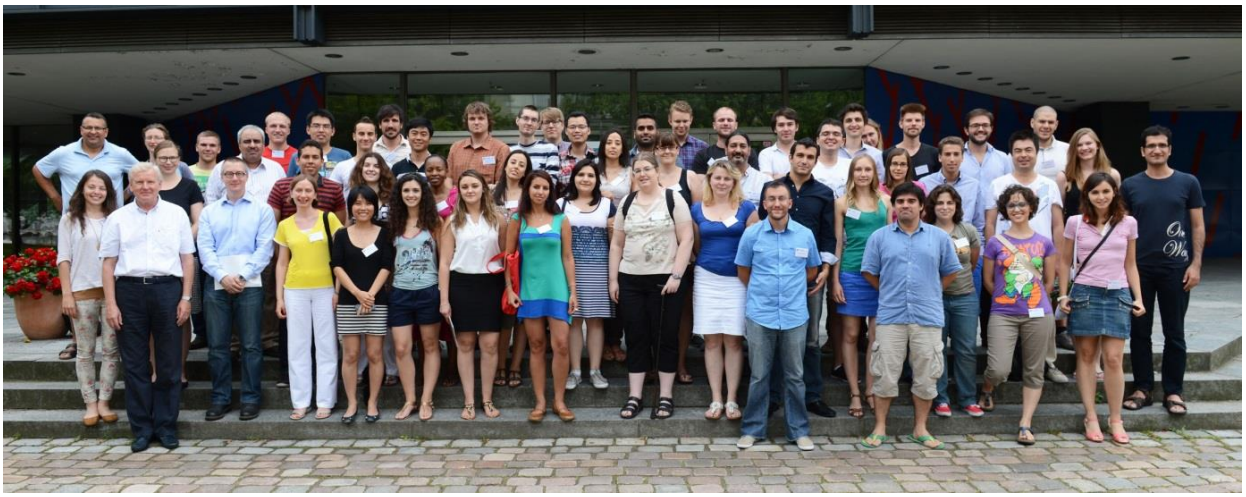
The invited lectures were complemented with two different case studies. This coursework led to really interesting and well-done group presentations at the end of the school. I cannot stress enough the enthusiasm with which the students worked in these two weeks.

Of course, the scientific program was complemented with a social program, namely summer school banquet on Saturday evening, and an excursion plus a small meal on the following Sunday.

In Hamburg, a boat-trip through the harbour area is a must, so we decided to organize this for the excursion. It allowed us to have a closer look at the beautiful city from the "seaside". Incredibly, but true, the weather was warm (if not hot) and sunny most of the time, and I am sure that our participants explored the city some more on in the somewhat scarce but nevertheless available free time.

I can happily report that we have been able to welcome 49 participants from 21 countries. This clearly shows that not only MCDM is a dynamically developing subject that attracts young scholars, but also that it has a world-wide presence and acceptance in science. Represented countries were Azerbaijan (3 delegates), Belgium (4), China (1), Czech Republic (3), Denmark (2), Finland (3), France (5), Germany (3), Israel (1), Italy (5), New Zealand (3), Norway (1), Poland (1), Portugal (1), Saudi Arabia (1), Slovakia (1), Slovenia (1), Spain (2), Sweden (3), Turkey (3), and the United Kingdom (2).

Overall, the two weeks left me with the impression that the 11th International MCDA/M Summer School was a success. This would not have been possible without the support of many people, first and foremost our students Sandra Huber, Theresia Kirchgäßner, Sebastian Langton (an alumnus of the 10th Summer School from Paris 2010), Marius Leschik, and Christian Lindorf. A very special *thank you* goes to my wife Monika, who did bake an impressive number of 20 cakes in those two weeks. Most will agree that this was one of the most delicious ingredients to the school.



We also has tremendous support from several organizations, namely our university (which provided us with a friendly and nice environment), Dr. Stefano Ianigro (who set up and maintained the computer lab), and societies and companies sponsoring the event: ESTECO, Jungheinrich, the Association of European Operational Research Societies EURO, and the International Society on Multiple Criteria Decision Making. Springer was represented by Christian Rauscher, who brought a selection of recent books on MCDA/M.

We are looking forward to a reunion in two years, when we are going to host the *23rd International Conference on Multiple Criteria Decision Making* at our university in Hamburg, Germany!

Martin Josef Geiger

5.2 Impressions by Participants of the MCDM Summer School

Farah Ahmad-zada, 28, Ayerbaijani: The summer school is a great opportunity not only for PhD students who are aware of MCDM/A but also for people who would like to become familiar with this field. As for me it was the first summer school and the first experience in MCDM/A. The lectures were constructive and well organized. What I liked most is that the lecturers were from different countries with different approach and methodology. It's the best way to choose what you prefer the most, what is more interesting and appropriate for you and your research work. The case studies are a teamwork and a good communication, which help to draw together students who work hard to achieve results. Of course, the final presentation was the last and important moment for many of us. It was a good chance to present your work to specialists from different parts of the world. I would like to thank all lecturers for sharing their experience and their knowledge with us. I also want to thank all participants for the time we spent together. I really enjoyed the school and the people I met.

Ulkar Ahmad-zada, 28, Ayerbaijani: It was really my first and unforgettable experience to participate in such kind of event like summer school. In addition, I feel I have to share my opinion. From my point of view summer school is perfect beginning for everyone who wishes to pursue an academic career. It offered me many opportunities to get knowledge in many different topics I have never dealt with but which I hope to apply in near future. I had a good chance to be acquainted and create good relationships with many intelligent and interesting people from different parts of the world. I mostly liked the method of organization, which I consider focused on giving to participants many possibilities to get useful information, to better analyze, to improve your skills in team working process and certainly helps to create a good and stable base for a career. Therefore, I finally realized how it was helpful and pleasant to combine studies and vacation. Moreover, I am very grateful for all the lectures, participants and everyone who spent this time with us for their great and invaluable contribution.

Raffaele Attatardi, 27, Italian: Participating to the 11th MCDA/M Summer School has been an amazing experience both from an academic and social point of view. I had the chance of facing a number of topics related to decision-making, presented by scholars from different academic backgrounds. After classes, students could enjoy coffee breaks meeting the speakers and challenging their points of view. Moreover, thanks to the international environment, I had the opportunity to meet many passionate colleagues from all over the world and discuss their interest in research collaborations. This was definitely a great occasion to grow my academic network and be part of the next generation of MCDA/M researchers. At a personal level, I feel that the contact with different cultures and lifestyles allowed me to broaden my horizons. Finally, I would definitely recommend PhD students to attend a summer school: think differently about your own research problem, face hot topics in academic research, learn about novel real-world applications and…experience nightlife in a foreign country!

Panagiotis Isigonis, 30, Greek: Trying to summarize in few words why the MCDA/M Summer School is a great event and how it can be useful for a PhD student is not an easy task. I had the luck to attend the 11th edition, which was organized in Hamburg in July 2013, and after my participation, I can strongly suggest the event to anyone interested in learning deeply about MCDA and the latest developments on the topic. The academic quality of the event is guaranteed not only by the presence of excellent and renowned lecturers but also from the curation of the school by the international society on MCDM and the EWG-MCDA. Having discussed with other participants of the summer school, what is highly appreciated is the simplicity shown by the invited speakers, their continuous presence and availability throughout the school to discuss with the participants and the great amount of knowledge and information that is shared during the breaks and the social schedule. n my humble personal opinion, the summer school is a treasure for MCDA as one not only has the possibility to learn about methods that (s)he is not familiar with, get to know available software and find answers to questions but most importantly has the possibility to be part of a developing network of young researchers on MCDA, which can be extremely helpful for the future. Lastly, there is plenty of time allocated to group work on case studies, which is an excellent way of learning how to cooperate with researchers from completely different backgrounds and at the same time compare your work with the work done by other groups. In parallel to the scientific program, the duration of two weeks of the summer school allows having a very pleasant social program during which participants can get to know each other. Needless to say that the event was very well organized and I would like to thank once again Prof. Martin Geiger and his group for their efforts and for giving us the possibility to visit Hamburg and the Helmut-Schmidt University on the occasion of the summer school.

5.3 Prof. Constantin Zopounidis Elected as Academician by the Royal Academy of Economic and Finance Sciences (RACEF) of Spain

On March 21st 2013, Prof. Constantin Zopounidis was elected as Academician by the Royal Academy of Economic and Finance Sciences (RACEF) of Spain.

RACEF was officially established in Spain, in 1958, but its roots can be traced back to the 18th century. RACEF promotes the cooperation between researchers of the most important institutions and academies around the world, and seeks to advance the scientific knowledge and the existing decision and policy making practices in the fields of economics and finance.

The members of RACEF include prestigious researchers, senior policy makers, and top executives from all over the world. Among others, the Academicians of RACEF include Valéry Giscard d'Estaing (former President of France), Romano Prodi (former President of Italy and the European Commission), José Ángel Gurría (Secretary General of OECD), as well as Nobel Prize laureates Robert Aumann, Daniel Kahneman, Finn Kydland, Eric Maskin, and Joseph Stiglitz.

In his invited speech that followed the award ceremony, Prof. Zopounidis introduced a systematic approach to financial decision making, based on the concepts and principles of MCDM and emphasized the contributions of this approach to financial decision problems.

Constantin Zopounidis is Professor of Financial Engineering and Operations Research at the Technical University of Crete (Greece) and Distinguished Research Professor at Audencia Nantes, School of Management (France).

Since the 1980s he has worked extensively on MCDM and its managerial applications, mainly in the area of financial decision making. Among others, his research has contributed to the development of preference elicitation and disaggregation approaches for multicriteria sorting problems, the introduction of computational intelligence methods in this context and the development of multicriteria DSSs and knowledge-based systems, which are have been used by financial institutions, in areas such as credit granting, financial planning, and bank management.

Constantin Zopounidis has published more than 180 journal papers and 120 papers in conferences proceedings, edited volumes, and encyclopedias, in areas related to the above fields. He has also edited or authored more than 65 books and volumes and prepared about 30 special issues in premier OR/MS journals.

Currently he is editor-in-chief of the International Journal of Financial Engineering and Risk Management (Inderscience), the Journal of Computation Optimization in Economics and Finance (Nova Publishers), as well as co-editor-in-chief of Operational Research (Springer), and the International Journal of Multicriteria Decision Making (Inderscience). He is topical editor on decision analysis for the Encyclopedia of Operations Research and Management Science (Wiley),

associate editor in Optimization Letters (Springer) and New Mathematics and Natural Computation (World Scientific), and member of the editorial board of several other journals in OR/MS, such as EJOR and the EURO Journal on Decision Processes.

In recognition of his scientific work, Constantin Zopounidis has received several awards from international research societies. In 1996, he was awarded the Gold Medal and Diploma of Social and Human Sciences from the MOISIL International Foundation, for his research in multicriteria intelligent decision support systems and their applications in financial management. In 2000, he received the Best Interdisciplinary Research Paper Award from the Decision Sciences Institute and in 2010; he received the highly commended paper award from the Emerald Literati Network. In addition, in 2012 he was the recipient of the Long-lasting Research Contribution Award in the field of Financial Engineering & Decision Making by ESCP Europe.

5.4 Decision-Making Tool Wins Excellence Prize

A new decision-making tool designed by researchers at the University of Portsmouth has been praised as outstanding for its potential contribution to business. Dr. Alessio Ishizaka, Dr. Philippe Nemery and colleagues won the Outstanding Paper Award for the Emerald Literati Network Awards for Excellence 2013. Every year Emerald invites each journal's Editorial Team to nominate what they believe has been that title's Outstanding Paper and up to three Highly Commended Papers from the previous year (2012). Their research on sorting methods, used by decision makers in all sectors including finance, the environment, marketing and medical diagnosis, has the potential to help improve the results of complex decisions. Their research is published in the latest edition of the Journal of Modelling Management (Nemery et al., 2012).

Dr. Ishizaka and Dr. Nemery have a long experience on traditional MCDA techniques (Ishizaka and Nemery, 2013). In their study, they examined 20 small and medium sized businesses in France to assess the quality of their decisions and the success of each business. They found existing decision-making tools, widely used by businesses, give results, which are too broad to be meaningful and, as a result, are unable to help a decision maker make radical improvements. Smart-Picker (http://www.smart-picker.com/), their developed system, is based on FlowSort, a sorting technique, along with FS-GAIA and stacked bar diagrams, which are visual graphic models, which are much easier for businesses to learn and grow.

Dr. Ishizaka said: "Companies prosper or fail as a direct result of decisions taken by managers or stakeholders, so it's vital the way they make decisions is examined. "Several decision-making tools exist but they provide raw, quantitative data rather than richer qualitative results which give decision makers true insight into multi-criteria problems." The new model allows decision makers to compare different actions and outcomes on a visual scale. When the model was tested, it gave a huge degree of detail about each companies' strengths and weaknesses, which no previous models had been able to do. Dr. Ishizaka said: "This new model allows us to understand each company compared to its competitors. We could see, for example, that a company was good at project management but weak at human resource management, while a second was good at knowledge management but poor at product development, giving a much fuller measure of each companies' capabilities. "Existing models give flatter results, for example, ranking companies from best to worst, even if all the companies are performing poorly, and with no detail on which aspects were needing attention and which were being managed well. "In our case study, we could see immediately, once analysis was done, that even the best-ranked company still had room for improvement. That sort of detailed information is of significant help to anyone whose job is to make the best decisions, whether they are in finance, medicine or any other sector."

Reference:

Ishizaka Alessio, Nemery Philippe, Multicriteria Decision Aid: Methods and software, Wiley, Chichester, 2013.

Nemery Philippe, Ishizaka Alessio, Camargo Mauricio, Morel Laure, Enriching descriptive information in ranking and sorting problems with visualizations techniques, Journal of Modelling in Management, 7(2), 130-147, 2012.

6 Research Team Presentation: DOLPHIN

The **DOLPHIN** is a joint team between National Institute for Research in Computer Science and Control (INRIA), France and the Department of Computer Science, Université Lille 1, France. This team currently comprises of nine permanent members, 17 PhD students, and two post doctoral researchers. The abbreviation DOLPHIN stands for Discrete multiobjective Optimization for Large-scale Problems with Hybrid dIstributed techNiques. The team members also work on single objective optimization as well as other related areas. Recently, with the arrival of new team members, several diverse research topics such as bilevel or numerical optimization have been added to the team's expertise. However, the team's main research axes continue to be

(i) the modeling and analysis of multiobjective optimization problems,
(ii) hybridization of optimization methods (metaheuristics and/or exact methods), and
(iii) parallel optimization methods. Besides fundamental theoretical and empirical research on optimization, the team members have also been involved in several industrial collaborations, especially from the energy, transportation, and bioinformatics sectors.

More details about the team can be found on the web page http://dolphin.lille.inria.fr/ and in the freely available research reports of INRIA, see for example http://raweb.inria.fr/rapportsactivite/RA2012/dolphin/dolphin.pdf for the latest one.

Current Members

Permanent Members

1. Dimo Brockhoff - Research Scientist (CR2), INRIA
2. Luce Brotcorne - Research Scientist (CR1), INRIA
3. François Clautiaux - Associate Professor, Univ. Lille 1 - IUT
4. Bilel Derbel - Associate Professor, Univ. Lille 1 - IEEA
5. Clarisse Dhaenens - Professor, Univ. Lille 1 - Polytech-Lille
6. Laetitia Jourdan - Professor, Univ. Lille 1 - IEEA
7. Arnaud Liefooghe - Associate Professor, Univ. Lille 1 - IEEA
8. Nouredine Melab - Professor, Univ. Lille 1 - IEEA
9. El-Ghazali Talbi - Leader, Professor, Univ. Lille 1 - Polytech-Lille

Non-permanent Members

1. Sezin Afsar, PhD student
2. Ekaterina Alekseeva, postdoc
3. Ines Bahri, PhD student
4. Imen Chakroun, PhD student
5. Martin Bué, PhD student
6. Nadia Dahmani, PhD student
7. Moustapha Diaby, PhD student
8. Bernabé Dorronsoro, postdoc
9. Mathieu Gérard, PhD student
10. Julie Hamon, PhD student
11. Julie Jacques, PhD student
12. Yacine Kessaci, PhD student
13. Sophie Jacquin, PhD student
14. François Legillon, PhD student
15. Rudi Leroy, PhD student
16. Khedidja Seridi, PhD student
17. Bayrem Tounsi, PhD student
18. Thanh-Do Tran, PhD student
19. Trong-Tuan Vu, PhD student

Technical Staff

Clive Canape, Inria

Administrative Assistant
Julie Jonas, Inria

Ten important publications related to MOP

a. A. Auger, J. Bader, D. Brockhoff, E. Zitzler. Theory of the Hypervolume Indicator: Optimal μ-Distributions and the Choice of the Reference Point. In Foundations of Genetic Algorithms (FOGA 2009), pp. 87-102, ACM, New York, NY, USA, 2009.
b. D. Brockhoff, E. Zitzler. Objective Reduction in Evolutionary Multiobjective Optimization: Theory and Applications. Evolutionary Computation 17(2), pp. 135-166, 2009.
c. B. Derbel, D. Brockhoff, A. Liefooghe. Force-based Cooperative Search Directions in Evolutionary Multi-objective Optimization. 7th International Conference on Evolutionary Multi-Criterion Optimization (EMO 2013). Lecture Notes in Computer Science 7811, pp. 383-397, Springer, Sheffield, UK, 2013.
d. C. Dhaenens, J. Lemesre, E-G. Talbi. K-PPM: A new exact method to solve multi-objective combinatorial optimization problems. European Journal of Operational Research 200(1), pp. 45-53, 2010.
e. J. R. Figueira, A. Liefooghe, E-G. Talbi, A. P. Wierzbicki. A parallel multiple reference point approach for multi-objective optimization. European Journal of Operational Research 205(2), pp. 390-400, 2010.
f. N. Jozefowiez, F. Semet, E-G. Talbi. Multi-objective vehicle routing problems. European Journal of Operational Research 189(2), pp. 293-309, 2008.
g. A. Liefooghe, L. Jourdan, E-G. Talbi. A software framework based on a conceptual unified model for evolutionary multiobjective optimization: ParadisEO-MOEO. European Journal of Operational Research 209(2), pp. 104-112, 2011.
h. M. Mezmaz, N. Melab, Y. Kessaci, Y. C. Lee, E-G. Talbi, A. Y. Zomaya, D. Tuyttens. A Parallel Bi-objective Hybrid Metaheuristic for Energy-aware Scheduling for Cloud Computing Systems. Journal of Parallel and Distributed Computing 71(11), pp. 1497-1508, 2011.
i. O. Schütze, M. Laumanns, E. Tantar, C. A. Coello Coello, E-G. Talbi. Computing gap-free Pareto front approximations with stochastic search algorithms. Evolutionary Computation 18(1), pp. 65-96, 2010.
j. S. Verel, A. Liefooghe, L. Jourdan, C. Dhaenens. On the structure of multiobjective combinatorial search space: MNK-landscapes with correlated objectives. European Journal of Operational Research 227(2), pp. 331-342, 2013.

Software developed at the research group

ParadisEO is a free open-source white-box object-oriented software framework for the flexible and reusable design of metaheuristics. Developed in C++ and portable on different platforms (Unix, Windows, MacOS), ParadisEO provides tools for the development of single solution-based metaheuristics, population-based metaheuristics, metaheuristics for multi-objective optimization, hybrid metaheuristics, as well as parallel and distributed metaheuristics. Since October 2006, it has been downloaded more than 22000 times, and more than 250 users are registered on the mailing-list. The ParadisEO latest version and additional information can be found at the following URL: http://paradiseo.gforge.inria.fr.

7 Imprints

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