International Society on Multiple Criteria Decision Making

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Contents

Front: Hamburg, Germany © Maryam Bagheri

Letter from the President

Dear Members of the International Society on MCDM,

I am honored to begin my term as the new President of our Society and write my first column to our newsletter.

Our Society goes back four decades. The first conference was organized in Jouy-en-Josas, France in 1975. A conference has been organized in a different part of the world roughly every two years. The predecessor of our Society, the Special Interest Group (SIG) on MCDM, was formed in 1979 at the Königswinter-conference in Germany. The banner of the SIG was made at the Kyoto-conference in Japan in 1986 and has been carried from conference to conference since then. The MCDM Gold Medal, Edgeworth-Pareto Award, and the Georg Cantor Award were established at the Taipei-conference, Taiwan in 1992 and have been awarded at conferences regularly since then. The SIG on MCDM became the International Society on MCDM at the Charlottesville-conference, Virginia, USA in 1998. The MCDM Doctoral Dissertation Award was established at the Jyväskylä-conference, Finland in 2011.

There have been many developments and significant progress during the last 40 years. Stanley Zionts, the founder and President for 13 years was followed by Presidents Ralph Steuer, Pekka Korhonen, Valerie Belton, Theo Stewart, Jyrki Wallenius, and Kaisa Miettinen. Each had great impact on our Society and the field. We are in their debt. I have all these tough acts to follow.

I would like to thank Kaisa Miettinen for her leadership and efforts as the President of our Society during the last four years. Francisco Ruiz was the Secretary of our Society for many years and he just decided to retire. He has been managing many affairs of the Society quietly and skilfully and we will miss him. I would like to thank him not only for all his past efforts but also his willingness to work with us during the transition period. Banu Lokman has been appointed as the new Secretary. She started her job fast with pressing tasks, and I look forward to working with her over the next four years.

Many members have served on the Executive Committee of our Society over the years and they deserve credit for their contributions. The latest retiring members of the Executive Committee are Kalyanmoy Deb, Salvatore Greco, Carlos Romero, and Jaap Spronk, and I would like to thank them all for their contributions.

My first MCDM conference was in Cleveland, Ohio, USA in 1984. I have missed only one conference since then. I have been active in the Society for many years acting in various capacities. I have observed and taken part in many of the developments over the years. It has been a great journey both professionally and socially. There has been so much progress in accomplishing our mission of developing and applying methodologies in MCDM, fostering interaction and research in the MCDM field, and cooperating with related organizations. Can we do better? All decisions in practical situations involve multiple criteria. Yet, the majority of literature is flooded with single-criterion approaches. To me this is an important indication of the

room for progress. We have a challenge before us. The process of structuring decision problems and searching for solutions to be implemented can substantially benefit from the incorporation of multiple criteria and it is up to us to establish this fact among the researchers and practicioners.

Multiple criteria approaches have been well-received in some journals. However, we have not done so well in other major main-stream operations research journals. We have discussed these issues in the past and made some progress but we can and should do better.

I believe getting as much participation as possible from the members of our Society is the key to success. Therefore I want to encourage participation by all possible means. I realize that there are many changes in how we communicate. I remember the days when e-mail was revolutionary. Now it is but one of the countless forms of instantaneous communication. We are working on hosting our web site and data-base on the cloud. We are working on improving them as well. We intend to complete these tasks in 2015. We understand the importance of social media and we want to make the best use of it for our Society. We are in the process of planning. We want to get on board quickly and we welcome any suggestions.

The 12th MCDA/M Summer School will be organized by Danielle Morais and her colleagues in Recife, Brasil, during July 18-29, 2016 (http://cdsid.org.br/mc-summer-school2016/). I am a great fan of these summer schools where many aspects of MCDM are covered intensely and hands-on team projects are carried out under the supervision of leading researchers in the field. I have observed many students who attended the summer schools and became well-established MCDM researchers. The deadline for applying to the Summer School is December 18, 2015. I urge graduate students to apply and advisors to encourage and finance their students to attend. This is a great investment in young MCDM researchers.

Pekka Korhonen wrote an article in this issue of the Newsletter in memory of Subhash Narula. I met Subhash when we were driving in Stanley Zionts' car from Buffalo to Cleveland for the MCDM conference in 1984. We became friends right away and we got together at many succeeding events. He would not miss a holiday season without writing a card in his very special words and love. Everyone who knows Subhash would agree that he was one of the most polite and kind individuals. All our kids loved him and his balloon animals. He would not stop producing different figures with balloons until all the kids were satisfied. Subhash had a big heart. I am so sad to hear that he passed away at a young age. All of us who had the privilege to know him will miss him.

Let me briefly highlight some items, the details of which appear in this Newsletter. The Hamburg-conference that took place in August 2015 was a great success and we had record-breaking attendance. We thank Martin Geiger and his colleagues for all their efforts in putting together such a well-organized conference. In addition to observing the great traditions of our Society, they came up with clever innovations.

We are delighted to receive a number of great proposals to organize the upcoming conferences. Grasping this opportunity, the Executive Committee already decided on the venues for the next two conferences. We will be in Ottawa, Canada for the 24th International Conference on MCDM, July 9-14, 2017 to be organized by Sarah Ben Amor and her colleagues. The 25th conference will be organized by İlker Topçu and his colleagues in İstanbul in 2019, with the exact dates remaining yet to be decided. I would like to thank Sarah, İlker, and their colleagues for volunteering to undertake the organizations of these important events and I can't wait to get together with all participants at these great venues.

The Society awards were given at the banquet of the conference. Yannis Siskos, Peter J. Fleming, and David E. Bell were the recipients of the MCDM Gold Medal, the Edgeworth-Pareto Award, and the Georg Cantor Award, respectively. Congratulations to Yannis, Peter, and David for these well-deserved achievements. Their award talks were enlightening.

The Doctoral Dissertation Award was also presented at the banquet. Sebastiaan Breedveld received the award for his dissertation "Towards Automated Treatment Planning in Radiotherapy." Congratulations to Sebastiaan for his impressive work on such a complex and important problem. Congratulations are also in order for finalists Kerstin Daechert and Gökhan Kırlık. I am delighted to see that the young generation is coming strong and the future of MCDM will be in good hands.

It has become a tradition in recent years to edit special issues for several journals after our conferences. There are four such Call for Papers in this Newsletter and I encourage the members of our Society to submit their high quality work for these special issues.

The elections for President Elect and four members of the Executive Committee are underway. At the beginning of September 2015, each Society member will receive an E-mail message with instructions and an individualized link to vote. The voting period will be roughly three weeks. I encourage all members to vote so that the results represent the choices of a high proportion of our membership.

The process of amending the Bylaws was completed with the vote taken at the business meeting on August 6, 2015 in Hamburg. The amendments are described in this Newsletter.

I would like to thank Johannes Siebert and his editorial team for doing such a superb job in putting together all the relevant information and publishing this Newsletter twice a year.

Murat Köksalan

President of the International Society on MCDM

President (at) mcdmsociety.org

August 29, 2015

Ankara

1 Society News

1.1 The 23rd International Conference on Multiple Criteria Decision Making

23rd International Conference on Multiple Criteria Decision Making MCDM 2015 - Bridging Disciplines

August 2nd – 7th, 2015, Hamburg, Germany

Dear friends and colleagues,

The MCDM 2015 is over, and quite a lot happened during the week of the conference. Here is our report. Enjoy, and hope to see you soon!

Sincerely, Martin Josef Geiger, General Conference Chair

The 23rd International Conference on Multiple Criteria Decision Making was held from August 2nd to August 7th, 2015 at the Helmut-Schmidt-University, University of the Federal Armed Forces in Hamburg, Germany.

We can report that the MCDM 2015 welcomed more participants than any other preceding MCDM congress: 361 registered participants (121 of whom women) hailing from 49 countries demonstrate that our field is growing, and we are happily contributing to this development. The topic of this year's conference has been chosen as "bridging disciplines", and the conference will once again, like many preceding before, demonstrate that MCDM is indeed an inter-disciplinarian field. The scientific program was particularly rich. It featured 306 talks in a little bit above 6 parallel sessions, 22 invited streams/ sessions, three plenary talks, and, of course, the three award talks of the International Society on Multiple Criteria Decision Making. In total 75 talks were assigned to the following invited sessions:

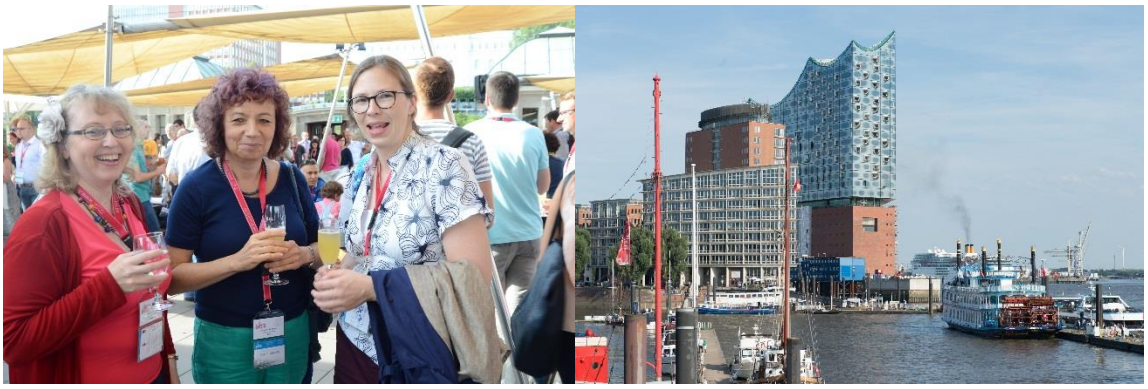
- Theory and Applications of the AHP/ ANP (organizers: Magda Gabriela Sava, Luis G. Vargas)
- Automating decision-making (organizer: Sebastiaan Breedveld)
- Constructive Preference Learning in MCDA (organizers: Miłosz Kadziński, Salvatore Corrente)
- Evolutionary Multiobjective Optimization (EMO) (organizers: Dimo Brockhoff, Joshua Knowles, Boris Naujoks, Karthik Sindhya)
- MCDA for Infrastructure Planning and Environmental Management (organizers: Valentin Bertsch, Lisa Scholten, Judit Lienert, Jutta Geldermann)
- Integrated MCDM Applications (organizers: Ilker Topcu, Ozgur Kabak)
- Multiobjective Optimization software for Supporting Interactive Decision Making (organizers: Karthik Sindhya, Silvia Poles, Jussi Hakanen)
- Building MCDA Models: Practical and Methodological Issues (organizers: Luciana Hazin Alencar and Adiel Teixeira de Almeida)
- MCDA Models in Risk, Reliability and Maintenance Contexts (organizers: Cristiano Alexandre V. Cavalcante and Marcelo Hazin Alencar)
- Building MCDA Models in Service Systems (organizers: Caroline Maria de Miranda Mota and Suzana Daher)
- New Developments and Applications of MCDM in Latin America (organizers: Luiz F. Autran M. Gomes, Juan Carlos Leyva Lopez)
- Methodological Issues for Practical Applications of MCDA Models (organizers: Danielle Costa Morais, Ana Paula C. S. Costa)
- Metaheuristic Algorithms in Multi-Objective Optimization of Civil Engineering Problems (organizers: Tom Schanz, Gebrail Bekdas, Sinan Melih Nigdeli)
- MCDM for smart and sustainable communities (organizers: Marta Bottero, Valentina Ferretti)

- Use of MCDM to support sustainability evaluations: a way forward in multidisciplinary research (organizers: Marco Cinelli, Stuart R. Coles, Kerry Kirwan)
- Behavioural MCDM: Biases and Scales (organizer: Johannes Siebert).

The MCDM 2015 organization and the International Society on Multiple Criteria Decision Making confered 19 free registrations to offer participants from developing countries the possibility to attend the conference. Moreover, 5 participants were supported with on-campus accommodation at the Helmut-Schmidt-University. In addition, 14 participants were granted with travel support and 351 participants received public transportation tickets.

Three invited talks were delivered by

- Margaret M. Wiecek (Clemson University, USA): Polysemy of Robustness in Multiobjective Optimization,
- Roman Słowiński (Poznań University of Technology, Poland): Decision Aiding with Multiple Criteria Hierarchy Process, and
- Carlos M. Fonseca (University of Coimbra, Portugal): Subset Selection in Evolutionary Multiobjective Optimization.



Besides the rich scientific program, the conference organizers offered a social program in line with the traditions of the Society. On Sunday evening the get-together took place in the officers' club of the Helmut-Schmidt University where the participants could taste a typical German barbecue. During the half day outing, we had the chance to see the main sights of Hamburg on a red double-decker bus such as the Speicherstadt which was recently declared as UNESCO World Heritage. The tour was followed by a three-course menue at the brewery Blockbräu where we also had the chance to get a breathtaking view over the harbor.

The boat cruise during the conference banquet provided us with the opportunity to appreciate the nice view along the river "Elbe". Moreover, the dinner included a buffet of different appetizers, hot meals and desserts which were served on a lifting buffet at the rear part of the Louisiana Star.

Figure 1: Theo Stewart, Peter J. Fleming, Kaisa Miettinen, David E. Bell and Yannis Siskos.

During the banquet/ the Friday plenary session the three awardees of the MCDM Society awards were announced by Theo Stewart and their talks were delivered in the plenary session on Friday:

MCDM Edgeworth-Pareto Award: Peter J. Fleming

Georg Cantor Award: David E. Bell

MCDM Gold Medal: Yannis Siskos.

Figure 2: Martin Josef Geiger, Peter J. Fleming, Kaisa Miettinen and Yannis Siskos.

The Doctoral Dissertation Award Committee (chaired by Jyrki Wallenius) honored Sebastiaan Breedveld with the MCDM Doctoral Dissertation Award. Also Kerstin Daechert and Gokhan Kirlik were nominated and presented a talk at the MCDM 2015 conference.

Figure 3: Kerstin Daechert, Sebastiaan Breedveld, Gokhan Kirlik, Kaisa Miettinen and Jyrki Wallenius.

We also want to remind the participants of the MCDM 2015 conference (but not limited to them) that the opportunity is given to submit full papers to four special journal issues:

- **Special issue of the Journal of Multi-Criteria Decision Analysis on "MCDA Practice"**
  (special editors: Johannes Siebert and Theodor Stewart)
- **Special Issue of the Computers & Operations Research Journal on "Evolutionary Multiobjective Optimization"**
  (guest editors: Dimo Brockhoff, Joshua Knowles, Boris Naujoks, Karthik Sindhya)

- **IMA Journal of Management and Mathematics**
  (guest editors: Adiel Teixeira de Almeida, Martin Josef Geiger, Danielle Morais)
- **Building Mathematical Models for Multicriteria and Multiobjective Applications**
  (lead guest editor: Adiel Teixeira de Almeida)
  (guest editors: Love Ekenberg, Martin J. Geiger, Juan Carlos Leyva, Danielle Morais)

The call for papers and the submissions deadlines are announced under the following address http://www2.hsu-hh.de/logistik/MCDM-2015/postconferencesubmissions.html, and on the dedicated journal websites.

We warmly thank our sponsors and the tremendous support from our University President, Prof. Seidel as well as the head of the University Administration, Chancellor LL.M. Puckhaber and their staff. They all helped us to keep the registration fee at a low level. The sponsors are: DFG, GOR, the International Society on Multiple Criteria Decision Making, Additive, Springer, Hamburg Marketing GmbH and Flixbus. Finally, we want to thank all the people who have put a lot of effort in making this conference possible. We would express our sincere appreciation to the scientific program committee, to the organizing committee and to the local students who supported us during the conference.

Sincerely,

Sandra Huber

1.2 Report on the MCDM Awards 2015

The International Society on Multiple Criteria Decision Making makes three awards available for presentation at their international conferences. These are denoted as the **Gold Medal**, the **Edgeworth-Pareto Award** and the **Georg Cantor Award.**

The committee tasked with soliciting nominations for the awards and choosing the final awardees for the 2015 conference in Hamburg was constituted as follows: Theodor Stewart (Chair), University of Cape Town; Valerie Belton, University of Strathclyde; Kalyanmoy Deb, Michigan State University; James Dyer, University of Texas; Martin Geiger, Helmut Schmidt University; Kaisa Miettinen (President, MCDM Society), University of Jyväskylä; Roman Slowinski, Poznan University; Ralph Steuer, University of Georgia; and Jyrki Wallenius, Aalto University. For the 2015 awards, it was agreed that the emphasis would be on long term contributions to the field of MCDM seen broadly for the Gold Medal; on significant and novel applications of MCDM models and approaches for the Edgeworth-Pareto Award; and on novel developments in the theory and methodological approaches of MCDM for the Georg Cantor Award.

The awards were announced at the conference banquet on 6 August 2015, and the awardees delivered their award lectures on the following morning at a plenary session of the conference. The winners were:

- **Gold Medal: Yannis Siskos**, University of Piraeus, for his broad contribution to the development of MCDM and for his development of the UTA approach; He received his first degree in Mathematics from the University of Athens, and his doctorate from the Université Pierre et Marie Curie (PARIS VI).
- **Edgeworth-Pareto Award: Peter Fleming**, University of Sheffield, for his work on the development of evolutionary algorithms for multiobjective optimization; He received his first degree in electrical engineering from Queen's University, Belfast, from where he subsequently also received his PhD and DSc degrees.
- **Georg Cantor Award: David E Bell**, Harvard Business School, for his contributions to the development of utility theory; He received his first degree in Mathematics from the University of Oxford, and his PhD from the Massachusetts Institute of Technology.

At the same time, the society made two further awards, namely the **MCDM Presidential Award** to **Kaisa Miettinen** on completion of her four-year term of office as president of the society, and the **MCDM Conference Chairmanship Award** to **Martin Geiger** in recognition of his leadership in the organization of the 2015 conference.

THEODOR J STEWART
CHAIR: MCDM AWARDS COMMITTEE 2015

1.3 Report about the 2015 MCDM Doctoral Dissertation Award

Sebastiaan Breedveld from Holland wins the MCDM Dissertation Competition in Hamburg

I had the privilege to chair the MCDM Dissertation Awards Committee organized in connection with the 23rd International Conference on Multiple Criteria Decision Making in Hamburg, August 2-7th, 2015. The other members of the committee were professors Matthias Ehrgott (Lancaster University), Banu Lokman (Middle East Technical University), Wojtek Michalowski (University of Ottawa), and Ralph Steuer (University of Georgia). The judges expertise represented well the areas of the submitted dissertations.

In total we received 7 submissions. Eligible were dissertations, which had been accepted after the previous MCDM Conference in Malaga – and written in English. Most of the dissertations were of high quality. The committee chose three finalists: **Sebastiaan Breedveld** (Erasmus MC, Netherlands), **Kerstin Daechert** (University of Duisburg-Essen, Germany), and **Gokhan Kirlik** (University of Maryland, USA). They were all invited to the Hamburg MCDM Conference, August 2-7, 2015, where they gave presentations about their dissertations. The abstracts of the talks can be found in the Conference Book of Abstracts pp. 39-43.

The Daechert and Kirlik dissertations were theoretical in nature, although computational results were included. The Daechert dissertation presents an algorithm, which computes the nondominated set or a subset of it by solving a sequence of scalarizations whose parameters are varied adaptively. The Kirlik dissertation develops an algorithm for generating all nondominated solutions for a multi-objective discrete optimization problem. The Breedveld dissertation describes a real-world application of MCDM tools to radiation therapy. His algorithms have been and are being used in treating patients. He has authored journal articles published in medical journals jointly with Harvard medical faculty.

Although the Daechert and Kirlik dissertations were of high quality, our committee was unanimous in giving the best dissertation award to Sebastiaan Breedveld. Simply because of the real-world impact of his research. Congratulations Sebastiaan!

Jyrki Wallenius

Past President of the International Society on MCDM

Chair of the MCDM Dissertation Awards Committee

1.4 A First Announcement: 24th International Conference on Multiple Criteria Decision Making (MCDM 2017) in Ottawa

Dear friends and colleagues,

It is a privilege for me to extend you an invitation to hold the 24th International Conference on Multiple Criteria Decision Making, MCDM2017, in Ottawa, Canada from the 9th to the 14th of July of 2017.

As Canada's Capital, Ottawa is a city of impressive landmarks, a wealth of cultural attractions, a beautiful natural setting, all wrapped up in a relaxed urban vibe. Nestled at the junction of three rivers and the UNESCO World Heritage Site Rideau Canal, the city is considered one of the world's most beautiful capitals. Add to that its clean, green natural setting and the allure of the surrounding wide-open green spaces, parks and wilderness areas and you've got a capital combination that attracts millions of visitors every year. Our museums offer creative, ground breaking and world class exhibitions. From our excellent shopping boutiques, intimate sidewalk cafes and exciting nightlife, there is much to discover.

Ottawa boasts a hospitality industry well-accustomed to hosting international delegations and diplomats. Of the countless meetings and conventions held in Ottawa each year, many set records for delegate attendance and satisfaction. The professional meetings and conventions community facilities, hotels, attractions and destination management organizations offer everything you would expect to find in a world capital.

The venue of the conference will be the Telfer School of Management at the University of Ottawa. The school will provide us with rooms for the sessions and space for posters display, stands, secretariat, coffee breaks and lunches. The school is centrally located within walking distance from the main city attractions and hotels.

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 2017!

Sincerely,

Sarah Ben Amor

1.5 Announcement of the MCDA/M Summer School 2016

The MCDA/M Summer School is a two-week event, taking place July 18th through 29th, 2016 in Recife/Brasil. Details about the program, the application process and the venue are available at http://cdsid.org.br/mc-summer-school2016/

The aim of this school is to give graduate students/young researchers a state-of-the-art presentation of multiple criteria methods, applications and software and to stimulate a networking of young researchers in MCDA/M.

The scientific program of the summer school consists of invited lectures and teams of participants working on case studies.

Distinguished professors who have already confirmed their participation are:

- Ehrgott, Matthias;
- Figueira, José Rui;
- Geiger, Martin J.;
- Greco, Salvatore;
- Keeney, Ralph L.;
- Köksalan, Murat;
- Słowiński, Roman.

The program will include the following topics:

- Introduction to MCDA/MCDM;
- Applications in real world problems;
- Problem Structuring; Preference Modelling;
- Outranking Methods ;
- MAVT/MAUT (Multi-Attribute Value/Utility Theory);
- Robust Ordinal Regression;
- Decision Rule Approach;
- MCDM Group Decision ;
- Interactive Methods of Multiobjective Optimization (IMMO);
- Multiobjective Combinatorial Optimization (MOCO);
- Evolutionary Multiobjective Optimization (EMO);
- Decision Deck;
- Scientific writing and publication strategy;
- MCDM community and History.

We intend to limit the number of participants to roughly 50 graduate students. The application process is already open and the deadline for applying is December 18th, 2015. In order to apply, please send by email to mc-ss2016@cdsid.org.br:

- your detailed curriculum vitae
- an abstract describing your graduate work
- a letter from your supervisor specifying in clear terms your motivations to attend the summer school
- the Application Form filled (download from http://cdsid.org.br/mc-summer-school2016/application/).

The result of selection process will be communicated before January 31st, 2016. If accepted, you will receive an e-mail with instructions for registration. The early registration deadline is March 15th, 2016. Registration with accommodation includes attendance to the summer school, educational material, lunches, dinners, and social activity and is highly recommended to facilitate the highest level of interaction among students.

We look forward to seeing you in MCDA/M Summer School in Recife/Brazil, July 2016.

Don’t miss this opportunity!!

1.7 Society Elections

A new President-Elect and four new members to the Executive Committee will be elected. Every member will soon receive an E-mail invitation with an individualised link to vote at her/his address listed in the Society data-base. The candidates are listed below:

Candidates nominated for President-Elect

Matthias Ehrgott (Lancaster University, UK)

Vision Statement by Matthias Ehrgott

The International Society on Multiple Criteria Decision Making is a global community of researchers whose background is in a wide range of disciplines, but who share a common interest in all aspects of decision making that involve multiple conflicting criteria. This community has over decades developed a rich set of tools to address MCDM problems and has a tremendous track record in applying them in the real world. As president, I will strive to increase the impact of MCDM in disciplines where MCDM problems arise, but researchers may not be aware of the tools MCDM offers. One means of achieving this is close collaboration with the editor of JMCDA, and using my other editorial positions to promote MCDM in journals. Another will be to get such researchers as well as practitioners to attend our conferences. I will also be active in attracting young researchers to the society, a necessity to ensure its future success and growth.

The MCDM society has close links to other communities pursuing research in MCDM in its broadest sense, such as the EMO community, the INFORMS section on MCDM and the MOPGP community or the EURO working group on MCDA. I will make use of my personal relationships to these communities to further foster the interactions between these groups for mutual benefit.

I have a considerable track record of publications in the area (8000+ citations on google scholar) as well as experience with leadership. Among others I have been a co-editor of proceedings for MCDM, EMO, and MOPGP international conferences. Until the end of 2015 I am president of the INFORMS section on MCDM. I have been a member of the executive committee of the society since 2002 and organised one of its conferences (Auckland 2008), as well as attended all since 1997. I have held academic positions in Germany, New Zealand, France, and the UK, including being Head of Department in both an Engineering Faculty and a Management School department, and I have introduced regular courses on multi-objective optimization in mathematics and engineering departments. Hence my background suits the international and disciplinary diversity of the society well. If I am elected, I will put my best effort towards working with the executive committee and all members to provide leadership for the society and promote its mission during my term of office.

Jose Rui Figueira (Technical University of Lisbon, Portugal)

José Rui Figueira specializes in a broad class of techniques, procedures, methods, and methodologies of MCDM/A, and in their practical applications. His theoretical research and application fields range from value function and outranking based methods to multi-objective exact and heuristic based techniques. He very much enjoys making part and being active in the development of nonprofit organizations; he is a co-coordinator of the EWG on MCDA since more than 10 years, which shows his passion and provides him with a strong experience in managing this type of communities.

Mission

The mission of our society is well established in the bylaws (http://www.mcdmsociety.org/bylaws.html) and our objective is to continue in the same direction, while being sensitive to the needs of the changing world.

Vision

According to the objectives and purpose of the society mentioned in the bylaws, the work done by the Past President, Prof. Kaisa Miettinen, and the statement of vision provided by the current President, Prof. Murat Koksalan, our objective is to continue in the same line with possible adjustments. Thus, several aspects should be considered:

1. Increase the number of members, especially with particular appealing strategies in the countries where this number is low and does not correspond to the high MCDM activity of theses country researchers. A special effort will be devoted to develop relationships with other scientific communities having common interests such as the Evolutionary Multiobjective Optimization Community, with which we have been embarking in a common path since some years, or the goal programming community, the combinatorial optimization community, the fuzzy set and the rough set community, the environmental development community and so on with which a similar cooperation politics can be pursued.
2. Pay a particular attention to de development of The Journal of Multi-Criteria Decision Analysis and make it a reference in our field. A special effort will be devoted also to increase and qualify the presence of MCDM/A in all scientific journals of interest, by, e.g., encouraging and supporting special issues having our disciplines and its applications as main theme.
3. The results of our researchers should be also disseminated taking into account a new platform for the web page (also announced by the current President), the Newsletter (with a possible improvement of its format), the emailing-lists (forum) and especially with social networks (as, for example, Facebook, Twitter, Instagram,…). The latter seems currently a more effective and efficient network of people to promote discussion and share ideas. A qualified presence of our scientific domain in the internet will be also promoted, by, for example, promoting the presence on YouTube or similar platforms of some talks of interest given by prominent experts (invited speeches at our MCDM conference or other similar conferences, general introduction lectures at our Summer School and other similar initiatives, etc.).
4. All the Awards created till now, should continue in the future and probably establish other type of incentives for the best talk, best poster (a section with poster would be rather a novelty to consider).
5. Continue with the 2 International Conferences and the two Summer Schools each 4 years. Increasing the number of participants in each conference is very desirable. A special effort will be devoted to increase the presence of practitioners.
6. Special efforts should be made to attract new generation of researchers to the field of MCDM/A and to involve actively them in the development of our society.
7. Maintain and improve closed relations with others societies working in the field of decision-making or related: DAS, INFORMS, EWG-MCDA, Risk Analysis Society,… Particular efforts will be devoted to propose and promote common initiatives which will permit to enforce the cooperation and to initiate new research topics.

Kathrin Klamroth (University of Wuppertal, Germany)

Kathrin Klamroth leads the optimization group at the University of Wuppertal, Germany. The team has a strong research focus on multiple objective optimization, spanning the bridge from modelling and theoretical analysis to decision making tools and algorithm development and testing. Further research topics include location analysis and discrete-continuous optimization.

Kathrin graduated with a PhD in Mathematical Sciences at the University of Braunschweig, Germany in 1994. In 2002, she attained her Habilitation in Mathematics at the University of Kaiserslautern. Before moving to the University of Wuppertal in 2008, she had been appointed at the University of Erlangen-Nuremberg (2002-2008). She has held visiting positions at Clemson University (USA), the University of Copenhagen (Denmark) and Paris Dauphine University (France). Kathrin has been an executive committee member of the International Society on MCDM from 2006-2010 and since 2013. She was a member of the MCDM dissertation award committee 2011 and 2013. She has co-organized the MCDM track at several EURO meetings and she was co-organizer of a Dagstuhl seminar on MCDM and EMO in 2015.

Position Statement

The International Society on MCDM is by its nature interdisciplinary and unites researchers and practitioners from many different scientific communities, and from all over the world. Its success is based on many people. A number of traditions have been established over the years to keep the society strong and united. Together with the executive committe, I will keep and advance the traditions, the MCDM conferences, the MCDM Journal and our Newsletter. I will continue to open the society to young scholars and to practitioners. The dissertation award and our summer schools are a great success, and we can think further, for example, about exchange programs, practice workshops and about MCDM in education. I am grateful for this nomination, and if

Candidates for the Executive Committee

1. Jussi Hakanen (University of Jyväskylä, Finland)

I am senior researcher, PhD, in the Department of Mathematical Information Technology at the University of Jyväskylä, Finland. My research is focused on multiobjective optimization with an emphasis on interactive multiobjective optimization methods and computationally expensive problems. I have participated in several industrial projects involving different applications of multiobjective optimization, e.g. in chemical engineering. I have been a visiting researcher in Carnegie Mellon, University of Wuppertal, University of Malaga and the VTT Technical Research Center of Finland. I am adjunct professor in industrial optimization at the University of Jyväskylä. I have actively participated in the MCDM conferences since 2004 and was involved in organizing the conference in Jyväskylä.

2. Dylan Jones (University of Portsmouth, UK)

Dr Dylan Jones is a Professor of Operational Research based in the Department of Mathematics at the University of Portsmouth, UK. He is the Director of the Centre of Operational Research and Logistics (CORL). Prof Jones's main area of expertise is the theory and application of decision problems with multiple conflicting objectives. He has published over 50 scientific articles on this topic and a keynote book on goal programming. Prof Jones has worked extensively on the application of Operational Research in various fields of application including healthcare planning and logistics, management of networks of container ports, the logistics of marine renewable energy, financial portfolio selection, and socio-economic applications such as analysing cinema going behaviour. He has recently participated in three European Union grants on the topic of offshore wind farm planning.

3. Alessio Ishizaka (University of Portsmouth, UK)

Alessio Ishizaka is a Full Professor in Decision Analysis and the Founding Deputy Director of the Centre of Operations Research and Logistics at the University of Portsmouth. He has developed several new MCDA methods (AHPSort, FS-GAIA, Group Analytic Hierarchy Process Ordering Method, Calibrated Fuzzy AHP, ELECTRESort, FlowSort-GDSS) and has successfully applied them to solve business cases such as University rankings, location analysis, supplier selection, innovation measurement, statistical distribution selection, strategy selection, UAV routing, etc. He secured projects funded by the EU FP7, Freiwillige Akademische Gesellschaft Basel, Fördervereins des Wirtschaftswissenschaftlichen Zentrums, Innovate UK and the OR society. He is elected since 2010 at the General Council of the OR Society. He has written the textbook Multi-criteria Decision Analysis: Methods and Software. If elected, for our MCDM society I shall promote closer relations with industries, participatory decision procedures and introductory sessions in schools and universities.

4. Silvia Poles (Noesis Solutions, Belgium)

Silvia is Pre & Post sales manager at Noesis Solutions in Leuven (Belgium). She earned her masters degree in mathematics at the Padua University (Italy) and then she completed a two-year master in "modeling and simulation complex realities" at the International School for Advanced Studies (SISSA) in Trieste. Silvia has published many papers and studies in the field of the multiobjective optimization, data mining, approximation methods and decision support on international referee journals and conferences. Her research interests cover the fields of multiobjective optimization, industrial optimization, multivariate analysis, approximation methodologies and decision making support.

5. Adiel Teixeira de Almeida (Federal University of Pernambuco, Brazil)

Adiel Teixeira de Almeida is Full Professor at Universidade Federal de Pernambuco and founding coordinator of the Center for Decision Systems and Information Development. He holds a PhD in management engineering from The University of Birmingham, UK. His main interests include methodological issues on decision-making with multiple criteria and group decision, and applications of decision models in many contexts, such as: risk analysis, reliability and maintenance, project portfolio, outsourcing, and water management. Before his current position, he worked for many years in business organizations as engineer and manager. He authored or co-author several scientific papers in reviewed journals. He serves on the editorial board of management and engineering scholarly journals, such as: Group Decision and Negotiation, IMA Journal of Management Mathematics and Journal of Quality and

6. Jyrki Wallenius (Aalto University, Finland)

Jyrki Wallenius is Professor of Management Science at Aalto University School of Business and chair of the Aalto University Professors Council. Wallenius is former Dean of his school. He is Past President of the International Society on MCDM, also a past President of the INFORMS Section on MCDM. Wallenius is a Senior Editor of Decision Sciences Journal, a former Editor-in-Chief of EJOR, and a current editorial board member of EJOR. His research deals with interactive algorithms for solving MCDM/EMO problems, behavioral issues, and applications of MCDM to real-world problems. Program co-chair of the Jyväskylä MCDM Conference, 2011. Wallenius is the recipient of numerous awards, including the Society's Edgeworth-

7. Margaret Wiecek (Clemson University, USA)

Margaret M. Wiecek is Professor of Mathematical Sciences at Clemson University in South Carolina, USA. She obtained an M.S. degree in Electrical Engineering and a Ph.D. degree in Systems Engineering from the AGH University of Science and Technology in Krakow, Poland. Her research area includes theory, methodology, and applications of mathematical programming with special interest in multiobjective optimization and decision-making, and applications in the area of engineering design. She has published 130 articles in journals, books, and conference proceedings. She has advised ten doctoral students, thirty nine Master's students, and four postdoctoral scholars. She is on the editorial boards of the International Journal of Multicriteria Decision Making and Decision Making in Manufacturing and Services.

8. Constantin Zopounidis (Technical University of Crete, Greece)

Constantin Zopounidis is Professor of Operations Research, at Technical University of Crete (Greece), Distinguished Research Professor in Audencia Nantes, School of Management (France), and Senior Academician of both the Royal Academy of Doctors and the Royal Academy of Economics and Financial Sciences of Spain. He is Editor-in-Chief of Operational Research: An International Journal (Springer) and The International Journal of Multicriteria Decision Making (Inderscience). In recognition of his scientific work, in 2013 he has received the Edgeworth-Pareto prestigious Award from the International Society of Multicriteria Decision Making. He has edited and authored 80 books in international publishers and more than 450 research papers in scientific journals, edited volumes in operations research, and management science.

1.8 Amendments to the Bylaws

The process of amending the Bylaws of the Society was completed with the voting at the business meeting at the Hamburg Conference on August 6, 2015. The following changes were approved:

- In Article III, Section 1 (about the Executive Committe), it is proposed that the Editor-In-Chief of the Journal of Multi-Criteria Decision Analysis is a member of the Executive Committee:
  "The Executive Committee consists of the President of the Society, President-Elect, Immediate Past-President, Vice-President of Finance, Newsletter Editor, Chairman of the Awards Committee, **Editor-In-Chief of the Journal of Multi-Criteria Decision Analysis** and eight other members. In addition, the Executive Committee includes two other *ex officio* members: the Chairmen of the last and next scheduled International Conferences of the Society. There may be three such members of the Executive Committee, if the Chairman of the subsequent International Conference has already been named. In addition, the Executive Committee may invite Past-Presidents to serve on the Committee."

- In Article III, Section 5 (about the Secretary), it is decided to add that the term of the Secretary shall be four years, allowing renewal:
  "The Secretary shall keep, or cause to be kept, a book of minutes of all meetings of the Executive Committee and the Society. He/she shall conduct necessary correspondence with members of the Society and others. The Executive Committee will appoint the Secretary. **The term of the Secretary will be 4 years, with a possibility for renewal."**

- It is decided to add a new Section in Article III, about the MCDM Doctoral Dissertation Competition Committee:
  "The MCDM Doctoral Dissertation Award Committee is responsible for eliciting the applications and designating the finalists and the recipient of the MCDM Doctoral Dissertation Award. The Executive Committee shall appoint the Chair of the MCDM Doctoral Dissertation Award Committee among the members of the Executive Committee for a two-year term. The Chair shall propose and the Executive Committee shall appoint a maximum of four other members of the Committee and their term will be till the next International Conference. The MCDM Doctoral Dissertation Award Committee shall designate up to four finalists before each International Conference. The finalists shall have their registration fees for the Conference waived. The award recipient shall be decided by the Committee and the award presented at International Conferences. The amount of the award shall be decided by the Executive Committee and granted by the Society."

- In Article VIII, Section (about the Procedure for Amendments), it is decided that the Secretary shall prepare and make available the proposed amendments within 30 days after the Business Meeting where the amendments have been approved:
  "Proposals for adoption of new Bylaws, or repeal, or amendment of these Bylaws shall be presented to the membership of the Society at a Business Meeting. On approval by a majority of the voting members of the Society present, the Secretary shall prepare and make available the proposed amendments **within 30 days after the Business Meeting**. A majority of the members of the Society voting shall be necessary for adoption of the changes to the Bylaws. **The form of the ballot will be decided by the Executive Committee."**

2 To the Memory of Subhash Narula

Remembering Friend and Colleague Subhash Narula,

Figure 4: Subhash in Porto 1994

It was a surprise one and half a year ago not to receive Christmas card from Subhash. He also used to send greetings to each family member at his or her birthday. This made me to think that perhaps something has happened, but I hoped for the best. However, in the fall 2013 his colleague Prof. Ronald Weistroffer told me the news I wished not to hear: Subhash has passed away few months earlier during his trip to Europe. It was all information he had. Later, our friend Paolo Serafini found more information about Subhash's death. He contacted Subhash's friend, Marigail Jury, who explained that Subhash had suffered a heart attack in a Swiss hotel on September 11, 2013. He died immediately.

Subhash's date of birth in the official documents is December 17, 1943, but it is not quite correct. When his big brother took him to school, the date of birth was registered for the first time ever, but his brother did not remember the date quite right. Subhash came from a very poor family, but he was very stubborn in his studies. He made his doctoral degree in USA, and when he came, he had only $250 in his pocket. He finished his academic career as a full professor at the Business School of Virginia Commonwealth University. When retiring a few years ago, he did not continue academic activities. He preferred to travel.

Subhash conducted research in the field of OR and Statistics and studied e.g. different multiple criteria problems, locational problems, and absolute errors in regression analysis. He was a very useful and competent co-author in many research projects. In the MCDM-community, besides his achievements in research, he was also very famous for his "balloon art". He always amused conference participants and officials. If you wanted to find Subhash in a conference, you just followed the "balloon path". He also made many children happy with his balloons. He was able to make balloon animals such as dogs, cats, birds etc. Once in Porto, a boy came to us to ask for

money. I proposed Subhash to make him happy with a balloon instead of money. Subhash agreed but warned me about the consequences. I did not quite get what he meant but immediately, when the balloon was ready, at least 20 kids surrounded him. They appeared like mushrooms in the rain. Of course, Subhash made a balloon for each of them.

Subhash visited Finland a number of times. He lectured various courses and co-operated with me and other colleagues in research. He told that in Finland he had done many things for the first time in his life, for instance sauna (especially smoke sauna), swimming naked in a lake, and rowing a boat on the perfectly calm lake.

I received the very last e-mail from him on December 24, 2012. In the mail he wished:

"*I hope 2012 has been a good year for you and your family and I wish you and your family all that you wish for and that 2013 will be even better and bring you happiness, health, peace, prosperity, and success.*

It has been a blessing to have known you and for the times we had together. Thank you for all the memories and I look forward to making some more in the near future. Thank you for being part of my life.

On the whole it has been a good year with its ups and downs.

Until next time, please take good care, be happy :-) and healthy, convey my love and greetings to your family, have a smile :-) on your face, a song in your heart, have a wonderful day, and keep in touch.

With best wishes and love,

Subhash"

Unfortunately, next time never came.

Pekka Korhonen

3 Upcoming Events and Call for Papers

3.1 Special Issue: Advances in Behavioural Research on Supported Decision Processes

CALL FOR PAPERS

Special Issue: **Advances in Behavioural Research on Supported Decision Processes**

Guest Editors **Gilberto Montibeller (Loughborough University, UK)**
Jyrki Wallenius (Aalto University School of Business, Finland)

Motivation

Behavioural decision research has its roots in the writings of Ward Edwards and Herbert Simon in the 1950's and 1960's. Other early contributors are Daniel Kahneman and Amos Tversky who made breakthroughs on behavioural decision heuristics and biases in the 1970's and 1980's. These scholars called for behavioural realism in decision support tools. Still, it is only recently that the importance of behavioural decision research has received significant attention in the Operational Research (OR) community, as evidenced, for instance, by the creation of the EURO Working Group on Behavioural OR, led by Alberto Franco and Raimo Hämäläinen.

The early research on behavioural decision theory emphasized the descriptive aspects of decision-making and unsupported decision processes. The pragmatic OR approach, in contrast, is focused on models and tools for supporting decision processes. This approach will be more successful when it builds on a better understanding of how supported decisions are made and how behavioural issues impact the development and use of tools for decision support.

This Special Issue presents major advances in behavioural decision research in relation to OR methods and tools. For instance, the elicitation of preferences and judgements involves behavioural biases; choices in optimization modelling depend on the analyst's judgements; facilitated decision modeling is influenced by group behaviour but also affects group dynamics; and decision support systems are guided by the users' behaviour. While there is an extensive psychological literature on behavioural issues in unsupported decision making, these issues are understudied in the context of supported decision making.

Contents

We invite submissions which focus on behavioural decision research in the context of supported decision processes. We welcome both empirical and theoretical contributions. Topics of particular interest may include, but are not limited to:

- What behavioural assumptions are reasonable in developing and using prescriptive decision tools?
- Which methods of quantifying uncertainties and preferences are normatively sound?
- How can debiasing tools reduce behavioural biases in eliciting judgments?
- How do group dynamics and behavioural biases affect facilitated group decision making?
- How can behavioural biases in the use of decision support systems be mitigated?

Schedule

Prospective authors are encouraged to submit a full paper to the Manuscript Central editorial system (https://www.editorialmanager.com/ejdp, article type **SI: Advances in Behavioral Research on Supported Decision Processes**). Alternatively, they may send the Guest Editors a three-page extended abstract describing their proposed contribution (email **Jyrki.Wallenius@aalto.fi**) for feedback (prior to sending the full paper). The planned schedule is as follows:

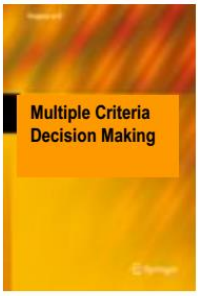
October 31st, 2015	Extended abstracts
End of February 2016	Deadline for the submission of full papers
3rd quarter, 2016	Final decision notification
End of 2016	Publication of the Special Issue

3.2 Call for Papers Case Studies in Multiple Criteria Decision Making".

Dear Colleagues,

I am pleased to announce the new book series of **Multiple Criteria Decision Making** at Springer. This book series focuses on the publication of monographs and edited volumes of wide interest for researchers and practitioners interested in the theory of multicriteria analysis and its applications in management and engineering. The book series publishes novel works related to the foundations and the methodological aspects of multicriteria analysis, its applications in different areas in management and engineering, as well as its connections with other quantitative and analytic disciplines.
I also propose the first volume of the series to be the following: "**Case Studies in Multiple Criteria Decision Making"**. My intention is the volume to include only real case studies on MCDM. The aim is to assist Decision Makers in their daily tasks with efficient tools.
I am waiting for your positive response.

Springer
the language of science



Best Regards,
Professor Constantin Zopounidis
Series Editor

First volume:
Case Studies in Multiple Criteria Decision Making

This book series focuses on the publication of monographs and edited volumes of wide interest for researchers and practitioners interested in the theory of multicriteria analysis and its applications in management and engineering. The book series publishes novel works related to the foundations and the methodological aspects of multicriteria analysis, its applications in different areas in management and engineering, as well as its connections with other quantitative and analytic disciplines.

In recent years, multicriteria analysis has been widely used for decision making purposes by institutions and enterprises. Research is also very active in the field, with numerous publications in a wide range of publication outlets and different domains such as operations management, environmental and energy planning, finance and economics, marketing, engineering, and healthcare.

Submission of Book Chapters

Sent by e-mail to the Series Editor Professor Constantin Zopounidis: kostas@dpem.tuc.gr

In addition, **Book proposals** may be also sent to the Series Editor in the above e-mail address.

3.3 2016 IEEE World Congress on Computational Intelligence

The IEEE World Congress on Computational Intelligence (IEEE WCCI) is the largest technical event in the field of computational intelligence. The IEEE WCCI 2016 will host three conferences: The 2016 International Joint Conference on Neural Networks (IJCNN 2016), the 2016 IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2016), and the 2016 IEEE Congress on Evolutionary Computation (IEEE CEC 2016) under one roof. It encourages cross-fertilization of ideas among the three big areas and provides a forum for intellectuals from all over the world to discuss and present their research findings on computational intelligence.

IEEE WCCI 2016 will be held at the Vancouver Convention Centre, Vancouver, Canada. Vancouver is Canada's Pacific gem, offering a winning combination of world-class hotels, meeting venues, and restaurants in a setting of spectacular beauty. Few convention cities can offer such a wide range of cosmopolitan amenities in a downtown core that is safe, clean, pedestrian friendly, and stunning in its backdrop of mountains and ocean.

IJCNN is the flagship conference of the International Neural Network Society and the IEEE Computational Intelligence Society. It covers a wide range of topics in the field of neural networks, from biological neural network modeling to artificial neural computation.

FUZZ-IEEE is the foremost conference in the field of fuzzy systems. It covers all topics in fuzzy systems, from theory to applications.

IEEE CEC is a major event in the field of evolutionary computation, and covers all topics in evolutionary computation from theory to applications.

Call for Papers

Papers for IEEE WCCI 2016 should be submitted electronically through the Congress website at www.wcci2016.org, and will be refereed by experts in the fields and ranked based on the criteria of originality, significance, quality and clarity.

Call for Tutorials

IEEE WCCI 2016 will feature pre-Congress tutorials, covering fundamental and advanced topics in computational intelligence. A tutorial proposal should include title, outline, expected enrollment, and presenter/organizer biography. Inquiries regarding tutorials should be addressed to Tutorials Chairs.

Call for Special Session Proposals

IEEE WCCI 2016 solicits proposals for special sessions within the technical scope of the three conferences. Special sessions, to be organized by internationally recognized experts, aim to bring together researchers in special focused topics. Cross-fertilization of the three technical disciplines and newly emerging research areas are strongly encouraged. Inquiries regarding special sessions and proposals should be addressed to Special Sessions Chairs.

Call for Competition Proposals

IEEE WCCI 2016 will host competitions to stimulate research in computational intelligence. A competition proposal should include descriptions of the problem(s) addressed, evaluation procedures, and a biography of the organizers. Inquiries regarding competitions should be addressed to the Competitions Chair.

Important Dates

- 15 Nov 2015 — Special Session & Workshop Proposals Deadline
- 15 Dec 2015 — Competition & Tutorial Proposals Deadline
- 15 Jan 2016 — Paper Submission Deadline
- 15 Mar 2016 — Paper Acceptance Notification Date
- 15 Apr 2016 — Final Paper Submission & Early Registration Deadline
- 25-29 Jul 2016 — IEEE WCCI 2016 Vancouver, Canada

Sponsored by

IEEE · IEEE Computational Intelligence Society · The International Neural Network Society (INNS) · EPS Evolutionary Programming Society · IET

Organizing Committee

General Co-Chairs
Kay Chen Tan, Singapore
Gary G. Yen, USA

IJCNN Conference Chair
Pablo A. Estevez, Chile

IJCNN Technical Chairs
Plamen P. Angelov, UK
Emilio Del Moral Hernandez, Brazil
Derong Liu, USA
Lipo Wang, Singapore

FUZZ-IEEE Conference Chair
Oscar Cordon, Spain

FUZZ-IEEE Technical Chairs
James M. Keller, USA
Naoyuki Kubota, Japan
Bernadette R. Bouchon Meunier, France
Nikhil R. Pal, India

CEC Conference Chair
Yew Soon Ong, Singapore

CEC Technical Chairs
Carlos A. Coello Coello, Mexico
Garrison W. Greenwood, USA
Sanaz Mostaghim, Germany
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Competitions Chair
Simon M. Lucas, UK

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Fakhri Karray, Canada

Finance Chair
Haibo He, USA

Local Arrangements Chair
Yifeng Li, Canada

Panel Sessions Chair
Marios M. Polycarpou, Cyprus

Paper Submissions Chair
Ke Tang, China

Plenary Sessions Chair
Chin-Teng Lin, Taiwan

Poster Sessions Chairs
Jong-Hwan Kim, South Korea
Laszlo T. Koczy, Hungary
Yi Zhang, China

Publications Chair
Hussein A. Abbass, Australia

Publicity Chairs
Rami Abielmona, Canada
Valentina E. Balas, Romania
Min Jiang, China
Xiaodong Li, Australia
Dongbin Zhao, China

Registrations Chair
Yaochu Jin, UK

Special Sessions Chairs
Uzay Kaymak, Netherlands
Mengjie Zhang, New Zealand
Zhi-Hua Zhou, China

Student Activities Chair
Dipti Srinivasan, Singapore

Tutorials Chairs
Kalyanmoy Deb, USA
Hani Hagras, UK
Nikola Kasabov, New Zealand

Workshops Chair
Piero P. Bonissone, USA

Find Us At
www.wcci2016.org
wcci2016@gmail.com

3.4 The 11th International Conference on Multiple Objectives Prorgramming and Goal Programming MOPGP'15

MOPGP'15

THE 11TH INTERNATIONAL CONFERENCE ON MULTIPLE OBJECTIVE PROGRAMMING AND GOAL PROGRAMMING

WHEN

December 13-15, 2015

WHERE

Tlemcen, Algeria

The pearl of the Maghreb

MCDM

informs mcdm

TDAS

Tunisian Decision Aid Society

WWW.MOPGP.ORG

Selected extended-abstracts will be considered as potential full-paper publications, in

Annals of Operations Research

Springer

TOPICS

Theories of MOP/GP
Applications of MOP/GP
Fuzzy sets and MOP/GP
Meta-heuristics in MOP/GP
Interactive MOP/GP
Evolutionary MOP/GP
Combinatorial MOP/GP
Stochastic MOP/GP
Fuzzy MOP/GP
Dynamic MOP/GP
Business applications of MOP/GP
Engineering applications of MOP/GP
All other topics in relation to MOP/GP

DEADLINES

Submission of abstracts
September 30, 2015
Acceptance notice
October 15, 2015
Early registration
November 15, 2015
Preliminary Program
November 30, 2015

INVITED SPEAKERS

Belaïd Aouni
Fouad Ben Abdelaziz
José Rui Figueira
Matthias Ehrgott
Jacques Teghem

Early Registration fees:

Student 100 Euro
Academic 200 Euro

3.5 Big Data Analytics Using Multiple Criteria Decision Making Models

Call for Contributions for an Edited Book
in Honour of Professor Ravi Ravindran

Multi-Criteria Decision Making (MCDM) is a subfield of Operational Research. It is a special case of the so-called decision making tools. A decision-making problem is characterised by the need to choose one or a few from among a number of alternatives. A good decision making process should not only improve the clarity of the problem to the decision maker, but it should also shed new light into the problem by generating newer alternatives. The field of multi-criteria decision making has been succinctly defined in the literature as making decisions in the face of multiple conflicting objectives.

The field of MCDM assumes special importance in this era of Big Data and Business Analytics. In the modern digital world, a wealth of so called Big Data is being generated every minute, every second, even every Nano second. Thanks to the astounding technological revolution, everything around us is being captured in some way or the other, stored in some form, and it is believed that this has the potential to make business sense with multiple objectives. Business Analytics (BA) involves an appropriate use of analytic tools on Big Data to provide new predictive/prescriptive/descriptive insights that will allow businesses perform better. BA involves both modelling-based tools and statistics-based tools. The modelling based tools involve use of operational research models. In this volume, the focus will be on modelling-based tools for BA, with exclusive focus on the sub-field of MCDM within the domain of operational research. We believe that this volume will fill the knowledge gap on the paucity of MCDM models in the context of Big Data and BA.

We solicit chapters that explain and expand how MCDM models can be usefully employed taking advantage of Big Data. These models may focus on specific management-support processes such as data visualization, simulation and scenario development, discrete choice modelling, forecasting, clustering, segmentation, and/or standardized reporting. Alternatively, the chapters may focus on the use of models to improve specific business domains (e.g., operations/supply chains, financial management and budgeting, production management, human resource management, marketing management, strategy and business development, customer service, health care, product research and development, risk management, customer experience management,

brand or market management, utilities, policing and security, education, workforce planning and allocation, the internet of things, and/or environmental sustainability). MCDM models may be used alone or in combination with other modelling approaches.

This volume will be dedicated to the honour of Professor Ravi Ravindran and closely follows the heels of an international conference organised in his honour during March 2015. Hence, we specifically invite present and former students of Professor Ravindran to contribute chapters. Of course, we solicit chapters from other contributors as well. The final choice of chapters will be based only on merit and closeness to the theme of the volume. We will strive to include contributions from various parts of the world.

Prospective contributors are encouraged to approach the editors on the suitability of their paper as soon as possible. The following is the time-line for publication.

November 2015: Deadline for chapter submissions to editors

March 2016: First round of review completed

June 2016: Second round of review completed

September 2016: Final choice of chapters for publication

Editors

Professor Ram Ramanathan (Lead Editor), Professor of Operations Management, Director, Business and Management Research Institute, University of Bedfordshire, Email: ram.ramanathan@beds.ac.uk

Dr. M Mathirajan, Chief Research Scientist, Department of Management Studies, Faculty of Engineering, Indian institute of Science, Email: msdmathi@mgmt.iisc.ernet.in

Professor Ravi Ravindran, Professor of Industrial Engineering, Pennsylvania State University, Email: aravi@psu.edu

*3.6 **Second Karlsruhe Service Summit Research** Workshop, February 25th-26th 2016 in Karlsruhe, Germany*

The Karlsruhe Service Summit Research Workshop is hosted by KSRI to provide a service innovation hub for researchers and practitioners in the fields of business engineering, economics, computer science, information systems, operations research, logistics and social sciences.

The objective of the second KSS Research Workshop is to foster academic and interdisciplinary discourse and networking amongst different generations of researchers from the field of service science. In order to achieve this objective, stimulation of academic scholarship, discussions of ideas as well as dialogue among students and researchers from different countries, disciplines and seniority is intended. The workshop commences on the first day with tutorial sessions while the second day will be dedicated to the workshop presentations.

Call for Short Paper Submission

For KSRI's second Service Summit Research Workshop, we invite submissions of theoretical and/or empirical research dealing with one or several of the subsequent four workshop's pillars. Of particular interest are submissions related to the significant topics energy, mobility, health care, participation, social collaboration, crowdfunding, and smart services used in an increasingly digitized world.

We especially encourage submissions with an integrative perspective. All submitted short papers will be blind peer reviewed by at least two members of the program committee. The selected submissions will be published in post workshop proceedings of the KSS 2016. Additionally, we consider eligible papers to be extended for submission to Service Science, an INFORMS journal (http://pubsonline.informs.org/journal/serv). More information regarding the service summit is available here: http://service-summit.org

Submission Process

2015-11-08 Paper Submission

2015-12-21 Notification of Acceptance

2016-01-18 Final Paper Submission and Authors' Registration

2016-02-25/26 Workshop Date

Short papers up to 6 pages in the template provided online

Please submit via easyChair: https://www.easychair.org/conferences/?conf=kss2016

Energy and Mobility Services

The energy sector continues to undergo substantial structural changes. Currently, the expanding usage of renewable energy sources (RES), the decentralization of energy supply and the market penetration of electric vehicles have a significant impact on the future development of services in energy and mobility. In the energy sector, for instance, the share of self-generated electricity in the overall electricity demand steadily increases. Consequently, utilities are transforming their business models from pure delivery of energy to tangible (energy) service providers. While services for the energy sector were traditionally considered technical affordances (e.g., ancillary services), the recent increase in "prosumption" shows that the need for a set of tangible, non-technical services in the energy retail market, taking consumer engagement into consideration, is no longer an issue of future services, but current reality. Moreover, the increasing volatility and uncertainty of power supply lead to a rising demand for flexibility, which cannot be provided by the conventional supply side alone. Services focusing on the demand side such as appropriate incentives (e.g. electricity tariffs), market designs, and service level concepts need to be developed and introduced. This requires new services in electricity retail markets, innovative marketing and comprehensive acceptance research and the investigation of future business models. Moreover, the concept of service quality needs to be adapted to these developments and appropriate service level indicators need to be developed. Electric vehicles might be a part of this concept. Furthermore, mobility and other services are required in order to simplify the market run-up and user acceptance of EV. This pillar therefore seeks contributions enhancing the understanding of the future role of services in energy economics and e-mobility. Moreover, presentations and papers addressing the appropriate use of decision support methods in different phases of service innovation and marketing in these domains are welcome. Relevant topics include, but are not limited to:

- Service innovation, marketing and evaluation in energy economics and e-mobility
- Service level engineering in electricity retail markets
- Services for mobility 2.0
- The role of smart grids and smart markets to foster demand-side flexibility
- User acceptance analysis of new tariffs (e.g. curtailable load or dynamic pricing) or new technologies (e.g. e-mobility)
- Design and evaluation of business models in energy and mobility markets

Healthcare Services

Demographic changes cause higher patient demands alongside severe cost pressure and increasing quality requirements. Therefore, more efficient healthcare services and logistics are desirable. Even though underlying planning problems in the area of Operations Research resemble the ones from other service or manufacturing industries (e.g., scheduling of different tasks, processes or appointments) healthcare services are especially challenging, because patients need different care than, for example, parts of cars. In addition, particularly interdisciplinary approaches are necessary for research on and improvement of healthcare services. Since Information Systems have high potentials for improving efficiency, they also play an important role.
For this track, practitioner submissions are explicitly encouraged in order to enable fruitful discussions on current challenges and possible solutions. Relevant topics or case studies include, but are not limited to:

- Operations Research for Healthcare Services, e.g. Appointment Planning, Ambulance Planning / EMS Planning, Home Healthcare Planning, Long-term Care Planning
- Hospital Logistics
- Health Services Research
- Hospital Information Systems and Telemedicine Systems

Participation & Crowd Services

Today, crowd-based and participatory approaches are playing an increasingly important role in tackling innovative endeavors. Thus, platforms in the areas of open innovation, crowdfunding, participatory budgeting, crowdsourcing, idea markets are used by a broad set of organizations to facilitate innovation processes and enhance engagement of people who effected by their outcomes. Governmental organizations involve citizens, companies their wider staff, others engage parties from outside of their organization in strategic, direction setting activities. The employed approaches contribute to the generation, conceptualization, evaluation, funding, implementation, and increased acceptance of related projects. However, there is a lack of interdisciplinary research for understanding cognitive and collaborative processes that underpin these platforms, design options for approaches and their appropriateness for different settings and goals.

This track aims to shed light on the understanding and design of participatory and crowd-based approaches in the area of innovative endeavors. For this workshop we welcome research-in-progress papers and papers outlining research designs including early indicative results. Relevant topics or case studies include, but are not limited to:

- Crowd Services: Crowdfunding, Crowdwork, Crowdsourcing, Strategy Crowdsourcing, Participatory Budgeting, Idea Markets
- Open Innovation
- Disentangling and understanding participant and facilitator behavior
- Analyzing social interaction and social network structures
- Design of Crowd Services and related platform concepts
- Metrics of quality and assessment
- Boundaries and limitations of crowd services

Industry 4.0 and Internet of Things

Market competitiveness as well as new technology developments raise the need for constantly reshaping and improving the organizational, controlling and manufacturing aspects of the lifecycle of products and services. Production industries are increasingly characterized by individualized customer needs shaping not only the final result but also the actual design, development, manufacturing and delivery process steps, as well as the associated business models. Furthermore, flexibility, customization and the need to be able to support real-time scenarios are crucial in order to be able to keep up to date with current developments. These requirements aim to be addressed by Industry 4.0 – a vision of tomorrow's manufacturing, where in intelligent factories, machines and products communicate with each other, cooperatively driving production.

Key technological pillars for realizing Industry 4.0 are cyber-physical systems, the Internet of Things (IoT) and the Internet of Services, which together facilitate the vision of the Smart Factories. Cyber-physical systems represent, control and monitor the actual physical processes, by creating a virtual copy of the physical world and making decentralized autonomous decisions. Facilitated by the Internet of Things, which refers to a worldwide network of interconnected heterogeneous objects that are uniquely addressable and are based on standard communication protocols, these intelligent autonomous systems are able to communicate with each other and with humans in real time. Furthermore, via the Internet of Services, both internal and cross-organizational services are offered and utilized by participants of the value chain. Finally, in the current era of digitalization, such scenarios are unthinkable without the utilization of Big Data technologies, where large data sets provided by the interconnected objects can be stored, managed and

analyzed with scalable methods. Naturally, the employment of these technologies is associated with the need to evolve and develop new adequate business models.

This tracks aims on discussing advantages of particular technologies, value creation and business models for platform providers, application developers, end-users, large and small organizations, and manufacturers in the context of product and service offering. Relevant topics or case studies include, but are not limited to:

- Self-organizing and autonomous systems
- Design and development of Industry 4.0 platforms
- Supporting solutions for customized products
- Monitoring and Smart Data Analytics for Industry 4.0
- Flexible and scalable data management and integration
- Real-time data integration and processing
- Sensor data processing and integration
- Semantic Web technologies for Industry 4.0 and IoT
- Marketplaces for offering IoT-based applications and services
- Data-centric business models
- Application and use case deployment success stories

Associated with the EMO sessions at the MCDM'2015 conference is a special issue focusing on the presentation of current state-of-the-art methods in EMO to the Operations Research community. The special issue is about to appear in the Computers & Operations Research journal (COR, impact factor: 1.718). Although associated to the EMO session, we are also welcoming other high quality papers in all theoretical, developmental, implementational, and applied aspects of EMO and decision making. Papers focusing on combining EMO and MCDM methodologies are highly encouraged.

3.7 Call for Papers Special Issue of the Computers & Operations Research journal on "Evolutionary Multiobjective Optimization"

Guest edited by:
Dimo Brockhoff, INRIA Lille - Nord Europe, France
Joshua Knowles, University of Manchester, UK
Boris Naujoks, Cologne University of Applied Sciences, Germany
Karthik Sindhya, University of Jyväskylä, Finland

submission deadline:
September 30, 2015

Special Issue Aims and Scope:

Randomized search heuristics such as evolutionary algorithms, differential evolution, and swarm algorithms are prominent approaches to solving difficult multiobjective optimization problems in practice. These methods typically work with a population (or set) of solutions in order to find an approximation of the set of Pareto-efficient or Pareto-optimal solutions (in a single algorithm run). This allows them to provide examples of trade-off solutions to (human) decision makers. All methods are particularly appropriate when the objective functions are of a black-box type (i.e. they are not known analytically) or if other difficulties such as noise, multi-modality, and non-separability are to be handled. The research field of Evolutionary Multiobjective Optimization (EMO) encompasses all developments of these randomized, population-based multiobjective optimization algorithms and is currently one of the most active areas in the evolutionary computation field. It is the main goal of this special issue to provide an outlet for state-of-the-art research in EMO of high interest to the operations research community.

In particular, the special issue calls for high-quality contributions related to the field of (evolutionary) multiobjective optimization and is open for papers investigating

- any type of multiobjective search algorithm as long as its main purpose is to provide a solution set: exact algorithms, (meta)heuristics, or generally stochastic methods such as evolutionary algorithms, differential evolution, swarm algorithms,
- any type of search space (numerical, combinatorial, mixed integer optimization, constrained, and/or blackbox optimization) from bi-objective to many-objective problems,
- both theoretical and practical studies as long as they provide (extensive) numerical validations.

Of special interest are:

- methods applied to operational or management problems

- numerical comparisons between different (including exact) techniques
- 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
- surrogate-assisted EMO for expensive functions
- uncertainty handling

Potential papers should address the core objectives of Computers & Operations Research. The journal encourages full-length research papers that demonstrate constructive algorithmic complexity and extensive numerical experiments. Simple numerical examples are not sufficient: the numerical experiments must have a scientific value of their own, particularly with comparisons to other approaches. In addition to numerical experiments, we seek cutting edge developments, concepts, practices, and research opportunities in all theoretical, implementational, and applied aspects of EMO and multi-criteria decision making (MCDM). Papers focusing on combining EMO and MCDM methodologies are highly encouraged. All papers will be reviewed according to the standards of Computers & Operations Research.

Manuscripts should be submitted not later than September 30, 2015 and should conform to the Computers & Operations Research journal format (see the Computers & Operations Research web page for author guidelines). Please submit your article via the online submission system and select "Special Issue: EMO" when it prompts to indicate the "Article Type" in the submission.

Key Dates:

- Submission deadline for full-length papers: September 30, 2015
- Tentative deadline for final submission: May 2016
- Expected publication date: second half of 2016

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

Huynh C. H., Simon J., Keller L. R., **Decision Technologies**, Invited chapter 32 in volume II., in *Wiley-Blackwell Handbook of Judgment and Decision Making- 2 Volume Set*, eds. Gideon Keren and George Wu. Malden (MA): Blackwell, Slated for Sept. 2015 publication.

Luè A., Colorni A., **A Multicriteria Spatial Decision Support System for Hazardous Material Transport**, *Evaluation and Decision Models with Multiple Criteria, International Handbooks on Information Systems*, eds. Bisdorff R., Dias L.C., Meyer P., Mousseau V., Pirlot M., http://dx.doi.org/10.1007/978-3-662-46816-6_14, Springer Berlin Heidelberg, 429-452, 2015.

M. Al-Shammari, H. Masri (Eds.) **Multiple Criteria Decision Making in Finance, Insurance and Investment**. Series: Multiple Criteria Decision Making. 1st edition, Springer, 2016.

4.2 Journal Papers

Azevedo C. R. B., Von Zuben F.J., **Learning to Anticipate Flexible Choices in Multiple Criteria Decision-Making Under Uncertainty**, *IEEE Transactions on Cybernetics*, http://dx.doi.org/10.1109/TCYB.2015.2415732, to appear.

Broekhuizen H., Groothuis-Oudshoorn C., van Til J., Hummel M., Ijzerman M., **A review and classification of approaches for dealing with uncertainty in multi-criteria decision analysis for healthcare decisions**, *Pharmacoeconomics*, 33(5):445-55, 2015.

Dandurand B., Guarneri P., Fadel G.M., Wiecek M.M., **Bilevel multiobjective packaging optimization for automotive design**, *Structural and Multidisciplinary Optimization*, 50(4):663-682, 2014.

Dandurand B., Wiecek M.M., **Distributed computation of Pareto sets**, *SIAM Journal on Optimization*, 25(2):1083-1109, 2015.

Dey K., Chowdhury M., Wiecek M.M., Dunning A., **Infrastructure damage-cost- recovery fee for overweight trucks : tradeoff analysis framework**, *Journal of Transportation Engineering*, 141(7), 2015.

Ehrgott M., Wang J.Y.T., Watling D.P., **On multi-objective stochastic user equilibrium**, *Transportation Research Part B: Methodological*, DOI: 10.1016/j.trb.2015.06.013, 2015.

Hirschberger M., Steuer R. E., Utz S., Wimmer M., Qi Y., **Computing the Nondominated Surface in Tri-Criterion Portfolio Selection**, *Operations Research*, 61(1):169-183, 2013.

Isigonis P., Ciffroy P., Zabeo A., Semenzin E., Critto A., Giove S., Marcomini A., **A Multi-Criteria Decision Analysis based methodology for quantitatively scoring the reliability and relevance of ecotoxicological data**, *Science of the Total Environment*, 538:102-116, http://dx.doi.org/10.1016/j.scitotenv.2015.06.016, 2015.

Kangas A., Hartikainen M., Miettinen K., **Simultaneous Optimization of Harvest Schedule and Data Quality**, *Canadian Journal of Forest Research*, 45(8):1034-1044, 2015.

Klamroth K., Lacour R., Vanderpooten D., **On the representation of the search region in multi-objective optimization**, *European Journal of operational Research*, 245(3):767-778, http://dx.doi.org/10.1016/j.ejor.2015.03.031, 2015.

Luè A., Colorni A., **Conflict Analysis for Environmental Impact Assessment: A Case Study of a Transportation System in a Tourist Area**, *Group Decision and Negotiation*, 24(4):613-632, 2015.

Martin D.M., Labadie J.W., Poff N.L., **Incorporating social preferences into the ecological limits of hydrologic alternation (ELOHA): a case study in the Yampa-White River basin, Colorado**, *Freshwater Biology*, 60(9):1890-1900, 2015.

Mattila V., Virtanen K., **Ranking and selection for multiple performance measures using incomplete preference information**, *European Journal of Operational Research*, 242(2):568-579, 2015.

Miettinen K., Podkopaev D., Ruiz F., Luque M., **A New Preference Handling Technique for Interactive Multiobjective Optimization without Trading-off**, *Journal of Global Optimization*, to appear.

Minion L.E., Bai J., Monk B.J., Keller L.R., Eskander R.N., Forde G.K., Chan J.K., Tewari K.S., **A Markov Model to Evaluate Cost-Effectiveness of Antiangiogenesis Therapy Using Bevacizumab in Advanced Cervical Cancer**, *Gynecologic Oncology*, 137(3):490-496, 2015.

Moradi S., Raith A., Ehrgott M., **A bi-objective column generation algorithm for the multi-commodity minimum cost flow problem**, *European Journal of Operational Research*, 244(2):369-378, 2015.

Ojalehto V., Podkopaev D., Miettinen K., **Agent Assisted Interactive Algorithm for Computationally Demanding Multiobjective Optimization Problems**, *Computers and Chemical Engineering*, 77:105-115, 2015.

Özpeynirci Ö., Kandemir C., **A Pseudo-Polynomial Time Algorithm for a Special Multiobjective Order Picking Problem**, *International Journal of Information Technologiy & Decision Making*, DOI: 10.1142/S0219622015500169, 2015.

Passos A.C., Gomes L.F.A.M., **TODIM-FSE: A multicriteria classification method based on prospect theory**, *Multiple Criteria Decision Making*, 9:123-139, 2014.

Perederieieva O., Ehrgott M., Raith A., Wang J.Y.T, **A framework for and empirical study of algorithms for traffic assignment**, *Computers & Operations Research*, 54:90-107, 2015.

Phillips A.E., Waterer H., Ehrgott M., Ryan D.M., **Integer programming methods for large-scale practical classroom assignment problems**, *Computers & Operations Research*, 53:42-53, 2015.

Rowley H. V., Geschke A., Lenzen M., **A practical approach for estimating weights of interacting criteria from profile sets**, *Fuzzy Sets and Systems*, 272:70–88, http://dx.doi.org/10.1016/j.fss.2015.01.011, 2015.

Ruiz A. B., Sindhya K., Miettinen K., Ruiz F., Luque M., **E-NAUTILUS: A Decision Support System for Complex Multiobjective Optimization Problems based on the NAUTILUS Method**, *European Journal of Operational Research*, 246:218-231, 2015.

Saracoglu B.O., **An Experimental Research Study on the Solution of a Private Small Hydropower Plant Investments Selection Problem by ELECTRE III/IV, Shannon's Entropy, and Saaty's Subjective Criteria Weighting**, *Advances in Decision Sciences*, Article ID 548460, 20 pages, doi:10.1155/2015/548460, 2015.

Saracoglu B.O., **An AHP Application In The Investment Selection Problem Of Small Hydropower Plants In Turkey**, *International Journal of the Analytic Hierarchy Process*, 7(3):211-239, 2015.

Shao L., Ehrgott M., **Primal and dual multi-objective linear programming algorithms for linear multiplicative programmes**, *Optimization*, DOI: 10.1080/02331934.2015.1051534, 2015.

Simon J., Kirkwood C.W., Keller L.R., **Decision Analysis with Geographically Varying Outcomes: Preference Models and Illustrative Applications**, *Operations Research*, 62(1):182-194, 2013.

Tabatabaei M., Hakanen J., Hartikainen M., Miettinen K., Sindhya K., **A Survey on Handling Computationally Expensive Multiobjective Optimization Problems using Surrogates: Non-Nature Inspired Methods**, *Structural and Multidisciplinary Optimization*, 52(1):1-25, 2015.

Trivino M., Juutinen A., Mazziotta A., Miettinen K., Podkopaev D., Reunanen P., Monkkonen M., **Managing a Boreal Forest Landscape for Providing Timber, Storing and Sequestering Carbon**, *Ecosystem Services*, 14: 179-189, 2015.

Utz S., Wimmer M., Hirschberger M., Steuer R. E., **Tri-Criterion Inverse Portfolio Optimization with Application to Socially Responsible Mutual Funds**, *European Journal of Operational Research*, 234(2):491-498, 2014.

Vaz D., Paquete L., Fonseca C.M., Klamroth K., Stiglmayr M., **Representation of the non-dominated set in biobjective discrete optimization**, *Computers & Operations Research*, 63:172-186, 2015.

4.3 Conference proceedings

Bruglieri M., Colorni A., Lia F., Luè A., **A Multi-objective Time-dependent Route Planner: A Real World Application to Milano City**, *17th Meeting of the EURO Working Group on*

Transportation, EWGT2014, 2-4 July 2014, Sevilla, Spain, Transportation Research Procedia, 3:460-469, 2014.

Barbosa L.C., Gomes L.F.A.M., **Assessment of efficiency and sustainability in a chemical industry using goal programming and AHP**, *3rd International Conference on Information Technology and Quantitative Management, ITQM 2015*, Procedia Computer Science, 55:165-174, 2015.

Chugh T., Sindhya K., Hakanen J., Miettinen K., **An Interactive Simple Indicator-Based Evolutionary Algorithm (I-SIBEA) for Multiobjective Optimization Problems**, *Evolutionary Multi-Criterion Optimization: 8th International Conference, EMO 2015, Proceedings, Part II*, eds. Gaspar-Cunha A., Antunes C., Coello C., Springer, Berlin, Heidelberg, 277-291, 2015.

Daolio F., Liefooghe A., Verel S., Aguirre H., Tanaka K., **Global vs local search on multi-objective NK-landscapes: contrasting the impact of problem features**, *Genetic and Evolutionary Computation Conference (GECCO 2015)*, 369-376, Madrid, Spain, 2015.

Derbel B., Liefooghe A., Marquet G., Talbi E.-G., **A fine-grained message passing MOEA/D**, *IEEE Congress on Evolutionary Computation (CEC 2015)*, Sendai, Japan, 2015.

Drozdik M., Tanaka K., Aguirre H., Verel S., Liefooghe A., Derbel B., **An analysis of differential evolution parameters on rotated bi-objective optimization functions**, *10th International Conference on Simulated Evolution and Learning (SEAL 2014)*, Lecture Notes in Computer Science (LNCS), 8886:143-154, Dunedin, New Zealand, 2014.

Gomes L.F.A.M., Machado M.A.S., Rangel L.A.D., **The multiple choice problem with interactions between criteria**, *Proceedings of the XXVIII National Meeting of Teachers of Operations Research / XXVI School of Operations Research / VIII Meeting of the Iberoamerican Network of Multicriteria Evaluation and Decision Making*, Bahia Blanca, Argentina, May 2015.

Gomes L.F.A.M., Machado M.A.S., Santos D.J., Caldeira A.M., **Ranking of suppliers for a steel industry: a comparison of the original TODIM and the Choquet-extended TODIM methods**, *3rd International Conference on Information Technology and Quantitative Management, ITQM 2015*, Procedia Computer Science, 55:706-714, 2015.

Gomes L.F.A.M., Shi Y., Colcher R., Wolcott P., Herrera-Viedma E., **Exploring data science in IT and quantitative management: preface for ITQM 2015**, *3rd International Conference on Information Technology and Quantitative Management, ITQM 2015*, Procedia Computer Science 55:1-7, 2015.

Liefooghe A., Verel S., Daolio F., Aguirre H., Tanaka K., **A feature-based performance analysis in evolutionary multiobjective optimization**, *8th International Conference on Evolutionary Multi-Criterion Optimization (EMO 2015)*, Lecture Notes in Computer Science (LNCS), 9019:95-109, Guimarães, Portugal, 2015.

Liefooghe A., Verel S., Paquete L., Hao J.-K., **Experiments on local search for bi-objective unconstrained binary quadratic programming**, *8th International Conference on Evolutionary Multi-Criterion Optimization (EMO 2015)*, Lecture Notes in Computer Science (LNCS), 9018:171-186, Guimarães, Portugal, 2015.

Machado M.A.S., Gomes L.F.A.M., Santos D.J., Caldeira A.M., **Using a bipolar Choquet neural network to locate a retail store**, *3rd International Conference on Information Technology and Quantitative Management, ITQM 2015*, Procedia Computer Science, 55:741-747, 2015.

Paredes-Frigolett H., Gomes L.F.A.M., Pereira J., **Governance of responsible research and innovation: an agent-based model approach**, *3rd International Conference on Information Technology and Quantitative Management, ITQM 2015*, Procedia Computer Science 55:912-921, 2015.

Ruiz A.B., Luque M., Miettinen K., Saborido R., **An Interactive Evolutionary Multiobjective Optimization Method: Interactive WASF-GA**, *8th International Conference, EMO 2015, Proceedings, Part II*, eds. Gaspar-Cunha A., Antunes C., Coello C., Springer, Berlin, Heidelberg, 249-263, 2015.

Zapotecas-Martinez S., Derbel B., Liefooghe A., Brockhoff D., Aguirre H., Tanaka K., **Injecting CMA-ES into MOEA/D**, *Genetic and Evolutionary Computation Conference (GECCO 2015)*, 783-790, Madrid, Spain, 2015.

4.4 Report

Hartikainen M., Miettinen K., Klamroth K., **An Interactive Method for Multiobjective Optimization: Nonconvex Pareto Navigator**, *Reports of the Department of Mathematical Information Technology, Series B, Scientific Computing*, No. B 3/2014, University of Jyväskylä, Jyväskylä, 2015.

5 Past Conferences, Workshops, and other News

5.1 ITQM 2015 in Rio de Janeiro, July 20-23

The Third International Conference on Information Technology and Quantitative Management (ITQM 2015) took place in Ibmec in Rio de Janeiro, Brazil, in July 20-23, 2015. ITQM 2015 was the third of a series of conferences organized by the International Academy of Information Technology and Quantitative Management (IAITQM) (www.iaitqm.org). IAITQM was formally inaugurated on June 3, 2012 with more than 50 founding members from China, United States, Australia, Japan, Lithuania, Poland, Romania, Spain, Singapore, South Korea, The Netherlands, Turkey and other countries. The First International Conference on Information Technology and Quantitative Management (ITQM 2013) was held in Suzhou, China, May 16-18, 2013 (http://www.itqm-meeting.org/2013/). The Second International Conference on Information Technology and Quantitative Management (ITQM 2014) was held in Moscow, Russia, June 3-5, 2014 (http://itqm2014.hse.ru/).

The theme of the Third International Conference on Information Technology and Quantitative Management (ITQM 2015), Rio De Janeiro, Brazil was "**Exploring Data Science in IT and Quantitative Management**". About 200 people participated in ITQM 2015 and the papers presented and selected for publication in Procedia Computer Science (Elsevier, ISSN: 1877-0509) can be consulted at http://www.sciencedirect.com/science/journal/18770509/55. The Co-chairs of ITQM 2015 were Luiz F. Autran M. Gomes (Ibmec) and Yong Shi (University of the Chinese Academy of Sciences). A group photo of ITQM 2015 is shown below:

The International Conferences on Information Technology and Quantitative Management (ITQM) have been a global forum for exchanging research findings and case studies that bridge the latest information technology and quantitative management techniques. These conferences explore how to use information technology to improve quantitative management techniques and how the development of management tools can reshape the development of information technology. They cover all topics in the broad ranges of information technology and quantitative management including. Technical exchanges within the research community have encompassed invited keynote lectures, special sessions, tutorials and workshops, and panel discussions. ITQM 2016 will take place in Seoul, South Korea.

Luiz Flavio Autran M. Gomes

6 Research Team Presentation: The NICE Group at Surrey, UK

The Nature Inspired Computing and Engineering (NICE) Group at University of Surrey, United Kingdom, is led by Professor Yaochu Jin. The NICE group adopts a bi-directional research strategy consisting of a top-down, objective-driven approach and a bottom-up problem-driven approach. The top-down approach aims to build up computational models for understanding biological and social intelligence found in nature. We are particularly interested in neural information processing in the brain and the organizing principles of neural development from the evolutionary perspective.

The bottom-up approach is concerned with developing efficient mathematical and statistical, machine learning and optimization algorithms for solving complex problems found in optimization and control, signal processing and pattern recognition, data mining and knowledge extraction, multi-criterion decision-making, and self-organization of collective systems. Real-world applications include brain-computer interfacing, medical image analysis, source localization and separation, motion tracking, threat detection, copyright protection, intelligent heat solutions, aerodynamic design optimization, and robotics.

The NICE group currently has seven permanent academic staff members, including two Professors, two Senior Lecturers and three Lecturers. The group also has two Visiting Professors, five postdocs and over 20 PhD students.

Research within the NICE group has been funded by the EC FP7, EPSRC, BBSRC, Leverhulme Trust, Royal Academy of Engineering, as well as industry collaborators.

More information about the NICE Group can be found at:

http://www.surrey.ac.uk/cs/research/nice/index.htm

Professor Yaochu Jin is presently supervising three postdocs (Dr Chaoli Sun, Dr Handing Wang, and Dr Joseph Chrol-Cannon), five PhD students (Shenkai Gu, Tameera Rakman, Mohd Hanif Yusoff, Ataollah Ramezan Shirazi, and Ran Cheng), and one Engineering Doctorates (Craig Brown). He has hosted over ten Visiting Academic Scholars and Visiting PhD students from Brazil, China, India, Israel, Japan, Poland, and Turkey.

He is currently working on the following three main research areas.

1) Evolutionary optimization of complex engineering systems, focusing on data-driven evolutionary optimization, surrogate-assisted evolutionary optimization of expensive problems, evolutionary multi- and many-objective optimization, large scale evolutionary

optimization, evolutionary optimization in dynamic and uncertain environments. This part of the research is heavily problem-driven, with real-world applications such as high lift wing design, lightweight aircraft fuselage design, intelligent heating systems, liquefied natural gas terminal design, and process industry. His research in this area is currently funded by UK EPSRC on a project "Data-driven surrogate-assisted evolutionary fluid dynamic optimization", and by Honda Research Institute Europe on project "Model-based evolutionary many-objective optimization", among others.

Professor Jin has close international research collaborations. He is a Finland Distinguished Professor funded by Finnish Funding Agency for Innovation (TEKES) working on a project "Decision support for complex multiobjective optimization problems (DeCoMo)" in collaboration with Professor Kaisa Miettinen, University of Jyväskylä, Finland and several companies. In addition, he is a Changjiang Distinguished Professor appointed by Ministry of Education, China, working on a project "Data driven evolutionary optimization of production processes" in collaboration with Professor Tianyou Chai, Northeastern University, China.

The group is developing a software tool containing all popular evolutionary multi-objective and many-objective optimization algorithms.

2）Evolutionary and developmental learning, concentrating on developing computational models for evolving and developing deep neural learning structures. This part of the research is currently funded by a EC FP7 project on "SWARM-ORGAN: A theoretical framework for swarms of GRN-controlled agents which display adaptive tissue-like organization" and an EPSRC project on "Sparse multi-way digital signal processing approach for detection of deep medial temporal discharges from scalp EEG".

3）Bioinformatics and computational biology with application to reconstruction of gene regulatory networks in bacteria Streptomyces and vaccine selection for foot-mouth diseases using evolutionary algorithms and machine learning techniques, in collaboration with Pirbright Institute.

10 Selected Publications on MOP:

1. R. Cheng, Y. Jin, K. Narukawa and B. Sendhoff. A multiobjective evolutionary algorithm using Gaussian process based inverse modeling. *IEEE Transactions on Evolutionary Computation*, 2015 (accepted)
2. X. Zhang, Y. Tian and Y. Jin. A knee point driven evolutionary algorithm for many-objective optimization. *IEEE Transactions on Evolutionary Computation*, 2015 (accepted)
3. X. Zhang, Y. Tian, R. Cheng, and Y. Jin. An efficient approach to non-dominated sorting for evolutionary multi-objective optimization. *IEEE Transactions on Evolutionary Computation*, 19(2):201-213, 2015
4. A. Zhou, Y. Jin and Q. Zhang. A population prediction strategy for evolutionary dynamic

multiobjective optimization. *IEEE Transactions on Cybernetics*, 44(1):40-53, 2014
5. D. Lim, Y. Jin, Y.-S. Ong, and B. Sendhoff. Generalizing surrogate-assisted evolutionary computation.IEEE Transactions on Evolutionary Computation, 14(3):329-355, 2010
6. Y. Jin and B. Sendhoff. A systems approach to evolutionary multi-objective structural optimization. *IEEE Computational Intelligence Magazine*, 4(3):62-76, 2009
7. A. Zhou, Q. Zhang, Y. Jin. Approximating the set of Pareto-optimal solutions in both the decision and objective spaces by an estimation of distribution algorithm. IEEE Transactions on Evolutionary Computation, 13(5): 1167-1189, 2009
8. Y. Jin and B. Sendhoff. Pareto-based multi-objective machine learning: An overview and case studies. IEEE Transactions on Systems, Man, and Cybernetics, Part C: Applications and Reviews, 38(3):397-415, 2008
9. Q. Zhang, A. Zhou, Y. Jin. RM-MEDA: A regularity model-based multiobjective estimation of distribution algorithm. *IEEE Transactions on Evolutionary Computation*. 12(1):41-63, 2008
10. D. Lim, Y.-S. Ong, Y. Jin, B. Sendhoff, and B. S. Lee. Adaptive inverse multi-objective robust evolutionary design optimization. *Genetic Programming and Evolvable Machines*. 7(4), 383-404, 2007

2015 NICE group members

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. Usually the deadline for the February issue is January 20th and the issue is intended to be published "at the beginning of February". Usually the deadline for the September issue is August 20th and the issue is intended to be published "at the beginning of September". Contributions can be sent at any time to the editor (please see the address provided above).