International Society on Multiple Criteria Decision Making

MCDM

E-News ● 2022 ● Issue 2 (September)

Contents

Letter from the President

Dear Members of the International Society on MCDM,

This year has so far been an excellent year for the MCDM Society. After an unusual break of three years, the 26th International Conference was held in Portsmouth from 26 June to 1 July in the port city of Portsmouth. It was attended by about 130 researchers and had a full programme of plenary and contributed talks. After more than 2 years of social distancing and online meetings it was nice to meet colleagues face to face again and chat over a coffee or a beer (the pub experience on the Wednesday afternoon excursion!). At this point, I would like to thank Alessio and Banu again for their excellent management of both the scientific and the social part of the conference. Drinks and nice little snacks were always available for short breaks and a coffee. Congratulations also once more to the award winners Simon French, Igor Linkov, and Adiel Almeida. But perhaps the most important award winner is Ana Sara Costa, who won the MCDM Doctoral Dissertation award. The three finalists all delivered excellent presentations, making the task for the jury difficult indeed. Just a week after the MCDM conference some academics and PhD students met again for the summer school on MCDM in Ankara, Turkey.

So exceptionally, the Covid pandemic and its consequent delays resulted in both main events of the society happening in the same year. The PhD students thoroughly enjoyed studying a diversity of MCDM topics and learning from experienced researchers. Thanks to you all for becoming members of the society. You will find more details on both events inside the newsletter. Clearly, MCDM is back in full force, what a summer we have had.

I have a final bit of news concerning the Journal of Multi-Criteria Decision Analysis. Theo Stewart has decided to step down from his role as editor in chief after 13 years. Wiley, publisher of the journal, launched a search for a successor. I will mention the result in the next issue,

Matthias Ehrgott
President of the International Society on MCDM
31 August 2022

Note: Please remember that you can reach the officers of the Society at the following addresses:

president (at) mcdmsociety.org
president-elect (at)mcdmsociety.org
secretary (at) mcdmsociety.org
mcdm-award (at) mcdmsociety.org
phdaward (at) mcdmsociety.org
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1   Society News

1.1   The 26th International Conference on Multiple Criteria Decision Making

During one week, the 26th International Conference on Multiple Criteria Decision Making, was held in Portsmouth (UK) from the June 26 – July 1, 2022. The conference was completely face-to-face, which was a requisite from the organisers and the executive committee of the International Society on MCDM. We hosted 130 participants from overall the world. For most of them, it was the first face-to-face conference post-Covid. The conference had eleven streams:

- Analytic hierarchy / network processes (Stream Chairs: Enrique Mu and Rozann Saaty)
- Applications of MCDA (Stream Chairs: Sarah Ben Amor and Sachin Mangla)
- Best-Worst Method (Stream Chair: Jafar Rezaei)
- Data Envelopment Analysis (Stream Chair: Ali Emrouznejad)
- Evolutionary multiobjective optimization (Stream Chair: Carlos Fonseca)
- Goal programming (Stream Chair: Fouad Ben Abdelaziz)
- Interactive MCDM (Stream Chair: Jyrki Wallenius)
- Multiobjective optimization (Stream Chair: Serpil Sayin)
- Outranking methods (Stream Chairs: José Figueira, Salvatore Corrente, Yves De Smet)
- Rule-based methods and artificial intelligence (Stream Chair: Salvatore Greco)
- Value and utility models (Stream Chair: Milosz Kadzinski)

We were also honored to have distinguished plenary speakers: Professor Salvatore Greco from the University of Catania, Professor Murat Köksalan from the University of Michigan, and Professor Luis Martínez from the University of Jaén. The conference has also distributed awards: Ana Sara Costa, CEG-IST, Instituto Superior Técnico - Universidade de Lisboa, received the MCDM Doctoral Dissertation Award. Simon French, University of Manchester, received the MCDM Gold Medal. Igor Linkov, US Army Engineer Research and Development Center, received the Edgeworth-Pareto Award. Adiel Teixeira de Almeida, Universidade Federal de Pernambuco, received the Georg Cantor Award.

The conference has also a social programme. On Sunday, a welcome reception was organized around a barbecue. On Wednesday afternoon, a boat cruise and an authentic British pub experience was organized. On Thursday, the banquet dinner at a beautifully restored historic boathouse was organized.

The conference was a nice occasion to meet again personally after three years (the last MCDM conference was organized in 2019!). British wheatear also played in our favors, as it was sunny most of the time. We are now looking forward to meet you again in 2024 in Tunesia for the 27th MCDM conference.

Alessio Ishizaka   *Banu Lokman*

chair 26th MCDM conference   co-chair 26th MCDM conference

1.2 Report on the MCDM Awards 2022 to French, Linkov, and Almeida

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,** defined in the following terms:

> **The MCDM Gold Medal**: The highest honor that the International Society on Multiple Criteria Decision Making bestows upon a scholar who, over a distinguished career, has markedly contributed to the theory, methodology, practice and professional development of MCDM.

> **The MCDM Edgeworth-Pareto Award**: The highest distinction that the International Society on Multiple Criteria Decision Making bestows upon a researcher or practitioner of MCDM who has demonstrated a high level of creativity in developing novel areas of application of MCDM and associated methodology, markedly influencing the form of MCDM practice.

> **The Georg Cantor Award**: The highest form of recognition that the International Society on Multiple Criteria Decision Making bestows upon a researcher who has personified the spirit of independent inquiry in developing innovative ideas in the theory and methodology of MCDM, significantly expanding the tools available to MCDM practice.

Matthias Ehrgott and I announced this year's MCDM award winners in the banquet of the 26th International Conference on Multiple Criteria Decision Making, Portsmouth, UK, June, 2022. Intense deliberations by the awards committee had preceded the announcement.

The **MCDM Gold Medal** was awarded to **Simon French**. Simon is emeritus professor at Manchester University, UK. He has contributed both to the theory, methodology, and applications of MCDM. Simon emphasized in his award talk that, which method is used to solve a problem, is less important than how it is formulated. Throughout his career, Simon has had a behavioral orientation. I can share with him the sentiment that MCDM is not only about mathematics, but also about human psychology. Particularly impressive is Simon's work on nuclear emergency management. Simon served as the first Editor-in-Chief of the Journal of Multi-Criteria Decision Analysis.

The **Edgeworth-Pareto award** was given to **Igor Linkov**. He holds a PhD from University of Pittsburgh. He is currently a senior scientific manager at US Army Engineering Research and

Development Center. Igor has served on many federal advisory boards/panels, including US Food and Drug Administration, EPA, and US Department of Agriculture. His work has primarily been applied, but has had a significant impact on environmental and ecological MCDM applications. Igor's work is highly cited.

The **George Cantor award** was given to **Adiel Almeida**. Adiel holds a PhD from University of Birmingham. He is leading a strong MCDM research team at Universidade Federal de Pernambuco, Brazil. His research interests and contributions are broad, including theory and applications of MCDM, but also negotiation analysis, voter behavior, and more recently neuro-economics. Adiel has actively been involved in organizing and lecturing in MCDM/MCDA Summer Schools. Prior to joining academia, Adiel worked in the corporate world.

The following individuals served on the awards committee: Kalyanmoy Deb, Salvo Greco, Matthias Ehrgott, Alessio Ishizaka, Murat Köksalan, Wojtek Michalowski, Jyrki Wallenius (chair), Margaret Wiecek, and Detlof Von Winterfeldt, representing broad expertise in MCDM/MCDA, as well as EMO. I wish to thank the Awards Committee members for their important service and a pleasant collaboration.

Once again, congratulations to all award winners!

Jyrki Wallenius

Chair of the Awards Committee 2022

1.3 Report about the 2022 MCDM Doctoral Dissertation Competition in Portsmouth

Our Society organized the 2022 MCDM Dissertation Competition in cooperation with the Organizing Committee of the Portsmouth Conference. The competition was advertised, among others, in the MCDM Newsletter. We received three submissions, covering different theoretical and applied topics in MCDM. Our jury examined the three submissions and considered them as being worthy nominations. The candidates were invited to the Portsmouth Conference to give talks about their dissertations. They were (in alphabetical order):

1. **Gökhan Ceyhan**: A study of the day-ahead energy market auctions from a multi-objective perspective
2. **Ana Sara Costa**: A multiple criteria integrated approach for nominal classification problems: Methods and applications
3. **Miguel Alves Pereira**: Efficiency and public policy of the Portuguese healthcare sector: A look at the pressing issues

All dissertations were of high quality. Gökhan and Miguel have already some excellent publications from their PhD research. However, after careful consideration of the PhD dissertations, the publication records of candidates, and their presentations at the Portsmouth Conference, the jury unanimously decided to select **Ana Sara Costa as the winner of the MCDM Doctoral Dissertation Award**. Her work was judged as having innovative theoretical contributions to MCDM/A as well as practical implications for various application areas. Congratulations to all three candidates for their excellent works, with special congratulations to this year's winner, Ana.

The jury for the evaluation of the submissions consisted of five members: Adiel de Almeida, Sarah Ben Amor, Carlos Henggeler Antunes, Francisco Ruiz, and Michalis Doumpos as chair. As some members of the jury could not attend the presentations session at the Conference, Sarah chaired the session, and the Organizers of the Conference arranged a Zoom meeting so that all members of the jury could join the presentations talks. I wish to thank all the jury members for their valuable and time-consuming task in reviewing the dissertations.

Michalis Doumpos

Chair of the Dissertation Competition Jury 2022

1.4 A First Announcement: 27th International Conference on Multiple Criteria Decision Making (MCDM 2024) in Hammamet, Tunesia, June 2024

It's with great pleasure to inform you that the MCDM 2024 will be organized in Tunisia - Hammamet- during the first week of June 2024 by the Tunisian Decision Aid Society (TDAS).

TDAS is an interdisciplinary society that aims to promote the development and use of methods for improving decision-making in public and private organizations. TDAS members include practitioners, and researchers in business, economics, engineering, computer sciences and other social and applied sciences.
The MCDM 2024 is an opportunity to raise local and regional interest in MCDM models and techniques. We are expecting to receive abstracts on all aspect of MCDM which including theoretical developments and practical applications.

We promise those who will join us in MCDM 2024, an interesting program with several social activities, i.e. tours and sightseeing visits. Participants from developing countries will receive support to join us as we hope to make it a very exciting research experience for all participants.
On behalf of TDAS and MCDM 2024, I wish to welcome you in Tunisia very soon.

Venue and host institution of the conference.

The conference will be held at the Medina Yasmine Hammamet, Hammamet, Tunisia. In the heart of the seaside resort Yasmine Hammamet, 656 feet (200 meters) from the seashore, Medina Mediterranea is one magic city dedicated to culture and leisure on over more than 25 acres. A real open-sky museum, Medina was established in homage of the Arab-Andalusia culture, referring many times over to the Mediterranean architecture; all built according to ancestral techniques combining traditional charm with the comfort of the 21st century. Surrounded by authentic medieval ramparts, we discover it behind the majestic doors with evocative names such as Damas and Mehdia giving homage to the Mediterranean civilization. The maze of alleys, the abundance of the domes, patios and alcoves will take you from Algier to Ispahan, from Cordova or Sidi Bou Said to Fes…

The conference is located in the heart of Yasmine Hammamet. This 4-star resort features a theme park and a spa, sauna and swimming pool. The hotel offers air-conditioned rooms with a traditional Tunisian décor and a balcony, terrace or patio. The Lemdina's Tunisian Restaurants serve local cuisine and the Sheherazade Restaurant offers oriental specialties and live entertainment.

A limited number of rooms will be reserved for conference participants on a first-come, first-served basis until gone in the conference hotel.

	Name	Affiliation	Email
Conference Chair:	Fouad Ben Abdelaziz	NEOMA Business School, France	Fouad.BEN.ABDELAZIZ@neoma-bs.fr
Conference Co-Chairs:	Ralph Steuer	University of Georgia, USA	rsteuer@uga.edu
	Hatem Masri	University of Bahrain, Bahrain	hmasri@uob.edu.bh
	José Rui Figueira	University of Lisboa, Portugal	figueira@tecnico.ulisboa.pt
Organizing Committee Chair	Saleh Ben Abdallah	Tunis Business School, Tunisia	salah.benabdallah@tbs.rnu.tn

Best Regards

Fouad Ben Abdelaziz

1.5 Report on the EURO PhD Summer School on MCDA/MCDM 2022, Bilkent University, Ankara, Turkey

The 2022 EURO PhD Summer School on MCDA/MCDM took place at Bilkent University, Ankara, Turkey, on July 18-29, 2022. It was organized by Özlem Karsu (Bilkent University, Turkey) and Murat Köksalan (Middle East Technical University, Turkey and University of Michigan, Ann Arbor, USA). This was the 14th of a long line of summer schools, the first of which was held in 1983. The summer school was originally scheduled to be organized by Gülşah Karakaya and Banu Lokman at the Middle East Technical University, Ankara, Turkey for 2020 and had to be postponed twice due to the pandemic. We are indebted to Gülşah Karakaya and Banu Lokman for their initial setup that made our job easier.

Through the summer schools, PhD students get an in-depth understanding of the theoretical and applied aspects of MCDA/MCDM, interacting with some of the top scholars in the area, and conducting hands-on exercises/cases. This year, 43 students were accepted and 39 ended up attending. Participants are either currently pursuing a graduate degree in, or have recently graduated from programs in 14 different countries: Brazil (1), Denmark (1), Finland (2), France (4), Germany (7), India (1), Iran (1), Italy (6), Japan (1), Netherlands (3), Morocco (1), Spain (1), Turkey (8) and UK (2). 20 of the participants were women and 19 were men. We were delighted with both the diversity and the number of participants under the continuing uncertainties of the pandemic.

The topics covered in the summer school (in the order covered) were:

- Problem Structuring
- Value-Focused Thinking
- Multiobjective Optimization (MOO)
- Interactive Methods
- Multiobjective Combinatorial Optimization (MOCO)
- Software
- Evolutionary Multiobjective Optimization (EMO)
- Behavioral Aspects of Decision Making
- Multi-attribute Utility and Value Theory (MAUT/MAVT), Multi-criteria Group Decision Making (MCGDM)
- Decision Rule Approach
- Robust Ordinal Regression
- Outranking Methods
- Applications in Finance

The full program of the Summer School is available at (https://www.ie.bilkent.edu.tr/mcdm/program/)

These topics are covered by top-scholars in the area, listed below in alphabetical order:

- Adiel T. de Almeida, Federal University of Pernambuco, Brazil
  Multi-attribute Utility and Value Theory (MAUT/MAVT), Multi-criteria Group Decision
  Making (MCGDM)
- Erdi Daşdemir, Hacettepe University, Turkey
  Case Work
- Matthias Ehrgott, Lancaster University, UK
  MCDA/M Community, Multiobjective Combinatorial Optimization
- Carlos M. Fonseca, University of Coimbra, Portugal
  Evolutionary Multiobjective Optimization
- Salvatore Greco, University of Catania, Italy
  Robust Ordinal Regression
- Gülşah Karakaya, Middle East Technical University, Turkey
  Software
- Özlem Karsu, Bilkent University, Turkey
  Case Work
- Ralph L. Keeney, Duke University, USA
  Problem Structuring, Value-Focused Thinking
- Murat Köksalan, Middle East Technical University, Turkey and University of Michigan,
  Ann Arbor, USA
  Behavioral Aspects of Decision Making, Interactive Methods of Multiobjective
  Optimization I
- Serpil Sayın, Koç University, Turkey
  Multiobjective Optimization Theory
- Roman Slowinski, Poznan University of Technology, Poland
  Decision Rule Approach, "Meet the editor", Outranking Methods
- Jyrki Wallenius, Aalto University, Finland
  Interactive Methods of Multiobjective Optimization II, History and Traditions of MCDM
- Constantin Zopounidis, Technical University of Crete, Greece
  MCDM Applications in Finance

Opening session

Group photo after the last lecture

In addition to the 33 hours of lectures on the theory (delivered in 11 sessions, each 90 minutes long), the program involved a session on History of MCDA/MCDM (delivered by Jyrki Wallenius), a "Meet the editor" session (held by Roman Słowiński), and a session on the MCDA/MCDM Community, in which Matthias Ehrgott, the president of the International Society on MCDM, provided information on various subgroups that are related to the general field of MCDA/MCDM and their activities.

Eight teams of students were formed to work on two case studies. The first case study was developed by Murat Köksalan and Sakine Batun and the second one by Erdi Daşdemir and Özlem Karsu. 10 sessions were devoted to the case study preparations under the guidance of faculty members. The teams presented their work at the end of the summer school. The presentations and the results of the groups were evaluated by the lecturers attending the last day of sessions (Erdi Daşdemir, Gülşah Karakaya, Özlem Karsu (remotely), Murat Köksalan and Constantin Zopounidis), who provided constructive feedback and suggestions for extensions. The students did an excellent job on the case studies and proposed creative and well-thought-out solutions to these challenging problems.

A case study session

Working on the case study (Courtesy of Prashant Barsing)

The summer school also included a social program. The first activity of the social program was the Welcome Reception held in the first evening of the summer school. The reception was a warm welcome to the participants and enabled them to get to know each other and the lecturers better, enjoying a delicious selection of Turkish appetizers and drinks in the meantime!

Some photos from the welcome reception

Özlem and the volunteers

The social program continued with an outing on Saturday, July 23rd. We first visited the old city and Ankara Castle for sightseeing and shopping. We then had a guided tour of the Museum of Anatolian Civilizations, the winner the "Museum of the year in Europe" in 1997, exhibiting the original works of Anatolian civilizations since the Paleolithic age. This tour was followed by a short visit to the neighboring Erimtan Museum.

On the evening of July 23rd, we had the social dinner at "Ruhi Bey Meyhanesi," a restaurant that specializes on Turkish mezzes and features traditional live Turkish music. The students and the lecturers had the opportunity to taste Turkish mezzes and raki; and experienced and enjoyed traditional Turkish dances (see a video here ☺ https://photos.app.goo.gl/DCxgmitTHuopzH5L8)

Some photos from the outing (Special thanks to Zühal Özcan and Prashant Barsing for sharing)

Photos from the dinner on July 23rd

More photos from students

(Courtesy of Hasan Taş. Hasan says "After visiting ANITKABIR, we went to a fantastic sish kebap place. It was like all you can eat restaurant. I got positive feedback from everyone.")

Structuring complex problems via best drink decision support in the night of Ankara (courtesy of Maura Hunt)

Good drinks for decision opportunities (courtesy of Maura Hunt)

(Courtesy of Hasan Taş. Hasan says "We had the best kebap in Ankara with Prof. Constantin Zopounidis and Dimitris (his son). Then we went to a nice pistachio baklava and Marash ice-cream place. They were so full. I had to trick them to convince tasting the dessert by saying 'the dessert will be so light' ")

Upon completion, all participants received a certificate signed by the organizers.

We believe that the summer school provided a unique opportunity for students to enhance their knowledge and skills in theory and applications of MCDA/MCDM, to network among themselves and with the lecturers, and initiate collaborations and long-lasting friendships. We believe that this summer school has continued the tradition of inspiring some of the future leaders of our field. We look forward to observing and enjoying the realization of this prophecy in the not-so-distant future.

More details on summer school can be accessed via the website (https://www.ie.bilkent.edu.tr/mcdm)

We look forward to seeing you all at the 27th International Conference on Multiple Criteria Decision Making, in Hammamet, Tunisia in 2024!

Murat and *Ozlem*

1.6   Society Elections 2022

As in every year in which an international conference takes place, this year we need to elect members of the Executive Committee.

The terms of four members, namely Salvatore Greco, Hsu-Hsieh Hsieh, Kathrin Klamroth and Jyrki Wallenius have ended. Below is the list of eight candidates that stand for election. You will receive an email from the MCDM Society shortly. This email contains a link to the election. This email will be sent out to all members for which we have an email address. Please make use of your right and vote.

Salvatore Greco

I took my degree in 1988 at the Faculty of Economics of the University of Catania where I ave been a researcher since 1994, associated professor since 1998 and full professor since 2001. I have been teaching Decision Theory, General Mathematics and Financial Mathematics. My research regards Multiple Criteria Decision Aiding (MCDA). Together with Benedetto Matarazzo and Roman Slowinski, I proposed the Dominance-based Rough Set Approach (DRSA), which permits to apply rough set theory within MCDA. Together with other colleagues, I have also proposed Robust Ordinal Regression (ROR), which permits to take into account the whole set of value functions representing the preference information given by the decision maker. I have been working also on application of non-additive integrals to MCDA proposing, together with Benedetto Matarazzo and Silvio Giove, a new powerful generalization of the Choquet integral: the level dependent Choquet integral. Together with Jos.é Figueira and Matthias Ehrgott, I am the editor of a state of art collection in MCDA, published by Springer in 2005, which has become a reference book receiving 1281 citations according to Google Scholar: J. Figueira, S. Greco, M. Ehrgott (eds.) (2005). Multiple Criteria Decision Analysis: State of the Art Surveys. NEW YORK: Springer.

Dylan Jones

I am a Professor of Operational Research in the School of Mathematics and Physics, and Director of the Centre for Operational Research and Logistics. I have a BSc (Hons) in Mathematics with Operational Research from the University of Southampton and a PhD in Operational Research, also from the University of Portsmouth. I have been involved in research, teaching, and course development in the field of Logistics and Operational Research over the past twenty-five years. My area of research is the theory of making decisions in the presence of multiple, conflicting objectives.

I am interested in a wide range of applications but have specifically worked in applications to supply chain management and logistics, maritime logistics, healthcare, renewable energy and sustainability. I attend international conferences in either general Operational Research or specialised in Multi-Criteria Decision Making. My current research is funded by the European Union and I have particular research connections in France, Spain, and Brazil. I am the author of over 50 publications in international journals and a Springer research book on goal programming.

Kathrin Klamroth

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, and covering discrete and continuous optimization problems.

Kathrin received her PhD at the University of Braunschweig in Germany in 1994. In 2002, she attained her Habilitation at the University of Kaiserslautern. After six years at the University of Erlangen-Nuremberg, she moved to Wuppertal in 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 and EMO meetings and she is co-organizer of a Dagstuhl seminar on MCDM and EMO in 2015, 2018 and 2020. In 2019, Kathrin received the Georg Cantor award of the Society on MCDM.

Janusz Miroforidis

Janusz Miroforidis is an assistant professor at the Systems Research Institute, Polish Academy of Sciences. He received his M.S. degree in computer science from the University of Wrocław, and his Ph.D. from the Systems Research Institute, Polish Academy of Science for his research in soft computing and multiple-criteria decision-making methods for management needs. He is an active researcher working in the area of large-scale multiobjective optimization as well as in the area of multiple-criteria decision-making and soft computing methods. His major research interests include human-machine interaction in multiple-criteria decision-making as well as approximate methods for solving large-scale multiobjective optimization problems. He has

published 30 scientific works, including one monograph. He has more than 25 years of experience in the information technology industry, backed by working for large international companies. He is particularly interested in applying operational research and artificial intelligence methods to solve practical problems. He has participated in many R&D projects for various industries. He also advises company boards on developing innovative solutions.

Hatem Masri

I am professor of business analytics and dean of the college of business administration at the university of Bahrain, Kingdom of Bahrain. I am president of the African Federation of Operations Research Societies (AFROS). I received a PhD in management science in 2004 and Master in operations research in 1999 from the university of Tunis, Tunisia. My research interests include business analytics, supply chain management, financial engineering and Islamic finance. I published more than 30 articles and 6 books among them a textbook in Islamic business administration. I am member of INFORMS, IEEE and the Tunisian Decision Aid Society and volunteer/mentor with the AACSB. The best way to get to know me is by reading information that appears on this web site. I am ready to share with you my experience and my knowledge. I hope to hear from you soon.

Danielle Morais

Danielle Costa Morais is an associate professor in the Management Engineering Department at Universidade Federal de Pernambuco (UFPE) since 2007, Director of Post-Graduate Program of Management Engineering at UFPE (2008-2010 and 2013-currently), Director of the research group on Decision and Negotiation for Water Management (DNW) and reseacher member of the CDSID (Center for Decision Systems and Information Development). She is Civil Engineering and received her Master and PhD degrees in Management Engineering from UFPE, Brazil. She has been awarded a grant of Productivity in Research by CNPq (Brazilian NRC). Her research interest includes MCDM/A, Group Decision and Negotiation, Operational Research and Water Resources Management. She co-authored over 60 scientific papers in reviewed journals. She serves on the editorial board a few scholarly journals, such as: Group Decision and Negotiation. She has been an active member of the main societies related to Operational Research, MCDM/A and Group Decision, and served the INFORMS MCDM section as a board member.

Andrea Raith

I am a Senior Lecturer at the University of Auckland where I have been a member of the Department of Engineering Science since 2009. My research spans from various applications in transport, health-care and task scheduling, to more theoretical work particularly on algorithms for various multi-objective optmisation problems. My research interests include multi-objective shortest path and network flow problems and algorithms for transport problems such as equilibrium problems arising in traffic assignment. One focus in the past was algorithms for multi-objective robust optimisation problems, and I currently work on the integration of multi-objective optimisation methods and problem decomposition approaches. Another interest is optimisation problems in the context of transport and transport modelling, especially sustainable transport options, energy efficiency, electric vehicles, public transportation and active transport modes.

Living and working in New Zealand, I am well placed to represent the interests of the MCDM community in the Asia-Pacific region, while having strong connections to other researchers in our community world-wide. I am also long-term council member of the Operations Research Society of New Zealand, and currently Vice President.

More information is available here: https://profiles.auckland.ac.nz/a-raith/about

Ralph Steuer

Ralph E. Steuer is the Sanford Family Distinguished Chair of Business in the Department of Finance of the Terry College of Business at the University of Georgia. He received an Sc.B. (electrical engineering) from Brown University, an MBA (accounting & finance) from Cornell University, and a Ph.D. in Business Administration (quantitative methods) from the University of North Carolina. Dr. Steuer is the author of Multiple Criteria Optimization: Theory, Computation and Application, the ADBASE multiple objective linear programming package, and over 100 research articles. Dr. Steuer's research interests are in multiple-attribute portfolio theory, efficient sets and surfaces, multiple objective programming, and multiple criteria decision making.

A recipient of a Distinguished Alumnus Award from the University of North Carolina and the Lamar Dodd Award for Creative Research in the Sciences from the University of Georgia Dr. Steuer was a co-founder and has served as President of the International Society on Multiple

Criteria Decision Making, a society that now has over 2,800 members from almost 100 countries. In addition, having lectured in 50 countries, Dr. Steuer has been an advisor to universities in emerging countries on the establishment of curricula in management and has been Honorary Dean of the School of Industrial Management at the Ho Chi Minh City University of Technology in Vietnam since 1991.

Prior to joining the University of Georgia, Dr. Steuer was a Visiting Associate Professor at Princeton University (one year) and on the faculty of the University of Kentucky (eight years).

2   Upcoming Events, Call for Papers, and other News

2.1   *Special Issue on Recent advances and applications of multi-objective optimization*

Aim and Scope

In today's organizations, the decision makers (DMs) usually have to deal with multiple criteria that are conflicting with each other. Hence, multi-criteria decision making and optimization have been included in the fastest-growing subfields of operational research with their applications in diverse domains such as healthcare, sustainability, energy, logistics, and supply chain.

The aim of this special issue is to publish a collection of original research articles on recent advances and applications of multi-objective optimization for improved decision-making processes. Methodological developments and practical applications involving multi-objective modelling and optimization are welcome. High quality manuscripts developing new theory, algorithms, and real-life applications in the context of multi-objective optimization that address today's challenges in decision processes are especially encouraged to be submitted.

Although this Special Issue is planned on the occasion of the 26th International Conference on MCDM, it is not limited to the research that has been presented at the conference.

Schedule

Prospective authors are invited to submit full papers via the EJDP electronic submission system (https://www.editorialmanager.com/ejdecp) selecting article type *SI: Multi-obj Optimization*. The planned timeline is as follows:

- Paper Submission Due: **November 15, 2022**
- Review Results of Round 1: March 15, 2023
- Revised Manuscript Due (if applicable): May 15, 2023
- Final Decision: July 15, 2023

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Portsmouth Business School, University of Portsmouth, Portsmouth, UK

2.2   Call for Papers MCDM Track of EMO2023

12th International Conference on Evolutionary
Multi-Criterion Optimization

March 20-24, 2023

Leiden, Netherlands

https://emo2023.liacs.leidenuniv.nl/

Submission deadline: September 26, 2022

Final paper submission: November 30, 2022

The Multiple Criteria Decision Making (MCDM) track is an integral part of the 12th edition of the International Conference on Evolutionary Multi-Criterion Optimization (EMO). We will bring together EMO and MCDM communities to emphasize the importance of the topics on the intersection of EMO and MCDM areas of research and their practical value in solving real-world problems in various fields, including government, business, and industry.

Papers are welcome to the **MCDM track** on theory, methods, applications, and/or software related to any aspects relevant to multiple criteria decision making, multiobjective and many-objective optimization, modeling and incorporating preferences, interactive methods, hybrids of EMO and MCDM approaches, software development, indicators, performance evaluation, challenges of various real applications, consideration of data-driven and simulation-based problems, etc.

Reviewed, accepted full papers (max 12 pages) will be published in a proceedings book by Springer (Lecture Notes in Computer Science series). Find detailed instructions on the webpage:
https://emo2023.liacs.leidenuniv.nl/

Please submit your paper via EasyChair to the MCDM Track by September 26, 2022:
https://login.easychair.org/my/conference?conf=emo2023
When submitting, please indicate in the submission menu that the paper is for the MCDM Track.

The EMO2023 conference and the MCDM Track will be held in a hybrid format.

For further inquiries about the MCDM Track, contact the MCDM Chairs Kaisa Miettinen (University of Jyvaskyla, Finland, kaisa.miettinen@jyu.fi) and Iryna Yevseyeva (De Montfort University, Leicester, UK, iryna@dmu.ac.uk).

2.3 Call for Papers Special issue on "Evolutionary Multiobjective Optimization" of the journal Mathematical and Computational Applications (ISSN 2297-8747) dedicated to the 60th birthday of Prof. Kalyanmoy Deb.

We welcome contributions on research areas most impacted by Prof. Deb's work. We hence invite researchers to submit high-quality articles related (but not limited to) the following topics:

Evolutionary multi-objective optimization (EMO):

- multiobjective evolutionary algorithms;
- genetic operators;
- theory of EMO;
- performance indicators and proximity measures;
- archiving strategies;
- surrogate assisted optimization;
- integration of user preferences;
- many objective optimization;
- constraint handling;
- hybrid methods;
- test functions;

Multiple criteria decision making (MCDM);

- Bi-level optimization
- AI-assisted optimization;
- Applications to real-world problems.

Both research articles and surveys are welcome.

For further information (incl. submission guidelines), see https://www.mdpi.com/journal/mca/special_issues/K_Deb

Please note that even though APC is mentioned at the website, accepted papers will be published free of charge, thus, there will be *no* APC.

Deadline: **September 15, 2022**.

Guest Editors: Carlos Coello, Erik Goodman, Kaisa Miettinen, Dhish Saxena, Oliver Schütze and Lothar Thiele

2.4   ISAHP 2022 – XVII International Symposium

It is a pleasure to announce that the *International Symposium of the Analytic Hierarchy Process* will have its 2nd virtual meeting, ISAHP2022, on December 15 – 18, 2022

ISAHP2022 theme is "**Decision-Making in Business Practice**". This year we aim to bridge the gap between academia and business practice and work together to propose new ways, improve the existing methodologies, evaluate, and analyze the ways that AHP/ANP have been combined to other theories and applied in practice.

The focus of ISAHP2022 is to showcase the latest research and practical applications from resource allocation to contract negotiation, and conflict resolution along with changes and updates in the methodological steps needed to gain in practicality and applicability.

Interested AHP/ANP participants need to submit a 2-page extended abstract following the ISAHP2022 submission guidelines available on the conference website. This year we are introducing a Best Paper Award based on a full paper submission. More details about this process will be published on our website.

Keep the following dates in mind:

Important dates

Call for papers: August 1, 2022

Start of proposal submissions: September 1, 2022

Submission deadline: November 14, 2022

Submission results announcement: On a rolling basis starting from November 21, 2022

Details will be provided on this website and the Call for Papers announcement will be coming soon.

ISAHP Program Committee

Conference Chairman: John Saaty

Program Co-Chairs: Birsen Karpak, Marcel Minutolo, Elena Rokou

Head of Scientific Committee: Enrique Mu, Antonella Petrillo

Conference Manager: Lirong Wei

Conference sponsor

Creative Decisions Foundation: Rozann Saaty, President

2.5 Invitation to participate in the Behavioral Operational Research Brown Bag Seminar Series (BOR B²S²)

This seminar series was created to foster collaboration, strengthen BOR community, raise interest for BOR topics, increase the visibility of BOR, and fast delivery of new ideas.

The seminar takes place during "Brownbag-time for Europeans"

Borbs are nice to listen to

      12 AM to 12.40 PM (UK GMT-1)

      1 PM; to 1.40 PM (CET, Berlin)

It is scheduled bi-monthly every 2nd Thursday every second month under consideration on other workshops, conference, etc. More details can be found here: https://www.euro-online.org/websites/bor/behavioral-operation-research-brown-bag-seminar-series/

By now, there were five BORBS:

BOR B2S2 V: Confidence in negotiation processes – From analytical models to recommendations (Rudolf Vetschera), June 2022

BOR B2S2 IV: Modelling fairness in supply chain (Andreas Grössler), April 2022

BOR B2S2 III: Modelling the impact of COVID-19 on the health system capacity in Latin America (Kathya Cordova-Pozo, Hubert Korzilius), February 2022

BOR B2S2 II: Game-based approaches in OR: Why not? (Alice Aubert), December 2021

BOR B2S2 I: Numerical Cognition and Risky Preference Formation Under Cognitive Uncertainty **(Tianqi Hu), October 2021**

The very active audience is usually between 16 and 32 individuals. The discussion are very fruitful. The audience seem to enjoy the format. In some BORBS, there were intense discussions even after the official ending☺!

If you are interested in giving a talk, please contact Johannes.Siebert@mci.edu.

Johannes Siebert

Organizer of the (BOR B²S²)

2.6 Two $2000 USD scholarships available to post-grad students each year

Two $2000 USD scholarships are offered to post-graduate students, e.g. Masters or PhD, enrolled at any university worldwide each year. This year's applications close on 1 December 2022.

1. One $2000 USD scholarship is for a research project where decision-making, including MCDM, is central to the research.

2. A second $2000 USD scholarship is for a research project about or involving the use of conjoint analysis, choice modelling or a discrete choice experiment (DCE).

Scholarship winners will also receive free access to 1000minds MCDM and conjoint analysis software (www.1000minds.com) if they wish to use it as part of their research. Here are examples of research projects using 1000minds: www.1000minds.com/sectors/academic/research.

To learn more, including about the application process, please visit www.1000minds.com/sectors/academic/scholarships.

Paul Hansen

Department of Economics, University of Otago

Also www.1000minds.com

3   New Books/Publications

This section presents a list of books and papers recently published. It is collected by an automatic script by capturing the works from MCDM society members' Google scholar profiles after filtering with MCDM related keywords. 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 Google Scholar profile links/ complete citation of your works to he.huang@vub.be.

3.1   Journal papers

Abounaima MC, Lamrini L, Ouzarf M, Alaoui MC, **Extension of the ELECTRE III Method to the Case of Uncertain Preferences: Application to an Example of the Environmental Management Problem**, *Statistics, Optimization & Information Computing*, 10 (1), 171-191, 2022.

Abbaspour M, Fazlollahtabar H, Stevic Z, **Multi-Objective Rough Best-Worst Method to Evaluate Sustainability of a Biofuel Energy Supply Chain**, *International Journal of Industrial Engineering & Production Research*, 2022.

Abdullah L, Harun N, Mahali SM, Jan N, Rak E, **Preorder of Factors Affecting Oil Prices: Fuzzy PROMETHEE Approach**, *Journal of Mathematics*, 2022.

Abid MN, Yang MS, Karamti H, Ullah K, Pamucar D, **Similarity Measures Based on T-Spherical Fuzzy Information with Applications to Pattern Recognition and Decision Making**, *Symmetry*, 14 (2), 410, 2022.

Acuña-Soto C, Liern V, Pérez-Gladish B, **Normalization in TOPSIS-based approaches with data of different nature: application to the ranking of mathematical videos**, *Annals of operations research*, 296 (1), 541-569, 2021.

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Akram M, Ullah K, Pamucar D, **Performance evaluation of solar energy cells using the interval-valued T-spherical fuzzy Bonferroni mean operators**, *Energies*, 15 (1), 292, 2022.

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Benchmarking Case Study of Sign Language Recognition Systems, *International Journal of Fuzzy Systems*, 1-18, 2022.

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Alves MJ, Antunes CH, Costa JP, **New concepts and an algorithm for multiobjective bilevel programming: optimistic, pessimistic and moderate solutions**, *Operational Research*, 21 (4), 2593-2626, 2021.

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