

# International Society on Multiple Criteria Decision Making

E-News • 2019 • Issue 2 (September)



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## Letter from the President

Dear Members of the International Society on MCDM,

I am honoured to commence my term as president of the Society with this letter from the president. First, I have to express my gratitude to Murat Koksalan for his leadership of the society over the past four years. During his term in office, the society has seen some quite important changes that many of you will have hardly noticed. Our website is now hosted by a professional provider, which makes us independent of individual web-hosting facilities provided by institutions of members of the executive committee. This will provide us with a stable infrastructure environment for the future and will make transitions easier. Banu Lokman, who has served for four years as our secretary has carried out a lot of the hard work behind the scenes. When you receive the announcement of this newsletter, it will also be sent through a professional provider, bringing us a step closer to independence from specific university services.



At the 25<sup>th</sup> International Conference in Istanbul in June, Murat's four-year term ended. In addition, Banu has moved to a new position at the University of Portsmouth and decided to step down as secretary. The EC meeting at the Istanbul conference appointed Kerstin Daechert from the Fraunhofer Institute ITWM in Kaiserslautern, Germany as the new secretary. We follow in the footsteps of great colleagues and we hope not to disappoint.

The end of term does of course not mean that either Murat or Banu will stop their services for the society: Murat will remain on the executive committee for four years as Immediate-Past-President. They both will be involved in the organization of the Summer School 2020 in Ankara. Banu is also co-chair of the 26<sup>th</sup> International Conference in Portsmouth in 2021. You can find announcements of both events in this newsletter.

As those of you who have been members for several years know, the International Conference is always the event when changes to the positions in the leadership of the society happen. In Istanbul, also the terms of Adiel Teixeira de Almeida, Jyrki Wallenius, Margaret Wiecek, Constantin Zopounidis as elected members of the Executive Committee ended and I would like to use this opportunity to thank them for their service to the society over the past four years and in Kaisa's case of course for much longer than that. Jyrki will remain on the Executive Committee as chair of the awards committee for two more years.

So let us talk about events. I have already mentioned the conference in Istanbul. Ilker Topcu and his team managed to host a memorable conference, which will be remembered for a long time for an excellent scientific program, an incredible gala dinner right on the shore of the Bosphorus and the warm welcome we all received from our Turkish hosts. Following the traditions of the society, we awarded eminent researchers with its distinctions: the Edgeworth-Pareto award went to Ahti Salo, the Georg Cantor award to Kathrin Klamroth and the Gold Medal to Michalis Doumpos and Margaret Wiecek, who was one of my own teachers in multi-objective optimization.

Congratulations to all awardees for the well-deserved recognition. For some years, we now also have a PhD dissertation award, and Fritz Bökler from the University of Dortmund (now Osnabrück) was this year's winner. This award, I think, demonstrates that the society is alive and kicking, attracting young researchers to the field, whose new ideas are recognized with this award. They will be the future of our society. You can find more details in various reports inside the newsletter. While writing this I suddenly realized that when I joined the society in 1996, I was myself still a PhD student, now probably rapidly becoming an old-timer. If you pay attention to the election notice in the newsletter, you will see that some who joined the society in recent years are now willing to take on greater responsibility by standing for election to the EC. This for sure is an encouraging message to all the young talent out there working on their PhD in MCDM. We welcome you with open hearts.

Let me briefly mention some upcoming events in the near future that are endorsed by us: The next workshop on Recent Advances in Multi-Objective Optimization (RAMOO) will take place on 26 September in Aarhus, Denmark. This is a no frills meeting with no registration fee. Young researchers present new ideas within a framework of two established members of the community giving plenary talks (Kaisa Miettinen and Andreas Hamel), see <https://econ.au.dk/research/conferences/ramoo-2019/>.

From 28<sup>th</sup> to 31<sup>st</sup> October, Talbi El-ghazali will organize the 13th International Conference on Multiple Objective Programming and Goal Programming in Marrakesh, Morocco, see [www.mopgp.org](http://www.mopgp.org). Due to teaching commitments, I will unfortunately have to miss this one. Looking forward to 2020, I would like to mention the 22<sup>nd</sup> IFORS conference in Korea ([www.ifors2020.kr](http://www.ifors2020.kr)). I am responsible for the MCDM area in the programme committee, so if you would like to arrange a session or stream, please get in touch.

I want to close my letter first with thanks to 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. Last, but indeed most importantly, I would like to encourage all of you to make use of your voting rights and participate actively in shaping the future of our great Society. Kerstin will send the notice of elections with the relevant links to all members as of 30 June 2019 in close proximity to the newsletter announcement. It always makes me proud to see that several hundred of our 2,500 or more members worldwide do this every time.

Matthias Ehrgott

President of the International Society on MCDM  
 President (at) mcdmsociety.org  
 September 3, 2019  
 Lancaster, UK

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  
 newsletter (at) mcdmsociety.org

## 1 Society News

### 1.1 *The 25<sup>th</sup> International Conference on Multiple Criteria Decision Making*



We, the organizers, are very honored to have hosted the 25<sup>th</sup> International Conference on Multiple Criteria Decision Making (**MCDM 2019**) which took place at Istanbul Technical University, Istanbul, Turkey from June 16 to June 21, 2019.

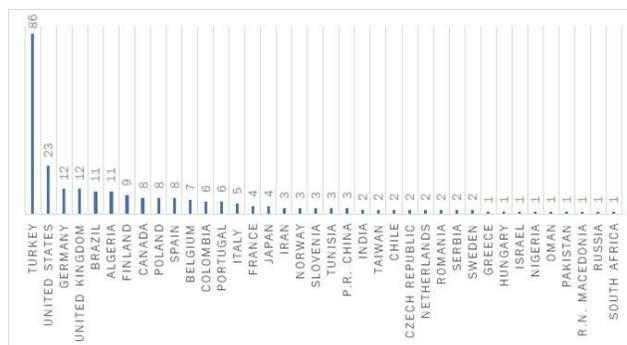


It has been almost twenty years now that the previous International Conference on MCDM was held in Turkey, in Ankara in 2000.

The conference gathered 261 participants from 5 continents and 39 countries. Among all participants, 82 of them were students, 19 of them were from Industries, and 6 of them were accompanying persons.

We hope that the participants found the conference very fruitful.





Based on the traditions of International Society on MCDM, the organizers tried to make the conference affordable for all and provide further registration and accommodation support to those who are short of funding. Besides the organizers, International Society on MCDM also offered a budget for providing discounted fees to 26 participants and Creative Decisions Foundation (CDF) supported 22 participants by awarding grants that covered their whole conference fee. We wholeheartedly appreciate the Society and CDF's support to our conference which facilitated so many students and young scholars' participation in the conference.

### Scientific program

The conference consisted of 222 talks and in 62 sessions. We had 4 sessions for plenary talks and 3 tutorial sessions. There was a session for International Society on MCDM awardees' talks and there was another session for MCDM doctoral dissertation award finalists' talks. Additionally, we scheduled 3 sponsored special, 12 invited, and 38 contributed sessions in 5 parallel sessions (7 times) and 6 parallel sessions (3 times).

Selected abstracts that were presented at the conference were invited to be considered as chapters in the book titled "Multiple Criteria Decision Making Beyond the Information Age: Selected works from MCDM 2019 Istanbul" within the Springer's Book Series "Contributions to Management Science". Participants also have the opportunity to submit their manuscripts in the special issues of Journal of Enterprise Information Management, International Journal of the Analytic Hierarchy Process, Journal of Global Optimization, Journal of Multi-Criteria Decision Analysis, Annals of Operations Research, and Optimization and Engineering.

### Opening Session

We kicked off with the opening session which took place on June 17 at Mustafa Kemal Conference Hall named for Mustafa Kemal Atatürk, the founder of the Republic of Turkey. Murat Köksalan, immediate past-president of the society, followed by Ilker Topcu, general chair of MCDM 2019, addressed the participants.



Murat Köksalan and Ilker Topcu at the opening session

## Invited Plenary Talks

The plenary talks were delivered by

- **Pınar Keskinocak**, Georgia Institute of Technology, USA: “Quantitative models for decision-support in healthcare applications” on June 17
- **Kathrin Klamroth**, University of Wuppertal, Germany: “Multi-Objective Combinatorial Optimization – Beyond the Bi-objective Case” on June 18
- **Tuomas Sandholm**, Carnegie Mellon, USA: “New Results for Solving Imperfect-Information Games” on June 19
- **Luis Vargas**, University of Pittsburgh, USA: “Voting with Intensity of Preferences” on June 20



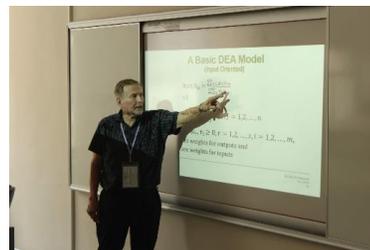
## Tutorial Sessions

The 3 tutorial sessions consisted of 2 tutorials and were delivered by

- **Orrin Cooper**, University of Memphis, USA: “Improve Your Decisions by Learning and Experiencing the ANP Best Practices” two sessions in a row on June 17

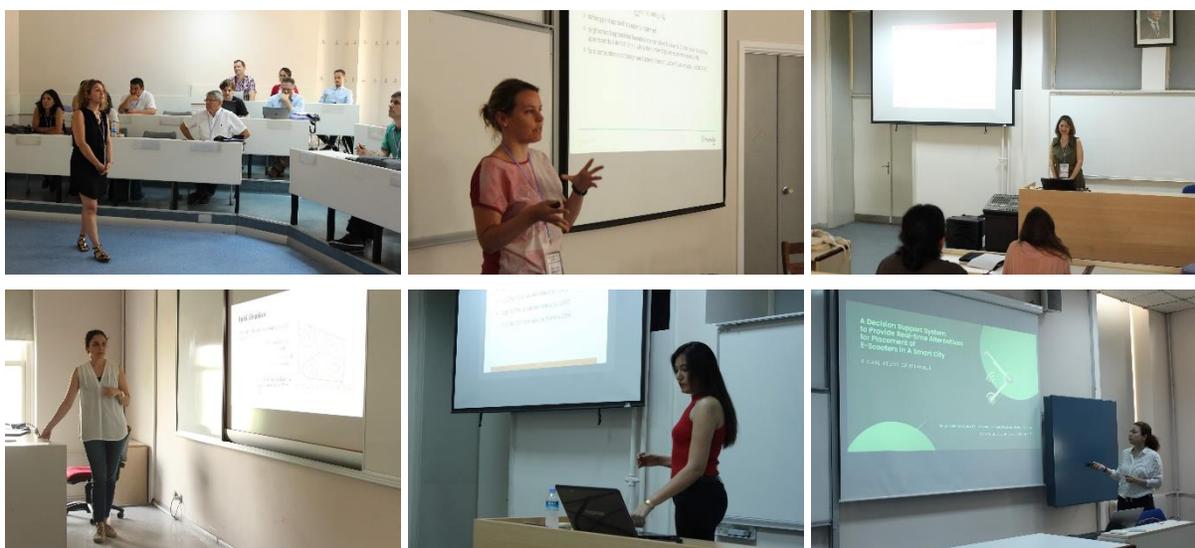


- **Pekka J Korhonen**, Aalto University, Finland: “MOLP vs. DEA – Relatives or Friends” on June 18



## Parallel Sessions

There were 3 sponsored, 12 invited and 38 contributed parallel sessions where 211 presentations were scheduled in mostly 5 parallel sessions. The sessions took place at the classrooms of ITU Management Faculty building.



Parallel sessions

## Doctoral Dissertation Award Session

The doctoral dissertation award session took place on June 19 at Mustafa Kemal Conference Hall. The finalists for this year were: Andreia Guerreiro, University of Coimbra, Portugal; Fritz Bökler, Osnabrück University, Germany; Mohammad Ghaderi, Pompeu Fabra University, Spain (*via Skype*)

As announced during the conference banquet, doctoral dissertation award was for Fritz Bökler.

## Business Meeting

Business meeting was held on June 20 at Mustafa Kemal Conference Hall. Murat Köksalan chaired the meeting.



Murat Köksalan at business meeting

## Society Award Talks

Society awardees gave their talks on June 21 at ITU Management Faculty building.

- The MCDM Gold Medal awardees were Margareth Wiecek, Clemson University, USA, and Michalis Doumpos, Technical University of Crete, Greece



- The MCDM Edgeworth-Pareto awardee was Ahti Salo, System Analysis Laboratory, Finland



- The Georg Cantor awardee was Kathrin Klamroth, University of Wuppertal, Germany



## Closing Session

Closing session took place on June 21 at ITU Management Faculty building.



Murat Köksalan, Matthias Ehrigott, and Ilker Topcu at the closing session

## Social events

Besides the high-quality scientific program based on the contributions of the presenters, we tried to make the conference even more memorable by organizing attractive social events.

On Sunday evening, the “Welcome Reception” took place at “Havuzbaşı” in Istanbul Technical University Macka Campus. The participants were offered plentiful meze and finger food along with unlimited drinks.

For the “Outing on Wednesday”, we organized visits to “Sakıp Sabancı Museum” and “Emirgan Park” in the afternoon. Sabancı University’s Sakıp Sabancı Museum, a private fine arts museum, is located at one of Istanbul’s oldest settlements on the Bosphorus. The museum presents a versatile museological environment with its rich permanent collection, the comprehensive temporary exhibitions that it hosts, its conservation units. Emirgan Park, one of the biggest parks in Istanbul, is the homeland of tulips. The park is home to approximately 90 species of trees and 3000 varieties of tulips. It is said to be the most beautiful park in Istanbul.



Havuzbaşı



Sakıp Sabancı Museum



Emirgan Park

After visiting the museum and the park, a “dinner cruise on the Bosphorus” was organized. We believe that the guided boat ride on the Bosphorus was a unique experience for seeing the beauties of Istanbul including palaces, monuments, and mansions accompanied by trees and flowers along the European and Asian sides of the Bosphorus. During the cruise, a buffet dinner was also served and participants enjoyed traditional Turkish street foods, unlimited local beer and wine, and DJ music.



Dinner cruise on the Bosphorus

The conference banquet was held at historical “Sait Halim Paşa Mansion” on Thursday evening. The mansion, located at the Bosphorus and overlooking the mesmerizing seafront, was built in 1878. The 19<sup>th</sup>-century architectural elegance meets with the 21<sup>st</sup>-century service quality. The banquet started with a reception, followed by a four-course dinner executed by an award-winning executive chef. Participants enjoyed live lounge, jazz, Latin, and oldies music by Yosun and Aid Band and then live local music by Balkan band.



The conference banquet at Sait Halim Paşa Mansion

That night, Jyrki Wallenius, chairman of the awards committee, announced the awards of the society.



Jyrki Wallenius and Murat Köksalan



Society Awardees



Doctoral Dissertation Finalists

As the conference chair, I would like to express my gratitude to my friends, general co-chairs Özgür Kabak and Özay Özaydın, organizing committee chair Şule Önsel Ekici and program committee chair Serpil Sayın, conference secretary Çigdem Kadaifçi, and organizing committee members Sezi Çevik Onar, Bilal Ervural, Sait Gül, Gül İmamoğlu, Berk Küçükaltan, Başar Öztayşi, Seda Yanık, Özgür Yanmaz, and Umut Asan. Special recognition is due to our hardworking volunteer students Dilek Hafizoğlu, Nihat Can Sinayiş, İbrahim Küçükçiçek, Musa M. Almasri, Atakan Burak Birbir, Fatime İrem Yağan, Yeliz Çotoy, Esmâ Nur Acungil, Damla Erden, and Kerim Uygur Kızıl.



Chairs of MCDM 2019



Organizing team and volunteer students

I also owe a great deal of thanks to our professional conference organizer Cormep; event planner Beyaz Event; sponsors International Society on MCDM, Creative Decisions Foundation, TÜBİTAK (The Scientific and Technological Research Council of Turkey); session sponsors Çimtaş Pipe Fabrication and Trading, Borçelik Steel Industry Trade, Arama Participatory Management Consulting; food, beverage, product, and service sponsors Sakıp Sabancı Museum, Mavi, Springer, Anadolu Efes, Coca Cola İçecek, Dimes, Muratbey, TUID, Varta, İstanbul Metropolitan Municipality, and Turkish Airlines.



I wish to thank the plenary speakers, the tutorial speakers, the invited session organizers, the session chairs, and all the presenters and participants who helped us to organize such a wonderful conference.

Sizleri İstanbul'da görmek güzeldi (It was nice seeing you in Istanbul)

*Y. İlker Topcu*

MCDM 2019 Conference General Chair

[www.MCDM2019.org](http://www.MCDM2019.org); [instagram.com/mcdm2019](https://www.instagram.com/mcdm2019); [twitter.com/mcdm2019](https://twitter.com/mcdm2019)



## 1.2 Report on the MCDM Awards 2019 to Doumpos, Klamroth, Salo, and Wiecek

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.

In the banquet of the 25<sup>th</sup> International Conference on MCDM, Istanbul, June 20th, 2019, the following awards were announced:

**Gold medal:** Michalis Doumpos (Technical University of Crete, Greece) & Margaret Wiecek (Clemson University, USA)

**Edgeworth Pareto award:** Ahti Salo (Aalto University, Finland)

**Cantor award:** Kathrin Klamroth (Universität Wuppertal, Germany)

We provide short bios of each awardee.

**Michalis Doumpos** is Professor of Operations Research and Decision Science at the School of Production Engineering and Management of the Technical University of Crete, Greece. His research interests include multiple criteria decision aid, preference learning and disaggregation analysis, business analytics, decision support systems, as well as their applications in various areas in business and finance. He has published more than 90 papers in premier research journals and several books, edited volumes, book chapters, conference papers, and special issues.

**Margaret M. Wiecek** is Professor in the School of Mathematical and Statistical Sciences at Clemson University in South Carolina. She obtained a Ph.D. degree in Systems Engineering from the AGH University of Science and Technology in Krakow, Poland. Her research area includes theory and methodology of mathematical optimization, with special interest in multiobjective optimization and applications in engineering design. She has published 150 articles, and has advised numerous doctoral students, master's students, and four postdoctoral researchers. She is on the editorial boards of the *International Journal of MCDM* and *Decision Making in Manufacturing and Services*. In 2016-2017 she served as the President of the INFORMS Section on MCDM.

**Ahti Salo** obtained his doctorate in MCDM at the Helsinki University of Technology in 1992. After postdoctoral visits to the London Business School and the University of Mannheim, he worked five years at the Nokia Research Centre and the Technical Research Centre of Finland. He then returned to his alma mater (now part of Aalto University) where his current research interests

focus on decision analysis, efficiency analysis and risk management. He has been the President of the Finnish Operations Research Society (FORS) for two biennial terms. He is a member of the Technology Academy of Finland and the Finnish Academy of Science and Letters.

**Kathrin Klamroth** graduated with a Ph.D. in Mathematical Sciences at the University of Braunschweig, Germany in 1994. She was appointed Professor at University of 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 during 2006-2010 and since 2013. She has co-organized the MCDM track at several EURO meetings and was twice a co-organizer of a Dagstuhl seminar on MCDM and EMO. Kathrin leads the optimization group at the University of Wuppertal, Germany, with a research focus on multiple objective optimization.

The manufacturing of the plaques of the awards was, again, organized by Professor Gwo-Hsiung Tzeng.

My sincerest thanks to the members of the awards committee and to Professor Tzeng, and warmest congratulations to all awardees.

*Jyrki Wallenius*

Chair of the Awards Committee 2019

Other members of the Awards Committee: Valerie Belton (University of Strathclyde), Salvo Greco (University of Catania), Kalyanmoy Deb (Michigan State University), Murat Köksalan (University of Michigan, Ann Arbor), Wojtek Michalowski (University of Ottawa), Theo Stewart (University of Cape Town), Detlof Von Winterfeldt (University of Southern California), and Ilker Topcu (Istanbul Technical University)

### **1.3 Report about the 2019 MCDM Doctoral Dissertation Competition in Istanbul**

As in Ottawa, our Society organized an MCDM Dissertation Competition in connection with the Istanbul Conference. The competition was advertised, among others, in the MCDM Newsletter. In total, we received 11 submissions, covering a wide range of theoretical and applied topics in MCDM. Our jury selected three individuals as short-listed, who were invited to the Istanbul Conference to give talks about their dissertations. They were (in alphabetical order):

1. **Andreia Guerreiro**: Portfolio Selection in Evolutionary Algorithms.
2. **Fritz Bokler**: Output-sensitive Complexity of Multiobjective Combinatorial Optimization: With an Application to the Multiobjective Shortest Path Problem.
3. **Mohammad Ghaderi**: Preference Disaggregation: Towards an Integrated Framework.

All dissertations were of an excellent quality. Andreia and Mohammed have already some excellent publications on their dissertations. The jury, however, chose **Fritz Bokler's dissertation as the winner**. His work was judged as “theoretically strongly innovative, ambitious, and dealing with an important and difficult problem in multi-objective combinatorial optimization”. Congratulations to Andreia, Fritz and Mohammed for their excellent work. Special congratulations to Fritz – this year's winner.

The following professors served in the jury: **Banu Lokman, Özgür Özpeynirci, Ralph Steuer, Konstantinos Zopounidis, and José Rui Figueira** as chair. These individuals chose the short-listed dissertations to be presented in the Istanbul Conference. Since Konstantinos could not attend the meeting, although when choosing the final winner we had available also his judgment. I wish to thank all the jury members for their valuable and time-consuming task in reviewing the dissertations.

*José Rui Figueira*

Chair of the Dissertation Competition Jury 2019

**1.4 A First Announcement: 26<sup>th</sup> International Conference on Multiple Criteria Decision Making (MCDM 2021) in Portsmouth, June 27 – July 2, 2021**

“MCDM for a sustainable and secure future”



UNIVERSITY OF  
PORTSMOUTH



We are very pleased to announce that 26<sup>th</sup> International Conference on Multiple Criteria Decision Making will be held at University of Portsmouth between the 27<sup>th</sup> June – 2<sup>nd</sup> July 2021.

**Important Dates**

- Event dates: June 27<sup>th</sup> – July 2<sup>nd</sup>, 2021
- Call for invited session proposals: October 1<sup>st</sup>, 2020
- Submission deadline for invited session proposals: October 30<sup>th</sup>, 2020
- Call for abstracts: November 2<sup>nd</sup>, 2020
- Submission deadline for abstracts: February 1<sup>st</sup>, 2021
- Notification of acceptance: March 15<sup>th</sup>, 2021
- Early bird registration deadline: April 30<sup>th</sup>, 2021

**Organizing Committee**

Professor Alessio Ishizaka (Chair)	Dr Maria Barbat
Dr Banu Lokman (Co-chair)	Dr Salem Chakhar
Professor Dylan Jones	Dr Alan Tait
Professor Ashraf Labib	Mr Menelaos Tasiou
Professor Salvatore Greco	

**Venue**

The conference will be hosted on the city-centre campus of the University of Portsmouth. The main venue is the [Portsmouth Business School](#) at the modern, purpose-built Richmond Building.



### 1.5 Announcement of the 2020 EURO PhD Summer School on MCDA/MCDM



The 2020 EURO PhD Summer School on MCDA/MCDM is going to take place in Ankara, Turkey, on July 6-17, 2020. PhD students interested in getting an in-depth understanding of the theoretical and applied aspects of MCDA/MCDM, interacting with the best scholars in the area, and conducting hands-on exercises/cases are welcome to apply. Although the priority is for PhD students, a limited number of Master's students may also be admitted. Approximately 50 students will be admitted to the summer school.

There will be lectures on state-of-the-art multiple criteria methods, applications, and software. Teams of students will be formed to work on several case studies and will present their work at the end of the summer school. The students will be staying in a dormitory of the Middle East Technical University (METU) and interacting with each other throughout the summer school. This is a great opportunity for PhD students to network among themselves and with the lecturers and collaborate for years to come. Many of the current well-known scholars in the area have attended past summer schools.

In addition to the unique academic program, the summer schools are a lot of fun. There are social activities throughout and the students will enjoy spending time together. Many long-lasting friendships have been formed in past summer schools.

The lectures will be held at the Industrial Engineering Department of METU. All meals will be provided and the activities of the social program will also be covered. Thanks to the financial support from the Association of European Operational Research Societies (EURO) and the International Society on MCDM, we are able to keep the registration costs low. There will also be an opportunity to apply for partial support for the registration cost for those who have limited funds, especially from developing countries.



METU is located on a beautiful, forested campus in the west side of Ankara (<https://www.metu.edu.tr>). Ankara, located in central Anatolia, is the capital of Turkey. It connects east and west parts of the country, and is the second largest city of Turkey. The city has great museums including Museum of Anatolian Civilizations, which was elected as The Museum of the Year in Europe in 1997. Please check the following link for more information about Ankara: <https://www.goturkeytourism.com/destinations-turkey/ankara-city-in-turkey.html>.

### Important dates

- Application submission opening: September 1, 2019
- Deadline for Application: February 1, 2020
- Notification of Acceptance: February 15, 2020
- Early registration deadline: March 15, 2020
- Late registration deadline: April 15, 2020
- Beginning of the summer school: July 6, 2020

### Lecturers (in alphabetical order)

1. Adiel T. de Almeida, Federal University of Pernambuco, Brazil  
Multi-attribute Utility Theory (MAUT), Multi-criteria Group Decision Making (MCGDM)
2. Matthias Ehrgott, Lancaster University, UK  
MCDA/M Community, Multiobjective Combinatorial Optimization
3. Jose Rui Figueira, Technical University of Lisbon, Portugal  
Outranking Methods, Robust Ordinal Regression
4. Carlos Fonseca, University of Coimbra, Portugal  
Evolutionary multiobjective optimization
5. Salvatore Greco, University of Catania, Italy  
Preference Modelling, Robust Ordinal Regression
6. Milosz Kadzinski, Poznan University of Technology, Poland  
Decision Deck
7. Gulsah Karakaya, Middle East Technical University, Turkey  
Case Work
8. Ralph L. Keeney, Duke University, USA  
Value-Focused Thinking and Problem Structuring
9. Murat Koksalan, Middle East Technical University, Turkey  
Interactive Methods of Multiobjective Optimization, Behavioral Aspects of Decision Making
10. Banu Lokman, University of Portsmouth, UK  
Case Work
11. Serpil Sayın, Koç University, Turkey  
Multiobjective Optimization Theory
12. Roman Slowinski, Poznan University of Technology, Poland  
Decision Rule Approach, “Meet the editor”
13. Jyrki Wallenius, Aalto University, Finland  
Introduction to MCDA/MCDM, History and Traditions of MCDM
14. Constantin Zopounidis, Technical University of Crete, Greece  
MCDM in Finance

The most up-to-date information regarding the application process and all other developments about the summer school will be available at <http://mcdm.metu.edu.tr/en>.

We look forward to an exciting summer school in Ankara!

## **1.6 Society Elections 2019**

### **The International Society on Multiple Criteria Decision Making Executive committee election for the term 2019-2023**

The Executive Committee (EC) of the Society is the body that makes the major decisions of the Society.

This year,

- one new President-Elect,
- one new Vice-President of Finance and
- four new (regular) members

need to be elected.

There are

- two candidates for President-Elect,
- one candidate for Vice-President of Finance and
- eight candidates for (regular) members of the EC.

The candidates who receive the most votes, respectively, will be elected for the EC. All six new members are elected for four years. The new President-Elect will be President of the Society for the term 2023-2027.

Below you find the candidates for President-Elect, Vice-President of Finance and the (regular) members with a short bio and a photo. The two candidates for President-Elect have formulated an additional statement how they want to impact the MCDM society. The link to the statement can be found at the end of their bio`s.

The voting period will start on September 23, 2019, and end on October 6, 2019, at midnight MEST (UTC/GMT+2:00). All those who are members of the Society by June 30, 2019, can vote. Each member will receive an E-mail with a link and detailed instructions for voting. Please make sure your E-mail address in our database is up to date. If your E-mail has changed, please write to [secretary@mcdmsociety.org](mailto:secretary@mcdmsociety.org) to update your E-mail address.

### **The candidates for President-Elect:**

#### **1. José Rui Figueira (Instituto Superior Técnico, Universidade de Lisboa, Portugal)**



José Rui Figueira is Associate Professor with Habilitation at IST (ULisboa) and researcher at CEG-IST. He also taught at Universities of Évora and Coimbra, and the Nancy's School of Mines (where he got a Full Professor position in 2010). He is a former member of LAMSADE, INESC-Coimbra, LORIA and DIMACS research centers. Professor Figueira is the co-editor of the book "Multiple Criteria Decision Analysis: State of the Art Surveys, Springer, 2016 (2nd Edition). He currently serves as a coordinator of the European Working Group on Multiple Criteria Decision Aiding. He is Associate Editor of JMCDA, member of editorials of EJOR and belongs to the advisory board of other scientific international journals. In 2017 he was awarded with the Gold Medal of the society (please click [here](#) for further information; [mission statement](#)).

#### **2. Kathrin Klamroth (Bergische Universität 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 between discrete and continuous optimization and applications. Kathrin received her PhD at the University of Braunschweig 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. Kathrin has been an executive committee member of the International Society on MCDM from 2006 to 2010 and since 2013. In 2019, Kathrin received the Georg Cantor award of the Society on MCDM (please click [here](#) for further information; [mission statement](#)).

### **The candidate for Vice-President of Finance:**

#### **1. Birsen Karpak (Youngstown State University, USA)**



Dr. Birsen Karpak is a distinguished professor of Management, Youngstown State University, Youngstown Ohio, USA. She has been VP of Finance, International Society on Multiple Criteria Decision Making since 2004. Dr. Karpak has secured grants from US National Science Foundation and NATO and directed an International Advanced Study Institute on Multiple Criteria Decision Making and Risk Analysis with Dr. Stanley Zionts. She also organized International Institute for Applied System Analysis Symposium on Multiple Criteria Decision Analysis. She served as a program committee co-chair for the International Symposium on Analytical Hierarchy Process (ISAHP) and on the scientific Program Committee of MCDM international conferences since 2004. She published in a variety of journals including Journal of Multi-Criteria Decision Analysis, European Journal of Purchasing & Supply Management and International Journal of production economics (please see [Google Scholar](#)). Her recent publications are mainly in applications of multiple criteria decision making methodologies (please click [here](#) for further information).

## **The candidates for members of the EC:**

### **1. Carlos Coello Coello (CINVESTAV-IPN, Mexico)**



Dr. Carlos A. Coello Coello has a PhD in Computer Science from Tulane University (USA). He is currently Full Professor at the Computer Science Department of CINVESTAV-IPN (in Mexico City, México). He has more than 470 publications, which currently report over 45,000 citations in *Google Scholar* (his h-index is 82). He is currently in the editorial board of several international journals and has received several awards, including Mexico's National Medal of Science in "exact sciences", the IEEE Kiyo Tomiyasu Award and the TWAS Award in Engineering Sciences. His main research interests are related to bio-inspired metaheuristics for multi-objective optimization (please click [here](#) for further information).

### **2. Salvatore Corrente (University of Catania, Italy)**



Salvatore Corrente has received a Bachelor degree in Applied Mathematics in 2005, a Master degree in Mathematics in 2008 and a PhD in Applied Mathematics in 2012, all at the Department of Mathematics and Computer Science of the University of Catania. He has been a postdoctoral researcher at the Department of Economics and Business of University of Catania from 2014, August 1, to 2017, July 31. He is currently researcher at the Department of Economics and Business of the University of Catania. His research interests concern Multiple Criteria Decision Making and Interactive Evolutionary Multiobjective Optimization (please click [here](#) for further information).

### **3. Kalyanmoy Deb (Michigan State University, USA)**



Kalyanmoy Deb is the Koenig Endowed Chair in Electrical and Computer Engineering at Michigan State University, USA. He received his PhD in Mechanical Engineering from University of Alabama (Tuscaloosa). With an h-index of 113 he is a pioneering researcher in the area of evolutionary multi-objective optimization having published more than 275 research papers. In 2019 he was the general chair of the EMO-2019 conference. He also served on the executive committee of the MCDM Society for the first time from 2013 to 2017. (provided by Matthias Ehrgott) (please click [here](#) for further information).

### **4. Michalis Doumpos (Technical University of Crete, Greece)**



Michalis Doumpos is Professor of Operations Research and Decision Science at the School of Production Engineering and Management of the Technical University of Crete, Greece. His research interests include multiple criteria decision aid, preference learning and disaggregation analysis, business analytics, decision support systems, as well as their applications in various areas in business and finance. He has published more than 90 papers in premier research journals and several books, edited volumes, book chapters, conference papers, and special issues. In 2019 he received the Gold Medal Award from the International Society of Multicriteria Decision Making (please click [here](#) for further information).

### 5. **Milosz Kadziński (Poznan University of Technology, Poland)**



Milosz Kadziński (born 1984) is an Assistant Professor at Poznan University of Technology and a member of the Polish Young Academy. He holds the MCDM Doctoral Dissertation Award 2013. He has been distinguished with the scientific awards by EURO, INFORMS, Polish Academy of Sciences and Ministry of Science. He has been acknowledged with ten Best Reviewer Awards by EJOR, Omega, and GDN. He acts as a co-president of the Decision Deck consortium.

His research interests include preference learning, robustness analysis as well as strengthening the interfaces between MCDM and other sub-disciplines of algorithmic decision theory. He has published more than 45 papers in premier international journals such as Omega, EJOR, DSS, INS, COR, KBS, and ML (please click [here](#) for further information).

### 6. **Hatem Masri (University of Bahrain, Kingdom of Bahrain)**



Hatem Masri is an Associate Professor at the University of Bahrain. He received his PhD in Operations Research in 2004 from the University of Tunis. His research interests include Multiple Objective Stochastic Programming, Financial Engineering, and Vehicle Routing Problems. Hatem's research has been published in more than 12 international journals (*EJOR, JORS, ANOR, ...*) and he edited several Books and journal special issues. He is Treasurer of the *African Federation of Operational Research Societies*, General Secretary of the *Tunisian Decision Aid Society*. Hatem is member of the steering committee of *MOPGP* and *ICMFII*

conferences endorsed by the *International Society on MCDM* (please click [here](#) for further information).

### 7. **Caroline Mota (University of Pernambuco, Brazil)**



Caroline Mota is Associate professor at Universidade Federal de Pernambuco, Brazil, and obtained her Ph.D. in engineering management in 2005. She is Deputy Director of the Brazilian Society of Operations Research (SOBRAPO), Director of the research group on Project Management, and researcher at CDSID (Center of Decision Systems and Information Development). Her research interests include Multiple Criteria Decision Making/Aid, Public policy decisions, Geographic information systems, and Project management. She has been awarded a grant of

Productivity in Research by the National Council of Technological and Scientific Development (CNPq). She also serves as associate editor and reviewer of scientific journals (please click [here](#) for further information).

### 8. **Francisco Ruiz (University of Málaga, Spain)**



Francisco Ruiz is a full professor of Quantitative Methods for Economy at the University of Málaga in Spain. He teaches at graduate and masters courses, and in the PhD program in Economy and Business Administration. His research is focused on multi-objective programming, mainly in interactive methods and applications to decision making processes in industry, and development of synthetic indicators using multiple reference point techniques. With respect to the International Society on MCDM, he served as secretary from 2008 to 2015, and he

was the chair of the 22nd International Conference of the society, held in Málaga (Spain), in June 2013 (please click [here](#) for further information).

## 2 Upcoming Events, Call for Papers, and other News

### 2.1 *Special Issue on Global Multiobjective Optimization of the Journal of Global Optimization*

**Guest editors:** Kaisa Miettinen (University of Jyväskylä, Finland), Serpil Sayin (Koç University, Turkey)



**Submission deadline: November 30, 2019**

This special issue is devoted to publishing original research papers dealing with theoretical, computational and applied aspects of global optimization involving multiple, conflicting objective functions. Thus, the focus is at the intersection of global and multiobjective optimization. We invite unpublished, high quality papers, which address challenges of global multiobjective optimization. Examples of relevant optimization problems are nonconvex, stochastic or combinatorial optimization problems having both global and local optima. In this special issue, sophisticated global search strategies are emphasized and their application to various optimization problems with multiple objectives is within scope. Relevant data-driven optimization considerations are also of interest.

We welcome papers with a clear, novel scientific contribution in theory, methods or applications and papers with comprehensive and significant numerical experiments of global multiobjective optimization. The papers must be in line with the scope of the *Journal of Global Optimization – An International Journal Dealing with Theoretical and Computational Aspects of Seeking Global Optima and Their Applications in Science, Management and Engineering*.

This special issue is connected to but not restricted to papers presented at the 25th International Conference on Multiple Criteria Decision Making, MCDM2019 (held in Istanbul, Turkey, in June 2019).

#### **Submission:**

Authors should follow the Instructions for Authors of the Journal of Global Optimization and submit their high quality manuscript via Springer's online Editorial Manager [www.editorialmanager.com/jogo/](http://www.editorialmanager.com/jogo/) by **November 30, 2019**. While submitting, please make sure to choose in the Editorial Manager **SI: MCDM2019** as the Article Type.

Submissions are sent to reviewers as they arrive and papers accepted for publication are made electronically available via SpringerLink before the Special Issue is published.

Further inquiries should be sent to the Guest Editors: Kaisa Miettinen ([kaisa.miettinen@jyu.fi](mailto:kaisa.miettinen@jyu.fi)) and Serpil Sayin ([ssayin@ku.edu.tr](mailto:ssayin@ku.edu.tr)).

## 2.2 “Multiple Criteria Decision Making beyond the Information Age” at book series “Contributions to Management Science”

Selected abstracts presented in 25th International Conference on Multiple Criteria Decision Making will have a chance of publication in Springer book titled “Multiple Criteria Decision Making beyond the Information Age” at book series “Contributions to Management Science”.



The 25th International Conference on Multiple Criteria Decision Making (MCDM 2019) is the basis of the book. The selected papers that will be presented at the conference are further reviewed and edited to create a cohesive flow

### Topics and Application Areas

Recently, data and its transformed state “information” have become the prominent resource for all aspects of business, education, etc. The importance of decision-making for the handling of these data, and turning them into meaningful information and finally ending up with the best course of actions have risen significantly.

The book will include recent practical and theoretical studies on multiple criteria decision making (MCDM). As the theme of the conference is “Beyond the Information Age,” the chapters in the book will be chosen from the MCDM studies on the contemporary topics including but not limited to information processing and big data era. Decision making is a highly dynamic area, and the applications are rapidly evolving using modern techniques. Hence, this book will be useful insight into the most recent developments.

### Submission and Review Process

During the conference, the session chairs will fill a questionnaire where they will be asked whether they would suggest a study to be included in the proposed book as a chapter. The editors will send invitations to the authors of the studies suggested by the session chairs just after the conference.

The conference participants are also free to declare their intent to contribute the book until **July 8, 2019**. All potential chapter authors are expected to submit their work for consideration until **September 16, 2019**.

There will be a reviewing process of the submitted chapters. First, editors will consider whether the submitted work is suitable for publishing it in the book. Then, a double-blinded procedure will be followed, and at least two reviewers will be assigned to each shortlisted chapter.

Chapter authors will then be notified based on review decisions on **December 16, 2019**. If the final decision for a chapter is “minor revision” or “major revision,” the authors will be expected to revise their chapters accordingly and resubmit their chapters by **February 10, 2020**. Based on reviewers’ re-evaluation comments for those chapters, editors will make a final decision by **April 13, 2020**.

### Editors

Prof. Y. Ilker Topcu, Istanbul Technical University, Turkey, [ilker.topcu@itu.edu.tr](mailto:ilker.topcu@itu.edu.tr)

Asst. Prof. Dr. Özey Özeydin, Doğuş University, Turkey, [oozeydin@dogus.edu.tr](mailto:oozeydin@dogus.edu.tr)

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Prof. Dr. Şule Önsel Ekici, Doğuş University, Turkey, [sonsel@dogus.edu.tr](mailto:sonsel@dogus.edu.tr)

### **2.3 Special Issue on Theory, Computation, and Practice of Multiobjective Optimization of Annals of Operations Research**

**Guest Editors:** Matthias Ehrgott (Lancaster University, UK), Alexander Engau (Dalhousie University, Canada), Margaret M. Wiecek (Clemson University, USA)

**Submission deadline:** **March 31, 2020**

For this special issue we invite original research contributions to the theory, computation, and practice of multiobjective optimization. We welcome high quality papers falling within the *a posteriori* paradigm of multicriteria decision making (MCDM). The papers may address any type of multiobjective optimization problem, may propose methods and algorithms for multiobjective optimization and their supporting mathematical theory, and may describe important applications of multiobjective optimization in practice.

This special issue is connected but not restricted to two current events organized within the MCDM community. The participants of the *25th International Conference on Multiple Criteria Decision Making, MCDM2019* (Istanbul, Turkey, June 2019), and the participants of the *Dagstuhl Seminar on Scalability in Multiobjective Optimization* (Dagstuhl, Germany, January 2020) are invited to submit their papers. Furthermore, all researchers worldwide working on the topics indicated above are also invited to contribute.

Authors should follow the Instructions for Authors of Annals of Operations Research (<https://link.springer.com/journal/10479>) and submit their high quality manuscript via Springer's online Editorial Manager [www.editorialmanager.com/anor/](http://www.editorialmanager.com/anor/) by March 31, 2020. While submitting, please make sure to choose in the Editorial Manager SI: MCDM2019 as the Article Type.

Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere. The submitted manuscripts are sent to reviewers as they arrive but the editors reserve the right to reject any manuscript that does not present a high level of scholarship before the manuscript is sent to reviewers. Papers accepted for publication are made electronically available via SpringerLink before the Special Issue is published. Further inquiries should be sent to the Guest Editors: Matthias Ehrgott ([m.ehrgott@lancaster.ac.uk](mailto:m.ehrgott@lancaster.ac.uk)), Alexander Engau ([alexander.engau@dal.ca](mailto:alexander.engau@dal.ca)), and Margaret M. Wiecek ([wmalgor@clemson.edu](mailto:wmalgor@clemson.edu)).

## **2.4 Special Issue on Multiple Criteria Decision Making in the Journal of Enterprise Information Management**

### **Background**

Generally speaking, decision making occurs in all areas of our daily lives and we have been facing different alternatives with an intention of selecting the best one among others. To decide the most appropriate alternative, various criteria, both tangible and intangible, from diverse aspects need to be considered. In such a complexity, it is clear that multiple criteria decision making is, in fact, related to psychology and human interaction and is mainly based on human judgments. This being the case, exploiting powerful multiple criteria decision making approaches is indispensable for decision-makers while evaluating different alternatives in the presence of varying types of criteria. Previous applications published by the guest editors are given below under Related Publications. The purpose of this call for paper is to attract a number of high-quality research papers contributing to the theory and the application of Multiple Criteria Decision Making methods. This special issue will hold a great potential to make significant contributions on advances in the multi-criteria decision making literature from different operational and theoretical aspects, more particularly in light of the recent technological changes occurred in the business domain. In addition, from the practical side, the papers in this issue will be the means to overcome modern challenges being faced by practitioners in different organisations, especially in the presence of numerous traditional and modern criteria coming along with the recent industrial revolution. This special issue will help better understanding the current multiple criteria approaches implemented in the new industrial era. To date, the business environment has gone through several progresses of industrial revolutions and the latest advancements emanated in this era have stimulated the need of a new revolution: The 4th Industry Revolution, which is widely referred to as “Industry 4.0”. Given the Industry 4.0 as an emerging umbrella concept in diverse industries existing in a supply chain, the decision-making in this digital and automation-oriented era has become more complex with additional up-to-date criteria, such as the implementation of robotic technologies or artificial intelligence applications. Thus, today’s strategic decision making needs to be re-evaluated and addressed through advanced MCDM approaches to provide realistic and robust solutions against the current problems.

### **Topics**

Recently, data and its transformed state "information" have become the prominent resource for all aspects of business and education. The importance of decision-making for handling of these data and turning them into meaningful information and finally ending up with best course of actions have risen significantly. Potential topics to be considered for the special issue include, but are not limited to:

- Advances in MCDM Theory
  - AHP, ANP
  - Behavioural Issues in Decision Making
  - Decision Support Systems
  - Environmental Decision Making
  - Evolutionary Algorithms
- In application domains such as
- Accounting, Finance & Economics
  - Business, Management & Strategy
  - Economics
  - Engineering
  - Health & Social Care

- Fuzzy Sets and Approaches
- Goal Programming
- Group Decision Making
- Multi-attribute Utility or Value Theory
- Multiple Criteria Decision Aiding
- Multiple Criteria Ranking or Sorting
- Multi Objective Decision Making including exact methods and heuristics.
- HR, Learning & Organization Studies
- Information & Knowledge Management
- Marketing
- Operations
- Quality
- Industry 4.0, Supply Chain 4.0, Digital Logistics
- Property Management & Built Environment
- Public Policy & Environmental Management
- Sociology
- Tourism & Hospitality

### **Submission and Review Process**

Manuscripts should not have been previously published or be under review in other journals. This special issue is linked with the MCDM 2019 Conference, 25th International Conference on Multiple Criteria Decision Making, to be 16-21 June 2019 in Istanbul, Turkey. Outstanding papers presented at this conference will be invited for submission. However, the guest editors also welcome submissions of high-quality papers that have not been submitted to or presented at this conference.

All authors are expected to explicitly state in their cover letter their contribution to knowledge and managerial implications within the context of MCDM. Submissions to the Journal of Enterprise Information Management are made using ScholarOne Manuscripts, the online submission and peer review system. The manuscript must comply with the author guidelines of the JEIM:

[http://www.emeraldgroupublishing.com/products/journals/author\\_guidelines.htm?id=jeim](http://www.emeraldgroupublishing.com/products/journals/author_guidelines.htm?id=jeim)

Authors must use the official JEIM submission portal on <http://mc.manuscriptcentral.com/jeim> and select 'MCDM' special issue for their submission. We will accept submissions until **16 September 2019**.

All papers will be screened by at least two guest editors (and desk rejected if not deemed suitable) before being sent to at least two referees. Papers will undergo a maximum of two rounds of revision to meet the scope and high standards of JEIM (or will be rejected otherwise). There is no guarantee of publication. We anticipate that this special issue will be published by the second half of 2020. For any queries regarding submission, please email the special issue guest editors.

### **Special Issue Guest Editors**

Prof Emel Aktas, Cranfield University, UK [emel.aktas@cranfield.ac.uk](mailto:emel.aktas@cranfield.ac.uk)

Dr Berk Kucukaltan, Trakya University, Turkey; University of Bradford, UK  
[berkkucukaltan@trakya.edu.tr](mailto:berkkucukaltan@trakya.edu.tr)

Prof Ilker Topcu, Istanbul Technical University, Turkey [ilker.topcu@itu.edu.tr](mailto:ilker.topcu@itu.edu.tr)

## **2.5 Optimization and Engineering Journal Special Issue on Multiobjective Optimization and Decision Making in Engineering Sciences**

### **Guest Editors**

Jussi Hakanen (Faculty of Information Technology, University of Jyväskylä, Finland) and

Richard Allmendinger (Alliance Manchester Business School, University of Manchester, UK)

### **Aim and scope**

The emergence of advanced technologies and digitalization has been changing our world and leading to a situation where physical assets are being augmented heavily with non-physical assets. In addition to widely used simulation-based optimization, data-driven optimization approaches have become more popular in engineering sciences due to availability of data collected in every field (e.g. from IoT, sensors, experimental measurements etc.). Therefore, the effective combination of data and advanced engineering and management technologies and skills is becoming a key asset to a company urging the need to rethink how to tackle modern decision making problems. The consideration of various competing factors related to business, technical, workforce, safety and environmental aspects further increases the complexity of decision making and leads to multiple criteria decision making (MCDM) problems. This special issue focuses on the intersection between engineering, data science, MCDM and multiobjective optimization. Thus, new models and algorithms to solve such problems are in the focus as much as the application of these to real problems. The aim of the issue is to bring together academics and practitioners with different expertise, in particular, in engineering, computer science, mathematics, data science and business. This special issue is connected to but not restricted to papers presented at the MCDM2019 conference.

### **Major topics of interests**

All submissions related to the development/application of multiobjective optimization in engineering are welcome. Especially, submissions considering novel approaches combining engineering and data science are highly encouraged. Topics of interest (but not limited to) include:

- Preference-based approaches actively incorporating human decision makers
- Data-driven methods and their combination with simulation-based approaches
- Applications in engineering sciences where multiobjective optimization is used to make informed decisions (e.g. advanced manufacturing, material sciences and digital technology)
- MCDM system development aimed at practical use in engineering enabling interactive participation of the decision maker (visualization, decision support, graphical user interfaces, automatic configuration and tuning of optimization and decision making algorithms)
- Hybrid methodologies combining mathematical programming, evolutionary computation and/or machine learning
- Solving computationally expensive multiobjective problems and/or challenges in MCDM
- Methods to deal with problem challenges arising in engineering sciences such as uncertainty, dynamic landscapes/constraints, noisy functions/data, robustness etc.

- Test/benchmark problems/simulators/performance measures to validate decision making approaches in engineering sciences, large-scale/mixed type/highly constrained problems

### **Submission instructions**

Papers should be submitted online at <https://www.opte-journal.com> and the deadline for full-length papers is **November 30, 2019**. Upon manuscript submission, please select the special issue "*MCDM 2019*". Submissions will be peer-reviewed according to the standards of the journal. Manuscripts will be processed as they arrive and will be published online as soon as they are accepted. For planning purposes, interested authors are encouraged to email a tentative title to the guest editors.

### **Contact**

Please feel free to contact us in case you have any questions: Jussi Hakanen ([jussi.hakanen@jyu.fi](mailto:jussi.hakanen@jyu.fi)) and Richard Allmendinger ([richard.allmendinger@manchester.ac.uk](mailto:richard.allmendinger@manchester.ac.uk))

### 3 New Books/Publications

This section presents a list of books and papers recently published. 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](mailto:lucie.galand@dauphine.fr).

#### 3.1 Books, Book chapter, Papers in Collections

**M. Doumpos, J.R. Figueira, S. Greco, C. Zopounidis (Eds), New Perspectives in Multiple Criteria Decision Making, Innovative Applications and Case Studies, Springer International Publishing, 2019.**

L.F.A.M. Gomes, C. F. S. Gomes, **Principles and methods for decision making multicriteria approach, 6th ed. São Paulo: Grupo Editora Nacional-Editora Atlas Ltda., Printed book in Portuguese, 2019.**

S. Mirzaee, M. Ruth, D. Fannon, **Reconciling diverse perspectives of decision makers on resilience and sustainability**, Chapter 19, In: M Ruth & S Goessling-Reisemann, *Handbook on Resilience of Socio-Technical Systems*, 360-386, 2019.

V. Ojalehto, K. Miettinen, **DESDEO: An Open Framework for Interactive Multiobjective Optimization**, in *Multiple Criteria Decision Making and Aiding: Cases on Models and Methods with Computer Implementations*, Ed. by S. Huber, M. J. Geiger, A. T. de Almeida, 67-94, 2019.

#### 3.2 Journal Papers

T. H. M. Abou-El-Enien,  **$\alpha$ -Pareto optimal solutions for fuzzy multiple objective optimization problems using MATLAB**, *Advances in Modelling and Analysis C*, 73(2):53-59, 2018.

T. H. M. Abou-El-Enien, **Pareto optimal solutions for fractional multi-objective optimization problems using MATLAB**, *Advances in Modelling and Analysis C*, 73(3):88-90, 2018.

T. H. M. Abou-El-Enien, S. F. El-Feky, **Compromise Solutions for a Special Type of Stochastic Multi-Level Linear Multiple Objective Decision Making Problems**, *Advances in Modelling and Analysis A*, 55(4):222-231, 2018.

T. H. M. Abou-El-Enien, S. F. El-Feky, **Compromise Solutions for Fuzzy Multi-Level Multiple Objective Decision Making Problems**, *American Journal of Computational and Applied Mathematics*, 8(1):1-14, 2018.

P. Ajmera, V. Jain, **Modeling the factors affecting the Quality of Life in diabetic patients in India using Total Interpretive Structural Modeling**, *Benchmarking: an International Journal*, 26(3):951-970, 2019.

M.V. Bolgov, A.L. Buber, A.V. Lotov, **Support for Making Strategic Decisions on the Water Supply of the Lower Volga River Based on the Pareto Frontier Visualization**, *Scientific and Technical Information Processing*, 45(5):297-306, 2018.

- M.M. de Brito, A. Almoradie, M. Evers, **Spatially-explicit sensitivity and uncertainty analysis in a MCDA-based flood vulnerability model**, *International Journal of Geographical Information Science*, 33(9):1788-1806, 2019.
- R. Cai, H. Chaplin, P. Livermore et al, **Development of a benchmarking toolkit for adolescent and young adult rheumatology services (BeTAR)**, *Pediatric Rheumatology*, 17(1), 2019.
- T. Chugh, K. Sindhya, J. Hakanen, K. Miettinen, **A Survey on Handling Computationally Expensive Multiobjective Optimization Problems with Evolutionary Algorithms**, *Soft Computing*, 23(9):3137-3166, 2019.
- T. Derkley, D. Biggs, M. Holden, C. Phillips, **A framework to evaluate animal welfare implications of policies on rhino horn trade**, *Biological Conservation*, 235:236-249, 2019.
- L. Dias, R. Vetschera, **On generating utility functions in Stochastic Multicriteria Acceptability Analysis**, *European Journal of Operational Research*, 278:672-685, 2019.
- M. Ehrgott, M. Hasannasab, A. Raith, **A Multi-objective Optimisation Approach to Compute the Efficient Frontier in Data Envelopment Analysis**, *Journal of Multiple Criteria Decision Making*, to appear.
- S. F. El-Feky, T. H. M. Abou-El-Enien, **Compromise Solutions for Rough Multiple Objective Decision Making Problems**, *Australian Journal of Basic and Applied Sciences*, 12(7):112-119, 2018.
- M. Espinoza, R. Rojas, H. de Patiño, **Knowledge translation in practice: Exploring the potential use of MCDA in Central America and the Caribbean**, *Value in Health Regional Issues*, 17:148-9, 2018.
- J. Eyles, D. Hunter, K. Bennell et al, **Priorities for the effective implementation of osteoarthritis management programs: an OARSI international consensus exercise**, *Osteoarthritis and Cartilage*, 2019.
- S. Feeny, P. Hansen, S. Knowles, M. McGillivray, F. Ombler, **Donor motives, public preferences and the allocation of UK foreign aid: A discrete choice experiment approach**, *Review of World Economics*, 155:511-37, 2019.
- C. Filippi, W. Ogryczak, M.G. Speranza, **Bridging k-sum and CvaR optimization in MILP**, *Computers & Operations Research*, 105:156-166, 2019.
- S.L. Gadegaard, L.R. Nielsen, M. Ehrgott, **Bi-objective branch-and-cut algorithms based on LP-relaxation and bound sets**, *INFORMS Journal on Computing*, 2019.
- P. Gasser, P. Lustenberger, M. Cinelli, W. Kim, M. Spada, P. Burgherr, S. Hirschberg, B. Stojadinovic, T. Y. Sun, **A review on resilience assessment of energy systems**, *Sustainable and Resilient Infrastructure*, 1-27, 2019.
- A. Habib, H.K. Singh, T. Chugh, T. Ray, K. Miettinen, **A Multiple Surrogate Assisted Decomposition Based Evolutionary Algorithm for Expensive Multi/Many-Objective Optimization**, *IEEE Transactions on Evolutionary Computation*, to appear.

- M. Harju, J. Liesiö, K. Virtanen, **Spatial multi-attribute decision analysis: Axiomatic foundations and incomplete preference information**, *European Journal of Operational Research*, 275(1):167-181, 2019.
- M. Hartikainen, K. Miettinen, K. Klamroth, **Interactive Nonconvex Pareto Navigator for Multiobjective Optimization**, *European Journal of Operational Research*, 275(1):238-251, 2019.
- S. Howard, I. Scott, H. Ju, L. McQueen, P. Scuffham, **Multicriteria decision analysis (MCDA) for health technology assessment: the Queensland Health experience**, *Australian Health Review*, 2018.
- R. Hunter, N. Buckley, E. Fitzgerald, A. MacCormick, T. Eglinton, **General Surgery Prioritization Tool: a pilot study**, *ANZ Journal of Surgery*, 88(12):1279-1283, 2018.
- D. Hunter, P. Nicolson, C. Little, S.R. Robbins, X. Wang, K.L. Bennell, **Developing strategic priorities in osteoarthritis research: Proceedings and recommendations arising from the 2017 Australian Osteoarthritis Summit**, *BMC Musculoskeletal Disorders*, 20, 2019.
- V. Jain, **Application of combined MADM methods as MOORA and PSI for ranking of FMS performance factors**, *Benchmarking: an International Journal*, 25(6):1903-1920, 2018.
- V. Jain, P. Ajmera, **Application of MADM methods as MOORA and WEDBA for ranking of FMS flexibility**, *International Journal of Data and Network Science*, 3(2):119-136, 2019.
- V. Jain, P. Ajmera, **Evaluation of performance factors of FMS by combined decision making methods as AHP, CMBA and ELECTRE methodology**, *Management Science Letters*, 9(4):519-534, 2019.
- V. Jain, T. Raj, **Identification of performance variables which affect the FMS: a state of art review**, *International Journal of Process Management and Benchmarking*, 8(4):470-489, 2018.
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### **3.4 Paper in Research Encyclopedia**

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## 4 Past Conferences, Workshops, and other News

### 4.1 About the 89<sup>th</sup> meeting of the EWG-MCDA

The Department of Industrial Engineering of the University of Trento hosted the 89<sup>th</sup> meeting of the EWG-MCDA. The meeting was held between the 11<sup>th</sup> and the 13<sup>th</sup> of April 2019 in the “Economics building” of the University of Trento. The main topic of the meeting was “Pairwise comparisons (pros and cons)”. As usual, in spite of the special theme, the conference welcomed all contributions on both theoretical and applied aspects of MCDA. The scientific committee received more than 60 abstract submissions and the actual participants included scholars from non-EU countries such as Canada and Japan. Out of all the abstracts, for reasons of time, only 20 were selected for presentation.

The meeting was opened by the welcome message of Dario Petri, the head of the Department of Industrial Engineering, who encouraged the development of MCDA methods to be applied into the new paradigm of Industry 4.0. The meeting then proceeded with five sessions: two on the pairwise comparison method, one on regional and urban planning and the remaining two on miscellaneous aspects of MCDA. A positive note, which is already a “trademark” of these meetings, were the lively and participated discussions following most of the presentations.



In addition to these sessions, a keynote titled “Paired voting methods in restricted domains: are the ghosts returning?” was given by Hannu Nurmi. In his keynote, Hannu showed, thanks to simple and intelligible examples, how some seemingly reasonable and well-known voting methods based on pairwise comparisons may end up giving some counterintuitive results.

As a rule, the social events included a social dinner on Thursday and an outing day on Saturday. The social dinner took place at Palazzo delle Albere, an old palace from the 16<sup>th</sup> century. The number of attendees, including participants to the conference and accompanying persons, was 49. After a convivial moment where it was possible to socialize and appreciate some wine and with local finger food, the dinner proceeded at the tables in the entry hall of the palace.

On Saturday the participants took a shuttle to be transferred to Arte Sella, which is an open air contemporary art exhibition. The pieces at Arte Sella are all inspired by nature; most of them are made of materials such as wood and rock. After the visit we stopped in a rustic restaurant to eat some local food for lunch.

It all went well, although the rainy weather did not help, or, to look at the positive side, it increased the already mysterious atmosphere of Arte Sella!

Finally, we want to communicate to the MCDA community that there will be a special issue of the Springer journal “Decisions in Economics and Finance”. Although the special issue was inspired by the meeting, the invitation to contribute is, of course, open to the entire community. The call for papers can be found in the website of the meeting.

Last but not least, we want to thank the participants, the real protagonists of these meetings.

*Michele Fedrizzi and Matteo Brunelli*

Organizers

#### 4.2 Paper on FITradeoff Method won the EURO Award for the Best EJOR Paper in theory/methodology category

The paper related to the FITradeoff method, “A new method for elicitation of criteria weights in additive models: Flexible and interactive tradeoff”, was awarded the “EURO Award for the Best EJOR Paper”, an award that elects the best article published in the European Journal of Operational Research (EJOR), which is ranked among the top 15% in the area of operational research and management science in ISI/JCR classification.

Since 2012, EURO (Association of European Operational Research Societies) awards the best papers published in EJOR in three distinct categories: “best survey paper”, “best application paper” and “best theory / methodology”.

The FITradeoff paper article was awarded in the “best theory / methodology” category, having competed with all works published during 2016 and 2017 in the EJOR journal, totaling 1381 competing papers. It was presented on June 26 during the closing session of the EURO Conference, which took place this year in Dublin, Ireland. The paper will be available for free download for a short time on the EJOR website.



The paper authored by Adiel Teixeira de Almeida, Jonatas Araujo de Almeida, Ana Paula Cabral Seixas Costa and Adiel Teixeira de Almeida Filho, from Federal University of Pernambuco – UFPE, is the first paper published about FITradeoff method, which, since its publication, has already generated several other awards for work published in international conferences with applications in various contexts.

A Decision Support System for FITradeoff is available for free download at [www.fittradeoff.org](http://www.fittradeoff.org). The FITradeoff site includes support information for its use and cases and several publications with methodological and applications information, as well as extra information about the method.

The awarded publication was viewed or downloaded from more than 60 countries using the ScienceDirect platform: Brazil; China; United States; United Kingdom; Netherlands; Turkey; India; France; Australia; Iran; Poland; Portugal; Taiwan; Indonesia; Finland; Germany; Hong Kong; Italy; Spain; Japan; Greece; South Korea; Switzerland; Canada; Belgium; Colombia; New

Zealand; Tunisia; Saudi Arabia; Mexico; Serbia; Thailand; Malaysia; Sweden; Austria; South Africa; Argentina; Slovenia; Oman; Singapore; Lithuania; Slovakia; Russia; Ireland; Pakistan; Israel; Chile; Denmark; Nigeria; Romania; Bulgaria; Zambia; Philippines; Bahrain; Iceland; Czech Republic; Ethiopia; Egypt; Peru; Morocco.

For free download of the EJOR award-winning paper go to <https://www.sciencedirect.com/science/article/pii/S0377221715008140>

### **4.3 Behavioural OR Summer School 17-21 June 2019 Nijmegen, The Netherlands**

Increasingly, OR practitioners and researchers recognize that building technically correct and valid models is not enough. In order to have impact in real-world settings, modelers need to consider how their work relates to human behaviour. In practice as well as published research, more and more attention is paid to whether and how results of OR projects are implemented. Behavioural OR studies the relation between OR modelling and behaviour, including both how OR impacts behaviour and how human behaviour influences and is captured in OR practice.

The second Behavioural OR Summer School took place 17-21 June in Nijmegen, The Netherlands. Thirty participants and fifteen experts in the field covered a range of topics on among others problem structuring, simulation, empirical research in and on OR, psychophysiological measures, cognition, games, and adaptive planning. The program offered early stage researchers the latest insights on BOR across the full spectrum of the field. The program and presentations can be found at [www.ru.nl/imr/bordocuments](http://www.ru.nl/imr/bordocuments)

*Etiënne Rouwette*

Organizer

#### 4.4 Mini-conference *Multiobjective Optimization in the Era of High Performance Computing*

The Systems Research Institute of the Polish Academy of Sciences hosted on June 26-27, this year, a mini-conference *Multiobjective Optimization in the Era of High Performance Computing*. The aim of the meeting was to bring together researchers interested in effective multiobjective optimization methods capable of solving large scale multiobjective problems. The scope of the event was theoretical developments, test data, numerical experiments and case studies. Two actual sources of large scale multiobjective optimization problems were in focus, namely portfolio investments and radiotherapy planning.

Thirteen contributions were presented. The program committee consisted of Ernestas Filatovas, Institute of Data Science and Digital Technologies of Vilnius University, Lithuania; Gracia Ester Martín Garzón, Department of Informatics of University of Almeria, Spain; Ignacy Kaliszewski, Systems Research Institute, Polish Academy of Sciences, Poland; Paweł Kukołowicz, Department of Medicine Physics, Cancer Center and Institute of Oncology, Warsaw, Poland; Jacek Starzyński, Faculty of Electrical Engineering, Warsaw University of Technology, Warsaw, Poland.

Other participants: Przemysław Juszczuk, Olga Kurasova, Janusz Miroforidis, Dmitry Podkopaev, Juan Jose Moreno Riado, Robert Szmurło, Łukasz Świerczewski, Anna Zawadzka.



#### 4.5 Mini-conference on Portfolio theory and derivative pricing

The Institute of Mathematics and the Systems Research Institute (both “of the Polish Academy of Sciences”) organized on March 27 - 29, this year, in Warsaw a mini-conference on *Portfolio theory and derivative pricing*. The conference was the second of this kind. The previous was held in April 2018 and was organized by the same institutions and also in Warsaw, under the title *Large-scale portfolio investments (Beyond the Markowitz portfolio theory)*. The event was meant to bring together a group of researchers actively working in the area of portfolio theory (pure and applied aspects were of interest) and derivative pricing. The overall goal was to achieve a synergy from diverse specific expertise represented by participants to produce methodologies with a potential to go beyond the classic portfolio theory – an inherently multiple criteria topic - both in the theoretical and computational aspects. The program included general discussions and contribution presentations (9 contributions were presented).

The program committee consisted of Łukasz Stettner from the Institute of Mathematics, Dariusz Gałtarek and Ignacy Kaliszewski from the Systems Research Institute.

Other participants: Elisa Alos, Oksana Chernova, Sitadri Roy Choudhuri, Henryk Gacki, Wiesław Grygierzec, Jacek Jakubowski, Damian Jelito, Przemysław Juszczyk, Leszek Klukowski, Janusz Miroforidis, Zofia Michalik, Andrzej Myśliński, Mariusz Niewęglowski, Piotr Nowak, Dmitry Podkopaev, Tomasz Rogala, Agnieszka Rygiel, Martin Schweizer, Andrzej M.J. Skulimowski, Ralph E. Steuer, Kinga Tikosi, Sławomir Tomaszewski, Maciej Wiśniewolski, Maximilian Wimmer, Anton Yurchenko-Tytarenko.



## 5 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 January issue is January 10th and the issue is intended to be published “around January 20th”. The deadline for the September issue is usually 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).