

# International Society on Multiple Criteria Decision Making

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## Letter from the President

Dear Members of the International Society on MCDM,

2023 has seen a return to almost normal life after years of disruption by the pandemic. Operations at universities happen largely in person. Even though students' attitude to teaching and learning has changed and many have not been taught in person throughout their entire degree programme, they will realise the benefit of in person teaching soon. Most of all, I have certainly enjoyed travelling to conferences again (without masks and without worrying about vaccinations) and it was nice to attend



IFORS 2023 in Santiago as well as a small conference in Thailand. But more than this, I am looking forward to attending the next MCDM conference in Hammamet, Tunisia from 2 to 7 June 2024, see [www.mcdm2024.org](http://www.mcdm2024.org). I am sure that Fouad Ben Abdelaziz and his team will organise a memorable meeting that I encourage all members of the society to attend. Please also pay attention to the various bits of information about events related to the conference in this issue.

I am also pleased to report that JMCDA, the Journal of Multi-criteria Decision Analysis has received its first impact factor of 2.0 last year. The lack of this caused many researchers not submitting their work to the journal. With this impediment gone and an impact factor in place, there is nothing stopping you from submitting your best work to JMCDA, please see <https://onlinelibrary.wiley.com/journal/10991360>. Jafar Rezaei and I are looking forward to your submissions. For now, I wish you a good start to the next academic year and hope to see many of you in Tunisia next June.

*Matthias Ehrgott*

President of the International Society on MCDM  
21 August 2023

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 27th International Conference on Multiple Criteria Decision Making: A Platform for Advancements in Decision Aid Sciences***

#### **Introduction**

The 27th International Conference on Multiple Criteria Decision Making (MCDM 2024) is set to take place from **2nd to 7th June 2024** in Hammamet Tunisia. Under the leadership of General Chair Fouad Ben Abdelaziz from NEOMA Business School in France, and Organizing Committee Chair Salah Ben Abdallah from Tunis Business School in Tunisia, this conference promises to be a milestone event in the field of Decision Aid Sciences. With the Local Arrangements Chair Rimeh El Fayedh from the University of Carthage in Tunisia overseeing the logistics, MCDM 2024 guarantees a seamless and enriching experience for all participants.

MCDM 2024 follows in the footsteps of a long-standing series of successful conferences that have contributed to the growth and development of Multiple Criteria Decision Making. Each conference in the series has built upon the achievements of its predecessors, pushing the boundaries of knowledge and fostering collaborations among researchers and practitioners. MCDM 2024 aims to continue this tradition by providing a platform for the exchange of ideas, the presentation of cutting-edge research, and the exploration of new directions in Decision Aid Sciences.

#### **Conference Objectives**



MCDM 2024 is dedicated to providing a platform for researchers and practitioners to share their latest findings and advancements in the field of Decision Aid Sciences. Guided by the expertise of the scientific committee, the conference aims to stimulate discussions, foster collaborations, and explore innovative approaches to decision-making processes. General Chair Fouad Ben Abdelaziz expressed, "MCDM 2024 will be an exceptional opportunity for researchers and practitioners to come together, exchange ideas, and contribute to the advancement of the field. We are excited to host an interdisciplinary conference that promotes knowledge exchange and lays the foundation for future developments in Multiple Criteria Decision Making."

#### **Call for Papers**

The conference invites researchers and practitioners to submit their original contributions in the form of research paper abstracts through the EDAS submission system <https://edas.info/N30542>. MCDM 2024 encourages submissions that address various aspects of Multiple Criteria Decision Making, including but not limited to multi-objective optimization, decision support systems,

uncertainty modeling, risk analysis, data analytics and visualization, sustainable development, game theory applications, and artificial intelligence and machine learning in decision-making.

The rigorous review process, led by the expert panel of the scientific committee, ensures that the accepted papers meet the highest standards of quality and relevance. Accepted abstracts will be included in the conference proceedings, providing researchers with an opportunity to showcase



their research to a global audience. Conference Co-Chair Hatem Masri emphasized, "We encourage researchers and practitioners from all over the world to submit their work to MCDM 2024. This conference will serve as a platform to share cutting-edge research, exchange ideas, and foster collaborations that have the potential to shape the future of decision-making processes."

### Conference Program

MCDM 2024 offers a diverse and engaging program designed to cater to the interests of all participants. Renowned experts in the field of Decision Aid Sciences will deliver rigorous plenary talks, providing insights into the latest trends, emerging challenges, and future directions. These talks will serve as a source of inspiration for researchers and practitioners, encouraging them to explore new avenues in their work.



Contributed talks, an integral part of the conference program, provide researchers and practitioners with the opportunity to present their work and receive valuable feedback from the conference attendees. This interactive platform allows for fruitful discussions, knowledge sharing, and the establishment of professional connections within the MCDM community.

Recognizing the importance of nurturing young talent, MCDM 2024 includes a dedicated session for doctoral students at the early stage of their dissertation research. Organized with the aim of providing support and guidance to young researchers, these sessions offer them a platform to present their ideas, receive mentorship from experienced scholars, and create networks that will shape their future careers.

### Conference Location and Social Program

The conference venue for MCDM 2024 is the picturesque Medina Yasmine Hammamet in Tunisia. With its rich cultural heritage, stunning landscapes, and warm hospitality, Tunisia offers an ideal backdrop for an intellectually stimulating conference experience. The Local Arrangements Chair, Rimeh El Fayedh, highlighted the significance of the conference location, saying, "Medina Yasmine Hammamet provides an inspiring atmosphere that perfectly complements the objectives of MCDM 2024. Participants will have the opportunity to immerse themselves in the local culture,

explore historical sites, and enjoy the beauty of Tunisia while engaging in fruitful discussions with fellow conference attendees."

To ensure the convenience and comfort of participants, affordable accommodation options are available in Medina Yasmine Hammamet. A range of hotels and lodging facilities provide easy access to the conference venue, allowing participants to make the most of their time at MCDM 2024.

### **Registration and Sponsorship**

Registration for MCDM 2024 will open closer to the conference date. Interested individuals are encouraged to visit the conference website for updates on registration fees and deadlines. General Chair Fouad Ben Abdelaziz expressed, "We look forward to welcoming participants from all corners of the globe to MCDM 2024. The conference promises to be an enriching experience, and we encourage early registration to secure your spot."

MCDM 2024 also extends a special invitation to organizations interested in sponsoring students from Africa to attend the conference. Conference Co-Chair Hatem Masri emphasized, "As a past President of the African Federation of Operational Research Societies, I believe in the importance of promoting inclusivity and diversity within the MCDM community, and supporting students from Africa to participate in MCDM 2024 will contribute to the enrichment of discussions and the exchange of ideas".

By sponsoring students, organizations can help foster a global network of talented individuals, opening doors to new perspectives, collaborations, and opportunities. We encourage organizations to seize this chance to invest in the future of decision-making processes by empowering students from Africa and enabling them to be part of this transformative conference experience. Interested sponsors are encouraged to reach out to the conference organizing committee for further details on sponsorship opportunities. Together, let's shape the future of Decision Aid Sciences by nurturing the next generation of talent from Africa.

### **Conclusion**

The 27th International Conference on Multiple Criteria Decision Making (MCDM 2024) is a pivotal event for researchers and practitioners in the field of Decision Aid Sciences. MCDM 2024 promises to be a memorable conference that brings together experts from diverse disciplines to shape the future of decision-making processes.

Researchers and practitioners are encouraged to actively participate in MCDM 2024, seizing the opportunity to present their work, engage in fruitful discussions, and establish collaborations within the MCDM community. The conference's interdisciplinary nature, comprehensive program, and picturesque conference venue in Medina Yasmine Hammamet, Tunisia, provide the perfect backdrop for a rewarding and immersive conference experience.

For more information about MCDM 2024, including submission guidelines, conference updates, and registration details, please visit the official conference website at (<https://mcdm2024.org/>.) Join



us at MCDM 2024 and contribute to the advancement of Multiple Criteria Decision Making while enjoying the vibrant culture and beauty of Tunisia.

**Come And Join Us For**

# **THE INTERNATIONAL CONFERENCE ON MULTIPLE CRITERIA DECISION MAKING (MCDM 2024)**

 **DATE: 2ND - 7TH JUNE 2024**

 **LOCATION: MEDINA YASMINE HAMMAMET, TUNISIA**

Be part of the 27th International Conference on MCDM 2024 and shape the future of decision-making processes!

- ☀️ Explore cutting-edge research, engage in stimulating discussions, and forge valuable connections with experts from around the world. ☀️
- 🎓 Students from Africa: Exciting sponsorship opportunities available! Join us and unlock your potential in Decision Aid Sciences.
- 🌐 Visit our website for more details: <https://mcdm2024.org/>
- 📣 Don't miss this transformative conference experience! Register now and make your mark at MCDM 2024. 📣



**TDAS**  
Tunisian Decision Aid Society



**MCDM**

*Hatem Masri*

VP for Academic Affairs and Development  
Presidency of the University  
Office No: (+973) 16036252 | Email: [hatem.masri@asu.edu.bh](mailto:hatem.masri@asu.edu.bh)

Applied Science University  
Kingdom of Bahrain

## **1.2 Call for Nominations: Awards of the International Society on Multiple Criteria Decision Making**

At each of its conferences, the International Society on Multiple Criteria Decision Making presents up to three awards to recognize outstanding, long-lasting, and influential contributions to the field of MCDM. These awards are:

**The MCDM Gold Medal:** This is 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:** This is 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:** This is 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.

The 27th International Conference on Multiple Criteria Decision Making will take place in Hammamet, Tunisia, June 2 – 7, 2024. We would like to invite nominations for the awards to be presented at this conference. Please observe the rules below in making nominations.

- Self-nominations will not be considered.
- The nomination must clearly state for which award the nomination is being made. It is also possible to request the nominee to be considered for one of two or all three awards in case the contributions warrant. In this case, the Committee will decide which of the suggested awards, if any, is the most suitable for the nominee.
- Provide a short statement as to why the nominee is worthy of the award, indicating his/her contributions to the MCDM field.
- Provide a CV of the nominee or a link to it.

The awardee is expected to attend in person and deliver a plenary talk at the conference as a condition of receiving the award. More information concerning the awards and past awardees is available at <http://www.mcdmsociety.org/content/awards>.

The members of the Awards Committee for 2024 are:

- Fouad Ben Abdelaziz, NEOMA Business School (Next meeting organizer, ex-officio),
- Adiel Teixeira de Almeida, Universidade Federal de Pernambuco,
- Matthias Ehrgott, Lancaster University (President of the MCDM Society, ex-officio),
- Ralph Keeney, Duke University,
- Kathrin Klamroth, University of Wuppertal,
- Murat Köksalan, University of Michigan, Ann Arbor and Middle East Technical University (Chair of the Awards Committee),

- Kaisa Miettinen, University of Jyväskylä,
- Roman Słowiński, Poznań University of Technology,
- Jyrki Wallenius, Aalto University.

We encourage you to nominate worthy researchers for these prestigious awards. You may make nominations individually or together with several colleagues. Committee members may also make nominations.

Please email your nominations to Murat Köksalan ([koksalan@umich.edu](mailto:koksalan@umich.edu)) no later than **January 21, 2024** and make sure you receive an acknowledgement of your nomination.

*Murat Köksalan*

### **1.3 Call for Applications for the International MCDM Doctoral Dissertation Award 2024**

At the 27th International Conference on Multiple Criteria Decision Making (MCDM), the International Society on Multiple Criteria Decision Making will bestow the MCDM Doctoral Dissertation Award upon a scholar who has recently obtained a doctoral degree and demonstrated excellence in her or his doctoral dissertation research in Multiple Criteria Decision Making or a related field. The MCDM Doctoral Dissertation Competition identifies and recognizes outstanding doctoral dissertation research, completed on January 1, 2022 or later, in the development of theory, methodology, and/or the application of theory or methodology to MCDM.

The MCDM Doctoral Dissertation Award Committee will evaluate the applications, identify finalists, and choose the winner. The award will be announced at the 27th International Conference on Multiple Criteria Decision Making, Hammamet, Tunisia 2 to 7<sup>th</sup> June, 2024. Each finalist is required to give a talk at the conference. The finalists' conference fees will be waived.

Deadline for applications: Please email the zip file of the application packet to the awards committee at [phdaward@mcdmsociety.org](mailto:phdaward@mcdmsociety.org) by **February 28, 2024**. The finalists will be selected and all applicants will be informed about the results of their applications by April 1, 2024.

Eligibility: Those whose dissertations are in MCDM or a related field and who graduated with a doctoral degree on or after January 1, 2022. Only dissertations that are in English are eligible.

Application (documents): The application packet should include the following documents (all of which must be in English, except possibly the diploma):

1. Cover letter.
2. Applicant's CV, not exceeding 3 pages.
3. Scanned copy of the original diploma of the Doctoral Degree.
4. Electronic copy of the Doctoral Dissertation.
5. Extended Abstract of the Doctoral Dissertation in English, not exceeding four single-spaced pages.
6. Copies of publications/patents based on the Doctoral Dissertation, if any. Manuscripts accepted for publication in journals that are accompanied with the Editors' acceptance letter can also be submitted. These publications should be accompanied by a statement from the supervisor confirming that they are extracted from the dissertation.
7. An endorsement letter from the supervisor(s), highlighting the significance of the dissertation.
8. (Optional) Additional supporting letters that the applicant wishes to attach.

*Caroline Mota*

Chair of the International MCDM Doctoral Dissertation Committee

Email: [carolinemota@insid.org.br](mailto:carolinemota@insid.org.br)

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

### 2.1 Roman Słowiński receives prestigious Humboldt Research Award has been awarded the Fellow grade of the International Federation of Operational Research Societies (IFORS)

The Humboldt Research Award is an award given by the Alexander von Humboldt Foundation of Germany to internationally renowned scientists and scholars who work outside of Germany in recognition of their lifetime's research achievements. Recipients are "academics whose fundamental discoveries, new theories or insights have had a significant impact on their own discipline and who are expected to continue producing cutting-edge academic achievements in the future".



Laudation for the Humboldt Research Award winner Roman Słowiński: *“Professor Roman Słowiński is a world-leading authority in the field of Operations Research. He has shaped the research in different fields, most notably in decision support with his breakthrough methodological developments. His research has applications in medicine, pharmacology, engineering, and economics.”*



Roman Słowiński has been awarded the Fellow grade of the International Federation of Operational Research Societies (IFORS). The decoration took place at the 23rd Conference of IFORS held in Santiago, Chile, July 10-14, 2023. IFORS is a 60-year old organization which is currently composed of over 50 national Operations Research societies. The Fellow grade has been awarded to 33 people so far.

Laudation for the Fellow grade of the International Federation of Operational Research Societies (IFORS) Roman Słowiński: *“For the role of coordinating Editor-in-Chief of the European Journal of Operational research, the flagship journal of EURO, and for his outstanding scientific contributions to multicriteria decision making.”*

## 2.2 Online workshop on the Multiple Criteria Decision Analysis Methods Selection Software

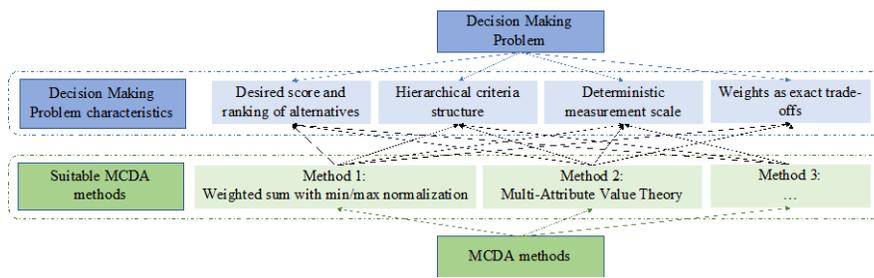
The members of our Society are cordially invited to participate to an online workshop (*duration: 1.5h*) about the MCDA-MSS: Multiple Criteria Decision Analysis Methods Selection Software. This freely accessible (<http://mcdamss.com>) and web-based software has been developed to help analysts finding the most relevant Multiple Criteria Decision Analysis (MCDA) methods for many decision-making problems.

### Date and time of the workshop

6 October 2023 – 9am EDT, 3pm CEST, 10pm JST

### Why is this software needed?

Over the last few decades, the number of MCDA methods has grown steadily, and an analyst can find it difficult to select the relevant MCDA method. The **main issue** that decision analysts have to deal with is summarized by the figure below and the question on its right.



*“Which is the most suitable MCDA method (or subset of methods) that should be used for a given decision-making problem?”*

### Structure of the workshop

1. Overview of the simple and intelligible questioning strategy implemented in the software.
2. Presentation of our proposed conceptualization of complex decision-making processes, using 4 sections:
  1. **Problem typology:** defines the type and structure of the decision-making problem;
  2. **Preference model:** defines the type of model that the user would like to apply;
  3. **Elicitation of preferences:** defines the type, modality and frequency of model preferences;
  4. **Exploitation of the preference relation induced by the preference model:** defines the strategy used to derive and enrich the decision recommendation.
3. Use of the MCDA-MSS by the attendees with possibility of feedback by the instructor.

### Instructor

Dr. Marco Cinelli ([m.cinelli@luc.leidenuniv.nl](mailto:m.cinelli@luc.leidenuniv.nl)), Assistant Professor at Leiden University College (LUC) in the Hague. His research focuses on the development of tools to support decision-making for complex problems with multiple stakeholders and conflicting interests. The key drivers of his work are the frameworks and methodologies that can be used to guarantee a sustainable and resilient future for the generations to come. He leads the interdisciplinary laboratory Decision Engineering for Sustainability and Resilience (DESIRE). [Personal webpage](#)

**Interested to attend the workshop? [Sign up here.](#)**

### **2.3 Special Issue on “Sustainable and Responsive Transportation and Logistics”**

The International Transactions in Operational Research (ITOR), the flagship journal published by the International Federation of Operational Research Societies (IFORS), will publish a special issue dedicated to “*Concepts for Sustainable and Responsive Transportation and Logistics*”, at the occasion of the 23rd Triennial Conference of the International Federation of Operational Research Societies (IFORS 2023) to be held in Santiago, Chile from July 10 to 14<sup>th</sup>. Although we strongly encourage the submission of papers presented at the special sessions devoted to this subject at the IFORS 2023 conference, this Call for Papers is open to the entire community of academics and practitioners.

#### *Scope:*

Transport and logistics enable the movement of goods, trade, and social mobility. They are important pillars of economic growth and social development. Transport is also a major contributor – with over 15% – to global greenhouse gas emissions and has been recently subject to multiple shocks related to more extreme weather conditions, geopolitical and technological changes. Therefore, transport and logistics are very much in the focus of decision-makers of all levels, who are in search of sustainable and responsive solutions.

At the macro- and mesoscopic level, policy decision-makers are concerned with developing infrastructure, incentivizing alternative energy sources, and creating market conditions, which promote decarbonization in transport and help to reduce the effects of climate change. The social dimension remains very high in the political agenda and includes sustainable city transportation concepts, safeguarding mobility services in increasingly scarcely populated rural areas as well as enabling access to affordable transportation for developing countries. New technologies provide chances, but also disrupt the whole social systems and markets – think, for instance, about the impact of digital ridesharing platforms on the market of taxi services. With the recent experience of the COVID-19 pandemic, devastating earthquakes, and hurricanes, including the six-day blockage of the Suez Canal with a container ship caused by hush weather conditions, the awareness and high priority for resilient and responsive transportation and logistics systems dominate the agenda.

At the company level – that of transportation and logistics companies, operators of transport gateways, hubs, and warehouses – the rethinking of business processes is a matter of survival in the highly competitive market. Companies are looking for efficient and effective ways to exploit new technologies – from sensors and data analytics to autonomously driven vehicles – in order to reach sustainability goals and adapt to changing market conditions while keeping costs low.

Logistics is also an essential, though mostly overseen part, of other industrial sectors. For instance, internal logistics accounts for 30–80% of the total manufacturing cost. Digitization and new autonomous technologies have a potential to a game changer that enables to restructure the production processes in a more agile and energy-efficient way.

This special issue aims to provide a forum for the latest developments in Operations Research towards concepts for sustainable and responsive transportation and logistics. It aims to condense essential theoretical and empirical findings and insights to support comprehensive reactive and

proactive decision making at all levels. Topics of this special issue should address the aspects of sustainability and/or responsiveness in transportation and logistics and may include, but not be limited to, the use of analytical and optimization approaches as well as of empirical research to address significant theoretical and practical issues in the following areas:

- Design of sustainable and resilient transportation- and logistics-related infrastructure
- Mechanism design for markets of mobility and transportation-related services
- Public transportation
- City logistics
- Mobility concepts for rural areas
- Sustainable and/or responsive concepts for freight transportation, including decarbonization
- Intermodal and synchromodal transportation
- Collaboration in transport
- Sustainable and/or resilient operations of transportation hubs and gateways, such as ports, rail terminals, crossdocks, etc.
- Sharing economy for mobility services, including ride sharing
- People and freight-integrated transportation and logistics
- Drone-aided routing and transport
- Internal manufacturing logistics
- Dynamic, responsive (adjustable) planning approaches to transportation and logistics
- Robust and resilient planning approaches to transportation and logistics

We are particularly interested in receiving strong, innovative, and insightful studies that focus on both theoretical concepts and practical applications. These studies should make a significant contribution to the existing body of knowledge. Please note that all papers submitted for this special issue will undergo the standard peer review procedures established by ITOR.

*Important Dates:*

Submission start: August 1st, 2023 // Deadline for submissions: **December 31st, 2023**

*Manuscript Preparation and Submission:*

Submitted papers must be original, unpublished and not currently under consideration for publication elsewhere. All submissions must fit within the domain statement of the journal and will be judged for their relevance to the special issue's scope, innovativeness, and the extent of theoretical and practical research contribution. Contributions should be prepared according to the instructions to authors that can be found on the journal homepage. Authors should submit and upload their contributions using the submission site <http://mc.manuscriptcentral.com/itor>, indicating in their cover letter that the paper is intended for this special issue. Other inquiries should be sent directly to the Guest Editors in charge of this issue: Rosa G. González-Ramírez ([rgonzalez@uandes.cl](mailto:rgonzalez@uandes.cl)); Janny Leung ([jannyleung@um.edu.mo](mailto:jannyleung@um.edu.mo)); Alena Otto ([alena.otto@uni-passau.de](mailto:alena.otto@uni-passau.de)); Erwin Pesch ([erwin.pesch@uni-siegen.de](mailto:erwin.pesch@uni-siegen.de)).

First published: 30 June 2023 <https://doi.org/10.1111/itor.13348>

## **2.4 Job opening at the Multiobjective Optimization Group and solving issues of Climate Smart Forestry and Group Decision Making at the University of Jyväskylä, Finland**

Are you interested in joining the Multiobjective Optimization Group and solving issues of Climate Smart Forestry and Group Decision Making at the University of Jyväskylä, Finland?

We are looking for a post-doctoral researcher to work in a project funded by the Academy of Finland on developing interactive group decision making methods for multiobjective optimization problems in the field of climate smart forestry. The position is filled preferably starting at the beginning of January 2024 (or as agreed). The contract term ends in December 2025 (when the project ends). The application **deadline is September 10, 2023**.

### **About the Group:**

The Multiobjective Optimization Group works at the Faculty of Information Technology, University of Jyväskylä, Finland.

The Group (being a part of the Computational Science area) works on multiobjective optimization as well as decision/prescriptive analytics and data-driven optimization. The Group is internationally recognized and active and has vast collaboration networks. The Group develops methods for supporting decision making in the presence of multiple conflicting objective functions. The Group also develops open source software and works with various applications of multiobjective optimization (in a broad range of domains). The research interests include but are not limited to, interactive scalarization-based and evolutionary methods and their hybrids as well as both simulation-based (also computationally expensive) and data-driven problems. The Group also develops visualizations and applies artificial intelligence, machine learning tools and explainability as a part of the decision support processes. The research interests cover supporting a single decision maker as well as groups of decision makers and dealing with both deterministic problems and problems under (deep) uncertainty. For further information of the Multiobjective Optimization Group, see <http://www.mit.jyu.fi/optgroup>.

The Group develops an open-source software framework DESDEO ([desdeo.it.jyu.fi](http://desdeo.it.jyu.fi)) covering a range of interactive methods (both scalarization-based and evolutionary multiobjective optimization methods) with GUIs and visualizations. DESDEO has a modular structure to enable extensions, applications in various domains, comparisons as well as adding further methods. Furthermore, the Group is actively involved in a thematic research area called Decision Analytics utilizing Causal Models and Multiobjective Optimization (DEMO, [jyu.fi/demo](http://jyu.fi/demo)), where the objective is to support data-driven decision making.

### **About the project:**

The project's objective is to develop methods to support stakeholders in implementing climate smart forestry, which advances carbon neutrality but also considers financial objectives. In the analysis, a landscape is composed of holdings and holdings are composed of stands. Holdings typically have different owners with different preferences about what kind of management is practiced in their stands. We focus on supporting decision making in this setting and finding the most preferred solution among multiple conflicting objectives and multiple forest owners. The research consortium involves partners with expertise in forest data collection and forest management planning. We now seek a member to the Multiobjective Optimization Group to strengthen our team in working with multiobjective optimization method development for group decision making. Our proposed solution is to enable realistic analyses by refining forest resource

data and to develop a prototype of a digital group decision support system (utilizing also elements of DESDEO) to facilitate group decision making (taking also uncertainty aspects into account). We want to support studying trade-offs, visualizing alternatives, eliciting preferences and consensus-seeking between landowners. The emphasis is on interactive methods where the preference information of decision makers is iteratively incorporated in the decision making process.

Resources have been reserved in the project also for research visits to work with dedicated international collaborators.

### **Expectations and requirements:**

Post-doctoral researchers are expected to have good research merits, be active in internationally high-quality research and publications in reputable publication channels. They are also expected collaborate with other people working in the project as well as other members of the Multiobjective Optimization Group and take part in the activities of the Multiobjective Optimization Group.

We expect appropriate knowledge of multiobjective optimization, fluency in Python programming (with willingness to prepare open source code) and good written and spoken English skills. The candidate must be truly interested in the real challenges of climate smart forestry, interactive multiobjective optimization methods and group decision making. Previous experience in such topics is regarded as beneficial but not necessary.

Rather recently graduated researchers with a relevant doctoral degree are most welcome to apply! At the University of Jyväskylä, one can have a post-doctoral position for max 4+2 years, so candidates with older doctoral degrees cannot be considered if they have been in academic positions after receiving the degree. However, if the match with the needs of the expectations of the project is exceptionally good, the title of a university researcher can be considered, in which case the doctoral degree can be older, but the merits must also be much stronger with an excellent publication track record.

This position is an excellent opportunity to work with timely real challenges of decision making in the interest of hindering climate change. We offer a vivid and inspiring working environment in a talented and motivated team.

To apply, send your cv (max 4 pages), list of publications and motivation letter (max 2 pages) clarifying how you could contribute to the project's needs to Prof. Kaisa Miettinen at [kaisa.miettinen@jyu.fi](mailto:kaisa.miettinen@jyu.fi) by **September 10, 2023**. Mention also the names and contact information of up to two persons who can provide recommendations (do not send recommendation letters). You may turn to her also for clarification and further information.

Yours,

*Kaisa Miettinen*

Professor Kaisa Miettinen, PhD

University of Jyväskylä

Multiobjective Optimization Group: <http://www.mit.jyu.fi/optgroup/>

Faculty of Information Technology, P.O. Box 35 (Agora)

FI-40014 University of Jyväskylä, Finland

\* Director of the thematic research area Decision Analytics utilizing Causal Models and Multiobjective Optimization, <http://www.jyu.fi/demo>

## 2.5 Forum: Future of Interactive Multiobjective Optimization

Jyväskylä, Finland, June 19-20, 2023

<https://jyu.fi/desdeo23>

Kaisa Miettinen



The Multiobjective Optimization Group headed by Prof. Kaisa Miettinen organized the first Forum focusing on the Future of Interactive Multiobjective Optimization at the University of Jyväskylä (Finland) on June 19-20, 2023. There were 44 participants representing 11 countries.

The program consisted of many elements. At the beginning, members of the Multiobjective Optimization Group gave tutorials of DESDEO [1], a modular, open-source software framework that they have been developing for several years. DESDEO contains many interactive methods (both scalarization-based and evolutionary ones) and different supporting tools. Interactive methods have graphical user interfaces and various visualizations are available to compare solutions and support decision making. Because of its modular structure, DESDEO can be tailored and extended to different needs. It contains also some readily implemented benchmark and engineering problems and can be extended openly to further problems. It has capabilities to solve analytical, simulation based (even computationally expensive) and data-driven problems. Besides tutorials, examples of how DESDEO can be applied and extended were given in separate talks.

To provide different perspectives to the topic, the future of interactive multiobjective optimization, five invited speakers gave talks. They were Prof. Juergen Branke (University of Warwick, UK), Assoc. prof. Michael Emmerich (Leiden University, the Netherlands), Prof. Ignacy Kaliszewski (Polish Academy of Sciences, Poland), Dr. Kresimir Matkovic (VRVis Research Center, Vienna, Austria) and Prof. Francisco Ruiz (University of Malaga, Spain). Their topics covered visualization

and teaching besides different method perspectives. Besides invited talks, there were some contributed talks, where e.g. deep uncertainty was discussed.

There was also a panel discussion, where the invited speakers and Assoc. prof. Jan Kwakkel (Delft University of Technology, the Netherlands) shared their views of the future of the field to trigger the discussion in which the audience took actively part. The seven different perspectives to sketch directions for the future had been identified with a questionnaire to the participants before the Forum. The perspectives were problem formulation, interactive methods, software implementing interactive methods, development challenges, wider adoption, awareness & education, future perspectives and what else would you like to say about the future of interactive methods.

Scientific events typically have talks and may even have a panel, but it is not typical to see a bring-your-own-problem session. In a dedicated session of the Forum, participants could describe their own problems and together with other participants brainstorm ways to address them. Attention was also devoted to how DESDEO could be applied to solve them. The audience greeted this session particularly warmly.

The motivation for developing and implementing interactive multiobjective optimization methods is supporting decision making. Typically, a domain expert, a decision maker, needs to learn about the trade-offs and interdependencies among the conflicting objective functions as well as the feasibility of one's preference to be able to make a decision. Thanks to the interactive nature of the methods, in an iterative solution process, the decision maker provides preference information and gets information and solution(s) to consider. With the preference information (in the form that is meaningful and understandable), the decision maker directs the solution process towards more preferred solutions until the most preferred one is found. Interactive methods differ from each other in many ways. For example, in how preference information is incorporated in generated new solutions, what type of preference information the decision maker can provide and what kind of information is provided to the decision maker.

Besides the scientific program, a boat cruise was also included in the program where the participants could enjoy the light nights of the season. The program and abstracts of the talks are available at the Forum website <https://jyu.fi/desdeo23>.

Once again, many thanks to all participants for their most active involvement! Since the reception of the Forum was so positive, one may expect a follow-up event in some years.

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### 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](mailto:he.huang@vub.be).

#### 3.1 Books

Mukhametzhanov IZ, **Normalization of Multidimensional Data for Multi-Criteria Decision Making Problems: Inversion, Displacement, Asymmetry**. *International Series in Operations Research & Management Science*, Springer. 2023..

#### 3.2 Journal papers

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