# International Society on Multiple Criteria Decision Making



E-News • 2020 • Issue ( January)

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# Letter from the President

Dear Members of the International Society on MCDM,

I wish you all a very happy new year. I hope that you have all had the time to relax and are ready for the range of activities that the society is looking forward to in 2020.

As I write this, I have just returned from participating in the Dagstuhl Seminar "<u>Scalability in Multiobjective</u> <u>Optimization</u>". 42 colleagues from a variety of backgrounds gathered to discuss this important issue, investigating issues of many objectives, many decision makers and many variables/large amounts of data and their implications for multi-objective optimization. A report on this meeting will follow in the next issue.



The most significant event for the society is of course the 2020 EURO PhD Summer School on MCDA/MCDM, of which you can find further information in this newsletter. I would also like to mention the 22<sup>nd</sup> conference of the International Federation of Operational Research Societies in June in Korea. The deadline for abstract submission will close 31 January, which will be the final deadline. Further events and a number of journal special issues are also announced below.

Last, but not least, I would like to congratulate two of our leading figures, Roman Slowinski and Raimo Hämäläinen, who have been made INFORMS fellow (Roman) and been awarded the Frank P. Ramsay Medal (Raimo).

I am looking forward to a very interesting year 2020 and hope to meet many of you at the upcoming events.

# Matthías Ehrgott

President of the International Society on MCDM 18 January 2020

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 Results of elections of the MCDM Society (2019)

Dear members of the International Society on Multiple Criteria Decision Making, as you know, we conducted the election of officers for the society at the beginning of October. The results are now known, and I'd like to inform you about the new officers.

President elect: Jose Rui Figueira Vice President Finance: Birsen Karpak Members of the Executive Committee: Carlos Coello Coello, Michalis Doumpos, Caroline Mota, Francisco Ruiz

I would like to take this opportunity to congratulate all elected officers, and I am looking forward to working with them over the next four years. I would also like to thank you as members for participating in the election.

Best regards, Matthias Ehrgott

President of the Society

# 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 some of the top 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 (<u>https://www.metu.edu.tr</u>). Ankara, located in central Anatolia, is the capital <u>of Turkey</u>. 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 <u>https://www.goturkeytourism.com/destinations-turkey/ankara-city-in-turkey.html</u>.

### **Important dates**

- 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)

- Adiel T. de Almeida, Federal University of Pernambuco, Brazil Multi-attribute Utility and Value Theory (MAUT/MAVT), Multi-criteria Group Decision Making (MCGDM)
- ii. Matthias Ehrgott, Lancaster University, UK MCDA/M Community, Multiobjective Combinatorial Optimization
- iii. Jose Rui Figueira, Technical University of Lisbon, Portugal Outranking Methods
- iv. Carlos Fonseca, University of Coimbra, Portugal Evolutionary Multiobjective Optimization
- v. Salvatore Greco, University of Catania, Italy Robust Ordinal Regression
- vi. Milosz Kadzinski, Poznan University of Technology, Poland Decision Deck
- vii. Gulsah Karakaya, Middle East Technical University, Turkey Case Work

viii.	Ralph L. Keeney, Duke University, USA Problem Structuring, Value-Focused Thinking					
ix.	Murat Koksalan, Middle East Technical University, Turkey and University of Michigan, Ann Arbor, USA					
	Behavioral Aspects of Decision Making, Interactive Methods of Multiobjective Optimization I					
Х.	Banu Lokman, University of Portsmouth, UK Case Work					
xi.	Serpil Sayın, Koç University, Turkey Multiobjective Optimization Theory					
xii.	Roman Slowinski, Poznan University of Technology, Poland Decision Rule Approach, "Meet the editor"					
xiii.	Jyrki Wallenius, Aalto University, Finland Interactive Methods of Multiobjective Optimization II, History and Traditions of MCDM					
xiv.	Constantin Zopounidis, Technical University of Crete, Greece MCDM Applications in Finance					

The most up-to-date information regarding the application process and all other developments about the summer will be available at <u>http://mcdm.metu.edu.tr/en</u>. Please check frequently. The summer school program will be published in January 2020.

We look forward to an exciting summer school in Ankara!

# 2 Upcoming Events and Call for Papers

### 2.1 Call for Nominations: INFORMS MCDM Section Junior Researcher Best Paper Award

The MCDM Section of INFORMS is pleased to invite nominations for its **2020 MCDM Junior Researcher Best Paper Award.** The goal of the award is to recognize outstanding papers in the field of multicriteria decision making written by a junior researcher or a team of junior researchers.

A candidate or a team of candidates eligible for the Award must satisfy the following conditions:

- A candidate must be the single author or the leading coauthor of an article. A team of candidates must consist of the leading coauthors of an article.
- The article must be written in the English language and published electronically in a peerreviewed journal within the period between the 1<sup>st</sup> of January 2017 and the 1<sup>st</sup> of January 2020.
- All candidates must be within seven years of their Ph.D. graduation by the 1<sup>st</sup> of January 2020.
- All candidates must be members of the MCDM Section of INFORMS.

The nominations for the award shall be submitted by email to Serpil Sayin <u>ssayin@ku.edu.tr</u> by the 1<sup>st</sup> of February 2020. For more information about the nomination package and the selection processes, please visit <u>connect.informs.org/multiple-criteria-decision-making/...</u>

Finalists will present their work in an MCDM Award Session at the 2020 INFORMS Annual Meeting in National Harbor, Maryland, and the winner will be announced during the Section's business meeting. The award is accompanied by a \$500 honorarium for the first prize and an honorable mention for the second and third prize.

Roman Słowiński President INFORMS MCDM Section

### 2.2 22nd conference of the International Federation of Operational Research Societies

Dear colleagues,

The 22nd conference of the International Federation of Operational Research Societies (IFORS2020) will take place in

Coex, Seaoul, South Korea from 21 to 26 June 2020.

The final extended deadline for abstract submission is 31 January 2020.

I am responsible for the area Multi-Criteria Decision Making and Multiobjective Optimization. We have a great selection of streams in this area. You can submit an abstract to this area by visiting www.ifors2020.kr and go to the abstract submission page, selecting this area when you submit. However, if you are interested in organising a session or presenting a talk, please contact myself at <u>m.ehrgott@lancaster.ac.uk</u> or <u>president@mcdmsociety.org</u> or any of the stream organisers below and we can send you an invitation to submit a talk or organise a session.

Multi-objective(Mixed)IntegerOptimization:HadiCharkhgard<<u>hcharkhgard@usf.edu</u>>

MCDM in industry: Kaisa Miettinen <<u>mailto:kaisa.miettinen@yu.fi</u>>

**Evolutionary Multiobjective Optimization**: Richard Allmendinger <<u>richard.allmendinger@manchester.ac.uk</u>> and Manuel Lopez-Ibanez <<u>manuel.lopez-ibanez@manchester.ac.uk</u>>

**Analytic Hierarchy and Network Processes**: Luis Vargas <<u>vargas@katz.pitt.edu</u>> and Alessio Ishizaka <<u>Alessio.ISHIZAKA@neoma-bs.fr</u>>

**Multicriteria Decision Aiding**: Roman Slowinski <<u>roman.slowinski@cs.put.poznan.pl</u>>, Jose Rui Figueira <<u>figueira@tecnico.ulisboa.pt</u>>, Salvatore Greco <<u>salgreco@unict.it</u>>, Milosz Kadzinski <<u>milosz.kadzinski@put.poznan.pl</u>> and Salvatore Corrente <<u>salvatore.corrente@unict.it</u>>

You can submit contributed abstracts via the conference website www.ifors2020.kr.

I am looking forward to an exciting meeting in Seoul and hope to see you all there.

Best regards

Matthias Ehrgott

### 2.3 91st Meeting of EURO Working Group on MCDA, Ispra, Italy (April 2-4, 2020)

Dear Friends and Colleagues,

first of all, happy new year to you all!

We would like to give some practical information on the 91-st Meeting of the EURO Working Group on Multiple Criteria Decision Aiding (EWG-MCDA), which will be held from **Thursday**, **April 2 to Saturday**, **April 4, 2020**, at the Joint Research Centre of the European Commission, Ispra site, Italy.

The main theme of this meeting is > Multiple Criteria Decision Aiding in Public Policy <. All contributions dealing with multiple criteria decision aiding, and in particular those related to the theme of the meeting, are welcome.

The authors need to submit an abstract of a maximum of one page (400 words) in English by **February 21, 2020**. Please send it to the following email address: <u>JRC-EWGMCDA-91@ec.europa.eu</u>

The meeting website is now available at

https://ec.europa.eu/knowledge4policy/event/91-st-meeting-euro-working-group-multiplecriteria-decision-aiding\_en

You can already start registering for the meeting. Information on the social program will be available in a later stage. Please, also find in attachment the meeting poster.

In a few days, a dedicated website will be available for registration and further information.

We are looking forward to seeing you in Ispra.

Kind regards,

Giuseppe Munda JRC-EWGMCDA-91@ec.europa.eu

# 11th International Conference on Evolutionary Computation

# March 28-31, 2021

# Shenzhen, China

### http://www.emo2021.org/

## Submission deadline: September 27, 2020

Final paper submission: November 15, 2020

EMO2021 is the 11<sup>th</sup> edition of the International Conference Series on Evolutionary Multi-Criterion Optimization (EMO), aiming to continue the success of previous EMO conferences. We will bring together both the EMO and Multiple Criteria Decision Making (MCDM) communities as well as other related fields. We focus e.g. on various aspects of method development and problem solving including real-world problems in government, business and industry.

Papers are welcome to the **MCDM track** on theory, methods, applications and/and software related to any aspects relevant to multiple criteria decision making, multiobjective optimization (with any number of objectives), incorporating preferences, interactive methods, hybrids of EMO and MCDM approaches, software development, indicators, performance evaluation, challenges of various applications, considerations of real applications, etc.

Reviewed, accepted full papers (12 pages) will be published in a proceedings book by Springer (Lecture Notes in Computer Science series).

For further information about the conference, see <u>http://www.emo2021.org/</u>.

For further inquiries about the MCDM track, contact the MCDM Chair Kaisa Miettinen (University of Jyvaskyla, Finland, <u>kaisa.miettinen@jyu.fi</u>)



April 30th, 2020 Submission deadline:

Most real-world optimization and decision-making problems comprise several, partly conflicting objective functions. Multicriteria mathematical modeling and optimization is a well-established discipline which provides mathematical methods and algorithmic approaches for coping with such situations. Besides being an inspiring theoretical research area, multicriteria optimization has proved to facilitate decisionmaking situations allowing reliable and provably good decisions. Since substantial advances in terms of theory have been made and since computational capabilities developed significantly in the last decades, more and more models reflect the multicriteria nature of real-world applications.

This special issue aims at presenting original and innovative pieces of research in multiobjective optimization which combine both, a sound theoretical work and a practical impact in some real-world application. Ideally, the problem under consideration is inherently multicriteria and triggered a theoretical development which then caused a boost in terms of the application.

All domains of applications as well as all theoretical streams of multicriteria optimization are eligible for this special issue. This includes but is not limited to:

- Exact and heuristic approaches in multiobjective linear, nonlinear, and integer programming
- Data driven models in multiobjective optimization
- Measures for coping with uncertainty in data, models, and decision making
- Guidances and assistance in decision making
- Applications in economy and society

Contributions should investigate novel approaches, be it on the side of modelling, computational solution procedures, technologies, or analytics, applied to real-world application problems. In line with the aims and scope of OR Spectrum, manuscripts should emphasize the practical relevance and the methodological contribution of the work.

Submission Guidelines and Review Process: Papers must be submitted at http://www.editorialmanager.com/orsp/ under the category "Multicriteria Optimization in Industry" by April 30, 2020. All papers submitted to this special issue should report original work and make a contribution to the journal OR Spectrum by using a quantitative research paradigm and OR methodologies. According to the aims of OR Spectrum, high quality papers are wanted that match the scope of the journal, show rigor in applying state-of-the-art OR techniques, and promise to have an impact on future work of the OR community.

Each paper will be screened by the Editor-in-Chief and one special issue editor. If the paper is deemed to be of sufficient quality, it will be reviewed according to the standards of OR Spectrum by at least two experienced reviewers. We will adopt a rapid and fair review process striving to provide reviews within three months of submission. Accepted papers will be available online prior to the publication of the special issue.

Special Issue Editors				
Karl-Heinz Küfer	Kaisa Miettinen	Stefan Ruzika	Serpil Sayin	
Fraunhofer ITWM	University of Jyväskylä	TU Kaiserslautern	Koç University	
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neinz.kuefer@itwm.fraunhofer.de				

### 2.6 Call for Papers Annals of Operations Research Special Issue: Theory, Computation, and Practice of Multiobjective Optimization

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. **The deadline for submissions is April 30, 2020**.

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 15–21, 2019, and the participants of the Dagstuhl Seminar on Scalability in Multiobjective Optimization, in Dagstuhl, Germany, January 12–17, 2020, are invited to submit their papers. Contributions arising from papers given at a conference should be substantially extended, and should cite the conference paper where appropriate. 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 at (<u>https://www.springer.com/journal/10479/submission-guidelines</u>)) and submit their high quality manuscript via Springer's web-based system, Editorial Manager <u>www.editorialmanager.com/anor/</u> by April 30, 2020. When prompted, please select the special issue's title, Theory, Computation, and Practice of Multiobjective Optimization, to ensure that it will be reviewed for this special issue.

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.

Accepted papers will be published online individually, before print publication.

Further inquiries should be sent to the Guest Editors:

Matthias Ehrgott Lancaster University, UK <u>m.ehrgott@lancaster.ac.uk</u>

Alexander Engau Dalhousie University, Canada <u>alexander.engau@dal.ca</u>

Margaret M. Wiecek Clemson University, USA wmalgor@clemson.edu 2.7 Special Issue on Modern Trends of Computers and Operations Research

#### **Guest Editors**:

Carlos M. Fonseca (University of Coimbra, Portugal) Kathrin Klamroth (Universität Wuppertal, Germany) Margaret M. Wiecek (Clemson University, United States)

#### Submission deadline: June 30, 2020

Multiobjective optimization (MO), which strives for the simultaneous consideration of conflicting objectives and complicating constraints, has become an indispensable tool in complex decisionmaking situations in many areas of human activity in business, management, and engineering. Complexity in decision-making results from the rapid technological and economic growth that improves our lives but simultaneously creates new challenges such as environmental pollution, limited healthcare and security services, shortage of water and energy resources, and others. The growth is accompanied by the ongoing production of big amounts of data but also by increasing computational power. Due to the new or continuing demands and requirements, but also opportunities, we have recently experienced a shift of paradigm from decision-making problems of a simple structure with relatively few variables and constraints, and two or three objective functions, to large-scale problems composed of interacting subproblems and involving many variables, many objective functions and constraints, and many decision makers. In view of these growing practical needs, development of MO models and solution approaches with specific features, as a decisive characteristic for future applicability and success of MO, has thus become crucial. Consequently, for this special issue we invite original research contributions to the theory, computation, and practice of MO that address the following current trends in multiobjective optimization, and the relationships between them. Relevant solution approaches include mathematical programming as well as heuristic and metaheuristic approaches, such as evolutionary algorithms.

**Complexity in Multiobjective Optimization** Complexity in MO can originate from mathematical modeling, the real-life situation being modeled, or limitations in data collection.

- i. MO problems are complex by their mathematical nature; optimization problems that are easy to solve in the single objective case are often intractable and highly complex already in the biobjective case. Algorithms for challenging problems such as MO problems with heterogenous objective functions and/or mixed-integer variables and semidefinite MO problems, among others, are of interest to this special issue.
- ii. MO problems become complex also because they model and provide decision-making methods for man-made complex systems such as financial markets, social networks, communication systems, public health providers, cybersecurity systems, global corporations. Since such systems are composed of subsystems, decision-making is difficult because optimal decisions for the subsystems may not be optimal for the overall system and vice versa. A unique optimal decision for the system may not exist, or if it exists, it may be extremely difficult to be identified. Furthermore, a solution methodology for finding optimal decisions for the overall system may not exist either, or if it does, it may be prohibitively expensive due to difficulties such as heterogeneous functions, integrality of variables, nested problems in a bilevel structure, cost of simulation, etc. Due to these

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**Optimization** 

challenges, it is of interest to develop distributed MO algorithms for computing optimal decisions for subsystems without ever dealing with the overall system in its entirety but such that they are suboptimal or optimal to the overall system.

- iii. Another type of complexity arises when an objective or constraint can be evaluated only by black box algorithms, in which case MO simulation optimization becomes a relevant methodology. The recent availability of mature and efficient single-objective simulation optimization algorithms, coupled with ubiquitously available parallel computing power, makes solving MO simulation optimization problems a realistic goal and papers proposing this class of algorithms are welcome.
- iv. Yet another type of complexity arises when an objective or constraint can be observed only with a stochastic error, or when the computed solutions can only be realized up to some inaccuracies, for example, due to the production process. Uncertain MO is a quickly growing research area with a multitude of practical applications. Deterministic counterpart models are usually highly complex optimization problems, that demand for the development of novel and efficient solution paradigms.

**Scalability in Multiobjective Optimization** Scalability is an important issue in optimization problems in terms of volume, variety, and variability. As large data sets are necessary for modeling large-scale societal challenges, scalability becomes a critical concern in MO methodology. Consequently, it is of interest to propose MO models and methods that are scalable with respect to the large amounts of data, many objective functions, many variables, and many decision makers.

- i. MO problems with a large number of objective functions are highly challenging, since usually the number of solutions grows exponentially with the number of objectives (as long as these are conflicting). Current solution techniques usually do not scale well with the number of objectives and/or constraints. Topics of interest thus include, but are not limited to, model building, identification of correlation and conflict, representations and approximations, as well as algorithm development and parallelization.
- ii. Many approaches for preference elicitation and interactive decision support are based on a one-to-one interaction with a single decision maker, and hence do not scale well with an increasing number of decision makers. Novel concepts for preference modelling, preference elicitation in group decision making, and utility function extraction are required that aim at complicated and complex decision-making situations.
- iii. MO with a large number of variables and/or based on large amount of data occur, for example, in the context of (multiobjective) machine learning and the (multiobjective) training of artificial neural networks.

**Invariance in Multiobjective Optimization** Intimately related to complexity and scalability is the notion of invariance. The more the size and complexity of MO problems grows, the more important it is that solution approaches are not detrimentally affected by redundant aspects of the MO problem formulation, nor by certain transformations leading to equivalent formulations of the same problem. Similarly, decision making methods should be insensitive to the presence of irrelevant alternatives, and the elicited preferences of a decision maker should not depend on the method used to elicit them.

- i. Due to dependencies among decision variables, the set of independent variables required to formulate a given MO problem, or even their scale, may not be unique. Invariance to such decision-space transformations offers greater flexibility at the modeling stage.
- ii. Real-world problems involving many objectives are often such that only a few objectives are conflicting at any given point in the decision space, although their number may vary,

and conflicting objectives at one point may become non-conflicting at another point. Invariance with respect to non-conflicting objectives, is therefore a desirable property of MO solution methods.

iii. Objective scaling and the sets of alternatives made available to the Decision Maker may influence preference elicitation and decision outcomes in unwanted ways. Descriptive invariance and procedural invariance are properties that contribute to more reliable decisions. All researchers worldwide working on the topics indicated above are invited to contribute to this special issue. The submitted papers shall comply with the aims and scope of *Computers & Operations Research*. Authors should follow the Instructions for Authors of *Computers and Operations Research* (https://www.journals.elsevier.com/computersand-operations-research) and submit their high quality manuscript via the Elsevier online submission and editorial system https://ees.elsevier.com/cor/ by June 30, 2020.

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 before the Special Issue is published. Further inquiries should be sent to the Guest Editors: Carlos M. Fonseca (<u>cmfonsec@dei.uc.pt</u>), Kathrin Klamroth (<u>klamroth@math.uni-wuppertal.de</u>), and Margaret M. Wiecek (<u>wmalgor@clemson.edu</u>).

# Special Session on Optimization, Learning and **Decision-Making in Bioinformatics and Bioengineering (OLDMBB)**

- At CEC 2020, July 19 24, Glasgow, UK
- Methods, applications, theory emerging topics in BB
- Submission deadline: January 30, 2020
- Organizers:
  - Richard Allmendinger: richard.allmendinger@manchester.ac.uk,
  - Vassilis Plagianakos: vpp@dib.uth.gr
- More information: http://vpp.users.uth.gr/OLDMBB-WCCI-2020/#



# Lecture/Senior Lecturer in Decision/Cognitive Sciences

- At Alliance Manchester Business School, UK
- Optimization, Data science, AI, Machine Learning, Decision making
- Salary: £52,559 £62,727 p.a (for SL)
- Advert will be live very soon
- More information: Speak to me or Manuel



Alliance Manchester Business School





# Workshop on Evolutionary Computation + Multiple Criteria Decision Making (EC + MCDM)

- In GECCO 2020, July 8 12, Cancun, Mexico
- · Aims to promote the research on theory and applications in the field
- Submission deadline: April 3, 2020
- Organizers:
  - Tinkle Chugh: <u>t.chugh@exeter.ac.uk</u>,
  - Richard Allmendinger: richard.allmendinger@manchester.ac.uk,
  - Jussi Hakanen: jussi.hakanen@jyu.fi
- More information: <u>http://blogs.exeter.ac.uk/ecmcdm/</u>

**PPSN 2020** 

one Calls important dates. Conference + Local Information + About +



https://ppsn2020.liacs.leidenuniv.nl/

Leiden, The Netherlands, 12page paper, April 1 abstract, April 8 full paper (Most beautiful Dutch science and canal town, 15min from Schiphol) Program Chairs. Michael Emmerich, Heike Trautmann, Carola Doerr General Chairs. Thomas Bäck, Mike Preuss Honorary Chairs. Hans-Paul Schwefel, Grzegorz Rozenberg



1-4 December, 2020 · Canberra Australia

Paper Submission (no extension): 7 August 2020

# ACM Transactions on Evolutionary Learning and Optimization (TELO)

# Open for Submissions

Publishes papers at the intersection of optimization and machine learning, making solid contributions to theory, method and applications in the field.



ACM Transactions on Evolutionary Learning and Optimization (TELO) publishes high-quality, original papers in all areas of evolutionary computation and related areas such as population-based methods, Bayesian optimization, or swarm intelligence. We welcome papers that make solid contributions to theory, method and applications. Relevant domains include continuous, combinatorial or multiobjective optimization.

For further information and to submit your manuscript, visit telo.acm.org



# **Benchmarking Network**

Carola Doerr, Pascal Kerschke, Boris Naujoks, Mike Preuss, Vanessa Volz

- Where to find us?
  - https://sites.google.com/view/benchmarking-network/

#### Aims, objectives:

- Informal network for meetings / workshops (colocated with a major conference)
- Long term goal: good benchmarking practices, compatible software, etc.
- Better synchronization with adjacent fields
- Organization of scientific events and activities
  - workshops, tutorials, seminars, survey, etc.
- Participation wanted:
  - Register for the Google group
  - Participate in the events
  - Be listed as a member → contact us (benchmarking.network@gmail.com, @benchmark\_net)
  - Get in contact with other members and plan common events and activities.
  - Provide feedback to Software, Competitions, Website, Events, etc.

# Benchmarking events and activities

See https://sites.google.com/view/benchmarking-network/home/activities

#### Workshops

- o GECCO: https://sites.google.com/view/benchmarking-network/home/activities/GECCO20
- PPSN: https://sites.google.com/view/benchmarking-network/home/activities/PPSN20

#### Competitions

- Game-based @GECCO + @PPSN: http://www.gm.fh-koeIn.de/~naujoks/gbea/
- Open Optimization Competition: https://github.com/facebookresearch/nevergrad/blob/master/docs/opencompetition2020.md

#### Tutorials

- · GECCO: Benchmarking and Analyzing Iterative Optimization Heuristics with IOHprofiler, etc.
- PPSN: Exploratory Landscape Analysis, etc.
- Benchmarking Survey: https://sites.google.com/view/macoda-rwp/home

# ACM SIGEVO Dissertation Award

Recognize excellent PhD theses in evolutionary computing

For theses defended on 2019

Award: \$1,000 and a plaque (and fame and glory) announced at GECO 2020

More info: http://lopez-ibanez.eu/







# 3 Awards Section

#### 3.1 Roman Slowinski honored as INFORMS Fellow (Class 2019)<sup>1</sup>

INFORMS Fellows are examples of outstanding lifetime achievement in operations research and the management sciences. They have demonstrated exceptional accomplishments and made significant contributions to the advancement of OR/MS over a period of time.

Their service to the profession and to INFORMS has culminated in election to the INFORMS Fellow Award.



Roman Slowinski (Professor & Founding Chair, Poznań University of Technology, Poland) was honored as INFORMS Fellow (Class 2019). He received this exceptional honor

For outstanding service to the OR community worldwide over an extended period of time and significant contributions that advanced the stature and recognition of the OR/MS profession.



At the INFORMS Conference in Seattle (October 20-23,2019) that gathered a record number of participants (7300), **Roman Słowiński** was awarded the INFORMS Fellow degree. This is the highest honor of INFORMS, which annually awards only one percentile of its members with the Fellow degree. 12 people entered the Fellows Class of 2019. More details can be found <u>here</u>.

<sup>&</sup>lt;sup>1</sup> The text is a reprint. The original can be found on several INFORMS websites.

### 3.2 Raimo Hämäläinen receives the 2019 Frank P. Ramsey Medal<sup>2</sup>

Raimo Hämäläinen is a Professor Emeritus (since 2016) at Aalto University in Finland and is an Honorary Visiting Professor at Loughborough University in England. He was a Professor of Applied Mathematics (operations research) at Helsinki University of Technology since 1981, which became part of Aalto University, in 2010. He also was a professor at the University of Vaasa and at Kuipio University in the 1970's.

Dr. Hämäläinen studied engineering mathematics and systems theory and holds an MS in Engineering and Doctor of Technology degree



from the Department of Technical Physics, Helsinki University of Technology. His dissertation was on "Optimal controller design by nonlinear and game theoretic methods".

Dr. Hämäläinen has an outstanding record as a scholar, focusing on multicriteria decision analysis and related behavioral issues, and as an academic leader of several groups in Finland and Europe.

In Finland he established the Systems Analysis Laboratory at Helsinki University of Technology, now part of Aalto University in 1984. He was also the founding director of the Doctoral Education Network on Systems Analysis, Decision Making and Risk Management across Finnish universities and he was a Board Member of the Finnish Operations Research Society. He was Chairman of the Committee for Scientific Cooperation between the Academy of Finland and the International Research Institute for Management Science (IRIMS), in Moscow. He served on the Finnish Committee for the International Institute for Applied Systems Analysis (1998-2008). In recent years, he co-founded (with Alberto Franco) the Behavioral Operations Research Working Group of the European Society of Operational Research (EURO), serving as its first chairman. He has advised over 40 doctoral graduates.

He has a large number of citations for his over 200 publications and conference papers on multicriteria decision making, behavioral operations research, path dependence in modeling, control and dynamic games, energy modelling, and environmental decision making and participatory decision processes. He also created many widely used decision support systems. His work has been funded by the Finnish Air Force, the European Commission, and the Academy of Finland. He has helped to solve problems, particularly in environmental policy and risk analysis. Moving from earlier work on parliamentary policy debates, he and Prof. Esa Saarinen have developed the new concept of Systems Intelligence.

<sup>&</sup>lt;sup>2</sup> This text is a reprint. The original appeared in the Newsletter of the Decision Analysis Society in <u>September 2019</u>.

Dr. Hämäläinen is a longtime contributor to the Decision Analysis Society (of INFORMS and its predecessors), including as an editorial board member for *Decision Analysis*, conference speaker, and Chairman of the European Assembly of the Decision Analysis Society of INFORMS (1996 – 1998), and a full member of ORSA.

Dr. Hämäläinen has won honors in Finland and abroad. He is a member of the Finnish Academy of Technology (1985) and was named Honorary President of the Finnish Operations Research Society (2008) for his contributions to developing OR in Finland. He also won the MCDM Edgeworth-Pareto Award, the highest award for career contributions from the International Society on Multiple Criteria Decision Making.

**About the Award.** The Frank P. Ramsey Medal is the highest award of the Decision Analysis Society (DAS). It was created to recognize distinguished contributions to the field of decision analysis. The medal is named in honor of Frank Plumpton Ramsey, a Cambridge University mathematician who was one of the pioneers of decision theory in the 20th century. His 1926 essay "Truth and Probability" (published posthumously in 1931) anticipated many of the developments in mathematical decision theory later made by John von Neumann and Oskar Morgenstern, Leonard J. Savage, and others. The Ramsey Medal Award Committee for 2019 was Jason Merrick (Chair, Ex Officio as Past President of DAS), Manel Baucells, Jim Dyer, Robin Keller, and Detlof von Winterfeldt

### 3.3 Milosz Kadzinski receives the 2019 INFORMS MCDM Section Junior Researcher Best Paper

The Second Edition of the MCDM Junior Researcher Best Paper Award was presented at the 2019 Annual INFORMS Meeting in Seattle, WA. The goal of the award is to recognize outstanding papers in the field of multicriteria decision making written by a junior researcher or a team of junior researchers.

The three finalists who presented their papers in the Awards Session on October 20, 2019, were:

Brian Dandurand, Argonne National Laboratory, Lemont, IL, U.S.A.

Article: Dandurand, Brian, and Margaret M. Wiecek. "Quadratic scalarization for decomposed multiobjective optimization." OR spectrum 38.4 (2016): 1071-1096.

Miłosz Kadziński, The Poznan University of Technology, Poland.

Article: Ciomek, Krzysztof, Miłosz Kadziński, and Tommi Tervonen. "Heuristics for prioritizing pair-wise elicitation questions with additive multi-attribute value models." Omega 71 (2017): 27-45.

Taewoo Lee, University of Houston, Houston, TX, U.S.A.

Article: Chan, Timothy CY, and Taewoo Lee. "Trade-off preservation in inverse multiobjective convex optimization." European Journal of Operational Research 270.1 (2018): 25-39.

The 2019 Award was presented to Miłosz Kadziński, while Brian Dandurand and Taewoo Lee received honorable mentions.

**Miłosz 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 eleven 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 50 papers in premier international journals such as Omega, EJOR, DSS, INS, COR, KBS, and ML.

### **Judging Committee Members**

Adiel Teixeira de Almeida, Federal University of Pernambuco, Brazil.
Esma Gel, Arizona State University, United States.
Gulsah Karakaya, Middle East Technical University, Turkey.
Banu Lokman, University of Portsmouth, United Kingdom.
Theodor Stewart, University of Cape Town, South Africa.
Evangelos Triantaphyllou, Louisiana State University, Baton Rouge, United States.

# 4 Past Conferences, Workshops, and other News

## 4.1 A Report on the Activities of the INFORMS MCDM Section during the 2019 Annual Meeting and a Call for Papers for the 2020 Annual Meeting

With its strong base of academic and professional members and its prestigious journals, INFORMS is a major promoter of operations research and management science worldwide. The MCDM Section, having had its roots in the International Society on MCDM dating from 1979, was established in 2010. Since its inception, the Section has been active at INFORMS annual meetings. The latest annual meeting took place in Seattle between October 20-23, 2019.

There were 40 talks in 10 sessions in Seattle. A wide spectrum of topics were covered under the MCDM cluster such as healthcare and AI applications along with traditional MCDM topics such as preference-driven decision aiding and multiobjective optimization.



The Section ran the second edition of the MCDM Junior Researcher Best Paper Award in Seattle. The goal of the Award is to recognize outstanding papers in the field of multicriteria decision making written by a junior researcher or a team of junior researchers. In this issue of the newsletter, you will find information on the finalists of the 2019 edition and a call for the 2020 edition of the Award in separate sections. I would like to encourage all young researchers to consider this exciting opportunity of showcasing their research work.

I would like to invite the members of the MCDM Society to join our INFORMS Section. If you are already a member, you may get involved in recruiting new members. A strong membership count contributes to visibility of MCDM within INFORMS. It is possible to become a community member without an INFORMS membership.

For more details on the activities of our Section, follow the "About Us" tab in the menu on our website <u>https://connect.informs.org/multiple-criteria-decision-making/home</u>. Business meeting

minutes are listed here with the Section bylaws. In addition, you will find a link to the membership form under the "Membership" tab.

It is time to start planning for the 2020 Annual Meeting. We would like to maintain our strong presence in the next meeting which will take place in National Harbor, Maryland from Sunday November 8 to Wednesday November 11, 2020. Roman Słowiński, who recently took office as the new President of the MCDM Section, will serve as the MCDM Cluster Chair. Please contact Roman Słowiński at <u>roman.slowinski@cs.put.poznan.pl</u> if you are interested in organizing a session or if you would like to hear more about INFORMS meetings. He will be inviting session organizers and submissions once the system becomes operational.

I wish all members of the MCDM Community a wonderful 2020.

Serpil Sayin Past-President INFORMS MCDM Section

#### 4.2 News from Jyväskylä

We are happy to tell that the new name of the Industrial Optimization Group at the University of Jyväskylä (Finland) is Multiobjective Optimization Group (<u>www.mit.jyu.fi/optgroup/</u>). We work on various aspects on nonlinear multiobjective optimization including method development (in particular, interactive methods and methods hybridizing interactive and EMO elements), software development and various real applications. We focus on both simulation-based and data-



driven problems and are inspired by real-world challenges like computational cost of function evaluations, need of surrogate models, uncertainty and robustness as well as benefits of visualizations. We employ e.g. machine learning tools in different phases of solution processes aiming at supporting decision makers better.

We are working on a thematic research area of our university devoted to Decision Analytics utilizing Causal Models and Multiobjective Optimization, where we build a seamless chain from data to decision support. We welcome collaborators in this. For more information, see *jyu.fi/demo*.

We are developing an open source software framework for interactive multiobjective optimization methods, called DESDEO. You are welcome to join us in further developing or applying it: desdeo.it.jyu.fi/. DESDEO has a modular structure and most of the codes are in Python. The current development is funded by the Academy of Finland (project DAEMON).



We welcome visitors!

For further information, contact Prof. Kaisa Miettinen (kaisa.miettinen@jyu.fi))

### 5 New Books/Publications

This section presents a list of recent publications in multiple criteria decision making. 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 <u>lucie.galand@dauphine.fr</u>.

### 5.1 Book chapters, special issue

M. J. Alves, C. Henggeler Antunes, J. P. Costa, **Multiobjective Bilevel Programming: concepts** and perspectives of development, in: *New Perspectives in Multicriteria Decision Analysis*, *M. Doumpos*, *J. Figueira*, *S. Greco*, *C. Zopounidis (Eds)*, 267-293, 2019.

C. Henggeler Antunes, Multiobjective Optimization in the Energy Sector: Selected Problems and Challenges, in: New Perspectives in Multicriteria Decision Analysis, M. Doumpos, J. Figueira, S. Greco, C. Zopounidis (Eds), 357-370, 2019.

K. Miettinen, F. Ruiz (Guest Eds), **Special Issue on Global Optimization with Multiple Criteria: Theory, Methods and Applications**, *Journal of Global Optimization*, 75(1), 2019.

### 5.2 Journal papers

M. J. Alves, C. Henggeler Antunes, J. P. Costa, New Concepts and an Algorithm for Multiobjective Bilevel Programming: Optimistic, Pessimistic and Moderate Solutions, *Operational Research*, 2020.

M. Aringer, C. Costenbader, D. Daikh, et al., **2019 European League Against Rheumatism/American College of Rheumatology classification criteria for systemic lupus erythematosus**, *Arthritis & Rheumatology*, 71(9):1400-1412, 2019.

J. Au, A. Coleman, T. Sullivan, When I'm 64: What do New Zealanders want in a retirement income policy?, *Agenda - A Journal of Policy Analysis and Reform*, 26:23-47, 2019.

S. Belhaj Slimene, C. Mamoghli, Neuroevolution of augmenting topologies for predicting financial distress: A multicriteria decision analysis, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):320-328, 2019.

M. Ben Brahim, F. Ben Abdelaziz, **Multilevel, multiplayer R&D investment decisions: Cooperation or competition?**, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):329-340, 2019.

J. M. Branco, F. A. Ferreira, I. Meidut-Kavaliauskien, A. Banaitis, P. F. Falco, Analysing determinants of small and medium-sized enterprise resilience using fuzzy cognitive mapping, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):252-264, 2019.

A. Çalık, S. Çizmecioğlu, A. Akpınar, An integrated AHP-TOPSIS framework for foreign direct investment in Turkey, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):296-307, 2019.

Y.-W. Chen, Multi-objective data envelopment analysis: A game of multiple attribute decision-making, *Journal of Economic and Management*, 37(3):156-177, 2019.

M. Dia, R. Bozec, Social enterprises and the performance measurement challenge: Could the data envelopment analysis be the solution?, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):265-271, 2019.

T. Dietz, K. Klamroth, K. Kraus, S. Ruzika, L. Schäfer, B. Schulze, M. Stiglmayr, M. M. Wiecek, **Introducing multiobjective complex systems**, *European Journal of Operational Research*, 280(2):581-596, 2020.

G. Dranichak, M.M. Wiecek, **On highly robust efficient solution for multiobjective linear programs**, *European Journal of Operational Research*, 273(1):20-30, 2019.

M. Ehrgott, M. Hasannasab, A. Raith, A multiobjective optimization approach to compute the efficient frontier in data envelopment analysis, *Journal of Multi-Criteria Decision Analysis*, 26(3-4):187-198, 2019.

K. Eyvindson, J. Hakanen, A. Juutinen, M. Mönkkönen, J. Karvanen, Value of information in multiple criteria decision making: an application to forest conservation, *Stochastic Environmental Research and Risk Assessment*, 33:2007-2018, 2019.

I. Gonçalves, A. Gomes, C. Henggeler Antunes, **Optimizing the Management of Smart Home Energy Resources Under Different Power Cost Scenarios**, *Applied Energy*, 242:351-363, 2019.

A. P. Guerreiro, C. M. Fonseca, An analysis of the hypervolume Sharpe-ratio indicator, *European Journal of Operational Research*, in press (available online), 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*, 23(6):1000-1014, 2019.

C.O. Henriques, M. Inuiguchi, M. Luque, J.R. Figueira, New conditions for testing necessarily/possibly efficiency of non-degenerate basic solutions based on the tolerance approach, *European Journal of Operational Research*, in press (available online), 2019.

R. Jana, C. Prakash, A. Tiwari, **Humanitarian aid delivery decisions during the early recovery phase of disaster using a discrete choice multi-attribute value method**, *Annals of Operations Research*, 283(1-2):1211-1225, 2019.

P. L.W. Jayasekara, N. Adelgren, M. M. Wiecek, **On convex multiobjective programs with an application to portfolio optimization**, *Journal of Multi-criteria Decision Analysis*, 1-14, 2019.

A. Kandakoglu, A. Frini, S. Ben Amor, **Multicriteria decision making for sustainable development: A systematic review**, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):202-251, 2019.

T.J. Lahtinen, R.P. Hämäläinen, C. Jenytin, **On preference elicitation processes which mitigate the accumulation of biases in multi-criteria decision analysis**, *European Journal of Operational Research*, 282(1):201-210, 2020.

M. Luque, S. Gonzalez-Gallardo, R. Saborido, A.B. Ruiz, Adaptive Global WASF-GA to Handle Many-objective Optimization Problems, *Swarm and Evolutionary Computation*, in press, 2020.

R.T. de Melo, L.F.A.M. Gomes, F. Filardi, **Project portfolio prioritization strategy to extend the service life of offshore platforms - a Prométhée V approach**, *Independent Journal of Management & Production*, 10:1421-1445, 2019.

A. Moreno-Calderón, T. Tong, P. Thokala, Multi-criteria Decision Analysis software in healthcare priority setting: A systematic review, *PharmacoEconomics*, 2019.

V.D. Noghin, Multicriteria Choice on a Fuzzy Set as a Problem of Searching for Compromise, *Scientific and Technical Information Processing*, 46(6):1-7, 2019.

V.D. Noghin, Ultimate Possibilities of Pareto Set Reduction Based on Quanta of Fuzzy Information, *Scientific and Technical Information Processing*, 45(6):452-457, 2018.

S. A. B. Rasmi, A. Fattahi, M. Türkay, SASS: slicing with adaptive steps search method for finding the non-dominated points of tri-objective mixed-integer linear programming problems, *Annals of Operations Research*, 1-36, 2019.

L. Romeo, J. Loncarski, M. Paolanti, G. Bocchini, A. Mancini, E. Frontoni, Machine learningbased design support system for the prediction of heterogeneous machine parameters in Industry 4.0, *Expert Systems with Applications*, 140, 2020.

G. Saccani, J. Hakanen, K. Sindhya, V. Ojalehto, M. Hartikainen, M. Antonelli, K. Miettinen, **Potential of interactive multiobjective optimization in supporting the design of a groundwater biodenitrification process**, *Journal of Environmental Management*, 254:1-9, 2020.

F.S.V. Sallum, L.F.A.M. Gomes, M.A.S. Machado, **The TODIM multi-criteria method applied to the ANBIMA ranking of Brazilian investment funds**, *International Journal of Business and Systems Research*, 14(1):56-73, 2020.

S. K. Shahi, M. Dia, Efficiency measurement of Ontario's sawmills using bootstrap data envelopment analysis, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):272-295, 2019.

A. Silva, F. Ferreira, M. Cistelecan, C. Henggeler Antunes, **Multiobjective Design Optimization** of Generalized Multilayer Multiphase AC Winding, *IEEE Transactions on Energy Conversion*, 34(4):2158-2167, 2019.

T. Sullivan, P. Hansen, F. Ombler, S. Derrett, N. Devlin, **A new tool for creating personal and social EQ-5D-5L value sets, including valuing 'dead'**, *Social Science & Medicine*, in press (available online), 2019.

P. Teo, R. Hinman, T. Egerton, K. Dziedzic, K. Bennell, **Identifying and prioritizing clinical guideline recommendations most relevant to physical therapy practice for hip and/or knee osteoarthritis**, *Journal of Orthopaedic & Sports Physical Therapy*, 49(7):501-512, 2019.

F. Vergara-Solana, M. Araneda, G. Ponce-Díaz, **Opportunities for strengthening aquaculture industry through multicriteria decision-making**, *Reviews in Aquaculture*, 11(1):105-118, 2019.

C. A. Vergara Tamayo, J. C. Bello Arias, Contributions of clean development mechanisms to the sustainable use of productive soil through the analytic hierarchy process method: INCAUCA S.A. case, Northern Cauca, Colombia, *Journal of Multi-Criteria Decision Analysis*, 26(5-6):308-319, 2019.

Z. Wallace, R. Naden, S. Chari et al, **The 2019 American College of Rheumatology/European** League Against Rheumatism Classification Criteria for IgG4-Related Disease, *Arthritis & Rheumatology*, 79(1):77-87, 2020.

### 5.3 Conference proceedings

Y.-W. Chen, **Evolutionary Perspectives on Creative Destruction**, in *Proceedings of the 6th IEEE* International Conference on Electrical, Electronics and Information Engineering (ICEEIE), 2019.

E.F. Girão, L.F.A.M. Gomes, **A hybrid multicriteria approach WINGS-TOPSIS-PROMÉTHÉE II for a comprehensive ranking of natural gas consuming countries**, in *Proceedings of the XIX Symposium of Operations Research and Logistics of the Brazilian Navy* (SPOLM 2019), 1-16, 2019.

M. Miranda, A.C.C. Catolico, A. Tavares, R. Brandão, D. Viana, M. Maestrini, L. Ozório, P.F. Mendes, J. Alvares, L.F.A.M. Gomes, **A proposal for indicators of regulatory effectiveness**, in *Proceedings of LI Simpósio Brasileiro de Pesquisa Operacional*, 1-13, 2019.

W. Ogryczak, G. Zalewski, **Fair Resource Allocation by Gini Index Minimization**, in *Fortz B., Labbé M. (Eds), Operations Research Proceedings 2018*, Annual International Conference of the German Operations Research Society (GOR), 77-83, 2019.

F.S.V. Sallum, L.F.A.M. Gomes, L.S.V. Sallum, A multicriteria outlook to retailing in Brazil: ranking, posicioning and risk of different segment, in *Proceedings of the XIX Symposium of Operations Research and Logistics of the Brazilian Navy (SPOLM 2019)*, 1-15, 2019.

A. Silva, F. Ferreira, C. Henggeler Antunes, **A Hybrid Multiobjective Differential Evolution Approach to Stator Winding Optimization**, in *Kaufmann P., Castillo P. (Eds), Applications of Evolutionary Computation, Lecture Notes in Computer Science*, EvoApplications 2019, 11454:64-71, 2019. A.M.J. Skulimowski, **Multicriteria coordination of flood control in water reservoir systems**, in *Proceedings of the 24th International Conference on Methods and Models in Automation and Robotics (MMAR 2019)*, 296-301, 2019.

A.M.J. Skulimowski, **Generalized ideal points**, in *Proceedings of the 14th International Global Optimization Workshop (LeGO 2018)*, 2019.

A.M.J. Skulimowski, **Optimality and Sensitivity of Least-Distance and Avoidance Solutions in Multicriteria Optimization**, in *Proceedings of the 23rd International Conference on Methods and Models in Automation and Robotics (MMAR 2018)*, 2018.

A.T. Pereira, L.F.A.M. Gomes, **Digital transformation: selection of the most relevant factors through Multicriteria Decision Aid**, in *Proceedings of the XIX Symposium of Operations Research and Logistics of the Brazilian Navy (SPOLM2019)*, 1-16, 2019.

### 5.4 Edited Proceedings

K. Deb, E. Goodman, C.A.C. Coello, K. Klamroth, K. Miettinen, S. Mostaghim, P. Reed (Eds), **Evolutionary Multi-Criterion Optimization: 10th International Conference, EMO 2019**, *Springer*, 2019.

# 6 Imprints

Johannes Siebert: newsletter@mcdmsociety.org, johannes.siebert@mci.edu

Lucie Galand: <u>lucie.galand@dauphine.fr</u> Jana Siebert: <u>jana.siebert@upol.cz</u>

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 10<sup>th</sup> and the issue is intended to be published "around January 20<sup>th</sup>". Usually the deadline for the September issue is August 20<sup>th</sup> 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). Please send you contributions in a Word-file.