

# ISKE 2023

Fuzhou, China

November 17-19, 2023

Special Session on

## Decision Models under Uncertainty Applied for Sustainable Development

The 2023 IEEE International Conference on Intelligent Systems and Knowledge Engineering (ISKE 2023) is the 18th in a series of ISKE conferences. The conference will be held in Fuzhou, a beautiful place in southeast of China.

The conference proceedings will be published by IEEE Press (sent to be EI indexed). Special issues of SCI indexed journals will be devoted to a strict refereed selection of extended papers presented at ISKE 2023.

 <http://iske2023.org/>

### Scope and Motivation

The 17 Sustainable Development Goals (SDGs) were adopted by all United Nations Member States in 2015 as a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030. These goals are interconnected and include a range of ambitious targets to tackle pressing global issues, such as poverty, hunger, gender inequality, climate change, and environmental degradation. They are intended to guide policies and actions at the national and global levels, mobilize resources, and foster partnerships to achieve a sustainable and equitable future for all. However, the enormous complexity of the problems associated with SDGs makes stakeholders often come up with assumptions that do not reflect the real world constraints necessary to reduce such complexity. As a result, the development and implementation of SD policies and plans become crucial to meeting the targets associated with the SDGs and the Intelligent Decision-Making plays a crucial role in this process. Furthermore, many of the decision-making (DM) problems that involve sustainability policy-making and SD decision support are defined under contexts where the information is vague and uncertain. To deal with uncertainty in DM problems, different fuzzy methodologies and theories have been proposed in the literature, such as fuzzy sets, fuzzy linguistic approach, intuitionistic fuzzy sets, q-rung orthopair fuzzy sets, hesitant fuzzy sets, hesitant fuzzy linguistic term sets, type 2 fuzzy sets, etc., as well as a wide range of tools, operations and decision models to cope with decision problems under uncertainty. Nevertheless, the emergence of new challenges continually requires the development of novel mathematical foundations and decision models to address sustainability policy-making problems under uncertainty.

Therefore, this special session aims at providing an opportunity for researchers working in DM under uncertainty and its application to sustainability to discuss and share their new ideas, advances, original research results and practical experiences.

### List of Topics

- Multi-Criteria group decision-making models for sustainability problems
- Choice, Ranking and Sorting processes in multi-criteria decision making under uncertainty for sustainability problems
- Data-driven decision-making for sustainability
- Policy-making for sustainability
- Consensus models applied for sustainability
- Decision Support Systems dealing with large scale decisions for sustainability problems such as, climate change, renewal energies, circular economy, etc.



### PAPER SUBMISSION

<https://easychair.org/my/conference?conf=iske2023>

### IMPORTANT DATES

- |  |                      |
|--|----------------------|
| • Full Paper Submission Deadline         | July 31, 2023        |
| • Acceptance Notification Deadline       | August 31, 2023      |
| • Camera-Ready Paper Submission Deadline | October 30, 2023     |
| • Conference Dates                       | November 17-19, 2023 |

### Names, Contact information, Brief biographical information of the organizers

**Name:**

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**Short bio:**

Rosa M. Rodríguez received her B.Sc., M.Sc. and PhD degrees in Computer Science, all of them from the University of Jaén in 2006, 2008 and 2013 respectively. She got the Extraordinary PhD award in 2017 by the University of Jaén. Currently, she has a Postdoc fellowship (Ramón y Cajal) at the University of Jaén, Spain. Her research interests include linguistic preference modelling, decision making, decision support systems and fuzzy logic based systems. She has more than 50 papers in journals indexed by the SCI. She is Editor Assistant in International Journal of Computational Intelligence Systems and Associate Editor in IEEE Transactions on Fuzzy Systems, International Journal of Fuzzy Systems and Journal of Intelligent and Fuzzy Systems. She received the IEEE Transactions on Fuzzy Systems Outstanding Paper Award 2012 (bestowed in 2015). She has been classified as Highly Cited Researcher in 2019-2022 according to the Essential Science Indicators of the Web of Science.

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**Short bio:**

Álvaro Labella received his PhD in Computer Science from the University of Jaén in 2021. Currently, he is a postdoctoral researcher in the SINBAD2 research group at the University of Jaén and works in the area of decision making, computing with words and software application development. He has published 30 articles in international journals, as well as more than 40 contributions in International and National Conferences. During his doctoral studies he stayed at the National Technical University of Athens in Athens, Greece and at the Portsmouth Business School in Portsmouth, UK. In addition, he has carried out postdoctoral stays at the Bocconi University in Milan, Italy and at the Ulster University, in Belfast, Northern Ireland. He is also Associate Editor in the International Journal of Fuzzy Systems. In 2019 he received the Best Student Paper Award at the International Conference on Intelligent and Fuzzy Systems in Istanbul, Turkey and the Best Paper Award at the International Conference on Intelligent Systems and Knowledge Engineering in Dalian, China.

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**Short bio:**

Luis Martínez is M.Sc. and Ph.D. in Computer Sciences and Full Professor at the University of Jaén. His current research interests are fuzzy decision-making, computing with words and recommender systems. He has been main researcher in 17 R&D projects, and published more than 200 SCI-indexed journal papers as well as 35 book chapters and more than 160 contributions in International Conferences related to his areas. He is EIC of the International Journal of Computational Intelligence Systems and an Associated Editor of the journals IEEE Transactions on Fuzzy Systems, Information Fusion, the International Journal of Fuzzy Systems, Journal of Intelligent & Fuzzy Systems, Applied Artificial Intelligence, Journal of Fuzzy Mathematics and serves as member of the journal Editorial Board of the Journal of Universal Computer Sciences. He received twice the IEEE Transactions on Fuzzy Systems Outstanding Paper Award 2008 and 2012. Eventually, he has been appointed as Highly Cited Researcher 2017-2022 in Computer Science according to the Web of Science.