

# The 5th International Conference on Data-driven Optimization of Complex Systems

## September 22-24, 2023, Tianjin, China



### Honorary General Chairs

Xu Han, Hebei University of Technology  
Tianyou Chai, Northeastern University

### General Chairs

Yaochu Jin, Bielefeld University  
Junhua Gu, Hebei University of Technology  
Junping Du, Beijing University of Posts and Telecommunications

### Program Chairs

Chaoli Sun, Taiyuan University of Science and Technology  
Handing Wang, Xidian University  
Zhen Xin, Hebei University of Technology  
Kay Chen Tan, The Hong Kong Polytechnic University  
Mengjie Zhang, Victoria University of Wellington  
Jinliang Ding, Northeastern University  
Wenli Du, East China University of Science and Technology  
Ling Wang, Tsinghua University  
Chunhua Yang, Central South University  
Zhigang Zeng, Huazhong University of Science and Technology

### Technical Chairs

Ran Cheng, Southern University of Science and Technology  
Ye Tian, Anhui University  
Jonathan E. Fieldsend, University of Exeter  
Barbara Hammer, Bielefeld University  
Yuhui Shi, Southern University of Science and Technology

### Invited Session Chairs

Xiaohong Zhang, Taiyuan University of Science and Technology

### Publicity Chairs

Feiyang Qin, Hebei University of Technology  
Jizhong Xu, Hebei University of Technology

### Publications Chairs

Xilu Wang, Bielefeld University  
Shufen Qin, Taiyuan University of Science and Technology

### Financial Chairs

Lei Ming, Hebei University of Technology  
Hongjuan Xie, Hebei University of Technology

### Registration Chairs

Qiqi Liu, Hebei University of Technology

### Local Organization Chairs

Liang Yang, Hebei University of Technology  
Qing Liu, Hebei University of Technology

## Call for Papers

The 5th International Conference on Data-driven Optimization of Complex Systems (DOCS'2023) will be held on September 22-24, 2023 in Tianjin, China. DOCS'2023 aims to provide a high-level international forum for innovative academics and industrial experts in the related fields of data-driven optimization and its application to complex systems. The goal of the conference is to promote research in data-driven optimization, learning and control, and their applications to complex systems, and establish a forum for academia and industrial practitioners around the world to share ideas and present their recent research advances. The conference will be featured by tutorials, workshops, plenary speeches given by world-leading researchers, regular sessions with a broad coverage, and special sessions focusing on popular and emerging topics. We warmly invite you to participate in DOCS'2023 and look forward to seeing you in Tianjin!

### Call for Papers and Special Sessions

Authors are warmly invited to contribute high-quality papers to DOCS'2023. In addition, interested researchers are encouraged to propose special sessions within the technical scopes of the conference to docs2023@163.com. Special sessions aim to bring together researchers to present research findings on focused topics. For details, please visit the conference website:

<https://docs2023.github.io>

### Topics

Technical topics of the conference include, but are not limited to, the following areas:

#### *Data-driven machine learning*

Dynamic big data machine learning methods and techniques, deep learning, neural architecture search, reinforcement learning, statistical relational learning, transfer learning, self-supervised learning, distributed and federated machine learning, trustworthy machine learning

#### *Data-driven optimization and decision making*

Data-driven optimization algorithms, Bayesian optimization, neural combinatorial optimization, large-scale and multi-objective optimization, integration of machine learning and optimization, data-driven decision paradigm, intelligent scheduling, reinforcement learning for combinatorial optimization, distributed and federated optimization, industrial and manufacturing system analysis, and decision-making

#### *Data-driven modeling and control*

Learning and adaptive control, robust control, intelligent control, optimization-based and optimal control, model predictive control, fault detection and identification, hybrid intelligent systems, neural control, fuzzy logic control, networked control, industrial automation, intelligent transportation systems, environmental monitoring and control, intelligent manufacturing systems, green communication systems

#### *Big data analysis and application*

Big data storage and mining, data coordination, integration and processing, big data analytics and metrics, theory and methods of multi-source big data fusion, data base management systems, big data service, big data-oriented cloud computing technology, privacy preserving big data analysis, visual city data analysis, intelligent transportation data analysis, healthcare data analysis, bioinformatics

### Paper Submission

Authors are invited to submit full-length papers (nominal paper length is 6-8 A4 pages) by the submission deadline through the online submission system. Special session organizers are also invited to enlist at least 6 papers with cohesive topics to form special sessions. The submission of a paper implies that the paper is original and has not been submitted under review or is not copyright-protected elsewhere and will be presented by an author if accepted. All submitted papers will be refereed by experts in the field based on the criteria of originality, significance, quality, and clarity. The authors of accepted papers will have an opportunity to revise their papers and take consideration of the referees' comments and suggestions. Accepted full-length papers will be included in IEEE Xplore Digital Library and will be indexed by EI. Selected high-quality papers will be invited to be submitted to journal special issues after a substantial extension.

**Submission website:** <https://easychair.org/conferences/?conf=docs2023>

### Important Dates

Special session proposals deadline ..... June 9, 2023  
Paper submission deadline ..... June 30, 2023  
Notification of acceptance ..... July 31, 2023  
Camera-ready copy and author registration ..... August 15, 2023



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