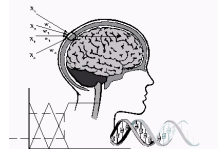




International

*Innovation in Knowledge Based and Intelligent
Engineering Systems*



INVITED SESSION SUMMARY

Title of Session:

Data-Driven Intelligent Decision Making: Models, Algorithms, and Innovative Applications

Name of Chairs:

Dr. Lijun Sun, Professor, Dalian University of Technology

Dr. Mu Du, Associated Professor, Dalian University of Technology

Details of Session:

Recent advances in data availability, computational methods, and intelligent decision technologies have created new opportunities for improving decision quality in complex management and engineering systems. This invited session seeks high-quality theoretical and applied studies that develop data-driven models, learning-enhanced optimization methods, or intelligent decision support systems for real-world decision problems. We welcome contributions that integrate techniques such as machine learning, statistical modeling, intelligent agents, multi-agent systems, or hybrid algorithmic frameworks with decision analytics. Topics of Interest (include but are not limited to):

1. Data-Driven Decision Models

- Learning-based optimization and data-driven planning
- Dynamic, stochastic, and robust decision frameworks
- Integration of machine learning with decision analytics
- Explainable and interpretable intelligent decision mechanisms

2. Intelligent Algorithms and Systems

- Multi-agent decision systems and distributed coordination
- Intelligent agents, neural networks, fuzzy systems, and hybrid algorithms
- Evolutionary and genetic approaches to complex decision problems
- Intelligent decision support systems and knowledge-based systems

3. Applications in Management and Engineering

- Operations and supply chain decision making
- Intelligent logistics, transportation, and traffic management
- Healthcare and medical decision systems
- Financial decision analytics and risk assessment
- Energy systems, smart manufacturing, and infrastructure planning
- Emergency and crisis response decision technologies

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