Mathematical Problems in Engineering

Hindawi

Special Issue on

Intelligent Collaborative Decision Making Models, Methods, and Tools

CALL FOR PAPERS

The purpose of the development and implementation of models, methods, and tools for intelligent decision support is to improve effectiveness and efficiency in collaborative management through the optimization and enhancement of supply chain and networked manufacturing processes. One of the biggest problems arising in the context of engineering and industrial management science, besides the problem of data collection, is related to information modelling and processing in a real time basis. Decision support models and tools have to become increasingly more interactive and software-based systems intended to support business and organizational decision-making activities in order to help decision makers to compile information, specify useful business models and processes, and solve industrial management problems in companies. The advent of the web has enabled interorganizational decision support systems and has given rise to numerous challenges and applications of existing technology as well as many new decision support models, methods, and technologies.

This special issue (SI) intends to analyse the role of mathematics in the context of Intelligent Collaborative Decision Making (ICDM), from the resolution of specific problems, the study of new designs applied to the various subsystems that take part in the ICDM system, and corresponding mathematical problems for reaching new solutions to complex problems. Therefore, new mathematical trends, methodologies, and so forth are welcome, in order to include recent models, developments, and applications for supporting manufacturing and supply chains based on several contributions arising from the scope of manufacturing problems modelling and optimization, computational intelligence, decision support models and methods, multicriteria decision methods, and tools for improving manufacturing interoperability and collaboration among stakeholders along supply chains and networked manufacturing environments.

Potential topics include but are not limited to the following:

- Mathematical models in ICDM
- Intelligent manufacturing models and systems specification
- Optimization-based decision support models and tools
- Multicriteria decision models and methods
- Data mining
- Soft modeling in manufacturing engineering and applications
- Grey system theory
- Rough sets theory
- Knowledge and learning models and technologies

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Papers are published upon acceptance, regardless of the Special Issue publication date.

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Submission Deadline
Friday, 4 August 2017

Publication Date
December 2017