IFAC MIM 2019

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IFAC TC 5.2 WG2

Advanced games theory and multi-criteria applications in manufacturing and logistics

Proposed by:

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Short presentation: Game theory and multi-criteria approaches have been put to use in multiple segments of manufacturing and logistics. They have taken a prominent role to integrate people, information and products across integrated supply chain boundaries including management of various manufacturing, logistics and retailing operations such as in manufacturing, warehousing and distribution of goods and services. Decisions involving customer profiling, new product development, retail marketing, and sales patterns are immensely refined using innovative game theory and multi-criteria approaches. Also, as such decisions have an impact on the overall integrated logistic network processes, it is important that innovative game theory and multi-criteria tools also be linked to manufacturing and logistics applications.

This special session will provide a forum to investigate, exchange novel ideas and disseminate knowledge covering the broad area of game theory and multi-criteria applications in manufacturing and logistics. Experts and professionals from academia, industry, and the public sector are invited to submit papers on their recent research and professional experience on the subject. High quality papers reporting on relevant reviews of existing literature, theoretical studies, case studies, interdisciplinary research are all very welcome.

The session aims to focus on the following topics including (not limited):

1. Manufacturing and logistics systems scheduling and planning;
2. Supplier selection;
3. Adaptive manufacturing and logistics systems trading, coordination and negotiation;
4. Green and Eco-manufacturing and logistics systems management;
5. Risk management in manufacturing and logistics systems;
6. Secure manufacturing and logistics systems collaboration;
7. Impacts of cultural difference for manufacturing and logistics systems management,

Keywords: AHP, ANP, multi-criteria, game theory, supply chain, logistics, manufacturing, inventory control, risk

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