IFAC
INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

28/29/30 August 2019
Berlin, Germany

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mim
9th IFAC Conference MIM 2019
on Manufacturing Modeling, Management, and Control

Invited Session:

"Formal Modelling and Analysis of Reconfigurable Manufacturing Systems (Code k4yiu)"

In association with 9th IFAC conference MIM'2019, 28-30/Aug/2019, Berlin, Germany

Abstract:

The need for easily composable and Reconfigurable Manufacturing System (RMS) models has grown out from the fact that manufacturing systems fast prototyping and feasibility analysis must be conducted simultaneously from different perspectives: process performance, process reliability, material flows and storage, energy consumption profiles and other. All those different concerns should form a coherent whole when implementing a real process. The invited session presumes contributions that, on the one hand, address the modelling of processing units and of machines such as conveyors, milling machines, robot manipulators used in flexible production, and on the other hand, process descriptions that are compositions of operations and of processing unit patterns.

We specially encourage the contributions that address the methods of verifying the coherence of different aspect models, and also the case studies that demonstrate the feasibility of methods on real industrial examples.

Topics:

Topics include, but are not limited, to:

- Usage of High Level Petri nets for the modelling and analysis of RMSs
- Optimisation of formal verification of RMSs
- Combination between formal modelling and multi-objective optimisation in RMSs
- New formal models dedicated for RMSs
- Using of formal languages in Cyber-Physical systems
- Formal approaches and IoT applied in RMSs
- Formal approaches for the design and analysis of industry 4.0 applications

Important dates and submission information

Important dates:
- Invited session paper submission – December 30, 2018
- Notification on acceptance – February 20, 2019
- Final camera-ready paper submission – March 15, 2019

For author guidelines, please refer to www.ifac-control.org. All papers must be submitted electronically at https://ifac.papercept.net/. All papers must be prepared in a two-column format in accordance with the IFAC manuscript style. Please use the official IFAC instructions and template to prepare your contribution as full-length draft paper and submit it on line. Submission details are available on the symposium website. All submissions must be written in English. The corresponding author submits the paper online (pdf format) as **Invited Session Paper**. Submission as an invited paper requires the use of invited session code: **k4yiu.**
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Publication

Post-conference Proceedings will be published in IFAC-PapersOnLine series (Elsevier). Only papers presented at the conference will be included in the post-conference proceedings. The whole proceeding series can be referred to by means of the ISSN 2405-8963. Each paper is uniquely identified by a DOI (Digital Object Identifier), the current standard for electronic papers citation. IFAC proceedings are indexed by Scopus, the Web of Science (WoS), and Google Scholar.

Several special issues will be associated with MIM 2019:

- MIM 2019 Special Issue in ***International Journal of Production Research***
- Special Issue „Ripple Effect and Supply Chain Disruption Management" (Eds A. Dolgui, D. Ivanov, S. Talluri) for Track „Supply Chain Risk Management" in ***International Journal of Production Research*** (*CfP*)
- MIM 2019 Special Issue „OR and Analytics for Digital, Resilient, and Sustainable Manufacturing 4.0" (Eds E. Pesch, A. Dolgui, D. Ivanov, T.-M. Choi) in ***Annals of Operations Research*** (*CfP*)
- Special Issue „Modeling and Data Analytics in Manufacturing and Supply Chain Operations" (Eds W. Chen, S. Gao, M. Pinedo, L. Tang) for Track „Modeling and Data Analytics in Manufacturing and Supply Chain Operations" in ***Flexible Services and Manufacturing Journal*** (*CfP*)
- ***International Journal of Integrated Supply Management*** will associate Special Issue „Digital Technologies and Initiatives Impacting Supply Chain Integration and Performance" (Eds. Ajay Das and Dmitry Ivanov). Extended papers will be invited for *review and potential publication* in the MIM 2019 Special Issue (*CfP*)
- MIM 2019 Special Issue in ***Production Journal*** (the flagship journal of ABEPRO – Brazilian Association of Production Engineering)
- Selected papers presented at MIM 2019 will be considered for publication in ***Journal of Intelligent Manufacturing*** subject to a regular review process

Invited session chairs

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