Invited Session on "Assembly/Disassembly/Machining Line Design and Balancing under Uncertainty" for IFAC MIM 2019

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Invited session identification code
IFAC MIM 2019, August 28-30, 2019, Berlin, Germany

Session Chairs:

- *Oncu Hazir, Rennes School of Business, FRANCE*
- *Prof. Dr. Alexandre Dolgui, IMT Atlantique, FRANCE*

The aim of the session is to present optimization approaches and models for the robust design, balancing and sequencing of assembly/disassembly/machining lines. In today's competitive business world, companies require to design, manufacture and market their products rapidly and efficiently. At the same time, they have to manage with several sources of uncertainties and risks that can prevent them to achieve their goals. Consequently, predicting and modelling the effects of uncertainty, developing proactive mechanisms to hedge against risks in all phases of product life cycle has become crucial for financial sustainability of the companies. In this regard, we focus on models and techniques of optimization under uncertainty. Stochastic programming and fuzzy approaches will be considered. Stability analysis will be studied. Nevertheless the main focus will be on robust optimization and its applications in assembly/disassembly/machining systems. Our scope covers single criterion and multi-criteria optimization problems, exact and heuristic solution methods. We encourage submissions on simulation models, new robust optimization approaches, decision support systems (DSS) and their integration in product life cycle management (PLM).

Keywords: assembly lines, disassembly lines, machining lines, line balancing, robust optimization, decision support systems

References

Hazır Ö., Dolgui A., 2013, Assembly Line Balancing under Uncertainty: Robust Optimization Models and an Exact Solution Method, Computers & Industrial Engineering, 65:2,261-267.

Hazır Ö., Dolgui A., 2014, Robust Assembly Line Balancing: State of the Art and New Research Perspectives in Sequencing and Scheduling with Inaccurate Data; (Edited by Yuri N. Sotskov, Frank Werner).chp.9; Nova Science Publishers.

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Session topics:
The session chairs invite researchers and decision-makers from academia, industry, and government to contribute theoretical and applied research papers in areas including but not limited to the following topics:

Applications of techniques of optimization under uncertainty (robust optimization, stochastic programming, fuzzy programming, stability analysis,…) in assembly/disassembly/machining systems

Submission

For author guidelines, please refer to **www.ifac-control.org**. All papers must be submitted electronically using Symposium Manuscript Management System (CMMS). 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 online by December 15, 2018. Submission details are available on the symposium website. All submissions must be written in English. All papers that conform to submission guidelines will be peer-reviewed by IPC members. The corresponding author submits the paper online (pdf format) as **an invited session paper**. Submission as an invited paper requires the **invited session code .** Several international journals are associated with the MIM 2019 for publication of special issues.

Important dates:
December 15, 2018 Deadline for the submission
February 20, 2019 Notification of acceptance/rejection
March 15, 2019 Deadline for the final submission