**CALL FOR PAPERS**
**Special Session on**
**"Optimization, Artificial intelligence, and simulation based approaches to make decisions under uncertainties in complex systems"**
**Session identification: XXX**

*IFAC MIM 2019, August 28-30, 2019, Berlin, Germany -*
*https://ifac.papercept.net*

## Session Chairs:

- **Sondes CHAABANE**, LAMIH UMR CNRS 8201, Université Polytechnique Hauts-de-France, Valenciennes, France, sondes.chaabane@uphf.fr
- **Damien TRENTESAUX**, LAMIH UMR CNRS 8201, Université Polytechnique Hauts-de-France, Valenciennes, France, damien.trentesaux@uphf.fr
- **Jairo R. MONTOYA-TORRES**, Universidad de La Sabana, Chia, Colombia, jairo.montoya@unisabana.edu.co

**Brief description of special session scope:**

In recent years, manufacturing and services systems are bound to be increasingly competitive and dynamic in order to meet the new reality of customers' demands. They evolve in uncertain and dynamic environment that increases their complexity. The different decisions related to the optimization and organization of such systems must consider several sources of uncertainty. Different domain are concerned: manufacturing, transport, production ... and different problems are considered: scheduling, routing problems, decision making ... Operational research, artificial intelligence and simulation based techniques can be used to resolve such problems. The aim of this special session is to gather original papers dealing with applications of optimization, simulation and artificial intelligence based approaches to deal with decision under uncertainty in manufacturing and services systems. Different decision levels can be considered: design, dimensioning, planning, scheduling, reengineering...

This special session invites high quality unpublished research papers dealing with recent practical and theoretical approaches in the broad area of "Decision Making", "Management", "Scheduling" and "Engineering" of complex systems. The objective is to consider recent approaches and new researches for innovative decision making; measuring and modeling; managing and evaluating; predicting and classifying; analyzing, designing and engineering manufacturing and services systems.

**Suggested Topics:** include, but not limited to, using various modeling approaches that improve manufacturing systems decision making abilities, management and engineering systems in the following areas (not an exhaustive list):

- Decision support systems under uncertainty
- Optimization and simulation models and tools
- Real time simulation
- Robust scheduling problems
- Artificial intelligence based approaches in dynamic environment

**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 XXX. 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