



## Recent advances in integrated maintenance modeling and optimization for manufacturing systems

Manufacturing systems represent a significant portion of industrial capital. For the management and the design of such systems, integrated approaches have proven to be effective and have hence attracted researchers from reliability, availability and maintainability studies (RAMS) as well as the operational research (OR) communities. Several recent studies demonstrated the benefit of making joint decision on production and maintenance planning problems. In addition to maintenance and production activities, other studies also integrated quality control, outsourcing and carbon emissions issues into the decision processes. Many analytical and simulation models have been proposed to support joint decision making. There are however many important areas of manufacturing systems decision making that are not studied or are insufficiently covered such as warranty, logistics, remanufacturing and other sustainability engineering and management aspects.

This session aims to bring together a group of researchers who have investigated these topics and will have them share their research work with the community with the goal of fostering future research on these key issues. The session also aims to establish a bridge between scientific communities sharing research issues in reliability & maintenance, operational research, etc.

Original research papers, methodological papers, case studies, reviews and short communications on the theme of this special session are welcomed. Topics may include but are not limited to:

- Design for sustainable manufacturing systems
- Failure data analysis and condition assessment models for remanufacturing
- Maintenance and production outsourcing models for manufacturing systems
- Integrated analysis of quality, production and maintenance for manufacturing systems
- Reliability assessment of manufacturing and remanufacturing systems
- Robust optimization of joint maintenance and production planning
- Optimal maintenance strategies for sustainable systems
- Warranty and leasing models for new or reconditioned manufacturing systems
- Safety models for manufacturing and remanufacturing systems
- Integration of Industry 4.0 concepts with RAMS for multicomponent systems
- Sensor-data and data-driven maintenance and reliability optimization

**Paper submission:** Submission as an invited paper requires the invited session code **95v32**. Several international journals are associated with the MIM 2019 Conference for publication of special issues.

Guidelines for the preparation of manuscripts are provided on the conference website at: <https://blog.hwr-berlin.de/mim2019/>

If you experience any difficulties, please contact one of the organizers.

**Submission Deadline: December 15, 2018**

**Authors Notification: February 20, 2019**

**Camera Ready and early Registration: March 15 and March 31, 2019**

**Invited session chairs and contact information:**

**Dr. Abdelhakim KHATAB** (Lorraine University, France) [abdelhakim.khatab@univ-lorraine.fr](mailto:abdelhakim.khatab@univ-lorraine.fr)

**Pr. El-Houssaine AGHEZZAF** (Ghent University, Belgium) [elhousaine.aghezzaf@ugent.be](mailto:elhousaine.aghezzaf@ugent.be)

**Dr. Claver DIALLO** (Dalhousie University, Canada) [claver.diallo@dal.ca](mailto:claver.diallo@dal.ca)

**Dr. Uday VENKATADRI** (Dalhousie University, Canada) [uday.venkatadri@dal.ca](mailto:uday.venkatadri@dal.ca)