

**Invited Session on “Structural Dynamics in Sustainable Supply Chains”  
for IFAC MIM 2019**

**Invited session identification code XXX**

9th IFAC Conference on Manufacturing Modeling, Management, and Control (MIM 2019)  
28 - 30 August 2019, Berlin, Germany  
<https://blog.hwr-berlin.de/mim2019/> <https://ifac.papercet.net/>

**Session chairs:**

- Prof. Dr. José Antonio Marmolejo, School of Engineering, Universidad Panamericana, Mexico
- Prof. Dr. Román Rodríguez, School of Engineering, Universidad Anahuac, Mexico

This invited session has the purpose of giving the state-of-the-art in Structural Dynamics in Sustainable Supply Chains. Supply chains are complex networks that function in an uncertain environment. Therefore, the problems of creating and managing a successful supply chain are often approached in structural dynamics theory. This theory studies how different systems respond to dynamic performance. Revision of the supply chain in structural dynamics generally requires application of control theory principles or modelling and simulation of this structural dynamics systems.

On the other hand, a sustainable supply chain, in addition to traditional constraints, considers new limitations created to meet the social demand for the correct use of natural resources. Sustainability is a driving force that affects contemporary supply chains. Therefore, the need to resolve the gap between environmental, social and economic issues is clear. Due to the complexity and multidimensionality (economic, social and environmental factor) of the problem presented, traditional reductionist techniques are not considered an efficient method for solving the problem.

In this session we propose the fusion of the three paradigms mentioned above through innovative approaches to solve large-scale problems using methodologies such as the Life-Cycle Assessment (LCA), among others, to analyze the environmental, economic and social aspects of the chain of supply.

**Session topics:**

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

- Structural dynamics under uncertainty
- Sustainability in supply chains
- Complex intermodal supply chain
- Single- and multi-stage scheduling problems
- Multiparadigm Simulation
- Agent-based Simulation
- Control theory applied to planification
- Other topics that allow the design of sustainable supply chains

**Submission:**

For author guidelines, please refer to [www.ifac-control.org](http://www.ifac-control.org). All papers must be submitted electronically using the Symposium Manuscript Management System (CMMS). All papers must be prepared in a 2-column style 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 October 31, 2018. Submission details are available on the symposium website. All submissions must be written in English. All papers that conform to the submission guideline will be peer-reviewed by IPC members. The corresponding author submits the paper online (pdf format) as open invited session paper. Submission as an invited paper requires the open invited session code XXX. Several international journals listed in Web of Science are associated with MIM 2019 for the publication of special issues.

***Important dates:***

Deadline for submissions: December 15, 2018

Notification of acceptance/rejection: February 20, 2019

Submission of final draft: March 15, 2019

Expiration of Early Registration: March 31, 2019