

**Invited Session on “The ripple effect in supply chains”
for IFAC MIM 2019**

Invited session identification code 64m2p
IFAC MIM 2019, August 28-30, 2019, Berlin, Germany

<https://ifac.papercept.net/>

Session Chairs:

- Prof. Dr. Alexandre Dolgui, IMT Atlantique, FRANCE
- Prof. Dr. Dmitry Ivanov, Berlin School of Economics and Law, GERMANY
- Prof. Dr. Boris Sokolov, SPIIRAS, RUSSIA

The ripple effect occurs when a disruption, rather than remaining localized or being contained to one part of the supply chain (SC), cascades downstream and impacts the performance of the SC. This impact might include lower revenues, delivery delays, loss of market share and reputation, and stock return decreases— the cost of all of which could be devastating.

This book offers an introduction to the ripple effect in the supply chain for larger audience. Ripple effect describes the impact of a disruption propagation on SC performance and disruption-based scope of changes in SC structural design and planning parameters. As the result of the ripple effect SC structures change. It is different from the bullwhip-effect that affect the SC at the operational level by mismatching demand and supply without structural changes in the SC design, i.e., without SC structural dynamics

The Invited Session aims at delineating major features of the ripple effect and methodologies to mitigate the SC disruptions and recover in case of severe disruptions. It reviews recent quantitative literature that tackled the ripple effect and gives a comprehensive vision of the state of the art and perspectives. The methodologies comprise mathematical optimization, simulation, game theory, control theoretic, data-driven analytics, network complexity and reliability theory research. Even though a variety of valuable insights has been developed in the said area in recent years, new research avenues and ripple effect taxonomies need to be identified for the near future.

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:

Planning SC performance under uncertainty, Network robustness and resilience, disruption propagation in the SCs, resilient SC design, SC recovery policies, Supply chain risk analytics; Creating flexibility and adaptability in the supply chain, digital technology applications to supply chain risk management; optimization, simulation, game theory, reliability theory, control theory.

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 64m2p**. 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