

**Open Invited Session on ‘Planning and scheduling of transportation and logistics under uncertainty environments’ for IFAC MIM 2019**

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**Session Chairs:**

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**Motivations:**

In recent years, the concept of Industry 4.0 has attracted a lot of attention due to its increasing benefits in different kinds of industries (Dolgui et al. 2018, Ivanov et al. 2018). In order to be consistent with this phenomenon, there is a great need on transportation and logistics so as to satisfy the huge growth of demands. However, this rapid advancement brings plenty of challenges, such as improper planning or scheduling and various uncertainties. The former may cause additional cost or pollution emissions (Nguyen et al. 2018, Rahimi et al. 2018). While the latter has a huge influence on their planning and scheduling processing (Liu et al. 2017). Therefore, new intelligent solution methods should be developed to cope with transportation and logistics, under uncertain environment. This session aims at presenting new innovative models and optimization techniques about the planning and scheduling of transportation and logistics.

**Topics:**

This session provides a forum for experts, scholars and engineers from universities and related industries to exchange and share their experiences and research results on the planning and scheduling of transportation and logistics. Topics may include (not limited to):

- Consider environmentally friendly transportation and logistics, from an energy-oriented perspective or a green-oriented perspective.
- Consider different kinds of uncertainties in applications, such as uncertain demand columns, uncertain release times, uncertain processing times, uncertain transport environment, uncertain vehicle availability, and etc.
- Optimize the planning and scheduling of transportation and logistics from different perspectives, such as companies, customers, or both of them;
- Adopt effective solution methods for handling uncertainty, such as robust optimization, stochastic scheduling, distributionally robust optimization, distribution-free method.

**Submission:**

For author guidelines, please refer to [www.ifac-control.org](http://www.ifac-control.org). All papers must be submitted electronically at <https://ifac.papercept.net/>. 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 on line. 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 Open Session paper. Several international journals are associated with the MIM 2019 for publication of special issues.

**Important dates:**

Deadline for submissions: December 15, 2018

Notification of acceptance: February 20, 2019

Submission of final draft: March 15, 2019

Expiration of Early Registration: March 31, 2019

**Reference:**

- [1] Dolgui, A., Ivanov, D., Sethi, S. P., Sokolov B. 2018. "Scheduling in production, supply chain and Industry 4.0 systems by optimal control: fundamentals, state-of-the-art and applications." *International Journal of Production Research*. DOI: 10.1080/00207543.2018.1442948.
- [2] Ivanov, D., Dolgui, A., Sokolov, B. 2018. "The impact of digital technology and Industry 4.0 on the ripple effect and supply chain risk analytic." *International Journal of Production Research* (3): 1-18.
- [3] Nguyen, L., Moseson, A. J., Farnam, Y., Spatari, S. 2018. "Effects of composition and transportation logistics on environmental, energy and cost metrics for the production of alternative cementitious binders." *Journal of Cleaner Production* 185: 628-645.
- [4] Rahimi, M., Ghezavati, V. 2018. "Sustainable multi-period reverse logistics network design and planning under uncertainty utilizing conditional value at risk (CVaR) for recycling construction and demolition waste." *Journal of Cleaner Production* 172: 1567-1581.
- [5] Liu, Y., Lei, H., Zhang, D., Wu, Z. 2017. "Robust optimization for relief logistics planning under uncertainties in demand and transportation time." *Applied Mathematical Modelling* 55: 262-280.
- [6] Zheng, F., Li, Y., Chu, F., Liu, M., Xu, Y. 2018. "Integrated berth allocation and quay crane assignment with maintenance activities." *International Journal of Production Research*, 1–26.