



Séminaire-Webinaire conjoint avec / Joint Seminar-Webinar with  
Chaire en Planification des systèmes intelligents de logistique et de transport /  
Chair on Intelligent Logistics and Transportation Systems Planning



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**PLANNING SCHEDULED SERVICES IN MULTIMODAL SYNCHRONIZED CITY LOGISTICS SYSTEMS**

Zoom Link: <https://uqam.zoom.us/j/87296780841> / Meeting ID: 872 9678 0841

Abstract: Due to limited transportation and storage resources in urban areas, future city logistics systems focus on multi-tier transportation with heterogeneous vehicles, an integration of freight movements into rail-based mobility and minimal spatial requirements. The exact synchronization of transportation services is a major challenge. With regard to an efficient use of resources, the integration of inbound, outbound and inner-city commodity flows is of increasing importance together with the application of innovative transportation-as-a-service ideas. The presented planning approach is based on two-tier service network design, where transportation services with routes, departure time windows and capacities are given. Distinct waiting time policies at customer and handover locations constitute another key characteristic. The goal is to find a selection of operated services, an assignment of all transportation demands and a precise schedule for each service so that travel and waiting times are minimal. With a comprehensive computational study, the effects of different problem characteristics on its complicatedness and solvability by a general state-of-the-art mixed-integer-programming solver are examined and reported. Therein, an elaborate generation procedure and a wide set of new instances for two-tier city logistics service network design are proposed.

*Joint work with Teodor Crainic, Timo Gschwind and Walter Rei*

Bio: Julia Lange is a postdoctoral fellow at the University of Kaiserslautern in Germany and the Université du Québec à Montréal and CIRRELT. In 2019, she obtained her PhD in Mathematics from the Otto-von-Guericke-University of Magdeburg (Germany) by developing metaheuristics for complex job shop scheduling problems. After working on industry-related production and logistics planning projects at the FZI Research Center for Information Technology in Karlsruhe (Germany), she joined the Chair of Logistics in Kaiserslautern in 2021. Her main research interests are in planning problems in two-tier city logistics with a special focus on scheduling and synchronization.

JEUDI / THURSDAY

24 novembre 2022, 10h30  
November 24th, 2022, 10:30

Pavillon André-Aisenstadt  
Room 5441

[Lien Zoom](#)

Ouvert à tous / Open to all

Responsable / Organizer  
Teodor Gabriel Crainic

