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Centre sur l'intelligence² en
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Séminaire conjoint / Joint Seminar
CRI²GS, École des sciences de la gestion (ESG) - UQÀM

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DYNAMIC FLEXIBLE TIME WINDOW PRICING

Abstract: In the competitive world of online supermarkets, retailers offer a selection of time windows to fulfill customers' expectations of on-time delivery. Creating a set of suitable and cost-efficient time windows is challenging since customers prefer short time windows over long windows, which can increase delivery costs significantly. Major online supermarkets like Tesco (United Kingdom) or Bringmeister (Germany) offer both long and short time windows and differentiate these options through different delivery fees. Low prices are used to nudge customers towards accepting longer or less popular time windows. However, online supermarkets usually set fees that are static over the whole booking process instead of dynamically updating them to already accepted orders and routing characteristics. In this presentation, we present different ideas of flexible time window pricing that ensure allocation of short time windows to those customers that are valuable but still do not restrict the flexibility of evolving route plans significantly. We consider information about the current route plan (e.g. current utilization and structure) and combine this with realistic customer' choice behavior for different time window options (e.g. place and length) to create customer-individual time window offer sets. We analyze the effectiveness of our ideas in computational experiments given realistic demand structure of real order data.

Bio: **Charlotte Köhler** is currently a PhD candidate at the Management Science Group at the Otto von Guericke University in Magdeburg, Germany. Her research focuses on routing in e-fulfillment, especially the impact of time window promises on the overall routing efficiency when accepting customer orders.

MERCREDI / WEDNESDAY
11 septembre 2019 /
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Salle / Room 5441
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Teodor Gabriel Crainic