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DISRUPTING MANAGEMENT IN RAILWAY AND PUBLIC TRANSPORT NETWORKS

Abstract: A major problem of public transport, and railways in particular, is to improve quality of operations by updating an offline timetable to the ever changing delays situation, in order to improve performance of the transport system. In railway systems, this relates to reducing train delays by reordering retiming or rerouting trains, and/or change connection plans and route advised to passengers, to improve their traveltime. Key point of research is the interaction between the problem (of the operator) to reschedule trains, and the problem (of the travellers) to find their best route in the network, given the information they might have available. In fact, changing passenger flows, for instance delaying services and/or dropping passenger connections, varies the setting, objective functions and constraints under which the two decision makers respectively interact. We report different methods to address this problem, also including the information one player knows about the other, by optimization approaches, agent based simulations, game-theoretical approaches, and by estimating models of human behavior based on observed actions.

Bio: Francesco Corman holds the chair of Transport Systems at the Institute of Transport Planning and Systems, Swiss Federal Institute of Technology, ETH Zurich, Switzerland. He has a PhD in Transport Sciences from TU Delft, the Netherlands, on operations research techniques for real-time railway traffic control. He has academic experience at KU Leuven, Belgium and TU Delft as research associate in transportation and logistics. Main research interests are in the field of railway traffic control and management to reduce delays for the system and its users. This is achieved based on quantitative methods and operations research to transport sciences, especially on the operational perspective, public transport, railways and logistics.

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14h00

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

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Responsable / Organizer
Emma Frejinger