CIRRELT

Séminaire conjoint / Joint Seminar

Chaire en logistique et en transport et la Chaire de recherche du Canada en distributique /
Chair in Logistics and Transportation and the Canada Research Chair in Distribution Management

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INTERDEPENDENT HOME HEALTH CARE AND SOCIAL CARE PROBLEMS

Abstract: In home health care (HHC) services, professional caregivers are dispatched to patients' homes to provide medical care services, such that each patient can stay at home to be treated periodically. In an increasingly aging world, many of these patients usually need additional cares, such as Social Care (SC). Very often public medical institutions and public social services attend these patients, and both services present a certain degree of interdependency, e.g., a patient should be helped to get up, groom, and eat, before being seen by a doctor; or a patient needs help to organize the pills and doses after a doctor's visit. Since the coordination of both services is relevant in a large number of patients, the aim of this work is to propose a mathematical model and solving method considering the synchronization of both services and the particularities of each of them. The HHC problem consists of the medical staff rostering problem (NRP) and the vehicle routing problem with time windows (VRPTW), both of which are NP-hard problems. Additionally, the SC problem presents similar composition. Thus, the joint solution of both problems considering synchronization is a complex challenge but that can bring a huge social and economic benefit.

Bio: Jésica de Armas (www.jesicadearmas.com) is PhD in Computer Science, and currently works as Assistant Professor in the area of Operational Research, Department of Economics and Business at Pompeu Fabra University. Her research falls into the areas of Operational Research and Artificial Intelligence (Combinatorial Optimization, Metaheuristics, Machine Learning, Simulation), with particular interest in the development of mathematical models and heuristic algorithms to solve complex optimization problems in topics such as Vehicle Routing, Scheduling, Production, Transportation, Health and Social Care Optimization, and Developing Countries. As a result of her research, she has published more than 25 articles in prestigious international scientific journals and has participated in numerous international conferences. She has worked on several national research projects and networks of excellence. She has been awarded several prizes for her research.

MARDI / TUESDAY
8 octobre 2019 / October 8, 2019
10h30

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

Ouvert à tous / Open to all

Organisateur / Organizer
Marie-Ève Rancourt

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