



OPTIMIZING ON DEMAND WAREHOUSING SYSTEMS

Abstract: Warehouses are key elements of supply chain networks, and great attention is paid to increase their efficiency. Highly volatile space requirements are enablers of innovative resource sharing concepts, where warehouse capacities are traded on online platforms. Such platforms receive storage requests from customers and capacity availability and prices from suppliers and provide a customers-suppliers matching which maximize the platform revenue, while ensuring a minimum level of satisfaction for both actors in the systems. In this talk we examine three different systems: (i) a deterministic problem in which the platform collect all the requests related to a given period of time, and then optimize the matching (ii) an online problem in which as soon as a new request arrive into the system, it is processed and the platform immediately decide whether to accept or reject it and, in case of acceptance, to which suppliers to assign it, (iii) a bi-level stochastic model in which the platform propose different ad-hoc selected options to each customer, which pick the most convenient for her, following a rationale which is unknown to the platform. Mathematical models and solution approaches will be presented for each problem setting and managerial insights will be discussed.

Short biography: Simona Mancini is Associate Professor of Operations Research at the University of Palermo since 2022 and external lecturer in Operations Management and Logistics at the University of Klagenfurt since 2021. Since 2022, she serves as Associate Editor of Expert Systems with Applications. She is a member of the scientific committee of the conferences TRISTAN 2022 and TRISTAN 2025. She is the author of more than 40 papers on scientific journals and more than 50 presentations at international conferences. Her research includes optimization of logistics systems with a particular focus on last-mile delivery, combinatorial optimization and matheuristics.

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7 MAI / MAY 7TH
10h30

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Salle / Room 2327

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Café et viennoiseries

Responsable / Organizer:
Maryam Darvish