UNIVERSITY OF BRESCIA
DEPARTMENT OF ECONOMICS AND MANAGEMENT

SEMINAR

The Day After Optimal: Operations Research for Modern Logistics

Prof. Stefan Nickel
Karlsruhe Institute of Technology

Chair: Prof. Maria Grazia Speranza
University of Brescia

Thursday, March 2nd, 2023, 11:30 AM
Room A6, S. Chiara Building

Abstract: Operations Researchers support decision makers by developing adequate mathematical optimization models and providing suitable solution procedures. In this talk we discuss what “adequate” could mean when decisions have to be made in uncertain environments. Therefore, we may ask several questions concerning “optimality” under causal and temporal uncertainty: What is an optimal solution? When is it optimal? For how long is it optimal? How should the design of a supply chain be changed when conditions and requirements ask for new structures? We discuss new approaches to advanced planning concepts in order to give an optimal transformation from an initial solution over multiple periods to a desired one rather than just specifying an optimal snapshot solution. Time and uncertainty are the factors triggering the whole discussion. Several flaws often found when dealing with these factors result in so-called “time traps”. In the context of operational supply chain planning and control, we look at the impact of recent developments such as the integration of simulation/optimization or the consideration of machine learning, and we show how online optimization can help to cope with these challenges. Moreover, we take a look at how the increased availability of data and forecasts affects models and decisions on a strategic level and find that with new opportunities also new challenges and stumbling blocks occur.

Via S. Faustino 74/b, 25122 Brescia – Italy
Tel +39 030 2988742 Fax +39 030 2988703
email: paqricerca.dem@unibs.it