A cordial invitation to the last talk of the
Brown Bag Seminar
Recent Developments in Data Science:

Operative planning with two-echelon distribution systems

By
Dr. Christian Tilk

Date:	24.02.2022 (Thursday) from 10:30 to 12:00
Location:	Online via Zoom
Further information:	Course 39740 Seminar: Doctoral Seminar "Recent Developments in Data Science" in Stud.IP
Zoom link:	https://uni-passau.zoom.us/j/99486256116?pwd=MEVwRzd5Z0NlckZGRWZEb3JuZ2F0UT09 Meeting ID: 994 8625 6116 Passcode: 037319

Abstract:

In more and more cities, governmental regulations restrict the type of vehicles allowed to access city centers. In turn, access restrictions generate extra costs for the carriers. Moreover, the intense inner-city traffic, narrow streets, and the lack of adequate parking spaces further rises the requirements for urban deliveries. Therefore, most inner-city distributions systems require a multi-level structure. In this talk, we consider variants and extensions of the two-echelon vehicle routing problem that are of practical interest. In the two-echelon vehicle routing problem, customers are supplied from distribution centers through intermediary transfer and storage locations called satellites. First-echelon vehicles transport goods from distribution centers to satellites, at which second-echelon vehicles collect the goods and deliver them to the customers. The flow of goods must respect operation and load synchronization constraints, i.e., one must decide on the assignment of each customer's demand to a satellite and ensure that incoming and outgoing quantities at each satellite coincide.

Speaker:

Christian Tilk is a postdoctoral researcher at the Johannes Gutenberg University Mainz where he also received his PhD in 2016. His research interests span all areas of operations research. Much of his former work is dedicated to the modelling and solution of complex vehicle routing problems. Currently, he is working on city logistic problems, on predictive maintenance in railway traffic, and on the application of machine learning to enhance operations research methods.

Dr. Christian Tilk