

# VORträge zum Operations Research

Kolloquium des Instituts für Operations Research

*Zeit:* Dienstag, 14. Januar 2020, 17:30 Uhr

*Ort:* Raum 320, Gebäude 09.21

*Es spricht:* Frau Prof. Dr. Simone Göttlich, Universität Mannheim

*Zum Thema:* A dual tailored branch-and-bound algorithm for quadratic mixed-integer problems with application to production networks

*Abstract:* In this talk, we focus on the optimization of decision variables in the context of a production system which is modeled as a network. The dynamics is given by a coupled system of ordinary and partial differential equations. For the optimization of the latter discrete-continuous optimization problem, we fully discretize the model with suitable numerical methods. In this way, we end up with a mixed-integer quadratic constraint quadratic problem. We present an improved solution method based on the branch-and-bound algorithm for this problem class. To obtain additional information for the solution process as well as for the calculation of dual bounds, we derive the adjoint system. This provides the opportunity to equip the branch-and-bound algorithm with knowledge about the structure of the discretized optimization problem.

**Die Vorträge zum Operations Research wenden sich an alle Interessierten!**

Ab 17:00 Uhr ist am Institut für Operations Research (Gebäude 09.21, Raum 119) Gelegenheit zu einem Gespräch mit der Referentin bei einer Tasse Kaffee gegeben.

Bei Rückfragen wenden Sie sich bitte an:  
Prof. Dr. Oliver Stein, Institut für Operations Research.