

## MAGDEBURG LECTURES ON OPTIMIZATION AND CONTROL

### Britta Peis



MAGdeburg Lectures on Optimization and Control

Prof. Dr. Britta Peis  
RWTH Aachen University

Matchings and Matroids in  
Algorithmic Game Theory

Di, 25.10.2016 17:00 - 18:00 Lukasklausur, Schleierufer 1 (historischer Raum)

Further information:  
[www.maloc.orga.de](http://www.maloc.orga.de)

Jointly organized by: Faculty of Electrical Engineering and Information Technology  
Faculty of Mathematics  
Max Planck Institute Magdeburg  
Center for Dynamic Systems: Biosystems Engineering

### Matchings and Matroids in Algorithmic Game Theory

› Prof. Dr. Britta Peis (<http://www.wiwi.rwth-aachen.de/cms/Wirtschaftswissenschaften/Die-Fakultaet/Institute-und-Lehrstuehle/Professoren/~eikd/Peis-Britta/?lidx=1>)  
RWTH Aachen University  
Chair of Management Science

### Time & Place

The presentation on October 25, 2016 will be given in the Lukasklausur › (Schleierufer 1, 39104 Magdeburg) (<http://ifatwww.et.uni->



[magdeburg.de/syst/maloc/seminars/Standort%20Lukas%20Klausur.pdf](http://magdeburg.de/syst/maloc/seminars/Standort%20Lukas%20Klausur.pdf)) and starts at 5.00 p.m. (Historischer Raum).

### Abstract

Throughout the talk we will see that the theory of combinatorial optimization turns out to be extremely helpful when it comes to analyzing game-theoretic models. We focus on the important role of structures and algorithms known from matching- and matroid theory for network bargaining games and congestion games. For example, we will see that congestion games are immune to Braess' paradox if (and only if) each player's strategy space forms the base set of a matroid.