Berlin School of Economics – Masterclass: July 10 – July 11

Complementarity Theory and Applications in Electricity Markets

Antonio J. Conejo (Ohio State University)

BERLIN SCHOOL OF ECONOMICS

Overview

This course provides a thorough exposition to complementarity models and their solution techniques. It covers algebraic and geometrical interpretations of optimality conditions, equilibria, mathematical programs with equilibrium constraints, and equilibrium problems with equilibrium constraints. It will apply the concepts to the analysis of electricity markets.

The course is designed for PhD students with an interest in optimization and equilibrium problems, numerical solution techniques or the analysis of energy markets. It consists of theory lectures and practical computer exercises.

Antonio Conejo

is Professor for Integrated Systems Engineering at the Ohio State University. He published over 100 papers on optimization methods and applications to energy markets. He regularly teaches courses, among others, at MIT, Duke, Stanford, and the University of Castilla - La Mancha.

Outline

Lecture 1: Optimality & complementarity
Lecture 2: Equilibria
Lecture 3: Mathematical programs with equilibrium constraints (MPECs)
Lecture 4: Equilibrium problems with equilibrium constraints (EPECs)

Time and Place

July 10, 9:30 – 17:30, Popper Room
July 11, 9:30 – 17:30, Popper Room
July 12, 9:30 – 11:00, office hour (Francine D. Blau Room)

Introductory Reading

S. Gabriel, A. J. Conejo, B. Hobbs, D. Fuller, C. Ruiz, “Complementarity Modeling in Energy Markets,” Springer, New York. 2012.
Z.-Q. Luo, J.-S. Pang and D. Ralph, “Mathematical Programs with Equilibrium Constraints,” Cambridge University Press, Cambridge, 2008.

If you want to join, please register with Juliane Metzner (jmetzner@diw.de) until 14.06.19.