The Chair of Economics, Discrete Optimization and Mathematics of the Friedrich-Alexander-Universität Erlangen-Nürnberg invites applications for a PhD position in optimization to be filled for a period of three years. The successful applicant will work in the project

Energy efficiency via intelligent district heating networks

in cooperation with the academic partners University Trier, TU Berlin, and Fraunhofer Institute for Industrial Mathematics as well as the with the industrial partner Technische Werke Ludwigshafen am Rhein AG. The project is funded by the Federal Ministry of Education and Research.

The focus of the project will be the development of models and optimization techniques for coupled district heating networks. The main idea is to develop algorithms for (discrete-)continuous optimization that control the overall accuracy of the optimization model by exploiting tailored error estimates. The successful applicant will thus work at the interesting interface between optimization and numerics. The developed algorithms will be analyzed theoretically and need to be implemented in a programming language like C++ or Python.

We seek excellent open-minded and team-spirited PhD candidates that should have completed their studies at master level in a program with strong mathematical background in optimization.

The chair EDOM - Economics, Discrete Optimization, Mathematics (Chair Wirtschaftsmathematik) consists of 20+ PhD students and Postdocs and has more than fifteen years of experience in modeling and solving complex and very large-scale planning and decision problems from logistics, energy, production, engineering, and the natural sciences; see https://www.mso.math.fau.de/de/edom. Our key expertise is in developing and applying models and algorithms, which yield proven optimal solutions to optimization problems. This involves techniques like linear, nonlinear, and integer programming, robust optimization, graph algorithms, polyhedral combinatorics, and the like.

Please send your complete application documents (motivation letter, CV, certificates, and a list of MSc courses with grades) as one PDF to mar.schmidt@fau.de. The deadline for applications is February 28, 2018.