

## **JOB ADVERTISEMENT**

### **Research assistant at the interface of mathematical optimization and energy economics (Friedrich-Alexander-Universität Erlangen-Nürnberg and/or Trier University)**

In the DFG Collaborative Research Center (CRC) 154 “Mathematical Modelling, Simulation and Optimization using the Example of Gas Networks”, the position of a

#### **research assistant**

is to be filled starting from March 2021 on. Remuneration is based on salary group E 13 TV-L (75%) and the position is filled for an initial period of 16 months. An extension is possible.

The PhD student will do research at the interface of mathematical optimization, equilibrium modeling, and theoretical economics with applications to energy markets and to gas markets, in particular. A rigorous mathematical modeling of today’s liberalized energy markets leads to multilevel mixed-integer nonlinear optimization problems that are extremely challenging both from a theoretical as well as from a computational point of view. In this context, the work’s focus will be

- on mathematical modeling of multilevel equilibrium problems for energy markets,
- on the theoretical analysis of these models,
- on the development of tailored solution methods for their resolution, and
- on the economic analysis and interpretation of the results to obtain insights on real-world markets.

The applicant is expected to enjoy working in an interdisciplinary and international team. The work will be supervised by Prof. Dr. Martin Schmidt (Trier University, Mathematics) and Prof. Dr. Veronika Grimm (FAU Erlangen-Nürnberg, Economics) who jointly lead the CRC subproject on “Multilevel mixed-integer nonlinear optimization for gas markets”. The main location and affiliation of the applicant can be either Trier or Nürnberg. The willingness to spend research visits at the other location is expected. We expect a solid background in applied mathematical optimization, the capability to work independently, to be reliable, and to have excellent English language skills. The opportunity for a doctorate is given.

The prerequisite for employment is a university degree in mathematics.

The Chair of Economic Theory at FAU Erlangen-Nürnberg and the Chair of Nonlinear Optimization at Trier University are committed to promote equity, diversity, and inclusion within the research team. Applications from female scientists are particularly welcomed, as well as applications from visible minorities, people with any gender identity, people with disabilities, and people from economically disadvantaged backgrounds.

Applications with the usual documents (letter of motivation, curriculum vitae, certificates and, if applicable, a list of publications) in a single PDF are requested via e-mail to Martin Schmidt ([martin.schmidt@uni-trier.de](mailto:martin.schmidt@uni-trier.de)) or the Veronika Grimm ([veronika.grimm@fau.de](mailto:veronika.grimm@fau.de)).