



Mathematical Modelling,  
Simulation and Optimization Using  
the Example of Gas Networks

**Job Opening for Doctorate Position (75% / TV-L E13)**

**Mathematical Modelling, Simulation and Optimization Using the Example of Gas Networks, Subproject C08 in TRR 154 ([www.trr154.fau.de](http://www.trr154.fau.de))**

We offer a position for a doctoral candidate (75% / TV-L E13, initially ad interim until 30.06.2022) at FAU Erlangen-Nürnberg to work on the dynamics, control and of partial differential equations motivated by gas network dynamics.

Applicants should have a qualified degree in mathematics or a related field with fundamental knowledge in mathematical modelling and partial differential equations. Proficiency in oral and written English is required.

The candidate will be part of the research team of the SFB/Transregio TRR 154 ([www.trr154.fau.de](http://www.trr154.fau.de)) having access to a integrative research environment such as a specific graduate program, regular research meetings and specific funding for guests and conference attendances. Once recruited, the chosen PhD candidate will perform research in a highly relevant research area in applied mathematics that is centered around the “turnaround in energy policy”, in particular in the context of gas networks. The main aim of TRR 154 is to provide certified novel answers to mathematical challenges arising in this context, based on mathematical modeling, game theory, simulation, and optimization.

The advertised position will contribute to subproject C08 (project leaders: Falk Hante (Humboldt-Universität zu Berlin) and Enrique Zuazua (FAU Erlangen-Nürnberg) which is focusing on hyperbolic and parabolic dynamics on networks and random batch methods for control. The candidate will integrate the Chair of Applied Analysis – Alexander von Humboldt Professorship led by E. Zuazua at FAU-Erlangen and, beyond the close collaboration within TRR 154, will also be linked to activities in the perimeter of FAU, such as the Energy Campus Nürnberg ([www.encln.de/markt](http://www.encln.de/markt)) with strong expertise regarding the mathematical modeling of energy markets (Electricity, Gas, Hydrogen) and regarding the development of sustainable mobility concepts.

Our research group offers a lively research environment, financial support for attending conferences, and an intensive supervision within a large and interactive team. Salary corresponds to the German pay scale (75% / TV-L E13). In order to increase the proportion of female staff members, applications from female scientists are particularly encouraged. Preference will be given to disabled persons with the same qualification.

For further information about the position, please contact Professor Enrique Zuazua ([enrique.zuazua@fau.de](mailto:enrique.zuazua@fau.de)) or Professor Falk Hante ([falk.hante@hu-berlin.de](mailto:falk.hante@hu-berlin.de)). Please submit your electronic application as a **single** pdf file including the standard materials (vita and diplomas) to [secretary-aa@math.fau.de](mailto:secretary-aa@math.fau.de). Please refer to “**PHD position TRR154**” in the reference line of the email. The deadline for all application materials is **30 October 2020**.

