

**Are you looking for a new professional challenge?
Then this is the place to be!
Become part of our international team!**



12.12.2019

The Zuse Institute Berlin (ZIB) is a non-university research institute under public law of the state of Berlin. Together with its partners from academia and industry, ZIB contributes to the solution of highly complex problems in science, technology, environment and society by developing mathematical models and efficient algorithms.

The department *Mathematical Optimization* is offering a research position within the research group *Energy Network Optimization*:

research position (m/f/d)
reference Code: WA 41/19
pay grade E13 TV-L Berlin (100%)

The position is offered at the earliest possible date until November 30st, 2020 (end of project).

Job description:

The Zuse Institute Berlin works in cooperation with other scientific research institutes as well as industrial partners on solutions of planning problems beyond the frontier of current feasibility. This position is part of the project "Holistic and multi-objective optimization of extension planning for sustainable district heating systems (MOTIF)". In MOTIF, a cooperation of the research groups *Energy Network Optimization* and *Mathematical Optimization Methods* and industrial partners does research on mathematical methods for planning tools for the optimization of district heating networks.

The decarbonisation of the heating sector places new and more complex demands on the planning of district heating networks. In this position, you will develop models and algorithms that enable long-term and multi-criteria optimization for the expansion planning of district heating networks. By means of mixed integer optimization, realistic functional components are to be developed which correctly represent the various expected targets, extensive investigations are to be carried out both for exact decomposition and for heuristic rolling planning methods and acceleration techniques are to be used.

In this position, you have the opportunity to pursue a PhD project and publish your scientific results. You are expected to attend national and international scientific conferences. Possibilities for research exchanges with other world-class institutions are given.

Requirements:

- excellent master or diploma in mathematics, computer science, or related disciplines
- a strong background in at least one of the following areas: linear and integer programming, combinatorial optimization, nonlinear optimization
- experience in mathematical modelling of problems in the energy industry is an advantage
- good scripting and programming skills in at least one language (preferably C/C++)
- good command of written and spoken English, proficient German skills are of advantage

We are offering a friendly working atmosphere, excellent equipment and an ambitious professional environment. Embedded in the rich mathematical research landscape of Berlin, ZIB offers career perspectives on every stage of your scientific career, including further qualification options and a strong support of research on award winning standards with high international visibility. Our team offers an attractive initial training process to train new team members in the knowledge and skills, you need for the success in our institute and your career. We also offer flat hierarchies with short decision paths as well as a family friendly work environment with flexible work and meeting times,

as well as

- additional pension scheme (VBL),
- 30 days annual leave, flexible working hours (flexitime),
- payment in accordance with TV-L (Collective Agreement for the Public Service of the federal states), taking into account the relevant professional experience and annual special payment,
- as well as the discounted use of canteens and the sports program of Freie Universität Berlin.

Although the position is offered as full time, part-time work is also possible.

The candidature of women is encouraged. Since women are underrepresented in information technology, ZIB is trying to increase the proportion of women in this research area.

Persons with disabilities will be given preference when equally qualified.

Please send your application, quoting the reference code **WA 41/19**, including motivation letter (max. size of one page), CV in tabular form, certificates, as well as the contact of one or two references by **February 2nd, 2020** (date of receipt) to

Zuse Institute Berlin (ZIB)

- Administration -
Takustr. 7
14195 Berlin

or electronically as **pdf-form** to: jobs@zib.de.

Our private policy statement regarding application data can be found at www.zib.de/impressum.

Further information about the position can be obtained on our website www.zib.de or from Dr. Janina Zittel (zittel@zib.de).

For further job offers please visit our website at www.zib.de/jobads.