

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



September 12th, 2024

The Zuse Institute Berlin (ZIB) is a non-university research institute under public law of the state of Berlin. Within the research group “AI in Society, Science, and Technology” and in order to conduct research in the field of Flag Algebras in Combinatorics and Mathematics through formal verification, we are offering from October 1st, 2024 until December 31st, 2025 a

**Research Position (m/f/d)
Reference Code: IWA 35/24
Pay Grade 13 TV-L (75 %)**

Job description

The position is intended to obtain new bounds in Extremal Combinatorics through an application of flag algebras. We want to both improve the underlying computational aspects for existing problems as well as to further develop the theory of flag algebras to extend it to new areas of application. One goal is to substantially contribute to the ongoing effort of formally verifying published mathematical results with a particular focus on results in Extremal Combinatorics, where key aspects of the Probabilistic Method and tools like Hypergraph Containers have not yet been added to the available set of techniques.

Your profile

- Excellent M.Sc. degree in mathematics, computer science, or related disciplines
- Background Combinatorics and Discrete Optimization, in particular knowledge of algorithmic exhaustive generation of combinatorial structures
- Interest to contribute new topics to the research profile of the group
- Willingness and interest to work with formal proof verification
- Excellent programming skills and experience, ideally Python, C++ or related languages
- Good command of written and spoken English
- Creativity and a high degree of commitment to problem solving

We are offering a friendly working atmosphere with flexible work and meeting times, excellent equipment, and a challenging professional environment

as well as

- comprehensive training in a competent and cooperative team,
- an additional pension scheme (VBL),

- 30 days annual leave, additionally free from work on December 24th and 31st,
- compatibility of work and family through flexible working hours, e.g. (flexitime),
- a salary in accordance with TV-L (Collective Agreement for the Public Service of the Federal States), taking into account the relevant professional experience,
- capital allowance of up to €150 per month, alternatively a discounted BVG (public transport) ticket + difference amount,
- an end-of-year bonus,
- the use of canteens and sports programs of the Freie Universität Berlin (FUB) at reduced rates.

Due to our involvement in major regional cooperative projects, such as the Einstein Center for Mathematics (ECMath), the DFG Cluster of Excellence MATH+, the Berlin Mathematical School (BMS) or the Berlin Institute for the Foundations of Learning and Data (BIFOLD), we have close ties to universities and research institutes in the region.

Female applicants are highly encouraged to apply. Since women are underrepresented in information technology, the ZIB is trying to increase the proportion of women in this research area.

Applicants with disabilities will be given preference if equally qualified.

Please send your application, quoting the reference code **IWA 35/24**, including a cover letter containing a statement of your research interests, your CV and the standard supporting documents as **one PDF file** by September 18th, 2024 (date of receipt) to: jobs@zib.de.

Our private policy statement regarding application data is available at www.zib.de/impressum.

For further information about this vacancy, please refer to our website www.zib.de or contact Dr. Christoph Spiegel (spiegel@zib.de).

For further job offers please visit our website at <https://www.zib.de/jobadvertisement>.