

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



February 22nd 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 supporting the efforts of the MATH+ projects EF1-21 on “Scaling Up Flag Algebras in Combinatorics” and AA5-9 on “Transforming Mathematics Through Formal Verification”, we are offering from June 1st, 2024 until May 31st, 2025 a

Research position / PostDoc (f/m/d)
Reference Code: IWA 08/24
Pay Grade: TV-L E13 (100 %).

Job description

The goal of the MATH+ project EF1-21 is 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 of the MATH+ project AA5-9 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

- University degree (M.Sc. or diploma) and excellent PhD degree in mathematics computer science, or related disciplines and a strong history of research collaborations
- Strong background in Extremal Combinators. Particularly relevant are experience with Flag Algebras or other techniques used to establish computational proofs
- Interest to contribute new topics from Extremal Combinatorics to the research profile of the group, e.g., topics from probabilistic combinatorics like the randomly perturbed graph model
- Willingness and interest to work with formal proof verification
- Good programming skills, ideally Python 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,
- an allowance of up to €150 per month, alternatively a discounted BVG (public transport) ticket + difference amount,
- an end-of-year bonus
- and 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 Big Data Center (BBDC), we have close ties to universities and research institutes in the region.

Although this position advertised is full-time, a part-time agreement is also possible.

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 08/24**, including a cover letter, a CV and further documents as **one PDF file** by February 29th (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 www.zib.de.