Technische Universität Braunschweig | Institut für Analysis und Algebra
Universitätsplatz 2 | 38106 Braunschweig | Deutschland

Technische Universität Braunschweig
Institut für Analysis und Algebra

Prof Dr. Timo de Wolff

Universitätsplatz 2
38106 Braunschweig
Germany

Braunschweig, August 31st, 2026

Job Advertisement
Scientific Research Assistant
at the Institute for Analysis and Algebra

With more than 15,000 students and 3,800 employees, the Technische Universität Braunschweig is one of Germany´s leading institutes of technology. It stands for strategic and performance-oriented thinking and acting, relevant research, committed teaching, and the successful transfer of knowledge and technologies to the economy and society. We consistently advocate for family friendliness and equal opportunities.

Our research focuses are mobility, engineering for health, metrology, and city of the future. Strong engineering and natural sciences are our core disciplines. These are closely interconnected with economics, social and educational sciences and humanities.

Our campus is located in the midst of one of the most research-intensive regions in Europe. We work successfully together with over 20 research institutions in our neighborhood as we do with our international partner universities.

Starting at **December 1st, 2026 (or later)**, the Institute of Analysis and Algebra is searching for a **Scientific Research Assistant** (m/f/d) (75%) to obtain a **PhD-degree** (salary grade EG 13 TV-L; part time).

This position will be filled on a fixed-term basis for an initial period of three years. The successful applicant will be given the opportunity to pursue a PhD and to obtain further scientific qualification.

Working Area:
The position is opened in the research group **„Applied Algebra, Polynomial Optimization and Data Science"**. The topic of the PhD-project will be **"Polynomial Optimization**".

Polynomial optimization is a thriving research area with countless applications. Solving problems in this area builds on certifying nonnegativity of multivariate real polynomials, a key problem in real algebraic geometry. The goal of the project is the development, and implementation of certificates of nonnegativity, as well as tackling real world problems using polynomial optimization methods.

The position is partially state funded, and partially funded by the BMFTR (Federal Ministry of Research, Technology and Space) research project „**Medical Efficiency via Data-Driven Intelligent Control, Optimization and Planning (MEDICOP)**". As such, it comes with a mild teaching obligation of ca. 1.5 hours per week.
Within the MEDICOP project the successful applicant will collaborate with other PhD students, established researchers, and industry partners to develop improved methods of clinical robots, and robust scheduling for clinical day-to-day operations in radiology.

Requirements:
- Master's degree in Mathematics or equivalent with very good grades, and very good English skills.
- Knowledge in mathematical optimization and mathematical programming.

- Knowledge in at least one of the following areas is desired: real algebraic geometry (in particular: nonnegativity of real polynomials), convex optimization (e.g. SDPs), discrete geometry.
- Knowledge in the following areas are a plus: SONCs, geometric / relative entropy programming, SOS/SDP, and general knowledge in optimization, algebra, combinatorics, convexity, and advanced programming skills.

Note that German skills are **not** required for this position initially, but it is expected that non-German speaking applicants learn initial German skill within their first year. International applicants will be supported to learn German while holding the position.

The deadline for applications is **October 10th, 2026**.

Please send your application containing of a **cover letter**, a **CV**, copies of **degree certificates** (or preliminary certificates), and **up to two letters of recommendation** (if available) by email to: **applied_algebra@tu-braunschweig.de**.

We offer:

- Responsible work on exciting future-oriented research topics in an inspiring work environment as part of the university community.
- A wide range of tasks with room for personal development.
- An excellent research infrastructure with its own test facilities, internal Gitlab server, AI support, and extensive analytical tools.
- Pay in accordance with the collective agreement TV-L including 30 days' vacation per year.
- Flexible working and part-time options and a family-friendly university culture.

Further notes

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a form of evidence of your handicap to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (*Niedersächsisches Gleichberechtigungsgesetz*—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from woman are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at

https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen

Potential application costs cannot be reimbursed.

Additional information regarding the position will be provided by Prof. Dr. Timo de Wolff via the address **applied_algebra@tu-braunschweig.de**.