



RUHR  
UNIVERSITÄT  
BOCHUM

RUB

The Faculty of Mathematics (SFB/TRR 191) is looking for a

## research associate (m,f,d) - full-time - until 31.12.2024 (TVL E13)

The German Research Foundation has granted the funding of a Collaborative Research Centre / Transregio (CRC/TRR 191) on Symplectic Structures in Geometry, Algebra and Dynamics. Within this CRC there is an opening in project B5 „Hyperbolicity in dynamics and geometry“ for a full-time postdoctoral position.

The CRC provides an excellent infrastructure for training and research in an internationally visible network, and we offer intensive support for international students and postdocs.

### Your tasks:

- In this joint project with Professor Beatrice Pozzetti and Professor Anna Wienhard from the University in Heidelberg we investigate the interactions of hyperbolic dynamics and hyperbolic geometry. Our focus in Bochum is the study of the marked length spectrum on closed negatively curved Riemannian manifolds or more generally Riemannian manifolds whose geodesic flow is Anosov. The main goal is to prove a conjecture of Burns and Katok that the marked length spectrum determines the metric up to isometry. Our approach is to study certain metrics on the moduli space of Riemannian structures related to the length spectrum like the pressure metric or the geodesic stretch metric. These metrics are well studied in the Teichmüller spaces by Wolpert, Thurston and others. However, in our contest new methods are required like tools from ergodic theory (thermodynamical formalism) and Micro-local analysis. Other related inverse problems like the geodesic X-ray which consists by recovering a function by the knowledge of its integrals along geodesics are also of interest in this project.

### Your profile:

- We are seeking a candidate holding a very good Ph.D. in one of the areas relevant to the particular project.
- Applicants should be fluent in written and spoken German or English, a good proficiency in English is expected.

### Our offerings:

- Support from and cooperation with competent colleagues
- a friendly and collegial environment
- an open working atmosphere
- Day care centre on the campus
- a job in the middle of the lively Ruhr metropolitan region with its diverse cultural

**extent:** full-time  
**duration:** temporary  
**beginning:** as soon as possible  
**time limit:** 15.04.2022

**The Ruhr-Universität Bochum is one of Germany's leading research universities, addressing the whole range of academic disciplines. A highly dynamic setting enables researchers and students to work across the traditional boundaries of academic subjects and faculties. To create knowledge networks within and beyond the university is RUB's declared aim.**

The Ruhr-Universität Bochum stands for diversity and equal opportunities. For this reason, we favour a working environment composed of heterogeneous teams, and seek to promote the careers of individuals who are underrepresented in our respective professional areas. The Ruhr-Universität Bochum expressly requests job applications from women. In areas in which they are underrepresented they will be given preference in the case of equivalent qualifications with male candidates. Applications from individuals with disabilities are most welcome.

## Additional information:

If the position is funded by third-party funds the employee has no teaching obligation.

## Contact details for your application:

Prof. Knieper, [gerhard.knieper@rub.de](mailto:gerhard.knieper@rub.de)

Travel expenses for interviews cannot be refunded.

For information on the collection of personal data in the application process see:  
<https://www.ruhr-uni-bochum.de/en/information-collection-personal-data-application-process>.

The application material (covering letter, cv, relevant degree certificates) should be sent as a single pdf file until 15.04.2022 to [gerhard.knieper@rub.de](mailto:gerhard.knieper@rub.de), cc [annika.schulte@rub.de](mailto:annika.schulte@rub.de). Please send the thesis of your highest degree as a further pdf file. One or two letters of reference should be sent directly by the referees to [gerhard.knieper@rub.de](mailto:gerhard.knieper@rub.de).

ANR: 221



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<https://uni.ruhr-uni-bochum.de/de/stellenangebote>