The Collaborative Research Center “Wave phenomena – analysis and numerics” (CRC 1173), is currently seeking to recruit, as soon as possible, limited to three years, a

**Doctoral Researcher (f/m/d)**

**Project A12 “Dynamics of the Gross-Pitaevskii equation”**

The CRC has been funded by the German Research Foundation (DFG) since 2015. Its goal is to analytically understand, numerically simulate, and eventually manipulate wave propagation under realistic scenarios by intertwining analysis and numerics.

The Project A12 “Dynamics of the Gross-Pitaevskii equation” ([www.waves.kit.edu/A12](http://www.waves.kit.edu/A12)) aims at the study of the dynamics of the (one-dimensional) Gross-Pitaevskii equation, including the stability issues for the soliton solutions, the long time dynamics under long-wave weak perturbation, as well as the separation of the internal and interaction dynamics. The Gross-Pitaevskii equation can be viewed as the defocusing cubic nonlinear Schroedinger equation but assuming nonzero boundary condition at infinity. It is completely integrable by means of inverse scattering method.

We seek for an ambitious doctoral researcher with strong interest in the analysis of partial differential equations. You will study the dynamics of the Gross-Pitaevskii equation by investigating the complete integrability of the equation. You will have the opportunity to attend conferences, workshops and summer schools. Engagement in teaching is encouraged.

We provide an inspiring, attractive, interdisciplinary, and internationally recognized scientific environment with access to excellent facilities of the KIT, a wide scope of advanced training options within our integrated research training group, and flexible working time models. Our CRC aims at the implementation of equal opportunities, it promotes diversity and supports persons with childcare or eldercare responsibilities as well as persons with disabilities. Funds for travel and guests are available through the CRC.

**The following qualifications are required:**

- Excellent Master or an equivalent degree in Mathematics
- Strong theoretical background in the analysis of partial differential equations
- We expect excellent writing and oral communication skills in English along with the ability to work independently within an international team.
- Applications should include a cover letter, a curriculum vitae,
- a statement of research interest, contact information for two referees, and copies of degree certificate(s)

**We offer** an attractive and modern workplace with access to excellent facilities of KIT, diverse and responsible tasks, a wide scope of advanced training options, supplementary pension with the VBL (Pension Authority for Employees in the Public Service Sector), flexible working time models, a job ticket (BW) allowance, and a cafeteria/canteen.

We prefer to balance the number of employees (f/m/d). Therefore, we kindly ask female applicants to apply for this job. If qualified, severely disabled persons will be preferred.

Please apply online ([http://www.pse.kit.edu/job/1008/2020](http://www.pse.kit.edu/job/1008/2020)) until **March 11, 2020** using the vacancy number 1008/2020 and reference number 8. Personnel support is provided by Ms. Brückner, Personalservice, Karlsruhe Institute of Technology (KIT), Campus Süd, Kaiserstraße 12, 76131 Karlsruhe. For further information, please contact Ms. Xian Liao, phone +49 0721-608-42616, or Ms. Laurette Lauffer, phone +49(0)721/608-42061.

Further details can be found on our website: [www.kit.edu](http://www.kit.edu).