UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

Job vacancy

Research and Teaching Assistant - Institute of Physics 25/B35

University of Greifswald, 19 December 2025 | deadline: 11 February 2026

At the University of Greifswald's **Institute of Physics, MR Physics Research Group**, in the Faculty of Mathematics and Natural Sciences, there is a job vacancy expected to be available **for 01 April 2026**, subject to the approval of funds, for a full-time

Postdoctoral Research Associate

in the field of **numerical and experimental investigation of hemodynamics in cerebral aneurysms**. The fixed-term contract ends on 31 March 2029. Payment will be made according to pay group 13 *TV-L Wissenschaft*.

The MR Physics research group at the University of Greifswald, led by Prof. Dr. Schnell, conducts cutting-edge research in cardiovascular and neurovascular MRI. Since December 2022, the group has access to a state-of-the-art 3-Tesla research MRI system with two exclusive measurement days per week. Additional experimental resources include realistic flow pump systems to simulate physiological conditions, as well as pressure catheters and flow meters. The group is closely integrated into the master's degree course Medical Physics, offering a highly interdisciplinary, research-oriented environment with excellent opportunities for professional development.

This project is part of a research consortium funded by the EU and the state of Mecklenburg-Vorpommern for applied excelelence research. The position will help establish an advanced experimental platform for patient-specific, 3D-printed aneurysm models to perform state-of-the-art 4D flow MRI measurements. The aim is to systematically compare established MRI methods with innovative new sequences and develop clinically applicable measurement protocols and automated analysis procedures. Experimental data - including wall shear stress, pressure gradients, and pulsatility - will be compared with in vivo patient data and validated using fluid dynamics, pressure catheter measurements, and ultrasound.

The successful candidate will supervise a doctoral student responsible for developing the MRI measurement techniques. The project involves close, interdisciplinary collaboration with the University Hospitals of Greifswald and Rostock, as well as the MRI Flow Lab at the University of Rostock, providing an excellent environment for independent research and further professional development.

Job description:

- Supervision of the development of an advanced flow phantom platform to validate MRI flow measurements and investigate brain aneurysms, including integration into a pulsatile pump system, creation of physiologically realistic conditions, validation with pressure catheters and ultrasound probes, and systematic comparison of MRI sequences and parameters
- Fluid-dynamic validation by comparing in-vitro results with in-vivo patient data
- Supervision of a doctoral student focused on MRI sequence development, providing scientific guidance and mentorship
- Participation in teaching, e.g. in the areas of flow measurements and simulations
- Writing of scientific publications

Job requirements:

- Completed postgraduate university degree and a doctorate in the field of physics/medical physics, computer science, mechanical engineering, electrical engineering, or medical technology by the time employment starts
- In-depth knowledge and experience of object-oriented software programming in C++, Python, and/or MATLAB
- Knowledge of imaging data processing, data management, visualisation, and programming for the evaluation of flow data
- Excellent communication skills in English and German, both written and spoken
- Ability to work in a team, a high degree of self-organisation, and the ability to communicate with physicians, physicists, and engineers

Desirable:

- Knowledge of fluid mechanics, flow phantoms, and experimental or numerical simulations of blood flow
- Knowledge in the field of medical imaging, i.e., MR imaging

This advertisement is directed at all persons, irrespective of gender. Severely disabled applicants with the same qualifications will be considered with preference.

In accordance with § 68(3) PersVG M-V, the Staff Council will only be involved in staff matters of the academic or artistic staff on request.

Please submit only copies of the original documents with your application, as the originals cannot be returned. Unfortunately, the application costs (e.g., travel expenses for interviews) will not be reimbursed by the state of Mecklenburg-Vorpommern.

Please note that by submitting your application, you provide your consent pursuant to data protection law for our processing of your application data. Further information about the legal bases and the use of your data can be found here.

Applications comprising all usual documents (curriculum vitae, copies of certificates, where appropriate a publication list, short description of previous projects or bachelor's and master's dissertations, reference letters from 2-3 reference contacts) must be sent with reference to the job advertisement number **25/B35** by **11 February 2026**, preferably **via email** (one PDF file), to:

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HR EXCELLENCE IN RESEARCH