UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

Job vacancy

Research Assistant - Institute of Physics 25/B34

University of Greifswald, 19 December 2025 | deadline: 22 February 2026

At the University of Greifswald's **Institute of Physics, MR Physics Working 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 part-time (75%)

Research Assistant

For the development of automated post-processing methods. Remuneration is based on pay group 13 TV-L *Science*.

The MR Physics working group at the University of Greifswald, headed by Prof. Dr. Schnell, conducts research using the most modern cardiovascular and neurovascular MRI procedures. Since December 2022, the group has had access to a state-of-the-art 3-Tesla research MRI with two exclusive measurement days per week. In addition, several clinical MRI systems of diagnostic radiology are available for application-oriented studies. The chair is closely integrated into the Master's degree program in Medical Physics and therefore offers an interdisciplinary, research-oriented environment with excellent development and qualification opportunities.

The project is part of a research network funded by the EU and the state of Mecklenburg-Vorpommern. The advertised position aims to develop new post-processing methods for the fully automated evaluation of MRI flow measurements in patients with intracranial aneurysms.

In the first step, a fully automated neural network-based segmentation of 4D flow MRI data is to be established. Based on this segmentation, wall shear stresses on the aneurysm wall are to be determined. Since clinical resolution often leads to large errors in the calculation, the MRI flow data is upscaled using neural networks ("super resolution"). Various network architectures are being investigated, in particular to map a velocity profile as realistic as possible directly onto the vessel wall. The developed methods are validated both in 3D-printed replicas and using in-vivo patient data to ensure reliable and practical application.

The project work is carried out in close cooperation with the Karolinska Institutet in Stockholm and the Institute for Applied Computer Science (IACS) at Stralsund University of Applied Sciences. It offers an excellent environment for international research and further qualification.

Work Tasks:

- Development of a fully automated segmentation of 4D flow MRI data for brain aneurysms using neural networks.
- Investigation of different "Super Resolution" architectures to upscale the flow measurements.

- -Development of a software tool for the fully automatic determination of wall shear stresses in aneurysms.
- Writing scientific publications.

Employment requirements:

- A university degree in physics, computer science, medical informatics, mechanical engineering, electrical engineering, medical technology, or engineering completed at the time of employment is required.
- Ability to communicate 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.

This advertisement is directed at all persons, irrespective of gender.

The University would like to increase the proportion of women in areas where they are underrepresented, and thus applications from women are particularly welcome and will be treated with priority if they have the same qualifications, provided there are no clear reasons that make a fellow applicant more suitable.

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/B34** by **22th of February 2026**, preferably **via email** (one PDF file), to:

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HR EXCELLENCE IN RESEARCH