External Job Advertisement Reg. Nr. 5-2015/26-D

Modern, interconnected, conscious of tradition: Martin Luther University Halle-Wittenberg (MLU) is the oldest and largest university in the State of Saxony-Anhalt with a history dating back more than 500 years. Today more than 20,000 students are enrolled at the university. MLU's core research areas are in the nanosciences and biosciences, the Enlightenment, as well as in social and cultural research. The university is also home to a range of small disciplines, some of which can be found nowhere else in Germany. The university has excellent national and international ties, and works closely together with leading research institutes, industry, and more than 250 universities around the world.

The Faculty of Natural Sciences II, Institute of Physics, at Martin Luther University Halle-Wittenberg is seeking a part-time (75 %)

Research associate (doctoral student) (m-f-d)

for a fixed term for three years, starting at the earliest possible date.

Remuneration will be determined based on job duties and responsibilities and will be aligned with the fulfillment of listed personal requirements, up to pay grade 13 under the *TV-L* (*Tarifvertrag für den Öffentlichen Dienst der Länder* – 'German Public Service Pay Agreement for the Federal States').

In the Collaborative Research Center/Transregio „Ultrafast Spin Dynamics" (TRR 227), research groups from experimental and theoretical physics work together to develop new approaches to manipulating, storing, and transporting electron spins on timescales shorter than the picosecond range. In the subproject „Spin and orbital transport on ultrafast timescales", spin and orbital transport phenomena induced by short electromagnetic pulses are investigated theoretically. https://www.trr227.de/

Job Responsibilities:

- Development of analytical transport equations to describe linear and non-linear transport phenomena in solids
- Programming and implementation of effective solvers for transport calculations in solids
- Modelling of quasi two-dimensional electronic systems (effective models, tight binding)
- Calculation of spin, orbital, and charge transport phenomena on ultrafast time scales
- Presentation and publication of scientific results
- Active participation in the events of TRR 227 and strengthening of collaborations

The opportunity to gain scientific qualifications is given.

Requirements:

- Completed university degree (Master) in physics or comparable degree
- Very good knowledge of theoretical solid state physics: transport theory, effective and/or tight-binding models
- Excellent programming skills (e.g. Python, Fortran, C++)
- Excellent analytical skills
- High degree of self-motivation, good English skills (equivalent to B2)

We offer

- Integration in the interdisciplinary and multi-institutional TRR 227 network with excellent scientific infrastructure and mentoring
- Structured doctoral training, international visibility, and participation in joint workshops and conferences.
- a family-friendly, diversity-oriented, and intercultural work environment at a certified family-oriented university, including holiday childcare

Applications from disabled persons, including those of equal status (as certified by the *Bundesagentur für Arbeit* / Federal Employment Agency), will be given preferential consideration if they are equally suitable and qualified. Women are strongly encouraged to apply. Applications from individuals of all nationalities are explicitly welcome. Applicants with a degree that was not obtained at a German university must submit a Statement of Comparability for Foreign Higher Education Qualifications from the Central Office for Foreign Education (ZAB) (https://www.kmk.org/zab/central-office-for-foreign-education) as proof of equivalence upon conclusion of the employment contract. You can find ways to apply for a financial grant for this under: https://www.anerkennung-in-deutschland.de/html/de/pro/anerkennungszuschuss.php#.

If you have any questions, please contact Ms. Prof. Dr. Annika Johansson, Tel.: 0345 55-25455, Email: annika.johansson@physik.uni-halle.de.

Please send your application, including Reg. No.: 5-2015/26-D, with the required documents to Martin Luther University Halle-Wittenberg, Prof. Dr. Annika Johansson, annika.johansson@physik.uni-halle.de until 20.03.2026.

This job posting is subject to potential budgetary restrictions.

Application costs will not be reimbursed by Martin Luther University. Application documents will only be returned if a sufficiently stamped envelope is enclosed. Electronic applications are welcome.