



## PhD Position (f/m/x) on non-equilibrium physics in quantum materials

### Institute of Physics II

We are one of the largest and oldest universities in Europe and one of the most important employers in our region. Our broad range of subjects, the dynamic development of our main research areas and our central location in Cologne make us attractive for students and researchers from around the world. We offer a wide range of career opportunities in science, technology, and administration.

The position is available in the optical condensed matter science group (<https://ph2.uni-koeln.de/arbeitsgruppen/loosdrecht>) in the Department of Physics and is part of the Collective Research Center Control and Dynamics of Quantum Materials (<https://crc1238.uni-koeln.de/>) (CRC1238). The aim of the PhD project is to explore the steady state and non-equilibrium physics of quantum magnets using two-dimensional THz spectroscopy techniques.

#### YOUR TASKS

- » Studying nonlinear dynamics in quantum magnets exploiting two-dimensional THz spectroscopy
- » Presenting research results at seminars and conferences, and publishing research results in peer-reviewed journals
- » Actively participating in training courses and events of CRC1238
- » Teaching and supervising bachelor and master students

#### YOUR PROFILE

- » Master's degree in physics, applied optics, or materials science
- » Highly motivated person with experience in ultrafast lasers and time-resolved pump-probe spectroscopy
- » Solid background in condensed matter physics
- » Experience with advanced data analysis and interpretation
- » Proficiency in programming (e.g. Python, MATLAB, Labview, and Origin) is desirable
- » Very good communication skills in written and spoken English
- » Capability of working independently, while also showcasing strong teamwork skills

#### WE OFFER

- » An inspiring, collaborative, and international research environment with unique ultrafast spectroscopy facilities
- » A diverse working environment with equal opportunities
- » Support in balancing work and family life
- » Extensive advanced training opportunities
- » Occupational health management offers
- » Flexible working time models

The University of Cologne is committed to equal opportunities and diversity. Women are especially encouraged to apply and will be considered preferentially in accordance with the Equal Opportunities Act of North Rhine-Westphalia (Landesgleichstellungsgesetz – LGG NRW). We also expressly welcome applications from people with disabilities / special needs or of equal status.

The position is available immediately on a part-time basis (50 % the first 2 years, 75 % the 3rd year). It is to be filled for a fixed term of 3 years. If the applicant meets the relevant wage requirements and personal qualifications, the salary will be based on remuneration group 13 TV-L of the pay scale for the German public sector.

Please apply online with proof of the required qualifications without a photo under: <https://jobportal.uni-koeln.de>.

The reference number is Wiss2404-01. The application deadline is 31.05.2024.

For further inquiries, please contact Dr Evgeny A. Mashkovich ([mashkovich@ph2.uni-koeln.de](mailto:mashkovich@ph2.uni-koeln.de)) or Professor Paul H.M. van Loosdrecht ([pvl@ph2.uni-koeln.de](mailto:pvl@ph2.uni-koeln.de)).