



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

As a University of Excellence, Universität Hamburg is one of the strongest research universities in Germany. As a flagship university in the greater Hamburg region, it nurtures innovative, cooperative contacts to partners within and outside academia. It also provides and promotes sustainable education, knowledge, and knowledge exchange locally, nationally, and internationally.

The Faculty of Mathematics, Informatics and Natural Sciences, Department of Physics, II. Institute for Theoretical Physics invites applications for a

RESEARCH ASSOCIATE FOR THE PROJECT “CLUSTER OF EXCELLENCE QUANTUM UNIVERSE” ON LARGE- AND SMALL-SCALE STRUCTURE OF AXION-LIKE DARK MATTER - SALARY LEVEL 13 TV-L -

The position in accordance with Section 28 subsection 3 of the Hamburg higher education act (Hamburgisches Hochschulgesetz, HmbHG) commences on **1 June 2020 or later**.

This is a fixed-term contract in accordance with Section 2 of the academic fixed-term labor contract act (Wissenschaftszeitvertragsgesetz, WissZeitVG). The term is fixed for a period of three years. The position calls for 26 hours.

RESPONSIBILITIES:

Duties include academic services in the project named above. Research associates may also pursue independent research and further academic qualifications.

SPECIFIC DUTIES:

The Cluster of Excellence “Quantum Universe” performs research to understand mass and gravity at the interface between quantum physics and cosmology. The research team includes leading scientists from mathematics, particle physics, astrophysics, and cosmology at Universität Hamburg and DESY.

The goal of this project is to simulate the spatial distributions and time evolution of axion-like particle (ALP) Dark Matter on cosmological scales by numerically solving Schrödinger–Poisson-type equations and explore solutions for small-scale ALP “stars” by employing analytical and numerical methods. This will be applied to develop optimized search strategies for ALP signatures in direct detection and through ALP–photon conversion on astrophysical scales. Indirect signatures include the search for radio lines with instruments such as LOFAR. The

* Full-time positions currently comprise 39 hours per week.

research associate will work with theorists from Universität Hamburg and DESY and with scientists at Hamburg Observatory.

Doctoral research associates will become member of the Quantum Universe research school (QRS) and through this receive offers for academic training, soft skills, and career planning. In addition, they will receive individual budgets, meant to enable them to attend summer schools, conferences or other educational and supporting measures. Additional travel money for project-specific duties will be made available via the hosting research groups. Doctoral research associates are invited to actively participate in the organization of the Cluster via an early career council.

REQUIREMENTS:

A university degree in a relevant field. Some experience with numerical astrophysics is of advantage.

The Free and Hanseatic City of Hamburg promotes equal opportunity. As women are currently underrepresented in this job category at Universität Hamburg according to the evaluation conducted under the Hamburg act on gender equality (Hamburgisches Gleichstellungsgesetz, HambGleiG), we encourage women to apply for this position. Equally qualified and suitable female applicants will receive preference.

Qualified disabled candidates or applicants with equivalent status receive preference in the application process.

For further information, please contact Prof. Dr. Günter Sigl (+49 40 8998-2224 or guenter.sigl@desy.de), Prof. Dr. Robi Banerjee (+49 40 42838-8404 or banerjee@hs.uni-hamburg.de) or consult our website at www.qu.uni-hamburg.de.

Applications should include a cover letter, a tabular curriculum vitae, copies of degree certificate(s), and at least two letters of recommendation. Please send applications by **1 April 2020** to: guenter.sigl@desy.de, banerjee@hs.uni-hamburg.de, and office@qu.uni-hamburg.de.

Please do not submit original documents as we are **not** able to return them. Any documents submitted will be destroyed after the application process has concluded.