



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, Institute of Experimental Physics invites applications for a

RESEARCH ASSOCIATE FOR THE PROJECT “CLUSTER OF EXCELLENCE QUANTUM UNIVERSE” SEARCHING DARK MATTER WITH FAST MACHINE LEARNING

- 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 March 2021 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 3 years. The position calls for 39 hours per Week. This position is also suitable for part time employment.

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.

This position is at the interface between highly topical physics research and state-of-the art online and offline triggering systems. It is intended to pursue research within the field of experimental (astro)particle physics on low-threshold event classification in direct Dark Matter searches using Machine Learning tools. The project is part of a cross-disciplinary joint effort between members of the SuperCDMS collaboration and member of the Belle II collaboration,

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

where the first is a direct Dark Matter search experiment and the second is an e^+e^- collider experiment. The successful candidate will become a member of SuperCDMS and be in close contact with Belle II researchers. She/He is expected to develop fast Machine Learning classifier algorithms with the goal to lower the trigger threshold on FPGA-level. The successful candidate is expected to contribute to Dark Matter search analyses using SuperCDMS data.

Research associates will become a 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. Research associates may participate in teaching at the University and in the organization of the Cluster via an early career council.

REQUIREMENTS:

A university degree in a relevant field. This includes but is not limited to physics, electrical engineering, and informatics engineering. In addition, hands-on experience in C++ and/or Python programming is required. Desirable are a Ph.D. as well as a strong background in experimental (astro)particle physics, data analysis, machine learning and/or experience in FPGA programming. If the successful candidate does not yet have a Ph.D. in physics but is eligible, she/he is offered to pursue it, which would call for a two-third part-time position. The regular duration of a PhD at the Department of Physics is three years.

Further required are a very good command of English, very good teamwork, communication and presentation skills and the ability and eligibility to travel to North America.

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 Dr. Belina von Krosigk (belina.von.krosigk@uni-hamburg.de) or consult our websites at <https://www1.physik.uni-hamburg.de/en/iexp/gruppe-krosigk.html> and www.qu.uni-hamburg.de.

Applications should include a cover letter, a tabular curriculum vitae, and copies of degree certificate(s), and three letters of recommendation. Please send applications by **31 December 2020** to: belina.von.krosigk@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.