

The experimental particle physics group at the University of Wuppertal, School of Mathematics and Natural Sciences, invites applications for the position of a

**Ph.D. student (m / f / d)**

to participate in the development and test of readout software for the new silicon pixel detector of the ATLAS experiment at CERN.

The position is subject to part time employment with 50% of the regular working hours and the public-sector pay scale E13 TV-L is assigned to it. The position is initially limited to a duration of three years but can be extended to assure completion of the PhD research project and submission of the corresponding dissertation.

**Required qualifications**

- A completed university degree as Master of Science in physics, computer science or electrical engineering with a final grade above average, corresponding to the German grade „good“ or better.
- Solid knowledge and experience in an object-oriented programming language, such as C++ or Python
- Solid language skills in English
- Interest in teamwork in an international collaboration

**Job description**

The research group of experimental particle physics in Wuppertal is strongly engaged in building a new silicon pixel detector for the ATLAS detector at CERN. The new detector will be operated during the high luminosity phase of the Large Hadron Collider, starting tentatively in 2026. The readout of the new pixel detector depends critically on highly performant software components, in particular when calibrating the detector. The new student is supposed to work on the design and the implementation of specific software modules. The developed software will be tested with dedicated demonstrator setups at CERN and in Wuppertal, based on prototype modules. The analysis of test measurements with radioactive sources and cosmic rays will be part of the dissertation.

The student will have the opportunity to obtain a PhD in physics or in computer science.

The position is subject to the German labour law concerning non-permanent contracts in science (German: Wissenschaftszeitvertragsgesetzes [WissZeitVG]), supporting candidates aiming for graduation as Ph.D. (Dr. rerum naturalium). The contract is limited until graduation, initially for three years. An extension to complete the Ph.D. is possible within the legal boundaries of the WissZeitVG.

**Reference number: 20324**

Questions on the position and this call can be directed to Prof. Dr. Wolfgang Wagner ([wagner@uni-wuppertal.de](mailto:wagner@uni-wuppertal.de)) or Dr. Gerhard Brandt ([gerhard.immanuel.brandt@cern.ch](mailto:gerhard.immanuel.brandt@cern.ch)).

Applications including all relevant credentials (curriculum vitae, a letter of motivation, copies of certificates of degrees, a link to the master or diploma thesis and the name and contact address of one referee) should be sent by email to: [wagner@uni-wuppertal.de](mailto:wagner@uni-wuppertal.de). Please quote the reference number and merge the application documents to one PDF file. Alternatively, the application can be sent in paper form to Bergische Universität Wuppertal, Fakultät für Mathematik und Naturwissenschaften, Arbeitsgruppe Experimentelle Elementarteilchenphysik, Prof. Dr. Wolfgang Wagner, 42097 Wuppertal.

The University of Wuppertal aims at increasing the percentage of women in academic positions and strongly encourages female scientists to apply. The University is an equal opportunity employer and particularly welcomes applications of persons with disabilities.

**Application deadline: January 10, 2021**