UNIVERSITÄT BONN

Zertifikat seit 2011
audit familiengerechte hochschule

The **University of Bonn** is an international research university offering a broad range of subjects. With a 200-year history, some 31,500 students, more than 6,000 employees and an outstanding reputation in Germany and abroad, the University of Bonn is one of the leading universities in Germany and has been awarded the status of a University of Excellence.

The **High Performance Computing & Analytics Lab** is looking to fill the following position **as soon as possible** on a **fixed-term contract for three years**:

Postdoctoral Research Associate (100 %)

The position is part of the project "Accessibility and Sustainability for the tmLQCD Software Suite" funded by the DFG and led by Bartosz Kostrzewa (University of Bonn) in collaboration with the working groups of Carsten Urbach (University of Bonn) and Stefan Krieg (Forschungszentrum Jülich). The project is embedded into the research program of the Extended Twisted Mass Collaboration (ETMC) with the aim of contributing to the development and maintenance of the tmLQCD software suite and its high-performance kernel and solver libraries such as QUDA, DDalphaAMG and QPhiX as well as I/O libraries such as LEMON and lime.

Your tasks:

- Adaptation and development of tmLQCD and its libraries to ensure continued correctness and efficiency on the various supercomputing platforms in Europe and beyond
- Extension of tmLQCD's library interfaces to QUDA, QPhiX and DDalphaAMG to support more fermion actions
- Improvement of the handling of meta- and provenance data by tmLQCD and its I/O libraries as well as other improvements to reproducibility
- Establishment of a continuous integration workflow for tmLQCD suitable for heterogeneous execution as well as general improvement of code coverage
- Publication and presentation of the results of the project both at conferences on research software engineering and high performance computing (deRSE, SC, ISC, ...) as well as topical workshops and conferences and/or in journals.

Your profile:

- PhD in physics, computer science, mathematics or a related subject
- Interest and experience in high performance computing
- Practical experience in collaborative software development
- Strong background in C
- Welcome assets: experience with lattice gauge theory, C++, GPUs and the development and usage of continuous integration workflows.

We offer:

- A varied, challenging job with one of the largest employers in the region within an interdisciplinary setting and a team of several postdoctoral researchers
- Access to the modular HPC infrastructure at the University of Bonn as well as supercomputers and hardware prototypes at Jülich Supercomputing Center
- Funding for travel, publication fees and a student assistant for the entire duration
- If desired, collaboration opportunities in the many physics and HPC projects within the ETMC, the CRC "NuMeriQS" as well as at JSC.
- Teaching opportunities at the University of Bonn in physics or computer science (lectures, exercises, seminars)
- Extensive transferable skills training for postdoctoral researchers at the Argelander Competence Center
- Many options available for university sports
- Flexible working hours and the ability to work from home
- Remuneration in accordance with TV-L pay grade 13
- Occupational pension (VBL).

The University of Bonn is committed to diversity and equal opportunity. It is certified as a family-friendly university. The University of Bonn seeks to increase female representation in staffing areas where women are underrepresented and provide special career support. Accordingly, the University of Bonn expressly encourages qualified women to apply. Applications will be handled in accordance with the NRW State Gender Equality Act. Applications from qualified candidates with a certified severe disability or from those of equal status are especially welcome.

If you are interested in this position, please send your application (statement of interest, CV, list of most relevant publications) **as a single PDF file** by email to dice@uni-bonn.de by **June 30th, 2024 quoting reference 33/2024/17** and arrange for **two reference letters** to be sent to the same e-mail address. Please do not hesitate to contact Bartosz Kostrzewa (bkostrze@uni-bonn.de) if you have any questions.