

## **Electronics Engineer in the PRISMA Detector Laboratory**

The Faculty 08 – Physics, Mathematics and Computer Science – is welcoming applications for an

**Electronics Engineer (m/f)  
for the Detector Laboratory of the Cluster of Excellence PRISMA+  
(EG 13 TV-L)  
reference number: 9618-08-ms  
to start as soon as possible**

The initial position is temporary, until **31.12.2025**.

The Cluster of Excellence PRISMA+ ([www.prisma.uni-mainz.de](http://www.prisma.uni-mainz.de)) deals with fundamental questions concerning the nature of the elementary building blocks of matter and their significance for the physics of the Universe. The participating research groups work in an international environment in the fields of astroparticle, particle and hadron physics as well as nuclear chemistry and precision physics with cold neutrons and ion traps. The task of the PRISMA Detector Laboratory is to support the experimental developments within the cluster by realizing detector hardware and electronics as well as by exploiting new technologies. The Detector Laboratory comprises three main areas: electronics, photon detectors, and TPC and tracking detectors.

Initially, you will work on an international project for the IceCube Neutrino Observatory ([www.icecube.wisc.edu](http://www.icecube.wisc.edu)), a giant experiment located at the South Pole, exploring high-energy cosmic neutrinos interacting in the antarctic ice. For the next step of the program, the collaboration is developing new digital optical modules. The successful candidate will design and implement the electronics mainboard, responsible for data acquisition and communication. After successful completion of this project, you will be involved in future projects of the Detector Laboratory.

### **Your tasks:**

Working closely with the other members of the team, you will:

- develop novel electronics (hardware) for the operation and readout of detectors
- compile requirements and organize a suitable digital architecture
- develop a low-power data acquisition and slow control system
- design multi-layer printed circuit boards and coordinate their production and assembly
- perform electronic and functional tests of the circuit
- write and organize documentation and datasheets

### **Your profile:**

Candidates are expected to have a degree (Diplom, Master) in Electronics Engineering (or equivalent) and a very good knowledge in more than one of these topics:

- Electronic Design Automation (EDA) programs and suites (simulation, development, layout)
- Digital electronics, process architecture, bus-system communication, memory interfaces
- System-on-Chip (SoC) and embedded systems based on Field Programmable Gate Arrays (FPGA)
- Use of laboratory devices for measurement and testing of modules

The position requires a good knowledge of English, including technical language. In case of limited knowledge of German, you will have the opportunity to improve your language skills.

Experience with the development of low-power digital electronics, electronics for physics experiments operating at cold temperatures, and with projects in the scope of international collaborations is advantageous.



**We offer:**

An independent and varied job with direct applications in cutting-edge research projects. In addition, we offer continuing education opportunities and good career options.

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The Johannes Gutenberg University of Mainz strives to increase the proportion of women in the technical field and therefore has a special interest in the application of women.

Applications from senior candidates are welcomed.

Disabled applicants will be given preference if equally qualified.

For further information, please contact Dr. Andrea Brogna ([andrea.brogna@uni-mainz.de](mailto:andrea.brogna@uni-mainz.de)).

Please submit your written application including the usual documents and stating the identification number: **9618-08-ms** no later than **28.01.2019** to:

**Abteilung Personal - PA 4 - der Johannes Gutenberg-Universität Mainz, 55099 Mainz.**

Job advertisements and further information also at: [www.uni-mainz.de/personal/](http://www.uni-mainz.de/personal/)