INTERNSHIP OFFER
DE-2026-2079-1

Karlsruhe, Germany, Germany

ON-SITE

INTERNSHIP HOST

Name of Company
Karlsruhe Institute of Technology Karlsruhe School of Elementary and Astoparticle Physics (KSETA)

Website
www.kseta.kit.edu

Address of Company
Karlsruhe
Germany

Number of Employees
9000

Business or Product
Higher Education and Research

STUDENT REQUIRED

General Discipline
Electrical Engineering;Physics and Physical Sciences

Field of Study
Experimental Physics/Applied Physics

Completed Years of Study
3

Language Required
English Excellent (C1, C2)

Required Qualifications and Skills
Teamwork | Scientific Computing | Physics | Electronics | Creativityprogramming

Student Status Requirements
Required during the whole period of internship

Other Requirements/Information
bachelor degree in physics, electrical engineering, or information technology

INTERNSHIP OFFER

8 - 12 weeks

Latest Possible Start Date
01-Jun-2026

Within Months
May-2026 - Aug-2026

Company Closed WIthin
-

992 EUR per Month

Deductions Expected
variable

Payment Method
Bank Transfer

500 EUR per Month

Arranged by
Trainee

Estimated Cost of Living including Lodging
992 EUR / Month

Working Environment: Research and development

Working Hours / Week: 40.0

Development of readout electronics for physics experiments

Physics research projects are usually designed to generate an immense amount of data, which requires highly advanced readout systems for data acquisition and processing. We develop such systems based on heterogeneous System on a Chip (SoC) devices with multiple processors, programmable logic (FPGA), AI Engines and optionally digital to analog and analog to digital converters on a single chip. These devices considerably minimize the development effort for new systems by allowing a large percentage of the hardware, firmware, and software to be reused in a variety of experiments.
You have the opportunity to get an insight and to contribute to the development of state of the art readout electronics for a variety of physics experiments. We can offer a wide range of possible topics to meet your personal interests and skills.
One central topic of our research is the development of room-temperature readout systems for cryogenic experiments. In particular, we focus on the control of qubits and readout of frequency multiplexed quantum sensors, which require powerful systems with custom firmware for driving the multiplexers and real-time analysis of the detector data. Current efforts are on scaling the systems for reading out 1000 of sensors respectively operating several tens of qubits simultaneously.
Within these projects, the student could contribute to the firmware by designing modules for signal processing, integration of AI Engines into the workflow or work with the cryostat and our high-end measurement equipment on characterization of the readout electronics.

ADDITIONAL INFORMATION

see additional documents

Deadline for Nomination - 2026-03-11

Date - 31-Oct-2025

On Behalf of Receiving Country - IAESTE Germany