

## Position Profile for Chinese Applicants running for 2019 Helmholtz – OCPC – Program

### **PART A (Info about the Position)**

**Helmholtz Centre and institute:** DESY

**Title of the project:** High Granularity Hadron Calorimeter

**Project leader:** Felix Sefkow

**Web-address:**

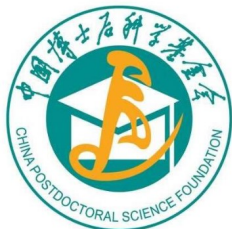
### **Description of the project:**

The FLC group develops highly granular calorimeters based on scintillator tiles individually read out by Silicon Photomultipliers (SiPMs). Originally designed within the CALICE collaboration for use in a detector for electron-positron collisions, the concept has now been chosen by the CMS experiment for the detector upgrade for the High Luminosity LHC, with much higher demands in read-out speed. The FLC group contributes to the design and development of the readout electronics. A first version of the custom readout board housing the frontend electronics as well as the SiPMs and tiles has been developed together with the electronics development group FE. A test bench DAQ system, based on commercial FPGA boards, needs to be set up in collaboration with other CMS groups, and test procedures implemented.. In addition, the boards will need to be adapted to the final choice of SiPMs and readout ASICs.

The activities include the design and optimization of firmware, readout software and test bench data analysis tools and possibly the redesign of electronic components.

### **Required qualification of the post-doc:**

- PhD in Electronics or Physics
- Experience with FPGA firmware programming and online software
- Skills in laboratory electronics, data analysis and presentation of scientific results
- Experience in PCB design would be desirable
- Close collaboration with international partner institutes

**PART B (Materials and Procedures)**

The applicants shall submit the following documents to a Chinese postdoc station affiliated to a research institution or a university, after passing through the internal selection, the qualified application shall be forwarded to OCPC, and then to Helmholtz for evaluation:

- Detailed description of the interest in joining the project (motivation letter)
- Curriculum vitae, copies of degrees
- List of publications
- 2 letters of recommendation
- Proof of command of English language

**PART C (General Conditions)**

**Additional requirements on the postdoctoral fellows:**

- Chinese citizenship from Mainland China (allows application while staying abroad)
- Max. age of 35 years, PhD degree not more than 5 years by submission of application
- Very good command of English language
- Strong ability to work independently and in a team