

## **Electronics Engineer**

at the **Extreme Light Infrastructure – Nuclear Physics (ELI-NP)**

**Research Activity 4 – Nuclear Physics and Applications with High-Brilliance Gamma Beams**

### **Job Description and Candidate's Profile**

#### **Scope of Work**

In the implementation phase of ELI-NP, the engineer will provide technical support for ELI-NP in accordance with the technological strategy, focusing mainly on ensuring the commissioning of the infrastructure and its further operation.

In the operational phase, the engineer will ensure the optimal operation of the experimental setups within Research Activity 4 and will participate to their upgrades and to the development of new experimental setups.

#### **Main responsibilities:**

In the implementation phase:

- Participating to the design and construction of the experimental setups, market research and writing specification for equipment purchase, communication with companies, installing, testing and commissioning of the equipment needed for the implementation of the Technical Design Reports;
- Gathering the knowledge and provide the experience necessary to ensure the operation of the infrastructure and of the related equipment;
- Ensuring the best and efficient collaboration and dialogue between the research staff and the equipment suppliers and services providers;
- Ensuring the conformity of the activities with the standards in the field.

In the operational phase:

- Maintaining the performance and the optimal use of the equipment;
- Participating to the upgrades of existing equipment and the development of new experimental setups;
- Actively participating in the technological development activities performed at ELI-NP, and mainly Research Activity 4.

#### **Main tasks:**

- Building and commissioning the equipment and the laboratory setup for the implementation of the Technical Design Reports of Research Activity 4;
- Performing tasks within Research Activity 4 related to one or more of the following subjects: Digital Signal Processing (DSP), Data Acquisition Systems and Front-end Electronics;
- Designing, debugging, and testing signal processing algorithms, which run on a variety of platforms to support physics research within Research Activity 4;
- Providing technical support in the installation and commissioning of various electronic equipment and their further use;
- Supervising the operation of electronic equipment after commissioning;
- Developing electronics for radiation detectors, participating in the designing of data acquisition systems and designing data-filtering algorithms;
- Working with the research team to develop DSP concepts, identifying creative solution to user requirements and assessing feasibility of these solutions;
- Designing control systems for stepper motors, position and temperature sensors, vibration sensors;
- Ensuring efficient collaboration and dialogue between research staff and suppliers of equipment and various services;
- Participating in maintaining the performances of the ELI-NP equipment and systems to the desired level;
- Actively participating in the technological development activities performed at ELI-NP;
- Providing specific technical support for the experiments.

**Professional background:**

- Bachelor or Master degree in Electronics/Computer Science or related field;
- Experience with developing digital signal processing algorithms and data acquisition systems for high energy physics, nuclear physics or related fields;
- Expertise in analogue and digital electronics, analogue and digital signal processing;
- Experience with FPGA and microcontroller programming;
- Electronics: Front-end analog design, PCB design for high-speed circuits;
- Knowledge in control system design and operation;
- Excellent programming skills in C/C++ and Python;
- Windows and Linux proficiency;
- Fluency in English, both written and spoken;
- Goal-oriented attitude;
- Willingness to continuously improve and develop new skills;
- Proven teamwork experience, communication and efficient collaboration skills;
- Availability to travel and perform work stages abroad.

**Would be a plus, but at least one required:**

- Programming: LabVIEW, Bash scripting, Java, ROOT;
- Remote instrument control.

**Working arrangements/Conditions of employment:**

- Full-time position, based in Bucharest–Magurele, Romania;
- Included: private medical coverage, paid annual leave;
- Motivating salary, at European level, based on qualifications and experience;
- Professional, multicultural and interdisciplinary work environment.

**Applications:**

Applications shall be accompanied by the documents requested in the Rules of Selection for this position.

Applications shall be sent to the Human Resources Department at [human.resources@eli-np.ro](mailto:human.resources@eli-np.ro)