

## **Post-Doctoral Research Assistant**

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

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

*Positron experiments*

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

#### **Scope of Work**

In the implementation phase of ELI-NP, the post-doctoral assistant will participate in the implementation of the Gamma Beam System (GBS) Technical Design Report (TDR) 5.1: "Positron production by gamma beam at ELI-NP", Rom. Rep. Phys. 68 (2016) S735, and in the preparation of the positron production system and the experimental program with positron beams at ELI-NP.

#### **Main responsibilities:**

- Participating to the equipment tests and the implementation of the positron production set-up and the designing and setting-up of the positron beam line at ELI-NP;
- Preparing and participating in preparatory experiments for the ELI-NP research program.

#### **Main tasks:**

- Building and commissioning the equipment for the implementation of the GBS TDR5.1 within ELI-NP Research Activity 4;
- Testing, tuning and debugging electronics for radiation detectors, participating in the implementation and testing of the data acquisition system and the data-filtering algorithms needed for the positron experiments at ELI-NP;
- Providing support in the installation and commissioning of various systems and equipment for the positron-production set-up, the positron beamline and the detector set-ups for positron experiments and their further use;
- Participating in the maintenance the performances of the equipment and the systems for positron research at ELI-NP at the desired level;
- Actively participating in the different activities performed at ELI-NP;
- Proposing, preparing and performing experiments related to the GBS TDR1 research program;
- Participating in the analysis, presentation and publication of the results of the experiments.

#### **Professional background:**

- PhD degree in Physics;
- Publication record in nuclear physics, positron research or material science;
- Experience in experiments in nuclear physics or material science;
- Expertise in analogue and digital electronics, analogue and digital signal processing;
- Excellent programming skills in C/C++;
- 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: GEANT4, LabVIEW;
- Data analysis: ROOT.

**Working arrangements/Conditions of employment:**

- Full time position, based in Bucharest - Magurele, Romania, for 1 (one) year with the possibility of extension;
- Included: private medical coverage, paid annual leave;
- Motivating salary, at European level, based on qualifications and experience;
- The candidate should be available to travel abroad for scientific collaboration at various research infrastructures, for part of their time.

**Applications:**

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

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