

**Post-Doctoral Research Assistant**  
at the **Extreme Light Infrastructure – Nuclear Physics (ELI-NP)**  
**Research Activity 5 – Experiments with Combined Laser and Gamma Beams**  
*Detectors, DAQ and Control Systems*  
**Job Description and Candidate's Profile**

**Scope of Work:**

Post-doctoral research assistants will ensure part of the scientific expertise needed to prepare the ELI-NP experiments. Post-doctoral research assistants will pursue their activity in the working groups led by Research Scientists. Personal initiative concerning scientific research will be also encouraged.

**Main tasks:**

- Improving scientific knowledge and competencies in ELI-NP research topics;
- Performing tasks within Research Activity 5 related to one or more of the following subjects: Detectors, Data Acquisition, Control Systems;
- Participating in scientific meetings and conferences;
- Participating in the implementation of the setups foreseen in the Technical Design Reports (TDRs) for ELI-NP experiments;
- Participating in specific activities during the installation and commissioning phase;
- Providing support for the preparation of the technical documents for the acceptance of Project's deliverables;
- Actively and efficiently involving in the dialog and communication within the ELI-NP team and promoting a harmonious collaboration framework.

**Professional background :**

- PhD degree in fields related to the research activity at ELI-NP;
- Experience with developing complex detector systems for high energy physics, nuclear physics or laser systems;
- Programming: C and/or C++;
- Windows and Linux proficiency;
- Software development practices: Usage of version control systems, thorough documentation;
- Fluency in English, both written and spoken;
- Goal-oriented attitude;
- Taking ownership of handled tasks;
- 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 2 required :

- Experience in designing and building detector systems for experiments with lasers;
- Experience in high temporal resolution optically synchronized systems;
- Experience with high-gain photon detector systems in laser based experiments;
- Experience with numerical simulations of detector systems (e.g. Geant4);
- Experience with SCADA systems (e.g Tango, EPICS, WinCC OA);
- Programming: LabVIEW, Python, Bash scripting, Java, ROOT, Assembly (as many architectures as possible), Signal processing in DSPs, FPGA code development (VHDL and/or Verilog);
- Electronics: Front-end analog design (modelling, simulation, measurement techniques), PCB design for high-speed circuits;

- Experience with embedded systems development;
- Remote instrument control;
- Database systems: MySQL.

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