

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.