

Doctoral Research Assistant (PhD Students)
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

The Doctoral research assistants (PhD Students) will pursue their activity in the working groups led by Research Scientists, participating to the preparation and performance of the experiments, in order to improve skills and prepare their PhD thesis,

Main tasks

- Improving scientific knowledge and competencies in ELI-NP research topics and getting familiar with the project research fields;
- Performing all activities preceding the preparation of the PhD thesis and conceiving and preparing the PhD thesis in accordance with the ELI-NP research topics (focusing on one or more of the following subjects: Detectors, Data Acquisition, Control Systems);
- Completing the PhD thesis in due time;
- Performing tasks within Research Activity 5 related to one or more of the following subjects: Detectors, Data Acquisition, Control Systems;
- Participating in scientific events and schools intended for young researchers;
- Acquiring skills for: Communicating/presenting information regarding to the research activity performed, Scientific article writing;
- 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 ;
- Actively and efficiently involving in the dialog and communication within the ELINP team and promoting a harmonious collaboration framework.

Professional background :

- Enrolled as PhD Student in Physics/Engineer in one of the scientific/technological areas of interest for ELI-NP;
- Excellent results obtained during the studies graduated;
- Strongly motivated to develop a scientific research career;
- Good knowledge of the scientific fields relevant for ELI-NP;
- Programming: C and/or C++;
- Fluency in English, both written and spoken;
- Proven teamwork experience, communication and efficient collaboration skills;
- Availability to travel and perform work stages abroad;

Would be a plus :

- Experience with developing complex detector systems for high energy physics, nuclear physics or laser systems;
- Windows and Linux proficiency;
- Software development practices: Usage of version control systems, thorough documentation;
- Experience with numerical simulations of detector systems (e.g. Geant4);
- Programming: Python, Bash scripting, Java, ROOT, Assembly (the more architectures the better), 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.

Working arrangements/Conditions of employment:

- Full time position, based in Bucharest - Magurele, Romania, for a period of 1 (one) year with the possibility of several successive extensions of one year, until completion of the PhD studies;
- 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.
- The approval of the PhD Supervisor and of the PhD school management.

Applications

The requests for information and 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