

Post–Doctoral Research Assistant

(Mechanics and Vacuum R&D)

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

Research Activity 5 – Experiments with Combined Laser and Gamma Beams

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: Vacuum systems, design and optimization of vacuum enclosures, ultra-high vacuum technologies, high precision mechanical 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 Physics or Engineering;
- Hands-on experience with vacuum installations with different technologies, or experience in CAD design and FEM analysis of vacuum enclosures and/or complex mechanical systems;

- Up to date with the state of the vacuum industry and available technical options (turbo-molecular pumps, ion pumps, dry pumps, scroll pumps, membrane pumps, cryopumps, vacuum gauges types and ranges);
- Experience with vacuum compatible materials and systems;
- 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 one required:

- Experience with high vacuum systems, preferably in the framework of laser, nuclear or high-energy physics experiments;
- Practical expertise in leak detection and residual gas analyser data interpretation;
- Experience in designing and building automatic interlocks for vacuum systems;
- Programming and maintenance of PLC systems (e.g. Simatic Step 7 - WinCC);
- Design of complex, high precision mechanical systems;
- Knowledge of proper architecture design patterns for the safe operation of high vacuum systems (e.g. protection against power cuts, spontaneous leaks) to ensure both operator as well as equipment safety.

Working arrangements / Conditions of employment:

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

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.