

Engineer/Physicist

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

Research Activity 5 – Experiments with Combined Laser and Gamma Beams

Vacuum R&D

Job Description and Candidate's Profile

Scope of work

In the implementation phase, ELI-NP engineers and physicists will provide technical support for ELI-NP in correlation with the technological strategy, focusing mainly on ensuring the commissioning of the infrastructure and its further operation.

In the operational phase, the engineers and physicists will ensure the optimal operation of the experimental setups within RA5 and will participate to their upgrades and to the development of new experimental setups.

Main responsibilities:

In the implementation phase:

- The engineers/physicists in Research Activity 5 will participate to the design and construction of the experimental setups, market research and writing specification for equipment purchase, communication with companies, installing, testing and commissioning of the equipment;
- They will gather the knowledge and experience necessary to ensure the operation of the infrastructure and of the related equipment;
- Ensuring the best and efficient collaboration and dialogue between the research staff and the equipment suppliers and services providers;
- Ensuring the conformity of the activities with the standards in the field.

In the operational phase:

- Maintaining the performances and the optimal use of the equipment;
- Participate to the upgrades of existing equipment and the development of new experimental setups;
- Actively participating in the technological development activities performed at ELI-NP – mainly, Research Activity 5.

Main tasks:

- Performing tasks within Research Activity 5 related to vacuum systems and R&D on vacuum subjects;
- Participating in the implementation of the Technical Design Reports (TDRs) for ELI-NP experiments;
- Assuring the technical support for the acceptance and commissioning of the equipment needed for the 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;
- Improving scientific knowledge and competencies in ELI-NP research topics;
- Participating in scientific meetings and conferences;
- Actively and efficiently involving in the dialog and communication within the ELI-NP team and promoting a harmonious collaboration framework.

Professional background:

- Bachelor or Master's degree in Engineering and/or Physics;
- Good understanding of vacuum technology principles (e.g. pumping speed, partial pressures, line conductance);
- Hands on experience with vacuum installations and pumping stations, design, operation and maintenance;
- Good understanding of 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);
- Practical expertise in leak detection and residual gas analyser data interpretation;
- Experience with vacuum compatible materials and systems;
- Windows and Linux proficiency;
- 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 with high vacuum systems, preferably in the framework of laser, nuclear or high-energy physics experiments;
- Experience in designing and building automatic interlocks for vacuum systems;
- Programming and maintenance of PLC systems (e.g. Simatic Step 7 - WinCC);
- 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;
- Included: private medical coverage, paid annual leave;
- Motivating salary, at European level, depending on qualifications and experience;
- Professional, multicultural and interdisciplinary work environment.

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.