

Technicians
(Electrical, Electronics, Mechanics, Instrumentation & Control, IT)
at Extreme Light Infrastructure – Nuclear Physics (ELI-NP)

Competency profile

Context

Extreme Light Infrastructure – Nuclear Physics (ELI-NP) will be a new Center for Scientific Research to be built by the National Institute of Physics and Nuclear Engineering (IFIN-HH) in Bucharest-Magurele, Romania.

ELI-NP is a complex facility which will host two state-of-the-art machines of high performances:

- A very high intensity laser, where beams from two 10 PW lasers are coherently added to get intensities of the order of 10^{23} - 10^{24} W/cm²;
- A very intense ($\sim 10^{13}$ γ /s), brilliant γ beam, ~ 0.1 % bandwidth, with $E_\gamma > 19$ MeV, which is obtained by incoherent Compton backscattering of a laser light off an intense electron beam ($E_e > 700$ MeV) produced by a warm linac.

ELI-NP will consistently investigate a broad range of science domains, from new fields of fundamental physics, new nuclear physics and astrophysics topics, to applications in material science, life sciences and nuclear materials management.

Objectives of the ELI-NP

ELI-NP project envisages the following main objectives:

- Building the facility (expected to start at the beginning of 2013 and expected to be completed at the end of 2014).
- Purchasing the two major pieces of equipment (two high power lasers and the gamma beam system) as a result of public procurement procedures according to the applicable legislation. Their construction is expected to start in the first part of 2013 and the final commissioning in the first part of 2017.
- Preparing the Technical Design Reports for the experiments and auxiliary laboratories.

- Promoting the future multidisciplinary research opportunities of ELI-NP to users
- Implementing the human resources strategy conceived for securing the necessary workforce in terms of quality and quantity
- Defining and implementing the conditions necessary for the future operation.

The technological implementation is carried out by a team of scientists, engineers and technicians, responsible for the implementation of the equipment at ELI-NP, led by the Technical Director. The main objective of the technological implementation of the Project is to ensure the timely delivery and the commissioning of the two high power laser arms and the gamma beam system, the technical synchronization between them and their integration with the construction.

In the operational phase, the activity will be focused on maintaining the best performance of the ELI-NP systems.

Details regarding the ELI-NP project can be found on the project's web site www.eli-np.ro.

Position description

The Technicians from ELI-NP will ensure the technical support for the equipments and the experiments during both implementation and operation phases of ELI-NP.

Main responsibilities:

- acquiring the necessary knowledge and getting sufficient expertise for monitoring the functioning of the installation and behavior of the respective Equipment. In this context, some of the Technicians may benefit of training at the equipment providers, actively participating at the assembly, testing and commissioning of the equipment. Therefore, the candidates should be available to travel and to work abroad for a definite period of time;
- fulfilling assigned tasks within the process of preparing the ELI-NP site,
- providing technical support for scientific and engineering activities,
- provide technical support for intermediate and final reception stages,
- provide assistance and technical support during the operational phase to maintain the best performance of the ELI-NP systems. In this phase the

technicians will also provide the technical support for the preparation and development of the experimental arrangements.

Main tasks:

- execution of technical work necessary during the installation, commissioning, operation and maintenance of the facility. For this purpose, part of the technical staff will be trained by the equipment manufacturer;
- technical assistance for installation and commissioning;
- effective installation of the equipment, learning technical scheme of functioning;
- participation at the elaboration of technical documents and reports;
- assisting the research and engineering staff in completing their tasks;
- technical assistance during the operation of the equipment and buildings;
- accomplishing specific technical tasks such as setting up the components;
- participating to specific training courses.

Appointment

A competitive recruitment will be organized for the positions of Technicians. The selection will be based, among others, on technical excellence in the precise fields covered by the Project as demonstrated by the achievements during the previous work and experience in their field of expertise.

Technical skills:

- Minimum (Technical) high school diploma
- Professional experience: Minimum 3 years of experience in the specified technical positions, within research and development laboratories
- Good proficiency in English

Working arrangements/Conditions of employment

Full time position, based in Bucharest - Magurele, Romania.

Motivating salary based on qualifications and experience.

Applications

The applications shall be accompanied by curriculum vitae and other relevant information bearing the candidates qualification for this position. The candidates shall demonstrate the achievements and experience in technical activities at research & development laboratories.

The applications / letter of intent shall be addressed to the Human Resources Department at raluca.stoicea@eli-np.ro.

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