



Elettra Sincrotrone Trieste

Radiation Protection Physicist

Deadline: 12 June 2022

Ref: EA/22/17

Company description

Elettra Sincrotrone Trieste is an international multidisciplinary research center operated as a user facility, featuring a 2.0/2.4 GeV, third-generation synchrotron light source (Elettra), a new free-electron laser light source (FERMI) and a variety of support laboratories. The extremely high quality of the machines and beamlines has set new performance records and has been producing results of great scientific and technological interest. In order to allow the laboratory to remain competitive in the next 20 years, an entirely new source - Elettra 2.0 - belonging to the new generation of storage rings (DLSR or Diffraction Limited Storage Ring) is being developed. The new source will exhibit a major increase in the brilliance and coherence fraction of the photon beams. The Elettra 2.0 optics is based on our enhanced symmetric six bend achromat structure (S6BA-E) with a 12-fold symmetry and an emittance of 200 pm-rad at 2.4 GeV. The new structure creates also straight sections in the arcs permitting the installation of additional insertion devices, thus increasing the number of beamlines. Existing beamlines will have to be upgraded and new beamlines developed to take full advantage of the characteristics of Elettra 2.0. The new machine is scheduled for commissioning in the second half of 2026. See <http://www.elettra.eu> for more information.

Beamline/Activity/Project description

The radiation protection service performs several tasks ranging from personnel risks evaluation and environmental radiation monitoring to radiation shielding calculations and oversees the design and implementation of personnel safety systems.

Job description

As member of the Radiation Protection team, the successful candidate will be involved in the management of the different radiation protection issues, including those related to the design and construction of the new Elettra 2.0 source and to the decommissioning of the existing Elettra storage ring.

Using Monte Carlo simulations, he/she will contribute to the calculation of the activation radionuclides in the existing machine components (bending magnets, quadrupole and other machine components) and will perform Monte Carlo simulations to upgrade the shielding of the beamline hutches in the experimental hall for the new Elettra 2.0 machine.

Furthermore, the successful candidate will be involved in radiological measurements and analysis of radiation protection safety aspects of the machine and beamlines. He/she will collaborate in the design of personnel protection systems.

Qualifications

A degree in physics is required together with at least 2 years of proven experience in radiation protection, and in particular:

- use of the Monte Carlo simulation code FLUKA (performed within the last three years period);
- experimental gamma spectrometry measurements;
- TLD and GAFCHROMIC films dosimetry.

Good knowledge of legislative decree n. 101/2020 and of the legislation concerning radioactive waste is required. The successful candidate is expected to be eligible for the first-degree examination as radiation protection expert as foreseen by Italian Legislative Decree 101/2020.

A PhD in physics would be considered a plus.

The following qualifications will be considered as additional assets:

Elettra - Sincrotrone Trieste S.C.p.A.

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Società di interesse nazionale
ai sensi dell'art. 10, comma 4,
L. 19 ottobre 1999 n. 370

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- Experience in radiation protection measurement (e.g., dose rate and surface contamination);
- Knowledge of radiation protection aspects and personal safety system in synchrotron radiation facilities.

Excellent oral and written communication skills in Italian and good oral and written communication skills in English are essential.

Good time management skills and ability to prioritize are expected, together with the capacity to interact with staff and to work as part of a multi-disciplinary team.

The appointment envisioned is a permanent position, with level and salary commensurate with the qualifications and previous experience of the candidate.

A trial period is expected as per "CCNL Industria metalmeccanica e della installazione di impianti".

Applications should include a full curriculum vitae (preferably using the European Curriculum Vitae Format in PDF) signed by the applicant, with the names and contact information (including electronic mail) of at least two professional references.

Due to the situation related to the COVID-19 virus, the interviews will be performed through video conferencing.

The deadline for the submission of the application is June 12, 2022.

In accordance with the provisions of article 21 of the Italian legislative decree no. 39/2013 and in conjunction with article 53 (subsection 16ter) of Italian legislative decree no. 165/2001, employees or former employees of any Italian Public Entity who have exercised authority over Elettra Sincrotrone Trieste S.C.p.A. or have negotiated with Elettra - Sincrotrone Trieste S.C.p.A. within the last three years will be excluded from the present selection procedure. We thank all applicants in advance.

For more information, please contact Giovanni Scian (email: giovanni.scian@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=2562>

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