



Elettra Sincrotrone Trieste

Radiation Protection Officer for the Elettra 2.0 Project

Deadline: 16 October 2023

Ref: EA/23/25

Background

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 of an accelerator facility performs several duties ranging from personnel risk evaluation and environmental radiation monitoring to shielding calculations, and oversees the design and implementation of personnel safety systems.

Job description

The successful candidate will be involved in the activities of the radiation protection team for the design and construction of Elettra 2.0 and the decommissioning of the current Elettra machine. In particular, in the area of decommissioning and clearance evaluation, he/she will establish methodologies, draft procedures and perform analyses and measurements of the gamma-ray spectroscopy and radiometric measurements, in accordance with the ISO 11929, ISO 17025, and ISO 9000 standards. In addition, he/she will contribute to the radiation protection calculations for the design of the beamline hutches for the new and the upgraded beamlines using Monte Carlo simulation codes. Moreover, he/she will be involved in the analysis of radiological safety aspects of machine and beamlines and interact with the people involved in the design of personnel protection systems. An initial training period at other new experimental physics facilities in Europe might be envisioned.

Qualifications

A degree in Physics, Nuclear Engineering or Chemistry is required. A PhD in Physics, Engineering or Chemistry would be considered a plus.

Knowledge of the following topics is expected:

- FLUKA, or MCNP or GEANT4 Monte Carlo simulation codes;
- experimental measurements and calibration of detectors and equipment for gamma spectrometry;
- radiation protection aspects;
- legislative decree n. 101/2020 and Italian radioactive waste legislation.

The following qualifications will be considered as additional assets:

- Experience in shielding calculation,

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

S.S. 14 Km 163,5 in Area Science Park
34149 Basovizza, Trieste, Italy
T. +39 040 37581
F. +39 040 938 0903

P.IVA e C.F. IT00697920320
Cap. Soc. € 47.632.663,00 i.v.
PEC: sincrotrone.trieste.elettra@legalmail.it
www.elettra.eu

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- Knowledge of C ++ programming language, and AUTOCAD application,
- Experience in the development and implementation of Personnel Safety Systems in synchrotrons.
- Experience in development of quality management system according to ISO 17025 and ISO 9001 standards;

Very good oral and written communication skills in Italian and 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 fixed term contract with an initial duration of 24 months. The salary will be commensurate with previous experience and qualifications of the candidate.

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

The interviews may be held via video conferencing.

The deadline for the submission of the application is October 16, 2023.

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=3362>

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