



Elettra Sincrotrone Trieste

Electronic Engineer for the NFFA project

Deadline: 14 December 2024

Ref: GA/24/55

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 212pm-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.

Job description

The successful candidate will collaborate with the Advanced Photoelectric Effect (APE) Beamline team in the renewal of scientific instrumentation and the development of experimental automation software as part of the NanoFoundry and Fine Analysis (NFFA) project. The NFFA project targets the development of a distributed infrastructure for nanoscience with an open-access structure, integrating facilities for growth and synthesis of nanostructures and nanosystems with facilities, tools and methods for the fine analysis of matter.

In particular, the successful candidate will take responsibility for the following activities:

- develop, prototype and assemble innovative scientific instrumentation in collaboration with the Instrumentation and Detectors laboratory;
- develop high level software for the APE beamlines and the Spin Polarized Research Instrument in the Nanoscale and Time Laboratory (SPRINT);
- take charge of automating measurements on the beamlines;
- participate in experiments during beamtimes giving technical support;
- interact with the Elettra 2.0 staff to integrate the beamline software in the global control system;
- draft user guides and manuals for the developed software and instruments;
- perform ordinary and extraordinary maintenance.

Qualifications

A Master degree in Electrical Engineering or related field is required together with a minimum of one year of experience in developing high level software for beamlines. A Ph.D. in the same academic field would be considered a plus.

The following technical skills are also required:

- experience in designing printed circuit boards (PCB) using Altium Designer;
- excellent knowledge of LabVIEW programming language;

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- excellent knowledge of Verilog HDL;
- experience with data preservation techniques in compliance with FAIR principles.

Good knowledge of research infrastructures hosting multidisciplinary laboratories and particle accelerators would be considered a plus.

Good oral and written communication skills in English and in Italian language are required.

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

General information

The deadline for the submission of the application is December 14, 2024.

The appointment will be a fixed term contract with an initial duration of 12 months, subject to a trial period of 3 months, in accordance with the National Metalworkers Collective Labour Agreement and the Company Agreement, ex. art. 8 of the Decree Law 138/2011, dated 28th March 2024.

The salary will be commensurate with the previous experience and qualifications of the candidate.

Applications should include a full curriculum vitae, a reference letter and contact information (including electronic mail) of at least one professional reference.

The interviews may be held via video conferencing.

The ranking of eligible candidates resulting from this selection procedure may be used for additional appointments within the following 24 months.

Permanent employees of Elettra Sincrotrone Trieste S.C.p.A. and 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, 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. We thank all applicants in advance.

For more information, please contact Giuseppe Cautero (email: giuseppe.cautero@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4228>

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