



Elettra Sincrotrone Trieste

Electronic Engineer

Deadline: 6 April 2026

Ref: GA/26/13

Background

Elettra Sincrotrone Trieste is an international multidisciplinary research centre offering international users access to synchrotron and free-electron laser radiation for the characterization and processing of matter. The extremely high quality of the light sources 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 synchrotron radiation source - Elettra 2.0 - belonging to the new generation of storage rings (DLSR or Diffraction Limited Storage Ring) is being installed and will join the already operating free-electron source FERMI in the second half of 2026. 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 are being upgraded and new beamlines constructed to take full advantage of the characteristics of Elettra 2.0. See <http://www.elettra.eu> for more information.

Beamline/Activity/Project description

The Detectors and Instrumentation laboratory of Elettra Sincrotrone Trieste has been established with the aim of developing cutting-edge scientific instrumentation to meet scientific needs that are not addressed by commercial products. Its staff specialize in design and development of particle detectors, beamline instrumentation, and equipment for electron/synchrotron radiation diagnostics. Additionally, this laboratory provides technical and software support (LabVIEW, Matlab, Simulink, VHDL, and Verilog) to beamline scientists and all laboratories of Elettra and FERMI.

Job description

The successful candidate will be part of the team in charge of developing new instrumentation for experimental stations and synchrotron radiation diagnostics. In particular, he/she will be involved in the design of the new Digital Low Level RF controller for the resonant cavities of Elettra 2.0, in the development of electronics for the new Beam Loss Monitors for Elettra 2.0, and in the implementation of new Beam Position Monitor solutions.

In particular, he/she will be responsible for the following aspects:

- . development of high-speed boards and FPGA programming
- . high-level programs development for remote control

Qualifications

A Ph.D. in Physics, Electronic Engineering or a related discipline is required, together with the following technical skills:

- proven experience in the development of scientific instrumentation and user-friendly high-level software for scientific experiments;
- deep knowledge of both analog and digital electronics aspects related to the development of scientific instrumentation, such as digital filters, lock-in amplifiers, PLLs, and PID controllers at the HDL code level;
- expertise in solid-state and MCP-based particle detectors, proficiency in low-level HDL code development;
- experience in CAD design for electronic boards;
- familiarity with system-on-chip (SoC) architectures, preferably Intel/Altera SoCs.

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

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SISTEMI DI
GESTIONE CERTIFICATI



UNI EN ISO 9001:2015
UNI CEI EN ISO/IEC 27001:2022
UNI EN ISO 45001:2023
UNI CEI EN ISO 50001:2018



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A comprehensive understanding of Altium Designer, Verilog HDL, Altera Quartus, Python and LabVIEW is highly desirable.

Good oral and written communication skills in English are essential. A working knowledge of Italian language would be desirable.

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

General information

The appointment envisioned is a permanent staff position, with a three months trial period.

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

Applications should include the candidate's full curriculum vitae, the names and contact information (including electronic mail) of up to two persons who have agreed to provide references.

The interviews may be held via video conferencing.

The ranking of suitable candidates resulting from this selection process may be used within the following 24 months.

Permanent employees of Elettra Sincrotrone Trieste S.C.p.A. will be excluded from the present selection procedure. 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 also 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.

The deadline for the submission of the application is April 6, 2026.

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=4290>

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