Elettra Sincrotrone Trieste

Control Systems and Data Acquisition Specialist for Elettra and FERMI Beamlines

Deadline: 26 April 2026
Ref: IA/26/16

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.

Job description

The control systems of Elettra and FERMI consist of several computers distributed along the facilities that interface with the different instruments to be controlled. State-of-the-art hardware and software technologies are adopted; the TANGO control system software (http://www.tango-controls.org) is used to develop distributed control applications.

The successful candidate will work on the development of control and data acquisition systems for the Elettra and FERMI beamlines. In particular, he/she will work in collaboration with beamline scientists and external users in order to understand their needs and to establish data acquisition processes and software requirements, to integrate scientific instrumentation in the existing control systems and to manage the data reduction/analysis process.

Qualifications

A Master's Degree in Computer Science, Software Engineering or related fields is required together with the following technical skills:

- minimum 3 years of experience in computing technologies;
- in-depth knowledge of Python, C/C++, GNU/Linux, networking concepts and distributed computer systems;
- familiarity with PLC programming, electronic laboratory instrumentation and detectors;
- experience in the development of software using the TANGO framework.

Possession of a higher academic degree (such as a PhD) and proven knowledge of the mathematicalprinciples underlying the processing of data produced by high-throughput techniques, including tomographic reconstruction and phase-contrast retrieval, will be considered preferential qualifications.

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

Good oral and written communication skills in English are essential.

General information

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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 (subsection16ter) of Italian legislative decree no. 165/2001.

The deadline for the submission of the application is April 26, 2026.

We thank all applicants in advance.
For more information, please contact Roberto Pugliese (email: roberto.pugliese@elettra.eu).

To apply for this position please visit the following link:
https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4293