



Elettra Sincrotrone Trieste

Postdoctoral researcher associate for CryoEM facility & Preparation Laboratory (CERIC Membership Fees project WP3)

Deadline: 6 September 2026

Ref: DA/26/26

Background

Elettra Sincrotrone Trieste is an international multidisciplinary research center 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 next months. 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

In the framework of the aforementioned upgrade, new beamlines will be built, extending our life science programs. Elettra is the Italian Partner Facility of CERIC-ERIC (<https://www.ceric-eric.eu/>), which was recently upgraded through the "Pathogen Readiness Platform for CERIC-ERIC Upgrade" (PRP@CERIC) project, funded by the Italian government and coordinated by Area-Science Park. One of the main achievements of the PRP@CERIC project is the installation, at the Elettra premises in collaboration with IOM-CNR and IC CNR, a cryo-EM facility for single-particle analysis, cryo-electron tomography and micro-electron diffraction. This new facility will further expand structural biology activities at the site complementing the Structural Biology Laboratory (SB Lab) of Elettra Sincrotrone Trieste, and the new dedicated beamlines under construction with our partners (two Small Angle Scattering (SAXS) and one μ diffraction beamlines), thus providing an integrated environment for structural biology, combining synchrotron-based techniques and advanced laboratory facilities and enabling integrative structural biology workflows.

The present position will contribute to developing and consolidating these capabilities, which will be made available to the international user community through the CERIC-ERIC access program.

Job description

The successful candidate will work in a multidisciplinary team and will contribute to build effective synergies between the cryo-EM facility, the μ XRD/MX beamline, the SAXS beamline and the associated laboratories.

The successful candidate will work within the Structural Biology Laboratory with the objective to strengthen the sample-preparation workflow for cryo-EM single-particle analysis (SPA) and supporting integrative structural biology studies for both in-house research and user-support. The successful candidate will be primarily in charge of enforcing and operating the pipeline for expression, purification, biophysical characterization of protein samples and protein complexes and sample preparation for either MX or cryo-EM SPA, with focus on protein targets. Main efforts will be devoted to the use of single-particle cryo-EM and MX techniques, with opportunities to exploit complementary methods such as SAXS, NMR and others.

The candidate is expected to actively contribute to the implementation of the following tasks and to exploit the acquired expertise for supporting MX and cryo-EM facility projects:

- developing and applying established and robust protocols to express and purify recombinant proteins and protein complexes (i.e. protein-protein, protein-nucleic acids), assessing protein quality for subsequent characterization and

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structural analysis;

- performing biochemical and biophysical assays to assess sample stability, folding and oligomerization state, as well as to investigate protein-ligand interaction properties;
- performing protein crystallization and crystal optimization using the robotic facility available in the Structural Biology Laboratory;
- providing samples and scientific input to support the installation and operation of a new "prep room" for cryo-EM sample vitrification;
- performing cryo-EM grid preparation;
- becoming acquainted with data-collection workflows for macromolecular crystallography and cryo-EM, in close collaboration with beamline and facility scientists;
- investigating and applying alternative biophysical/structural techniques to characterize proteins and protein complexes and to support project progress.

The successful candidate will report to the SB Lab manager and will work in close contact with other scientists of the Structural Biology group at Elettra, with staff from other CERIC-ERIC Partner Facilities when relevant, and with other laboratories of Elettra Sincrotrone Trieste. He/She will be expected to work autonomously, present results at project meetings and workshops and at international conferences, and to prepare and submit articles to peer-reviewed scientific journals.

Qualifications

The following requirements are mandatory:

- A Ph.D. in biochemistry, chemistry, biology, biophysics, structural biology or related disciplines, obtained no more than 6 years prior to the application deadline, with postdoctoral experience in academic institutions or private companies.
- Well-established experience in molecular biotechnology and protein production, including recombinant protein expression in bacteria and eukaryotic cells (insect and/or mammalian), and in protein purification;
- Proven experience in protein biophysical characterization techniques, such as stability assays and binding methods;
- Hands-on experience with structural biology sample preparation methods, including macromolecular crystallization and/or cryo-EM grid preparation.

Any of the following will be considered as an additional asset:

- expertise in structural biology MX and/or cryo-EM data collection, processing and structural analysis;
- expertise in protein engineering and/or protein chemistry.

Good time management skills and ability to prioritize are expected, together with the ability to interact with the facility staff and international 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

The envisioned appointment is a fixed term contract with an initial duration of 12 months governed by the National Metalworker Collective Labour Agreement (C.C.N.L.) and by the Company Labour Agreements (agreements available on www.elettra.eu section "amministrazione trasparente"). A trial period of 30 effective working days is foreseen. The employment grade is Level B1 of the National Metalworker Collective Labour Agreement (C.C.N.L.), with a gross annual salary ranging from € 30.814,29 to € 32.500,00 depending on previous experience and qualifications of the candidate

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Applications must include a full curriculum vitae with a complete list of the candidate's publications and any relevant information for the position together with the names and contact information (including electronic mail) of at least one person who have agreed to provide references. A motivation letter is desirable.

The ranking of suitable candidates resulting from this selection process may be used within the following 24 months. The interviews may be held via video conferencing.

Employees or former employees of Elettra Sincrotrone Trieste S.C.p.A., as well as current or former personnel provided by temporary work agencies 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 publication of this call does not commit Elettra Sincrotrone Trieste S.C.p.A. to implement the procedure announced. Elettra Sincrotrone Trieste S.C.p.A. reserves the right to suspend/postpone/cancel this selection procedure or to launch a new call at its sole discretion, without the candidate being entitled to rise any claim.

In accordance with current applicable legislation, the selection procedure and any subsequent recruitment will be conducted in line with the principles of equal opportunities and non-discrimination. Candidates will not be required to disclose information regarding their current or previous remuneration, in compliance with the provisions of Legislative Decree 96/2026.

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

We thank all applicants in advance.

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4303>

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