Elettra Sincrotrone Trieste

Postdoctoral Research Associate for AVITHRAPID project

Deadline: 6 August 2026
Ref: DA/26/23

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 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

Elettra Sincrotrone Trieste is a partner of the AVITHRAPID European Consortium (HORIZON-HLTH-2023-DISEASE-03 call, https://avithrapid.eu/), which is committed to improving European research capacities and becoming a key instrument to support research on viral pathogens with epidemic and pandemic potential. Among the project objectives is the development of novel broad-spectrum antivirals through a rational pre-clinical drug discovery workflow. Within this framework, the research group at Elettra-Sincrotrone Trieste provides structural and biophysical evidence of protein-drug binding modes using biochemical, biophysical and structural biology methods. The Elettra team works in close interaction with medicinal chemists, virologists and computational scientists from the AVITHRAPID consortium to support hit identification, hit validation and hit optimization.

The Protein Targets for Drug Discovery (PTDD) research group is part of the Structural Biology Laboratory (SB Lab) of Elettra-Sincrotrone Trieste and applies molecular and structural biology tools to characterize druggable proteins and accelerate drug discovery processes. This state-of-the-art laboratory is embedded in the Elettra 2.0 Structural Biology campus, which encompass a recently installed cryo-EM facility, the upcoming renewed high-flux SAXS beamline and the new micro-crystallography (µXRD) beamline. The successful candidate will join an international, multidisciplinary team of structural biologists and biochemists, and will be focused on antiviral drug discovery to support structural-driven drug design.

Job description

The successful candidate will join the AVITHRAPID research team at Elettra-Sincrotrone Trieste and will work in close collaboration with other partners of the multidisciplinary consortium, sharing goals and providing deliverables aligned with the project objectives. He/She will be in charge of the production, characterization and structural analysis of viral and host protein targets relevant to the drug discovery process, including enzymes and protein-protein interaction modules from viruses with epidemic and pandemic potential.

The successful candidate is expected to actively contribute (i.e. protocol development, data analysis and problem solving) to the implementation of:

- developing and applying established and robust protocols to express and purify recombinant proteins of interest for the project, assessing protein quality for subsequent characterization and structural analysis;

- performing biochemical and biophysical assays to support and validate small-molecule compounds synthesized by project partners (e.g. binding assays, activity assays, biophysical binding methods);

- performing protein crystallization and crystal optimization using the robotic facility available in the Structural Biology

Laboratory;

- collecting diffraction data at synchrotron sources, solving and refining macromolecular structures, and providing structural input to medicinal chemistry partners for hit validation and hit optimization;

- investigating alternative biophysical/structural techniques (including cryo-EM, when applicable) to characterize the proteins and support project progress.

The successful candidate will report to the local team leader of the project and will work in close contact with other scientists of the Structural Biology Lab at Elettra, as well as with other laboratories and beamline scientists of the research infrastructure. He/She is 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

A Ph.D. in biochemistry, chemistry, medicinal chemistry, biology, biophysics, structural biology or related disciplines is required together with the following technical skills:

- track record experience in molecular biotechnology techniques and in protein production, in particular in recombinant protein expression in bacteria and eukaryotic systems (insect and/or mammalian), in protein purification and quality control assessment;

- experience in ligand-protein binding analysis using biophysical methods (e.g. SPR-like techniques, or equivalent approaches);

- proven experience in structural biology sample preparation methods and macromolecular crystallization.

Expertise in structural biology MX and/or cryo-EM data collection, processing and structural analysis, as well as basic knowledge of molecular modeling and protein design and general knowledge of the literature on viral protein targets, drug discovery of antiviral drugs would be considered desirable.

Good oral and written communication skills in English are essential.

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.

General information

The envisioned appointment is a fixed term contract of a 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

Applications must include a full curriculum vitae, the names and contact information (including electronic mail) of up to three individuals 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

Elettra Sincrotrone Trieste

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 August 6, 2026.

We thank all applicants in advance.
For more information, please contact Paola Storici (email: paola.storici@elettra.eu).

To apply for this position please visit the following link:
https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4300