



Elettra Sincrotrone Trieste

Research Associate in Structural Biology at ELETTRA

Deadline: 20 July 2022

Ref: DA/22/22

Company description

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 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 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.

Beamline/Activity/Project description

Elettra Sincrotrone Trieste is supporting in-house research on COVID-19. With this purpose Elettra has opened an internal project "named E4C@Elettra" that originates as a follow-up of the recently concluded, EU-H2020-financed project, EXSCALATE4CoV (E4C), that had the objective of rapidly identifying drugs effective against SARS-CoV-2. The E4C@Elettra project aims to bring to completion the huge amount of data collected within the E4C partnership. The focus is on structural determination by x-ray crystallography of protein targets in complex with small molecules selected through the EXSCALATE4CoV platform and subsequent follow-ups. Activities will be performed at the Elettra Protein Facility and at the XRD2 beamline to obtain and crystallize the recombinant proteins, collect x-ray diffraction data and solve the 3D structures.

The Protein Facility is a unit of the Structural Biology Lab of Elettra and is specialised in recombinant protein expression, purification, and characterization, supporting internal and external researchers from public or private laboratories. This state-of-the-art facility works in collaboration with all of the Elettra beamlines and, in particular, with the XRD2 x-ray diffraction beamline giving technical and scientific support to research collaborators and contributing their scientific and technical developments. For more information see: <https://www.elettra.trieste.it/labs/structural-biology>

Job description

The research associate will work on the E4C@Elettra project, concluding the ongoing experiments and leading to completion the planned ones. His/her main tasks will be to conduct the protein crystallization trials, crystal handling, x-ray diffraction data collection, structure determination, and data mining. The research associate will also be involved in obtaining good results in protein production and protein-ligand binding characterization. He/she will refer to the Protein Facility Head and will work in close contact with the other scientists of the group, with the beamline scientists, as well as with external scientists from the original E4C partnership. The research associate will be involved in the whole workflow of the research and will have to ensure a proficient exchange of information within the scientists involved in the project. He/she will be also involved in writing scientific reports and publications, as well as in training young Ph.D. students.

Qualifications

A Ph.D. in biochemistry, chemistry, biology or related disciplines with focus on macromolecular crystallography applied to drug discovery are essential together with postdoctoral experience in protein crystallography.

Hands-on experience in protein expression and purification, deep knowledge of protein crystallography from protein crystallization to structure solution using CCP4 Suite and most popular graphical programs of structural bioinformatics are expected. Previous experience in enzymes' inhibition studies and small molecule development for new drug discovery is also a prerequisite. Experience on drug targets for infectious diseases will be considered a plus. Demonstrated

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experience in biochemical assays and biophysical characterization would be a distinct advantage.

Excellent oral and written communication skills in English are essential. A working knowledge of Italian would be desirable, but is not required.

Good time management skills together with the ability to interact with staff and facility users and to work as part of a multi-disciplinary team is expected.

The appointment envisioned is a fixed term contract with expiration date 31st May 2023.

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

Applications should include full curriculum vitae, contact information (including electronic mail) of at least two references.

Due to the situation related to the COVID-19 virus, the interviews will be performed through video conferencing.

The deadline for the submission of the application is July 20, 2022.

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, 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. 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=2622>

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