

# Postdoctoral Research Associate for battery research at Elettra

Deadline: 25 September 2025

Ref: DA/25/28

## 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 laser (FEL) 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 beamlines of Elettra 2.0 will host a wide variety of experiments in many different scientific fields. In recent years the number of experiments in the field of energy storage has increased significantly. On some specific beamlines up to 25% of the research projects are on batteries, many of them with operando measurements. The growing number of experiments necessitated an expansion of the support infrastructure.

To this aim, a new facility has been recently installed to support users experiments in the field of energy storage materials and (electro-)catalysis. It provides them with tools for assembling and disassembling batteries, as well as equipment to be used at the beamlines during experiments. Recently, two state-of-the art gloveboxes have been installed and are already being used by users and staff members. Additional equipment for sample preparation and characterization is available at the Chemical Lab of Elettra

## Job description

The postdoctoral position offers a unique opportunity to researchers aiming to make significant contributions to the understanding of battery-related materials and their applications. This is possible through collaboration with beamline's staff to integrate the facility equipment with that of the beamlines, also in collaboration with beamline users, as well as through the establishment of a personal line of research.

The role demands a proactive approach to collaborate with beamline staff and users through every phase of their activity at the beamlines, from preparing the experimental set-up to conducting complex data analysis and writing scientific manuscripts. Active participation in the maintenance and upgrade of the support facility equipment is expected.

## Qualifications

A Ph.D. in Physics, Chemistry or a related discipline is required. The candidate must not have more than 6-years of total postdoctoral experience in academic institutions or private companies. Applications will be considered also from candidates who have completed a doctoral course of studies and for whom the defense has been scheduled. In any case, the Ph.D. must be awarded by the end of October 2025.

A solid background in battery or (electro-)catalysis research and a significant experience dealing with air-sensitive compounds are expected.

Any of the following qualifications will be considered as additional assets (please indicate relevant publications or thesis):

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

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- Research experience in the field of material characterization techniques such as XRD, XAFS and SAXS.
- Research experience with electrode related materials (such as layered compounds, PBA's MOF's etc.)
- Experience in the use and maintenance of laboratory equipment.
- Participation in experimental campaigns at synchrotron or FEL user facilities.
- Experience in seeking external funding for research.
- Skills in disseminating research results both to experienced researchers and novice users.
- Programming skills in Python or Matlab, including interfacing of instruments.

The successful candidate should possess strong interpersonal skills favoring collaborative research programs in a team-oriented environment.

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 appointment will be a fixed-term employment contract of an initial duration of 12 months, extendable by agreement of both parties, in accordance with the legal provisions in force, currently up to a maximum of 24 months. The salary will be commensurate with previous experience and qualifications of the 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 could be performed through video conferencing.

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

Employees or former employees of Elettra Sincrotrone Trieste S.C.p.A. or temporary and staff leasing employees or former employees with working experience at the company 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 September 25, 2025.

We thank all applicants in advance.

For more information, please contact Jasper Rikkert Plaisier (email: [jasper.plaisier@elettra.eu](mailto:jasper.plaisier@elettra.eu)).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4266>

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