



Elettra Sincrotrone Trieste

# Scientist for the Optics Group

Deadline: 3 April 2025

Ref: RA/25/10

## Background

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.

## Job description

The successful candidate will join the Optics Group, which is responsible for the optimization of existing optical systems, the design of new ones, and the definition and implementation of new beamlines for the Elettra 2.0 project. The successful candidate will also participate in the activities of the Optical Metrology Lab.

Key tasks will involve:

- Conceptual design and optical simulations of beamlines.
- Opto-mechanical design of components.
- Thermal and vibrational analysis of components in collaboration with the engineering team.
- Optical characterization, assembly, alignment, and commissioning of critical optical systems such as mirrors and monochromators.

## Qualifications

A Ph.D. in Physics or a related discipline is required together with proven experience in UV or X-ray optics in the following areas:

- UV and X-ray optical simulation codes;
- UV and X-ray transport and diagnostics;
- optical metrology and X-ray mirror characterization.

Preference will be given to candidates who have actually designed, constructed, and commissioned beamlines at large-scale facilities.

Previous research experience on synchrotron beamlines and on soft X-rays experimental techniques and instrumentation would be considered a plus.

Good oral and written communication skills in English are required.

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

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

## General information

The appointment envisioned is a permanent staff position, with a 6 months trial period.

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

Applications should include full curriculum vitae and possibly contact information (including electronic mail) of at least three references.

The ranking of eligible candidates resulting from this selection procedure may be used for additional appointments within the following 24 months.

The interviews may be held via video conferencing.

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 (subsection 16ter) of Italian legislative decree no. 165/2001.

The deadline for the submission of the application is April 3, 2025.

We thank all applicants in advance.

For more information, please contact Edoardo Busetto (email: [edoardo.busetto@elettra.eu](mailto:edoardo.busetto@elettra.eu)).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=4248>

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