



Elettra Sincrotrone Trieste

Mechanical Technician for Vacuum Engineering at Elettra 2.0

Deadline: 31 May 2022

Ref: RA/22/10

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. A new generation, diffraction-limited storage ring light source denoted as Elettra 2.0 is under development. See <http://www.elettra.eu> for more information. 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. In addition, three in-vacuum undulators and two high-field superbends will be installed. The new machine is scheduled for commissioning in the second half of 2026.

Beamline/Activity/Project description

The Vacuum Engineering team is mainly dedicated to the development and maintenance of the large vacuum systems required for the operation of the Elettra and FERMI machines. They also advise and support scientists and technicians in their day-to-day activity at their beamlines and laboratories.

Job description

The successful candidate will be part of the Vacuum Engineering team involved in assembling and testing vacuum systems and components dedicated to the storage ring and front-ends of Elettra 2.0. The successful candidate may also be involved, with the other members of the team, in the maintenance activities of the vacuum systems and components of the current machine to free other members of the team to increase their involvement in the developments related to the new machine.

The candidate will:

- learn the principles of vacuum technology;
- learn material properties and cleaning procedures;
- assemble simple to complex mechanical systems to achieve and maintain ultra-high-vacuum conditions;
- monitor the pressure and identify the residual gases in vacuum system;
- support the Vacuum Engineering team in their day-to-day laboratory activities;
- support the Vacuum Engineering team in their machine maintenance activities;
- support the Vacuum Engineering team in the development of the new storage ring and front ends vacuum systems;
- produce the technical documentation required for procurement and follow the manufacturing and construction stages of all new vacuum components;
- perform vacuum tests on prototypes and final components at the Vacuum Laboratory and participate in the factory acceptance tests;

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Elettra Sincrotrone Trieste

- collaborate to on-site installations and commissioning of the storage ring and front-ends of Elettra 2.0.

Qualifications

a diploma in mechanical engineering, mechatronics or equivalent is required. Skill and experience gained in the installation and maintenance of mechanical / fluidistic components and plants, along with any experience in 3D mechanical design using CAD programs, would be considered an asset.

Previous experience in vacuum science and technology would be highly desirable.

Basic knowledge of Microsoft Office or similar software suites is required.

Good oral and written communication skills in Italian and English are essential.

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

The appointment envisioned is a fixed term contract with an initial duration of 12 months. The salary will be commensurate with previous experience and qualifications of the candidate.

Applications should include full curriculum vitae signed by the applicant (preferably using the European Curriculum Vitae Format in PDF), with the names and contact information (including electronic mail) of at least one professional references.

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

The deadline for the submission of the application is May 31, 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 Luca Rumiz (email: luca.rumiz@elettra.eu) or Edoardo Busetto (email: 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=2502>

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