



Elettra Sincrotrone Trieste

Fluid and mechanical systems engineer for the Elettra 2.0 project

Deadline: 2 January 2023

Ref: SA/22/36

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.

Beamline/Activity/Project description

The core task of the Elettra Fluidic-Mechanical Team is the management, operation and maintenance of fluid and mechanical plants serving our present accelerators and buildings (HVAC, process cooling water, compressed air, technical gases, liquid nitrogen, fire-fighting systems, special plants, etc.) The main facilities are controlled by a general supervision system to ensure the operation of the two accelerators: Elettra and FERMI. The upgrade of the mechanical-fluidistic systems, which are needed to meet the specifications of the new Elettra 2.0 and related beamlines, is currently underway.

Job description

The successful candidate will collaborate in the design and construction of the new fluidistic and mechanical systems necessary for the development of Elettra 2.0. He/she may also be required to contribute to the management, operation and maintenance of fluid and mechanical plants serving our present accelerators and buildings (HVAC, process cooling water, compressed air, technical gases, liquid nitrogen, fire-fighting systems, special plants, etc.) in order to increase his/her expertise in plant management and allow more senior colleagues to work on the new accelerator systems. In this capacity, he/she may be required to cover shifts for on-call emergencies. She/he will be involved in the development of fluid and mechanical plants, both in the definition of technical aspects (technical specifications, timing, layout drawings, flow diagrams process, pipe and equipment plants for all process systems, etc.), as well as in the administrative aspects (tender specifications, supplier follow-up, cost vs. benefit analysis, project planning and reporting, etc.). He/She will perform engineering evaluations and analyses, and make engineering decisions for all aspects of the assigned tasks.

Qualifications

A Bachelor or Master's degree in mechanical engineering or energy systems, or related field is required.

The successful candidate must have experience in defining and simulating complex hydronic networks using fluid dynamic simulation software (e.g., AFT Fathom, Pipe Flow Expert, Fluid-Flow Flite Software, Pipe-Flo Revalize, or other similar software).

In the course of study, the candidate must have acquired specific skills related to Mechanical Systems, HVAC (heating, ventilation and air conditioning) Systems, and Fluid Dynamics.

Final graduation score will also be taken into account.

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

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L. 19 ottobre 1999 n. 370

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Qualification for enrollment in the official register of Italian professional engineers or technicians is an essential requirement.

Good oral and written communication skills in English are required, together with fluent knowledge of the Italian language.

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 24 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 reference.

The deadline for the submission of the application is January 2, 2023.

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 Marino Miculin (email: marino.miculin@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=2841>

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