



Elettra Sincrotrone Trieste

Beamline Scientist for Xpress beamline at ELETTRA

Deadline: 25 June 2021

Ref: DA/21/15

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. See <http://www.elettra.eu> for more information.

Beamline/Activity/Project description

The Xpress beamline is dedicated to *in situ* high pressure (HP) X-ray diffraction measurements. The beamline is in full operation and it is managed in the framework of a scientific partnership between the Indian Institute of Science, Bangalore, and Elettra-Sincrotrone Trieste. The beamline source, - a superconducting wiggler and a cryocooled single crystal Si(111) monochromator - provides photons at a fixed wavelength, close to 0.5 Ångstrom. The final beam size at the end station is chosen by a precision pin-hole, typically 80 microns in diameter. The end station is equipped with a Pilatus3S 6M detector and a custom-made sample stage to host various types of diamond anvil cells (DACs). An online ruby fluorescence set-up is available at the end station for *in situ* pressure monitoring. An automatic pressure controller PACE5000 is available for the driving membrane DAC. The experimental station can be adapted to host high-temperature (HT) and low-temperature (LT) set-ups, thus permitting to perform HP-LT and HP-HT diffraction data collection. A user-friendly beamline control and data acquisition software is available together with a web-based data storage system. More information can be found at: <https://www.elettra.eu/elettra-beamlines/xpress.html>

Job description

The successful candidate will work closely with the beamline coordinator and the staff of the Xpress beamline for running and further developing the High-Pressure diffraction beamline. In this respect, she/he will contribute to the management, operation, optimization, maintenance and upgrades of the beamline and of its experimental station. She/he will be involved in the Elettra upgrade program, by contributing to the design of the beamline specifications, in order to meet the high expectations of the user community.

She/he is expected to provide daily high-quality support to external users through the role of local contact, thus gaining opportunities for collaborative work at the frontiers of the field and contributing to the definition and execution of *in-house* research activities. In particular, she/he will participate in and promote the scientific activities related to extreme conditions experiments in collaboration with other Elettra beamlines and international laboratories.

She/he is expected to develop her/his own research program and to promote the capabilities and scientific accomplishments of the beamline

Qualifications

A PhD in Physics, Chemistry, Materials Science or related disciplines and more than 5 years of research experience in the field of HP material science are required. Work-experience at synchrotron XRD beamlines dedicated to HP techniques, handling/ loading different types of diamond anvil cells (DACs) is essential. Experience in the acquisition and analysis of HP X-ray diffraction data, both powder and single crystals, and in HP experiments at extreme conditions, i.e. low and high temperature experiments, is highly desirable. Good knowledge of HP-diffraction complementary techniques, such as Raman and infrared spectroscopy, will be an asset. Only candidates with a publication record relevant for the advertised position will be considered.

Good 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 lead a

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multi-disciplinary team is expected.

The appointment is for a permanent position.

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.

The deadline for the submission of the application is June 25, 2021.

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 Lisa Vaccari (email: lisa.vaccari@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=1941>

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