



Elettra Sincrotrone Trieste

# Senior Scientist for Xpress (High-Pressure Diffraction) beamline at ELETTRA

Deadline: 11 March 2020  
Ref: DA/20/11

## 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 a dedicated high pressure (HP) diffraction set up at the Elettra Sincrotrone Trieste, which is part of a scientific partnership between India and Italy under a project administered through the IISc Bangalore. The beamline exploits the synchrotron radiation from a superconducting wiggler to produce a 25 keV monochromatic X-ray beam focused on a large area detector (MAR345) for data acquisition in angle dispersive mode. This configuration allows powder diffraction experiments to be performed under HP using diamond anvil cells (DAC). An online ruby fluorescence spectrometer is available for in-situ pressure monitoring. The beamline is currently equipped with facilities for HP manipulation such as long-working distance microscope, precision micro-driller, automatic pneumatic pressure controller, etc. Very recently, single crystal (SC) XRD measurements under HP using DAC were successfully commissioned. In the near future, powder and SC diffraction under HP together with variable temperatures from few to several hundred Kelvins are expected to be available. More information can be found at: <https://www.elettra.trieste.it/elettra-beamlines/xpress.html>

## Job description

The successful candidate will lead the beamline activities. She/he will contribute to the management, operation, optimization, maintenance and upgrades of the Xpress beamline and its experimental station in order to continue meeting the requirements of a large scientific community related to the high-pressure science. She/he will supervise all staff directly assigned to the beamline, manage the budget, and ensure reporting. He/She is expected to stay updated on the technical/scientific evolutions in fields relevant for the beamline and to develop his/her own research programme. He/She will be involved in the upgrade program of Elettra, and is expected to contribute to the improvement of the beamline performance, promoting its technical upgrade and instrumental development in collaboration with the beamline team, 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 to contribute to the definition and execution of *in-house* research activities. He/She is expected to build collaboration with external users and international research groups.

## Qualifications

A PhD in Physics, Material Science or related disciplines together with at least three years of experience in synchrotron techniques, specifically in x-ray diffraction under high pressure conditions are required. Good working knowledge of diffraction data analysis procedures (both powder and single crystal diffraction) and experience in working with several types of diamond anvil cells are essential. A suitable scientific publication record and proven ability to work with user groups having different scientific backgrounds are required.

Proven experience with others high-pressure techniques such as Raman, infra-red and x-ray absorption spectroscopies would be desirable.

The participation in the construction and commissioning of HP beamline(s) would be considered as additional assets.

Good oral and written communication skills in English are essential. A working knowledge of Italian would be desirable,

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

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but is not required.

Good time management skills together with the ability to interact with staff and facility users and to work as part of a multi-disciplinary team is expected.

The deadline for the submission of the application is March 11, 2020.

The appointment envisioned is a fixed term contract with an initial duration of 12 months. 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.

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](mailto: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?ref=DA%2F20%2F11>

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