



Elettra Sincrotrone Trieste

Postdoctoral position for the X-Ray Fluorescence (XRF) and X-Ray Absorption Spectroscopy (XAFS) beamlines at ELETTRA

Deadline: 6 March 2020

Ref: DA/20/10

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 X-Ray Fluorescence (XRF) beamline operates in the 2000-14000 eV photon energy range and hosts a versatile endstation enabling the use of various X-Ray Spectrometry techniques such as Grazing Incidence/Exit X-Ray Fluorescence, Total Reflection XRF, XRF, X-Ray Reflectometry and X-Ray Absorption Spectroscopy (XANES). See <http://www.elettra.trieste.it/lightsources/elettra/elettra-beamlines/microfluorescence/x-ray-fluorescence.html> for more information.

The XAFS beamline is dedicated to X-ray absorption spectroscopy in the hard X-ray range. It is installed on a bending magnet source and covers a wide energy range allowing the study of a large number of elements: from sulphur to bismuth. See <http://www.elettra.eu/elettra-beamlines/xafs.html> for more information.

The two beamlines are employed in research areas ranging from materials science to solid state physics, from environmental and earth science to cultural heritage. While the XAFS beamline is especially suited to transmission mode geometry measurements of homogeneous samples, the XRF beamline allows studies of heterogeneous samples with sub-millimetric spatial resolution. The XRF beamline, with the capability of x-ray absorption spectroscopy and with a micron-sized beam is complementary to the XAFS beamline.

For example, in the field of environmental science the occurrence of spatially heterogeneous samples together with homogeneous model samples are almost a constant and the use of the two beamlines permits a holistic approach to specific problem. In other fields such as electrochemistry, in operando studies need to be complemented by post-mortem measurements on samples which are typically inhomogeneous on the sub-millimetric scale.

Job description

The successful candidate will work at the XRF and XAFS beamlines and will collaborate with the XAFS/XRF staff members in running and further developing the two beamlines in order to accomplish the experimental program. He/she is expected to provide high-quality support to external users. The successful candidate should possess strong personal skills to pursue collaborative research programs in a team oriented environment and to become part of existing research collaborations and will have the possibility to pursue his/her personal research by using the available instrumentation during dedicated in-house research beamtime. He/she is also expected to be involved in submitting proposals to suitable funding agencies and establish new research collaborations.

Qualifications

A Ph.D. in Physics, Chemistry or related disciplines is required. In the case the Ph.D has not yet been awarded, the candidate must prove that he/she has completed the course of studies and the defense has already been scheduled. In any case, the Ph.D. must be awarded by the end of April 2020.

Proven experience in x-ray fluorescence spectroscopy and in the use and application of the related instrumentation and software for data analysis is expected.

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

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Experience in x-ray absorption spectroscopy and EXAFS data analysis is highly desirable.

Experience in sample preparation and high or ultra-high vacuum methods as well as knowledge in synchrotron beamline instrumentation and optics will be considered as additional assets.

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

Good oral and written communication skills in English are essential.

A working knowledge of the Italian language would be desirable, but is not required.

The deadline for the submission of the application is March 6, 2020.

The appointment envisioned is a fixed term contract of an initial duration of 12 months, renewable for other 12 months upon agreement by the parties. The salary will be commensurate with previous experience and qualifications of the candidate. Applications should include a full curriculum vitae, the names and contact information (including electronic mail) of at least two, and possibly three 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 Giuliana Aquilanti (email: giuliana.aquilanti@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=1061>

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