



Elettra Sincrotrone Trieste

Postdoctoral Research Associate at the Nanospectroscopy Beamline

Deadline: 15 June 2021

Ref: DB/21/13

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 Nanospectroscopy undulator beamline delivers elliptically polarized photons in the energy range 25 - 1000 eV to an end-station equipped with a spectroscopic photoemission and low energy electron microscope (SPELEEM). This instrument offers a wide range of complementary methods providing structural, chemical and magnetic sensitivity with lateral resolution nearing ten nanometers. The energy analyzer has been recently upgraded and provides state-of-the-art spectroscopic performance.

The research carried out at the beamline focuses on the electronic and magnetic properties of micro- and nanostructured materials, covering the fields of surface science, surface chemistry, and magnetism. Experiments are performed exploiting the combination of different techniques based on photoemission spectroscopy, absorption spectroscopy and electron microscopy. The end-station and beamline capabilities are constantly upgraded, in order to meet the most challenging experimental needs. Comprehensive information on these activities can be found at: <http://www.elettra.eu/elettra-beamlines/nanospectroscopy.html>

Job description

The successful candidate will be involved in the study of the electronic and magnetic properties of various heterostructures composed of 2D materials and ultra-thin ferromagnetic films. Materials will be grown by molecular beam epitaxy and characterized in vacuum with the x-ray beam using photoemission spectromicroscopy, low energy electron microscopy and diffraction, and MOKE. The research activity will be carried out in collaboration with the staff of the beamline. In addition, the successful candidate will assist users in running experiments, and contribute to the maintenance and upgrade of the beamline. The candidate is expected also to propose and carry out an independent research program.

Qualifications

A Ph.D. in Physics, Chemistry or a related discipline is required. The candidate must not have more than 6-years of total postdoctoral experience, in academic institutions or private companies. Applications will be considered also from candidates who have completed a doctoral course of studies and for whom the defense has been scheduled. In any case, the Ph.D. must be awarded by the end of July 2021.

Proven experience in at least two of the following techniques is required (please indicate relevant publications or thesis):

- X-ray photoelectron spectroscopy
- Photoemission electron microscopy
- Low energy electron microscopy

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

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L. 19 ottobre 1999 n. 370

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The following qualifications will be considered as additional assets:

- A research background in the study of two-dimensional materials, e.g., graphene
- A research background in the study of thin film growth and/or self-assembled monolayers
- Proven experience in ARPES
- Previous participation in experiments at synchrotron radiation facilities
- Programming skills in Igor Pro, with demonstrated ability in data processing

The successful candidate should possess strong personal skills favoring collaborative research programs in a team-oriented environment.

Good time management skills and ability to prioritize are expected, together with the ability to interact with the facility staff and international users at all levels and to work as part of a multi-disciplinary team. Good oral and written communication skills in English are essential.

Applications should include a full curriculum vitae, the names and contact information (including electronic mail) of up to three persons who have agreed to provide references.

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

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

The deadline for the submission of the application is June 15, 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 Andrea Locatelli (email: andrea.locatelli@elettra.eu) or Tevfik Onur Mentés (email: tevfik.mentés@elettra.eu).

To apply for this position please visit the following link:

<https://www.elettra.trieste.it/it/about/careers/working-withus.html?id=1901>

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