



Elettra Sincrotrone Trieste

# Research Associate at Elettra for the project BioMERA

Deadline: 8 April 2020

Ref: DA/20/17

## 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

In the framework of the BioMERA research project (European call "RESTART 2016 - 2020" <https://trimis.ec.europa.eu/programme/restart-2016-2020-programmes-technological-development-and-innovation>). Elettra is involved in supporting the design and commissioning phases of a new X-ray computed microtomography (micro-CT) facility in Nicosia (Cyprus).

The hard X-rays imaging facilities at Elettra include the SYRMEP beamline and a supporting laboratory for microfocus computed tomography named TomoLab.

The SYRMEP beamline has been operating since more than 20 years in the application of advanced hard X-ray imaging techniques to the field of biomedicine, biology, materials and earth sciences. The beamline provides photons in the 8-40 keV energy range and is devoted to full-field X-ray imaging in 2D and 3D modes. The beamline setup allows for the use of absorption and phase-contrast imaging techniques with spatial resolution from the sub-micron scale to several tens of microns. Dynamic X-ray imaging experiments can be also carried out for *in-situ* and real-time studies in specific environmental conditions (high temperature, controlled atmosphere, mechanical tests, etc...). Low-dose dynamic imaging protocols are developed for pre-clinical research requiring *in-vivo* imaging on small animals.

In the TomoLab facility operate instruments offering scientists access to a state-of-the-art laboratory-based micro-CT techniques. The TomoLab stations have been designed as complementary tools to the SYRMEP beamline setup both for the energy range available and for the X-ray beam size at sample and allow to work in absorption and propagation-based phase contrast modes.

See <http://www.elettra.eu/elettra-beamlines/syrmep.html> and <https://www.elettra.eu/lightsources/labs-and-services/tomolab/tomolab.html> for more information.

## Job description

The successful candidate will work in a highly multidisciplinary environment with a team of X-ray imaging experimentalists, high-end technologies developers and image analysis specialists; he/she will contribute to support the SYRMEP and TomoLab scientists in the design, development and enhancement of advanced imaging instruments and the suite of data reconstruction, processing, analysis and visualization software. In particular, the candidate will be involved in the following activities:

- design and commissioning of a new X-ray micro-CT facility;
- X-ray micro-CT measurements with conventional and synchrotron-based sources for applications in life science and cultural heritage research topics;
- adaptation of the X-ray micro-CT data handling procedures and data processing and analysis pipeline to the new FAIR scientific data policy of Elettra-Sincrotrone Trieste.

The main working place will be Elettra, but travels to the supplier premises for FATs, work trips to Cyprus during on-site installation are expected.

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

S.S. 14 Km 163,5 in Area Science Park  
34149 Basovizza, Trieste, Italy  
T. +39 040 37581  
F. +39 040 938 0903

P.IVA e C.F. IT00697920320  
Cap. Soc. € 47.632.663,00 i.v.  
PEC: [sincrotrone.trieste.elettra@legalmail.it](mailto:sincrotrone.trieste.elettra@legalmail.it)  
[www.elettra.eu](http://www.elettra.eu)

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## Qualifications

A Ph.D. in Physics, Earth Sciences, Engineering or related disciplines is mandatory, as well as proven experience with X-ray micro-CT techniques and instrumentation. Knowledge of software codes for CT reconstruction and for 3D image processing, analysis and visualization will be an asset.

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 as part of a multi-disciplinary and international team.

Good oral and written communication skills in English are essential.

The deadline for the submission of the application is April 8, 2020.

The appointment envisioned is a fixed term contract of an initial duration of 12 months, renewable 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 Lucia Mancini (email: [lucia.mancini@elettra.eu](mailto:lucia.mancini@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%2F17>

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