ERA-Shuttle offers academics secondments opportunities to [CERIC's Italian](https://www.ceric-eric.eu/) Partner Facility. CERIC is a European Research Infrastructure Consortium (ERIC) that integrates and provides access to some of the most advanced analytical facilities in Europe for academia and industry to make progress in all areas of materials, biomaterials and nanotechnologies. The Italian Partner Facility of CERIC offers access to several laboratories and beamlines at Elettra Sincrotrone, a multidisciplinary research center of excellence, open to the international research and developing excellence by providing state-of-the-art services for high-quality, internationally recognized research, thus contributing to enhance the positive impact and relevance of science on society. In the framework of the ERA Shuttle Secondment programme we offer the opportunity to work temporarily at Elettra Sincrotrone SISSI-Bio offline laboratory.

The SISSI-Bio offline laboratory is an infrared vibrational spectroscopy laboratory. It is equipped with several instruments for FTIR spectroscopy in the MIR-FIR regime, FTIR imaging with both single point and bidimensional Focal Plane array detectors, Optical Photothermal expansion IR spectroscopy (O-PTIR) and imaging and IR nanoscopy (scattering-type scanning near filed microscope, s-SNOM, and Photo Thermal Expansion, PTE). The laboratory instrumentations allow to cover spatial resolution from the macro to the nanoscale, considering both micrometer and sub-micrometre ranges.

The large variety of instruments and accessories makes it possible to cover research fields very different, such as biophysics, hyperspectral cytology and histology, environmental science and marine biology, new material research and many others.

An overview of the publication of the laboratory, considering also the SR on-line facility, can be found at this website:

<https://www.elettra.eu/lightsources/elettra/elettra-beamlines/sissi/publications.html>

<https://www.ceric-eric.eu/lab-instrument/synchrotron-infrared-source-for-spectroscopy-and-imaging-chemistry-life-science-2/>

**Description of the secondment:**

* **Open Places: 1**
* **Duration:** 6 months. The exact dates and duration will be agreed between the Secondee and CERIC´s Italian Partner Facility.
* **Period:** period during which the secondments can take place: January 2027 – July 2027
* **Location:** Trieste, Italy
* **Roles and responsibilities:** Active participation in measurement campaigns, in order to learn about the techniques. The candidate will be included as participant to in-house research programs in the field of correlative IR-Raman-Fluorescence measurements of cellular samples. The aim of the research will be to build stronger know-how in the field of cellular cytology with sub-cellular resolution to advance in biomedical research.
* The candidate will perform laboratory experimental research and data analysis, with specific emphasis on the exploitation of the open-source QUASAR program.

**Requirements:**

* Background degree in chemistry, physics or related discipline with a life science-oriented CV
* Interest to perform competitive research.
* Analytical skills and basic knowledge on infrared bio-spectroscopy
* English level: advanced

**Benefits:**

* Acquisition of high-level expertise in infrared spectroscopy and imaging techniques, with special emphasis on O-PTIR
* Acquisition of advance knowledge of data analysis software QASAR
* Acquisition of practical skills and frameworks that the secondee can transfer to his/her home institution
* Enhanced scientific motivations given by the possibility to work in a state-of-the-art laboratory
* Improved networking capabilities as part of an international environment

**Application Process:**

Please apply through: *ERA shuttle platform web*

Should you require further information regarding the research at *SISSI-Bio offline laboratory*, please contact: [*lisa.vaccari@elettra.eu*](mailto:lisa.vaccari@elettra.eu) *and/or Giovanni.birarda@elettra .eu*

Should you require further information regarding the functioning of the secondment, please contact your home university at:

* + University of Split: [projekti@unist.hr](mailto:utt@unist.hr).
  + University of Gdansk: Izabela Raszczyk at [izabela.raszczyk@ug.edu.pl](mailto:izabela.raszczyk@ug.edu.pl)
  + University of Malta: Dr. Elena Sultana at elena.sultana@um.edu.mt