



Looking for a new challenge in Science?

Join the ESRF, the European Synchrotron!

The ESRF, the European Synchrotron, is an international research facility based in Grenoble, France. Thanks to high-level, innovative engineering and cutting-edge vision, the ESRF is recognised as one of the top research institutions worldwide, welcoming more than 6 500 scientists every year in fields such as biology, medicine, chemistry, earth and environmental sciences, cultural heritage, materials and surface science, and physics. The ESRF is supported by 21 countries and employs 600 staff.

We are currently seeking to recruit a:

PhD Thesis Student

Subject: Structure analysis of heterogeneous multi-phase compounds

Time-limited position
ref. CFR420

JOB DESCRIPTION

You will join ID22's team at the ESRF. ID22 is a versatile instrument and can be exploited for a wide range of powder diffraction measurements. The aim of the PhD project is to identify and describe the structure of all the crystallographic phases found in ancient pigments dating from the Roman period (Italian (Pompei) and Sicilian archeological sites). You will have to develop and implement the relevant methodology to disentangle multiphase X-ray diffraction patterns and refine a structural model for all the phases present (amorphous, powder-like, single-crystal-like). The novelty will be to use the single crystal contribution (serial crystallography approach) that may appear in the 2D diffraction pattern of a heterogeneous sample. Identifying and modeling the structure of the phases of old pigments will shed new light on ancient manufacturing processes and materials' provenance.

This project is a collaboration between the ESRF (ID22, ID11 beamlines, Grenoble), the Institut Néel (Grenoble), the LAL (ThomX project, Orsay), the LAMS (Paris) and the University of Modena (Italy). Part of the thesis may be hosted by the LAL. Further information may be obtained from Catherine Dejoie (tel.: +33 (0)4 76 88 23 57, email: catherine.dejoie@esrf.fr) and from Pauline Martinetto (+33 (0)4 76 88 74 14, email: pauline.martinetto@neel.cnrs.fr).

PROFILE, SKILLS AND EXPERIENCE

- Degree allowing enrollment for a PhD (such as MSc, Master 2 de Recherche, Laurea or equivalent) in physics, materials science, chemistry, or closely related science
- A background in X-ray diffraction techniques and basic programming (python) are desirable
- English proficiency (working language at the ESRF)

WORK CONDITIONS

Contract of two years renewable (subject to satisfactory progress) for one year. The monthly gross salary will be 2339 €.

The ESRF is an equal opportunity employer and encourages diversity.

If you are interested in this position, please apply on <http://www.esrf.fr/Jobs> by June 26th 2017.