

BEAMLINE SCIENTIST AT THE CRISTAL BEAMLINE

Soleil is the French national synchrotron facility, located on the Saclay Plateau near Paris, and partner of the Paris-Saclay University. It is one of France's leading research facilities as a multi-disciplinary instrument and a research laboratory, whose mission is to exploit the use of synchrotron radiation, develop state-of-the-art instrumentation on beamlines, and make them available to the scientific community. Since it came into operation in 2008, it has been serving national and international scientific communities. The research carried out at SOLEIL covers a wide range of scientific and industrial fields (physics, biology, chemistry, materials science, the environment, Earth sciences, and cultural and natural heritage) linked to current societal challenges.

The CRISTAL beamline is a hard X-ray (5-30 keV) undulator-based beamline, dedicated to X-ray diffraction for the characterization of the structural properties of mater at different space and time scales, possibly in non-ambient conditions. Among "classical diffraction techniques" like single crystal and powder diffraction, other state of the art techniques are offered (high-resolution, time-resolved and coherent diffraction).

See <https://www.synchrotron-soleil.fr/en/beamlines/cristal>.

The CRISTAL beamline serves a wide variety of communities covering a broad range of disciplines: physic, chemistry, biology, materials sciences, earth sciences...

A permanent position is currently offered: the successful candidate will join the current team consisting of 2 permanent beamline scientists, a technician, 2 PhD students and a postdoc. The variety of subjects that can be studied at CRISTAL makes it a very stimulating beamline to work on.

I.Mission

As a beamline team member, the successful candidate will be responsible for the following main tasks:

- maintenance and development of the experimental set-ups (beamline and experimental end-stations) and more particularly develop x-ray diffraction based imaging techniques, using sub-micron beams and coherent beams,
- provide scientific and technical assistance to external users to help them carry out their own experiments,
- conduct its own research program.
- He/she will be encouraged to develop collaborations and attract new users.
- He/she will actively participate in user support activities and will be involved in all aspects (scientific, technical, and methodological) of the beamline team's activities.

The successful candidate will also play a full part of the upgrade project of the beamline in the context of SOLEIL II (i.e. upgrade of the current facility to the brightest generation of synchrotron sources).

The responsibilities of this beamline scientist will also include:

- Maintain the high level of attractiveness of the beamline, by promoting the existing instrumental set-ups and in particular the diffraction imaging techniques, proposing new instrumental or theoretical developments or new research fields.
- Communicate with the national and international x-ray diffraction communities.

II. Education and Experience

To qualify, applicants must hold a Ph.D. or equivalent, and a significant experience in x-ray diffraction.

The following skills are mandatory:

- Hard x-ray diffraction-based (coherent) imaging technique,
- Good knowledge of crystallography.

In the context of the SOLEIL II upgrade project, the successful candidate must be highly motivated to take part in the beamline upgrade project.

Complementary skills in one or more of the following areas would be a major asset:

- Programming skills (in python)
- Powder diffraction, single crystal diffraction and structure solution methods,
- High pressure sciences (using diamond anvil cells),
- Basic knowledge of instrumentation: e.g. control and acquisition electronics/computing, detection, cryogenics, robotics, etc.

Complementary ability:

- The candidate should be fluent in English (written and spoken).
- Practice of French is also highly desirable and will be an asset.
- The position requires both autonomy and the ability to work as part of the beamline team.

III. Terms and conditions

This offer corresponds to a permanent position.

The remuneration will be based on the SOLEIL salary scale, and determined according to the professional background, qualifications and degrees held by the candidate.

The place of work will be at Synchrotron SOLEIL, which is located in the Paris suburbs (Saint-Aubin).

Applications should include a motivation letter, a Curriculum Vitae and letters of support. Applications should be preferably registered directly on SOLEIL's web site at:

<https://candidature.synchrotron-soleil.fr/YourApplication/Candidatures.php?ref=EXP-174>

contact: pierre.fertey@synchrotron-soleil.fr