

## Post-Doctoral Position - METROLOGY

## Experiments Division

Position opened. Deadline for submission of application: **May 20th, 2010**

SOLEIL is an optimized 2.75 GeV synchrotron light source of 3<sup>rd</sup> generation operating 25 km south of Paris. The first 17 beamlines, several of which are using new concepts of undulator sources, are opened to users. A total of 26 beamlines, covering the whole energy range from IR to hard X-rays and providing a complete panel of synchrotron radiation-based outstanding experimental tools for Physics, Chemistry, Biology and Environmental Sciences, will be operational in 2012. A permanent staff of 357 people operates the installation. Currently the 17 beamlines in operation offer a broad panel of SR-based techniques from microspectroscopy in IR and VUV to X-ray absorption, diffraction and scattering.

### 1. Position (m/f)

The « Metrology and Tests » beamline is installed on the D-05 bending magnet of the SOLEIL storage ring. It is composed presently by 2 branches covering an energy range from few hundreds eV to 30 keV with an access to the white synchrotron beam. The two branches, “soft X-ray” [30 eV to 2 keV] and “hard X-ray” [100 eV to 30 keV], are currently under commissioning and should be operated routinely in the course of 2010.

The objective of the Metrology and Tests beamline is to offer a primary standard source for the calibration of detectors and for all experiments related to the R&D of X-ray optical components and detectors. The facility will first address the needs of SOLEIL experimental groups (“Optics and Detectors”), of its two partners (CEA-DIF and LNE), and will also be a valuable tool for a large scientific community, as a general purpose beamline to prepare, test and set-up a wide range of experiments.

### 2. Mission

One activity of the Metrology and Tests Beamline is the development of X-ray Wavefront Sensors based on the Hartmann Principle. These sensors allow *in-situ* diagnosis of X-ray beams, and X-ray optical components characterization and alignment.

The project consists in the development of a Hard X-ray Wavefront Sensor based on a luminescent screen for the detection of the X-ray light. The system will be dedicated to energy ranges above 10 keV. The successful candidate will have in charge the full-development of the system, from its opto-mechanical conception to the end-tests on the Beamline. He/She will also be involved in the R&D of X-ray active optics components (mechanical and bimorph deformable mirrors) for microfocusing of the beams.

This project will involve external collaborations with research laboratories and industrials.

### 3. Qualifications & Experience

PHD or engineer in Physics/Optics, with good knowledge of optics and related instrumentation, synchrotron radiation and/or Free-Electron Laser facilities. Background in wavefront analysis, adaptive optic and/or X-ray optics would be strongly appreciated.

### 4. General conditions

The offer concerns a Post-doctoral contract for a one year-period. A wide range of valuable training programs, The offer concerns a one-year contract.

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

Applications should include a motivation letter and Curriculum Vitae, and should be registered directly on :

<http://candidature.synchrotron-soleil.fr/VotreCandidature/> with the reference: EXP-108.

**Contact** : Human Resources Dpt  
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