



université
PARIS-SACLAY



LABORATOIRE INTERACTIONS, DYNAMIQUES et LASERS
EMR9000 CEA, CNRS, Université Paris-Saclay

Postdoc position opened at CEA-Saclay (Paris, France)

in the field of
EUV metrology

The DICO Group in Saclay is opening
an experimental postdoc position.

The use of very short wavelength light is developing rapidly in a wide variety of fields (radiotherapy, lithography, academic research, attophysics, etc.). This type of radiation imposes severe constraints on the quality of the optical elements used. However, the current techniques of control offer limited resolutions as they are based on the use of visible radiation, or are performed once installed in their final environment. CEA/LIDYL and the French SME Imagine Optic have developed a laser based beamline providing high photon flux in the 20-40 nm range with the aim of developing new methods for at wavelength characterization of EUV optics, based on the use of wavefront sensing technologies and ptychographic coherent diffractive imaging.

The successful applicant will work in the framework of LIDYL/Imagine Optic joint laboratory NanoLite¹ to keep improving the beamline. He will work closely with Imagine Optic engineers to develop procedures adapted to each measurement.

The research project will take place in the **NanoLight facility** at CEA, a new lab hosting the NanoLite joint laboratory. NanoLite beamline is based on a new laser source (a 100 kHz, 20 W, mid-infrared fiber laser post-compressed to 50 fs pulse duration) coupled to a compact **high order harmonic generation** setup to convert the wavelength range to the EUV domain.

Post-doc candidates should have skills in X-ray or EUV ultrafast laser science, diffractive imaging or metrology. We require autonomy and leadership (please provide at least 2 letters of recommendation). You will interact daily with the Ultrafast NanoLight team (2 senior scientists, 2 to 3 post-docs and 3 PhD students)² and will benefit from the support of Imagine Optic's engineers. Screening of applicants will start immediately and continue until the position is filled.

¹ <https://www.imagine-optic.com/nanolite-extreme-uv-metrology/>

² <https://iramis.cea.fr/LIDYL/Phocea/Page/index.php?id=103&ref=99>

About the positions

Environment

- The position is opened in the framework of the French ANR NanoLite project, a joint laboratory between LIDYL and the French SME Imagine Optic dedicated to at wavelength metrology;
- The NanoLight facility is installed in new laboratory, now fully operational;
- Laser system: Ampitude Tangerine system, postcompressed to: 200 μ m, 50fs, 100kHz, 1 μ m.
- Team of 5-7 persons with a high level of technical support;
- Main lab located at CEA-Saclay (Paris suburb - 45 min public transport to Notre Dame de Paris). High concentration of scientists (Paris Saclay University, Institut Polytechnique de Paris, LOA, Institut d'Optique Graduate School, SOLEIL synchrotron) and a lot to enjoy outside!

Your qualifications

- Capabilities to work in a team & good communication skills;
- Hands on experimental tasks / independent thinking;
- High motivation;
- Experience in X-ray/EUV science, metrology, coherent diffractive imaging;

Benefits

- Salary determined from experience (\approx 3000 €/month gross salary);
- Health, pension and unemployment securities included;
- Benefits from CEA (sports, housing, holiday's, public transport discounts).

Commitment for equality

Applications from persons of any gender will be considered equally. However, for equally qualified persons, we will foster the career of non-male applicants.

Please send your application (CV, publication list, address of 2 references) to:

Willem Boutu

+33169085163

<mailto:willem.boutu@cea.fr>

<https://iramis.cea.fr/LIDYL/Phocea/Pisp/index.php?nom=willem.boutu>