



## Recruitment at CEA / Saclay; Condensed-Matter Physics Laboratory (SPEC)

### KEY WORDS:

Photonics, opto-mechanics, quantum photonics, local probes for forces and for optical fields.

### CONTEXT:

Strongly integrated with the future University Paris-Saclay, the nanophotonics team at SPEC (UMR CEA-CNRS 3680) focuses on the design and development of nano-hybrid systems which combine an antenna or a plasmonic resonator with molecular or quantum dot systems. This research aims to produce innovative photonic functions in the areas of information and communications technology (integrated nanophotonics, data storage), clean energy (photovoltaic, cold light) and life sciences (markers, sensors and optical actuators). For the purposes of this research, the team developed a significant expertise in the combination of optical measurements and scanned-probe microscopy. In connection with the other teams of the Nano-Saclay excellence laboratory, we started a proactive approach towards the optical manipulation of matter at the nanoscale.

The role of the new researcher will be to develop this activity, in particular towards local measurements of optical forces. In addition to a better understanding of opto-mechanical processes, the objective also extends to the exploitation of these effects for nanofabrication and production of light-driven devices. The opportunities linked to the quantum nature of interactions as well as the introduction of magnetic forces will be explored, in connection with other teams at SPEC (Quantronics Group, Nano-Electronics Group, Laboratory for Nanomagnetism and oxides).

### PROFILE:

We are seeking a physicist with a strong academic background in photonics and condensed-state physics and a first experience in fabricating, handling or characterizing individual nano-objects, acquired during a thesis and a post-doctorate. A good experimental mastery of either near-field optical techniques or local probes and nano-manipulation is required. The motivation and ability for industrial applications and partnerships will also constitute an important criterion, as well as the human ability to integrate a research team.

### PRACTICAL INFORMATION:

The position will be based at CEA, Paris-Saclay campus. The application must be received before 30 June 2015. It will include: CV, list of publications, references and a synopsis of the motivations and the research project. A preselection will be conducted in view of an interview during July 2015.

### CONTACT INFORMATION:

[Fabrice Charra](mailto:fabrice.charra@cea.fr) (fabrice.charra@cea.fr, +33 (0) 1 69 08 97 22)