Institut **Langevin**
ONDES ET IMAGES

INSTITUT P

OPEN POST-DOCTORAL POSITION

A one-year postdoctoral research position in *nanoscale heat transfer and nanophotonics* is open within a collaborative project between Institut Langevin (Paris, France, www.institut-langevin.espci.fr) and Institut Pprime (Poitiers, France, www.pprime.fr).

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Research program: **Thermally smart optical nanoantennas**

Optical nanoantennas are designed to provide an efficient coupling between propagating electromagnetic fields and local fields confined at scales below the wavelength. Heating due to light absorption has been most of the time overlooked, although it might be a critical issue in terms of applications. The research project aims at studying theoretically a model system (*e.g.* a single metallic nanoparticle in front of a flat substrate) both in terms of antenna efficiency (ability to efficiently couple far-field to near-field light) and thermal properties (ability to dissipate heat through thermal coupling to the environment). The possibility to engineer the local density of states will be examined, as well as different cooling strategies mixing conductive and radiative heat transfer channels.

Profile of candidates
The candidates should have a PhD in physics, with a specialization in nanophotonics and/or nanoscale heat transport.