ESPCI PARIS

Post-doctoral position on Nanothermics - Laboratoire LPEM - UMR 8213

https://www.espci.psl.eu/fr/espci-paris-psl/emploi/archives/2014/post-doctoral-position-on-nanothermics-laboratoire

Poste pourvu

Laboratoire d'accueil :

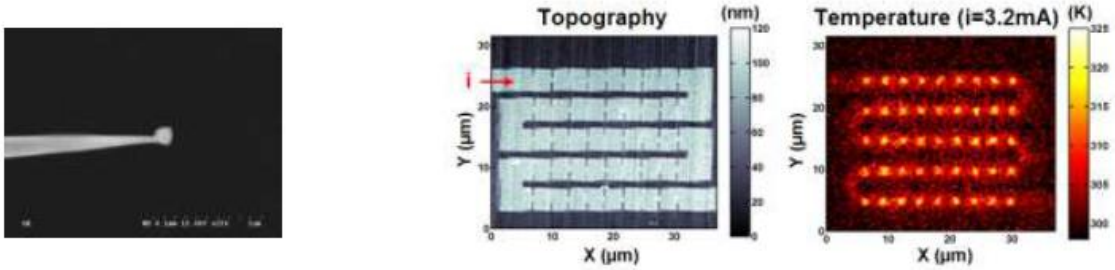
Laboratoire de Physique et d'Etude des Matériaux (LPEM) UMR 8213 ESPCI-CNRS 10 rue Vauquelin 75231 Paris Cedex 5 France

Sujet du postdoc :

Scanning Thermal Microscopy is becoming a powerful technique to study the thermal properties of materials and devices at micro and nanoscales. It can provide information about heat generation and propagation in operating devices, showing the presence of hot spots and defects. It can also provide quantitative data about the local thermal conductivity of nanostructured materials. Several European research teams recently joined their efforts to better understand the potentialities of Scanning Thermal Microscopes and for solving problems in nanothermics (Quantiheat European project).

Thématique de recherche :

The researcher will carry on several experimental studies on devices fabricated during the Quantiheat project. He/she will perform scanning thermal measurements with the fluorescent-SThM recently developed at ESPCI. The researcher will : i) characterize the thermo-optical properties of fluorescent particles, ii) measure thermal maps on various devices such as microwires and nanowires, iii) study heat transfers between the tip and the surface, iv) interact with other teams that are involved in the project.



Left : SEM image of a fluorescent-SThM tip ; Right : topography and thermal images measured on a nanostructured micro-wire, hot spots are visible at every constriction.

Figures : SEM image of a fluorescent-SThM tip and thermal images measured on micro and nanowires

Compétences requises :

Experimental work, experience in scanning probe microscopy / fluorescence microscopy needed

Début :

January/February 2015,

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Durée :

One year contract renewable one year

Contact

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Accès

Métro ligne 7 (Place Monge/Censier Daubenton) RER B (Luxembourg) Bus 21, 27 & 47 3 stations Vélib proches

Poste pourvu