

TIPTOP



CSI Concept Scientific Instruments



Post-Doctoral Researcher – Experimental activity –

Object:

12-month Post-doctoral position in the frame of the ANR project TIPTOP - "Highly sensitive scanning probes for nanoscale thermal microscopy"

Scientific context:

TIPTOP is a 4 year R&D collaborative project aiming at (i) developing a new resistive Scanning Thermal Microscopy (S_{Th}M¹) probe for nanoscale quantitative thermal measurement, (ii) demonstrating the capabilities of the new technique on application-oriented micro and nanostructured materials and systems, (iii) developing an optimized technological solution. To reach its objectives, the project consortium gathers three academic research laboratories with complementarity expertise in S_{Th}M, resistive nanothermometry, instrumentation, metrology and micro and nanofabrication, and one industrial partner strongly involved in the development and manufacturing of Scanning Probe Microscopy instruments.

Main tasks expected:

- Measurement of passive and active samples using various types of S_{Th}M probes
- Measurement by mean of 3omega method
- Report on the project progress and write scientific publications.
- Participate to the project implementation by means of meetings and travels at CETHIL (Lyon), Institut Néel (Grenoble) and CSI (Paris area).

Candidate skills:

The candidate **should have been granted** a PhD in one of the following fields: Applied Physic, Electrical or Mechanical Engineering, with a focus on thermal sciences and engineering. A **Scanning Probe Microscopy background** (e.g. AFM, S_{Th}M) **is mandatory**. Some knowledge in nanoscale heat transfer will be particularly appreciated.

Among other skills, we expect the candidate to be **rigorous** (organized, with capabilities for data tractability, reporting and timeliness), to master **oral and written English** (with an ability to report and publish), to be **autonomous** (with abilities for self-learning, problem solving and creativity), to be **motivated** (i.e. being a technology enthusiast and curious), and to be able to **build smooth relationships** (being open minded, with respect of rules and customs, and able to work tightly within a team).

Position availability:

The position is as available currently, and the call for candidates will be open until the position is filled.

Administrative framework and location:

The candidate will be hired by CNRS. The work is to take place in Lyon (France), at the Centre for Energy and Thermal Sciences (CETHIL) in the Micro and Nanoscale Heat Transfer (MiNT) group. The laboratory is located in the National Institute of Applied Sciences (INSA) on the Campus La Doua – LyonTech of Université de Lyon (www.universite-lyon.fr).

Travels at Institut Néel (Grenoble) and project partners' locations are planned.

Net salary:

2000€/month, according to the CNRS scale.

Contact:

Please send your resume, publication record and the name of two references by email to:

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¹ Gomès S., Assy A., and Chapuis P.-O., "Scanning Thermal Microscopy: a review", 2015, *Physica Status Solidi (a)* **212** pp 477-494.