



**Fabrication and characterization of InSb cells for near-field radiation thermophotovoltaic energy conversion:
A postdoctoral position in Micro/Nanotechnologies and Photonics
available at the Institute of Electronics and Systems (IES),
University of Montpellier – CNRS, France**

The nanoMIR group of IES, UMR CNRS 5214, (<http://ies.univ-montp2.fr/edr/nanomir/>) is part of a consortium aiming to undertake the first experimental proof of concept of near-field radiation thermophotovoltaic energy conversion. To reach this objective, IES aims to develop InSb photodiodes as it is the best adapted material to detect photon emission by a radiator at temperatures between 300 K and 850 K.

The nanoMIR group specialises in the molecular beam epitaxy (MBE) of InSb and related materials, and in their application to IR optoelectronic devices. **The open position (18 months) is based on the technological process and electro-optical characterizations of InSb-based structures dedicated to NFR-TPV energy conversion.**

Skills in processing III-V compounds devices in a cleanroom environment, such as photolithography, dry and wet etching, dielectric/metal deposition, chip bonding, SEM imagery...are required to apply for this position. Knowledge of surface analysis by XPS measurements would equally be appreciated. The candidate will also participate in the experimental validation of pixel detectors by electrical (I-V and C-V characteristics) and electro-optical (spectral response) measurements at cryogenic temperatures.

The work will be carried out in collaboration with CETHIL, UMR CNRS 5008 (<http://cethyl.insa-lyon.fr/index.php?page=micro-et-nanothermique>) in the framework of the DEMO-NFR-TPV project funded by the French national research agency.

Keywords: Device fabrication/technological process, electrical and electro-optical characterizations, III-V compounds, InSb, TPV energy conversion

Duration: 18 months (starting as soon as position is filled) at the IES institute.

Salary: Annual gross salary is approximately 42 k€.

To apply, the following attachments should be sent to: Jean-Philippe.Perez@umontpellier.fr

- A letter of motivation
- A full CV with a list of most relevant publications
- 2 letters of recommendation or contact information from 2 referees
- When applicable, a completed recap of employment contracts with French public bodies.

Deadline: 15th April 2017.

