

## Postdoctoral Position in the Phononic and Photonic Nanostructure Group

at the

### Catalan Institute of Nanotechnology

Bellaterra, Barcelona, Spain

#### Light scattering and diffusive transport to investigate phonons in nanostructures. Ref: P2N-NANOPACK\_01

This research position is part of the FP7 EU Integrated project Nano Packaging Technology for Interconnect and Heat Dissipation (NANOPACK), <http://www.nanopack.org/>, which is a large-scale Integrated Project, addressing one of the major limitations to continued performance increases in the semiconductor and power electronics industries, namely, integration density and thermal management. NANOPACK is committed to develop new technologies and materials for low thermal resistance interfaces and electrical interconnects by exploring nanotubes, nanoparticles and nano-structured surfaces using different enhancing contact formation mechanisms combined with high volume compatible manufacturing technologies. This postdoctoral position has as main task to contribute to the **understanding of thermal transport in the nanometer scale by using mainly inelastic light (Raman) scattering** and, to a lesser degree, diffusive transport technique. The work is in close collaboration with the modelling team of the NANOPACK project

The group is led by Prof. Sotomayor Torres, currently at Tyndall National Institute ([www.tyndall.ie/research/photonic-nanostructures-group/index.htm](http://www.tyndall.ie/research/photonic-nanostructures-group/index.htm)) most of which will move and be installed at the Catalan Institute of Nanotechnology in May 2008 ([www.nanocat.org](http://www.nanocat.org)). Its areas of research are: nanophotonics, nanofabrication and phonon engineering.

The applicant should have a PhD in solid state physics and expertise in, preferably, Raman scattering of semiconductors. Other areas of expertise which are welcome include: semiconductor physics, phononic crystals, transport measurements in the micrometer scale, cryogenics, optical spectroscopy and electrical engineering. Knowledge in semiconductor physics, energy and momentum relaxation, light-matter interactions and thermal conductivity in solids would be highly beneficial.

Considerable interest in interdisciplinary work with European and international collaborators is essential for this position.

The position is available from 1<sup>st</sup> May 2008 until 31<sup>st</sup> October 2010. While the start date may be changed slightly the end date is fixed. Salary level will depend on the expertise of the applicant.

Applications, consisting of a CV, the name and contact details of three referees, mentioning the position reference nr in the subject line, may be sent to:

Prof. Dr. Clivia M. Sotomayor Torres  
Email: [clivia.sotomayor.icn@uab.es](mailto:clivia.sotomayor.icn@uab.es)

From whom further particulars are also available.

8<sup>th</sup> March 2008.