

Prof. Dr. Clivia M Sotomayor Torres
Phononic and Photonic Nanostructures Group (P2N)
Catalan Institute of Nanotechnology
Campus de Bellaterra – Edifici CM7
08193-Bellaterra (Barcelona)
Spain
Phone: +34 93 586 8304
Fax: +34 93 586 8313
Email: clivia.sotomayor@cin2.es



www.icn.cat

Ph. D Position in the Phononic and Photonic Nanostructures Group at the Catalan Institute of Nanotechnology

Bellaterra, Barcelona, Spain

Purpose-oriented Nano-patterning of Hybrid Polymer Structures

Ref: P2N-LAMAND

A Ph.D position is available at the Catalan Institute of Nanotechnology (ICN) in the “Phononic and Photonic Nanostructures” group led by Prof. Clivia Sotomayor Torres (<http://www.icn.cat/phononic-photonic-nanostructures.php>). The objective of the research leading to the degree of Ph.D is to study phonon propagation in inorganic and organic nanostructures. This experimental research program will involve patterning block copolymers (BCP) by means of nanoimprinting-based methods in order to tailor the phonon dispersion relation and consequently its spectra. The patterned structures will then be studied to assess the impact of nanostructuring on heat conduction. The research will include studies of the effect of conductive nanofillers such as metal nanoparticles in thermal conductivity, and thermal transport across and along the polymer-graphene interface. Non-destructive methods to evaluate the ordering and degree of crystalline defects in the nanostructures, such as sub-wavelength light diffraction techniques and inelastic light scattering will be employed, as well as experimental methodologies to study thermal transport.

Knowledge in one or more of the following experimental methods or techniques would be an advantage: thin film deposition, nanopatterning, cryogenics, electrical and optical (such as inelastic light scattering) characterization, AFM.

The position is available from September 1st 2011. Salary level will be comparable to that of a PhD student grant and will depend on the expertise of the applicant.

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

Ms Rosa Juan
Human Resources, ICN
E-mail: hr@icn.cat

The closing date for applications is 30th June, 2011 at 5pm CET.