

Research group leader positions at the International Iberian Nanotechnology Laboratory (INL)

INL-MIT cooperation agreement



The International Iberian Nanotechnology Laboratory, a recently formed international research organization registered in the UN, is seeking strongly motivated group leaders to join its new facility in Braga, North of Portugal (www.inl.int). INL central lab facilities are presently being built (100 M€ investment for an expected research community of around 400 people at full operation), and researchers will start to be incorporated beginning 2010.

Within the INL-MIT collaboration agreement (www.inl.int), group leaders are sought in the following research areas:

- a) MEMS structures for autonomous sensing and energy harvesting: the aim is to develop self-powered systems for autonomous sensing targeted at biomedical and other applications. The appointed group leader will develop systems capable of collecting information using various sensing transducers, and either continuously or periodically broadcast sensor read out.
- b) graphene based nanodevices for biosensing applications. The electronic monitoring of food and environment quality requires the fabrication of sensors with both high sensitivity and specificity. The appointed group leader is expected to develop graphene based devices aimed at single molecule sensitivity, profiting from graphene's high electron mobility and large surface-to-volume ratio.
- c) nano templating and soft lithography: self-assembly holds promise as an inexpensive patterning method for realizing nanoscale structures over large areas. In particular, self-assembly of functional nanoparticles, biomolecules or macromolecules can create complex nanostructured devices with precisely tailored chemical or biological responses, with applications in, for example, biomedical or environmental sensors. The appointed group leader will develop methods for creating complex molecular self-assembled structures which will be relevant to a range of devices developed at INL.
- d) ordered nanoscale structures for energy storage and sensing: one key advantage of nanoscale material structures is their high surface-to-volume ratios. For optimized functionality in these applications, nanostructures should be ordered and must be electrically interconnected. The appointed group leader is expected to develop a broad range of methods for creation of ordered arrays of nanodots and nanowires with electrical connectivity and electronic functionality, aimed at sensing and energy storage applications.

Candidates with outstanding CVs in these and related areas will be considered. The selected researchers are expected to start their contract at MIT, moving to INL in late 2010.

INL will offer an exciting, and highly competitive research environment, including salaries in line with those offered by other international research organizations, and a comprehensive fringe benefit package, including a base salary complement dependent on research output. Researchers will be offered substantial starting funds (both for capital equipment and research personnel) to help them jump start their research activities.

INL facilities are located in Braga (150,000 inhabitants, and a city with a high quality and attractive living environment), 30min drive from Oporto Sa Carneiro Airport, 30 min drive from the North Atlantic coast, and about 45min drive to the Galician border and the mountains of the Geres National Park.

Interested applicants should submit a cover letter, curriculum vitae, and a research statement. More information on participating MIT, and on the INL research goals can be found at our website: www.inl.int