

## DIPC POST-DOCTORAL POSITIONS

The Donostia International Physics Center DIPC is currently accepting applications for post-doctoral appointments. This is a unique opportunity for highly motivated junior researchers with a recent PhD degree in physics or related fields to join some of the DIPC high-profile research teams.

Interested candidates please send an updated CV, a brief statement of interest, and contact information to [postdoc@dipc.org](mailto:postdoc@dipc.org). Reference letters are welcome but not indispensable. The particular position(s) to which the candidate is applying should be stated as well. Although candidates are encouraged to contact the project supervisors to know further details about the proposed research activity, please be aware that the application will be evaluated only if it is submitted directly to the email address mentioned above ([postdoc@dipc.org](mailto:postdoc@dipc.org)).

Next review of applications is scheduled for September 16<sup>th</sup> 2016. Applications must be received before this date and will be evaluated by a Committee designed by the DIPC board on the basis of the following criteria (with point weights indicated in parentheses):

- CV of the candidate (40%)
- Adequacy of the candidate's scientific background to the project (40%)
- Reference letters (10%)
- Others: Diversity in gender, race, nationality, etc. (10%)

Evaluation results will be communicated to the candidates soon after. Positions will only be filled if qualified candidates are found.

The duration of the appointment will be 1 year. The appointment could be renewed for a second year, subject to performance and to the availability of funding.

The salary will be 32000 euros per year before taxes.

## JOB OPENINGS

- ***Upgrade of MOKE setup to add up the capability for ac-susceptibility measurements***

Contact person: E.Ortega ([enrique.ortega@ehu.es](mailto:enrique.ortega@ehu.es)). Reference: 2016/9.

The Laboratory of Nanophysics of the CFM/DIPC investigates magnetic properties of monolayers and interfaces by means of Scanning Tunneling Microscopy (STM) and Magneto-optic Kerr Effect (MOKE). For the latter, it utilizes a high sensitivity magnetometer that allows in-situ, ultra-high vacuum (UHV) measurements of the magnetization down to 8 K. Its accuracy and sensitivity has been recently proved in monolayer-thick surface alloys of Gd [1]. The Laboratory seeks to upgrade this system through temperature dependent measurements of magnetic susceptibility, utilizing the very same MOKE magnetometer.

The task consists in the development of software to control the temperature, run the magnetic measurements, and optimize the system to achieve a reliable signal/noise ratio, overcoming the mechanical vibration generated by the cryocooler. A successful test would be a demonstration of the temperature dependent ac-susceptibility of the surface alloys of Gd-Au and Gd-Ag, and the determination of the variation of their Curie temperature with different levels of the donor/acceptor doping.

- ***Light scattering, emission rates and optical forces in colloidal suspensions***

Contact person: J.J. Saén ([juanjo.saenz@dipc.org](mailto:juanjo.saenz@dipc.org)). Reference: 2016/13.

The scattering properties of colloidal suspensions can be strongly dependent on the so-called structure factor. Tuning the filling fraction and the interactions between particles can modify the structure factor. The later is usually done by changing the Debay length of the suspension or by the use of external random fields. The main objective of the **PostDoc** Project is to compute the forces induced by random fields and analyse the effect of light-induced short-range correlations on the transport mean-free paths and emission rates. We will consider different systems at criticality to study the lifetime statistics and multiple scattering effects of electromagnetic radiation.

Theoretical and numerical work will involve Green tensor and T-matrix computation of anisotropic particles, Langevin Molecular Dynamics and Monte Carlo simulations.