

## 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 July 1<sup>st</sup> 2011. 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 contract will be 1 year with the possibility of a 2 year extension contingent upon performance.

The salary will be 32000 euros per year before taxes.

## JOB OPENINGS

### - **Magnetoelectric couplings and related optical responses**

*Post-doctoral position, contact person: I. Souza ([ivo\\_souza@ehu.es](mailto:ivo_souza@ehu.es)).*

*Reference: 2010/4.*

The target area for this position is the theory of magnetoelectric couplings in solids. Possible topics include: (1) the orbital magnetization response to a static electric field; (2) magnetoelectric effects in the optical range, as well as the closely-related phenomenon of optical activity in non-magnetic solids. Experience with first-principles density-functional methods is essential.

### - **Electronic excitations and many-body effects in solids, surfaces, and nanostructures**

*Post-doctoral position, contact person: J.M. Pitarke ([jm.pitarke@ehu.es](mailto:jm.pitarke@ehu.es)).*

*Reference: 2010/7.*

The aim is to carry out model and first-principles theoretical investigations of electronic excitations and many-body effects in solids, surfaces, and nanostructures, in the framework of Density-Functional Theory (DFT), Time-Dependent DFT, Green functions, and Quantum Monte Carlo.

### - **NanoDielectric Spectroscopy of Polymers and Soft Matter**

*Post-doctoral position, contact person: G. Schwartz ([schwartz@ehu.es](mailto:schwartz@ehu.es)).*

*Reference: 2011/1.*

The objective of the work is to study the local dielectric response of polymers and soft matter at the nano scale. The idea is to develop the appropriated experimental setup, based on an existing AFM, and also to investigate the tip-sample interaction in order to look for a suitable model to quantify the local dielectric response. Different systems, like polymer blends, nano-composites and biological samples will be analysed by means of this new approach. Highly motivated candidates with a good background in polymer physics, molecular dynamics and experimental techniques are encouraged to apply for this position. The applicant should hold a Ph.D. in Physics, Chemistry or Materials Science. Experience with dielectric spectroscopy techniques is desirable as well as basic knowledge of AFM techniques.

- ***Polymer/polymer nanocomposites: Effect of soft nano-objects in polymer structure and dynamics***

*Post-doctoral position, contact person: A. Arbe ([a.arbe@ehu.es](mailto:a.arbe@ehu.es)).*

*Reference: 2011/2.*

The objective of this work is to investigate the structural and dynamical properties of nanocomposites of polymers and soft nanoparticles obtained by intra-molecular cross-linking of monodisperse polymeric chains. Varying the nano-objects concentration, different degrees of confinement can be induced in the polymer matrix. The effects on chain conformation, composition and density fluctuations, intermediate and short range order shall be investigated by means of scattering techniques including small and wide angle diffraction using both, X-rays and neutrons. The dynamical properties shall be accessed by combining different techniques, including broadband dielectric spectroscopy and quasielastic neutron scattering. Molecular dynamics simulations would also be envisaged to help data interpretation. Highly motivated candidates with a good background in polymer physics, molecular dynamics and experimental techniques are encouraged to apply for this position. The applicant should hold a Ph.D. in Physics, Chemistry or Materials Science. Experience with neutron and/or X-ray scattering techniques is highly desirable.