

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. 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).

Next review of applications is scheduled for June 12th 2015. 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

- ***Morfokinetics: Development of computational techniques for the analysis of CVD growth of new 2D materials***

Contact person: M. Gosalvez (miguelangel.gosalvez@ehu.eus).

Reference: 2015/1.

Morfokinetics is a business initiative arising from scientific research carried out at the Campus of Guipuzcoa of the University of the Basque Country UPV/EHU, counting with the institutional support of Donostia International Physics Center (DIPC), the Center for Materials Physics (CFM) and the Basque Agency for Enterprise Development (Group SPRI). Our goal is to develop and market a computational tool for analyzing the production of new two-dimensional (2D) materials, such as graphene and similar flat materials, characterized by having the thickness of a single atom. These materials constitute a new family of semimetals, semiconductors, superconductors and insulators with surprising behavior and physical properties, with extremely useful values for some technological applications. Correspondingly, they have been identified as promising candidates for future technologies.

We are looking for a postdoctoral researcher with a background in Information Technology and/or Computational Physics/Chemistry with good programming skills and an interest on surface science. Our line of research 'Morphokinetics' focuses on the simulation of the growth of novel, 2D materials, based on the use of atomistic methods, such as Kinetic Monte Carlo (KMC) and Cellular Automata (CA). We combine these methods with additional search/optimization procedures, such as evolutionary (or genetic) algorithms or the Particle Swarm Optimization (PSO) approach. The search is guided by an spectral analysis of the experimental images acquired during growth. The primary tasks by the postdoc will be (i) to model certain aspects of the deposition and growth process, (ii) to parallelize some of the calculations, in order to speed up the overall computation, and (iii) to contribute to the development of the user interface. Knowledge/experience in object-oriented programming (Java or similar) will be an advantage. Regarding parallelization, experience/knowledge in MPI and, if possible, CUDA will be valued. Because the already existing modules of our tool are written in C, fluency in this language is essential. Similarly, fluency in both spoken and written English is necessary. Communication skills in Spanish will be considered as an advantage. We believe in equality. If you are interested and you feel part of a social minority we encourage you to contact us.

We offer a two-year contract (1+1) starting in the summer of 2015. Apart from the culinary, cultural and social prospects of a vibrant city such as San Sebastian, we provide the opportunity to participate in an

innovative young project and the ability to acquire knowledge in a field of research with potential commercial applications.