Donostia International Physics Center

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 January 26th 2018. 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 DIPC could revoke its decision in case the candidate does not join his/her duties within 6 months after the publication of the list of selected candidates.

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.

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JOB OPENINGS

- **Development of electronic structure methods for excited states**

  Supervisor (contact person): David Casanova (david.casanova@ehu.eus).
  Co-supervisor: Anna I. Krylov (University of South California)
  Reference: 2018/3.

  This project is devoted to the development and implementation of simple and flexible theoretical approaches with small or moderate computational cost able to describe electronic excited states and photophysical processes in complex molecular systems.

  Concretely, the objectives of this project are: (*i*) to develop a model able to account for strong electron correlations in ground and excited states of medium and large molecules; (*ii*) provide efficient approximations to recover the missing dynamic electron correlation effects by merging wave function methods with short-range DFT correlation; and (*iii*) development of a methodology for the computation and detailed characterization of excited states and photophysical properties in systems containing more than one chromophoric unit.

  The candidate should hold a PhD on theoretical Chemistry/Physics, have good knowledge of quantum mechanics and electronic structure theory of molecules (in particular, knowledge of wave function multi-configurational methodologies) and advanced level skills on scientific coding (languages: Fortran, C, C++, Python,...).

- **Ab initio studies on the electronic, elastic and reactive properties of High Entropy Alloys**

  Contact person: Maite Alducín (maite.alducin@ehu.eus).
  Reference: 2018/10.

  This postdoctoral position is opened in the framework of the ELKARTEK-2018 project of the Department of Industry of the Basque Government entitled "Development of new light High Entropy Alloys (HEAs)". The project will be conducted in collaboration with the Foundry and Steel department in Tecnalia, the Mechanical and Metallurgy Engineering departments at the University of the Basque Country, and Leartiker.

  The main target of the position offered will be the characterization from first principles of the crystal structure, electronic and elastic properties of the high entropy alloys produced by the experimental partners participating in this project. The general and common goal of the project is to explore new HEAs with potential application in metallurgical industry.

  Experience in programming and in the use of DFT to calculate electronic properties of materials is required for this position. A strong theoretical background in condensed matter and in the interaction of gas phase species with matter is also a prerequisite. Knowledge and experience in simulating complex materials will be highly valued.