

**Company
Description**

BCAM is the Research Center on Applied Mathematics created with the support of the Basque Government and the University of the Basque Country, which aims to strengthen the Basque science and technology system, by performing interdisciplinary research in the frontiers of mathematics, talented scientists' training and attraction, so the excellence of our results are recognized by the Society

Information

 Deadline: 2022-01-24
 Category: Academia
 Province: Bizkaia

 Country: Basque Country
 City: Bilbao

Company

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**Main functions, requisites & benefits****Main functions**

Quantum measurements theory and its applications Quantum engineering requires accurate methods for measuring various properties of quantum systems. Quantum measurements are much more diverse and complex than their classical counterparts. There are many different kinds: accurate (strong), inaccurate (weak), impulsive consecutive, finite-time, continuous, etc. The uncertainty principle implies that a non-negligible back action is produced whenever a measuring device destroys coherence between otherwise interfering alternatives. One objective of the project would, therefore, involve systematic studies of various aspects of quantum measurement theory. Equally important are the practical realisations of the quantum meters (detectors), which often involve a large number of degrees of freedom. Among such "hybrid devices" are the electronic point-contact and its bosonic counterpart, the bosonic junction. The second aim of the project is the modelling of such devices in various regimes. A successful candidate will be able to divide his/her efforts between these two aspects of the project. He/she will be expected to collaborate with a CNRS group in France, and a group at the University of La Laguna, Tenerife, Spain

Requisites

Master's degree in Physics Applicants must have an excellent academic record. Good communication and interpersonal skills. Good command of spoken and written English. Ability to clearly present and publish research outcomes in spoken (talks) and written (papers) form. Experience and basic programming skills in Matlab, Fortran and C. Strong analytical and problem-solving skills. Demonstrated ability to work independently and as part of a collaborative research team The preferred candidate will have: Strong background in Physics and Mathematics. Good knowledge of elementary quantum mechanics. Interest in the foundations of quantum theory.

Benefits

The gross annual salary will be 18.000€. It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency. There is a moving allowance for those researchers that come from a research institution outside the Basque Country from EUR 500 to EUR 1.000 gross. Free access to the Public Health System in Spain is provided to all employees.