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PhD Position in Quantum Information and Technology (theory)

We are looking for a PhD student to work on a theory project in quantum information science, in particular the implementation and modelling of QIP protocols in solid-state systems.
The objective of this PhD project is to study the use of electrons, quantum dots, and surface acoustic wave phonons to implement quantum information processing protocols in semiconductor nanostructures. Recent experimental and theoretical advances demonstrate the usefulness of surface acoustic waves to move and couple electron-spin qubits and the aim of the project is to theoretically explore and exploit these possibilities. Whether the project focuses more on implementation questions or the states and channels of indistinguishable-particle systems will be decided jointly in the course of the project.

We offer a three-year, fully funded contract; the PhD will be administered by the University of the Basque Country (UPV/EHU). The PhD student will join the quantum information group at DIPC and be part of a broad and diverse research community at the institute and the neighboring research centers.
Review of the applications will begin after **April 28th, 2017** and will continue until the position is filled. Early submissions are appreciated. The start date would be as early as possible.

Candidates are expected to have a curiosity, independence, and a good working knowledge of quantum mechanics and command of English. A background in solid-state physics or quantum information theory is useful but not necessary; learning the necessary analytical and numerical techniques is part of the project.

Applications, including CV (pdf) and statement of interest or requests for further should be sent to: `geza.giedke@dipc.org`
Applications will be evaluated by a DIPC committee on the basis of four criteria: CV of the candidate (60%); adequacy of the candidate's scientific background to the project (20%); statement of interest and reference letters (10%); and others: diversity in gender, race, nationality, etc. (10%). Evaluation results will be communicated to the candidates soon after.

About DIPC: Founded in 1999 as a joint initiative between the University of the Basque Country (UPV/EHU), the Basque Government and private sponsors researcher, DIPC conducts basic research in materials science and solid-state physics and is now pursuing research lines on electronic properties at the nanoscale, surface physics, photonics and quantum optics, and soft-matter physics.
It is situated on the Ibaeta Campus of UPV in a lively scientific and student environment. The institute is at a walking distance from CIC Nanogune and the material physics center (CFM-MPC) of the Spanish research council (CSIC), and all three centers are strongly connected by many and deep collaborations and profit from the synergies between them.