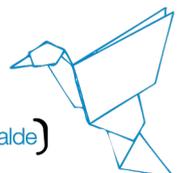


PhD Fellowship on Quantum Measurements

Job Offer	
Topics:	Quantum measurements theory and its applications
PI in charge	Prof. Elena Akhmatskaya (BCAM) and Prof. Dmitri Sokolovski (UPV-EHU)
Salary and conditions:	<p>The gross annual salary will be 18.000€.</p> <p>It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency.</p> <p>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.</p> <p><i>Free access to the Public Health System in Spain is provided to all employees.</i></p>
No Positions offered:	#1
Duration:	3 years
Deadline:	24th January 2022 at 14:00 CET (UTC+1)
How to apply:	Applications must be submitted on-line at: http://www.bcamath.org/en/research/job

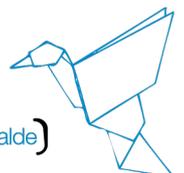
Profile Requested	
Requirements:	<ul style="list-style-type: none"> • Master's degree in Physics
Skills and track-record	<ul style="list-style-type: none"> • Applicants must have an excellent academic record. • Good communication and interpersonal skills. • Good command of spoken and written English. • 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.
Scientific profile	<p>The preferred candidate will have:</p> <ul style="list-style-type: none"> • Strong background in Physics and Mathematics. • Good knowledge of elementary quantum mechanics. • Interest in the foundations of quantum theory.



Application and Selection Process	
Formal Requirements:	<p>The selected candidate must have applied before the application deadline online at the webpage http://www.bcamath.org/en/research/job</p> <p>The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile.</p>
Application:	<p>Required documents:</p> <ul style="list-style-type: none"> ▪ CV ▪ Letter of interest ▪ 2 recommendation letters (desirable)
Evaluation:	<p>Based on the provided application documents of each candidate, the evaluation committee will evaluate qualitatively: the adaption of the previous training and career to the profile offered, the recommendation letters, the main results achieved (papers, proceedings, etc.), the letter of interest, and other merits; taking in account the alignment of these items to the job offered.</p>

Incorporation:	The position is supposed to start as soon as possible in 2022.
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Research topic description:	<p>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.</p>
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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.



DEPARTAMENTO DE EDUCACIÓN,
POLÍTICA LINGÜÍSTICA Y CULTURA

