

Call reference number	(2025-34)
Call name	IKUR Quantum Technologies MOLBITS Project. Post-doctoral position for designing molecular qubits
Application Deadline	2025/10/31

Introduction and main description

BCMaterials, Basque Center for Materials, Applications and Nanostructures, is an autonomous research center launched in June 2012 by Ikerbasque, the Basque Foundation for Science and the University of the Basque Country (UPV/EHU) as a research center for Materials, Applications and Nanostructures. The center is included in the BERC's (Basque Excellence Research Centers) network and its mission is to generate knowledge on the new generation of materials, turning this knowledge into (multi)functional solutions and devices for the benefit of society.

BCMaterials is looking for a motivated and experienced post-doctoral researcher to (a) develop a deeper fundamental and practical understanding of molecular qubits for quantum technologies and (b) enhance the robustness and scalability of molecular qubits to facilitate their real-world deployment. For such purpose, the postdoctoral researcher will synthesize novel MOFs that behave as qubits and will determine their spin dynamics, including spin-lattice relaxation and quantum coherence times. The post-doctoral researcher will work in close contact with researchers at CFM (Materials Physics Center) to deposit on surfaces the obtained compounds.

The ideal starting date for the position is 01/12/2025 with an estimated duration of 7 months.

Skills and Requirements

PhD in Physics, Chemistry, Materials Science or related areas.

Demonstrated experience in any of the following fields: synthesis and characterization of coordination compounds and/or polyoxometalates, study of single-molecule magnets or molecular qubits.

Experience in the exfoliation of 2D coordination complexes and pulse EPR measurements will be valorized.

A team player who can collaborate with other research groups.

Demonstrated ability in technical writing for technical reports, scientific publications, and presentations.

Excellent communication skills in English.

Work Program / Duties / Responsibilities

1. Synthesis of 2D molecular qubits.
2. Physicochemical characterization and investigation of the spin dynamics.

Application Procedure

Apply by submitting a motivation letter and a CV (in English) using the "Contact" button at the corresponding offer, at the "Join Us" area on BCMaterials' portal (<https://www.bcmaterials.net/join-us>).
Your name and email address will be required for further contact too.

Other Relevant Information

We provide a highly stimulating environment with state-of-the-art infrastructures, and unique professional career development opportunities. We offer and promote a diverse and inclusive environment and welcomes applicants regardless of age, disability, gender, nationality, ethnicity, religion, sexual orientation or gender identity.