Call reference number	(2020-01)
	Alfredo García-Arribas
Call name	Postdoctoral position for multiscale simulation of magnetic materials and magnetic fields
Application Deadline	2020/02/21

Introduction and main description

BCMaterials, Basque Center on Materials, Applications and Nanostructures, is an autonomous research center belonging to Ikerbasque, the Basque Foundation for Science and the University of the Basque Country (UPV/EHU). 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.

In the context of a research project funded by the Spanish Goverment, we offer a Postdoctoral position untril 31st of december 2020 to advance in the development of the guidance, detection and actuation procedures in a magnetotaxis system for the remote control of magnetotactic bacteria as nanorobots for biomedical applications.

The position is focused primarly on multiscale simulation (micromagnetic and finite elements macroscopic behavior) of magnetic materials for sensors to detect the presence and movement of magnetotactic bacteria. Additional tasks will include simulation of magnetic fields and field gradients, and magnetic hyperthermia fields.

Skills and Requirements

Extensive experience in simulation software (COMSOL preferable, or similar) and related tools (Matlab). Knowledge of specific micromagnetic codes (OOMMF, muMAX, etc) and experience in magnetism and magnetic materials will be positively valued.
The candidate should be self motivated and a team player willing to coordinate the research in a particular topic.

Candidates should hold a PhD in physics, materials science or engineering.

Work Program / Duties / Responsibilities

Development of procedures to simulate the detailed response of magnetic sensors (magnetoresistance, magnetoimpedance, etc.) including magnetization processes.
Optimization of coil design for field and gradient generation for guidance of magnetotactic bacteria and hyperthermia application.

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 furher contact too.

Other Relevant Information
Plase submit a complete CV and cover letter including contact details for two references. The position will be available from march-april 2020.