

## PREDOCTORAL RESEARCHER

to work on the characterization of bacteria-surface interactions of nanostructured materials

### OFFER DESCRIPTION

We are looking for a [PhD candidate](#) to work in the field of antimicrobial surfaces with clinical applications. Specifically, the candidate will focus on the characterization of the interactions between bacteria and nanostructured biomaterials using different bacterial strains and applying advanced characterization techniques, in order to disclose the mechanisms underlying the microbicidal activity.

The ultimate goal is to design [bio-inspired antimicrobial bone bioceramics](#) and advance in the fundamental understanding of the contact-based bactericidal mechanisms, as a strategy to overcome the problems associated to antibiotic resistance, one of the most serious health threats in the recent years.

The position is part of the [ERC Advanced Grant BAMBBI](#), led by Prof. Maria-Pau Ginebra. If selected, the candidate will have the opportunity to work in a highly interdisciplinary team, the Group of Biomaterials, Biomechanics and Tissue Engineering (BBT), in the Department of Materials Science and Engineering at the Universitat Politècnica de Catalunya (<https://biomaterials.upc.edu/en>). The BBT group has a broad expertise on the design, synthesis and characterization of biomaterials for tissue regeneration, with special emphasis in bone applications.

The PhD does not involve coursework, unless agreed by the student and the supervisor. This fellowship does not involve teaching duties.

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### ADDITIONAL INFORMATION

#### About the BBT Group



The BBT group is a multidisciplinary team of researchers with different backgrounds, including chemistry, physics, biology, materials science, biomedical engineering. Our main scientific goal is the development of biomaterials for tissue and organs regeneration/functional repair. This approach requires the design of materials which can modulate the response of the receiving tissue, leading in some cases to the regeneration and

neoformation of the degraded tissues and, in others, to a perfect integration of the biomaterial and to the recovery of the lost functionality.

## About UPC

The Universitat Politècnica de Catalunya · BarcelonaTech (UPC) is a public institution of research and higher education in the fields of engineering, architecture, sciences and technology, and one of the leading technical universities in Europe. Every year, more than 6,000 bachelor's and master's students, more than 500 doctoral students graduate and 3,067 graduates in lifelong learning. The UPC's approach to research is highly varied and covers applications and basic research in many knowledge areas. The impact of this research makes the UPC one of the main European technology universities.



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## REQUIREMENTS

### Skills/Qualifications

The candidate must hold a MSc degree or equivalent. We will consider candidates with various research backgrounds including [microbiology](#), [biology](#), [biomedicine](#), [biomedical engineering](#). The candidate is expected to be proficient in [English](#).

### Specific Requirements

Previous exposure to biomaterials for bone regeneration, characterization of inorganic materials, characterization of nanostructured materials is desirable but not essential. However, [willingness and motivation to expand your expertise by reaching out to other disciplines](#) is required..

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## SELECTION PROCESS

### How to apply and deadline

Target start date: [March 2023](#).

The evaluation will be on the basis of the academic record and credentials, previous research experience, exposure to relevant disciplines and proficiency in English.

Those interested may email a CV with a list of three references, a short (max one page) statement describing your motivation and prior experience and your academic transcripts to [Dr. Maria-Pau Ginebra](#) ([bbt.jobs.upc@gmail.com](mailto:bbt.jobs.upc@gmail.com)), with "PhD candidate BAMBBI 2" in the email subject.