

Max Planck Institute of Colloids and Interfaces - Department of Biomaterials



The Department of Biomaterials focuses on interdisciplinary research in the field of biological and biomimetic materials. The emphasis is on understanding how the mechanical or other physical properties are governed by structure and composition and how they adapt to environmental conditions.

PhD Position as part of ERC CoG project DORMATRIX

in the field of Biotechnology, Chemistry, Biochemistry, Biomedical Eng., Chemical Eng.,
Materials Science

City: San Sebastian; Starting Date: 16/02/25; Duration: 3-4 years; Renumeration: 20.808€ gross per year; Closing date: 07/02/25

Working field

The Cipitria Lab - Bioengineering in Regeneration and Cancer at Biogipuzkoa Health Research Institute, San Sebastián-Donostia, Spain (<https://cipitrialab.com>) is looking for a doctoral researcher. In our group, we aim to understand how biophysical and biochemical properties of native extracellular matrix and synthetic biomaterials guide cell response in regeneration, cancer dormancy and bone metastasis. We are located within the structure University Hospital Donostia-Onkologikoa.

Funded by an ERC CoG grant (<https://doi.org/10.3030/101123883>), the main objective of DORMATRIX is to engineer breast cancer dormancy as a collective emergent phenomenon using biomaterials-based dormancy-on-a-chip devices. In this project, you will model in vitro breast cancer micro-units applying biophysical principles with novel biomaterials.

Your tasks:

- Apply biophysical principles with novel biomaterials to model in vitro breast cancer micro-units
- Hydrogel synthesis and development of microparticles with controlled physico-chemical properties
- Culturing breast cancer cells in controlled 2D and 3D microenvironments
- Monitoring breast cancer cell dynamics with advanced microscopy and time-lapse fluorescence life cell imaging
- Collaborate in additional projects and become an integral member of our team
- Our lab maintains an active part in Germany, as well as interaction with partners at the Max Planck Queensland Center (<https://research.qut.edu.au/mpqc/>). You will participate in regular consortium meetings and larger consortium events

Requirements

Your profile, qualifications, knowledge and skills:

- MSc in Biotechnology, Chemistry, Biochemistry, Biomedical engineering, Chemical

engineering, Materials Science or similar

- Previous experience in a biomedical lab working on hydrogel fabrication and cell culture will be an asset
- Excellent ability to conduct experiments independently and collaboratively within our group
- Collaborative mindset and motivation to work in an international, interdisciplinary environment
- Strong organization skills, project management and proactive “getting things done” mentality
- Interest to learn and grow professionally in a young, dynamic and competitive lab
- Have a genuine excitement for science, innovation and creative thinking!
- Good written and oral communication skills in English (Spanish is not required)

Suggested reading: Bakhshandeh, Heras et al, Science Advances, 10, eadr3997 (2024); Taieb et al, Lab on a Chip 23, 92-105 (2023); Young et al, Science Advances 10, eadj0975 (2024); Taieb et al, PLoS One 17, e0268297 (2022).

What We Offer

Starting date and duration: January-March 2025, for 3 years with possible extension up to 4 years.

Application

Application: Please send in a single PDF of maximum size 5 MB (i) a motivation letter describing your experience, research interests, expectations and preferred start date, (ii) your CV with a complete list of publications, (iii) transcript of university record and (iv) contact information for three references, to: **amaia.cipitriasagardia@bio-gipuzkoa.eus** and **rrhh@bio-gipuzkoa.eus**, indicating “DORMATRIX - PhD” in the subject line. The position will remain open until filled.

More information at <https://stellenticket.de/190727/>

Offer visible until 06/02/25

