



Max Planck Institute of Colloids and Interfaces



PhD Position

Extracellular matrix biophysical cues in
breast cancer dormancy and bone metastasis

Biochemistry / Biotechnology / Biophysics

Max Planck Institute of Colloids and Interfaces, Potsdam

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Aim. The overall goal is to contribute to the understanding of how biophysical mechanisms regulate cell-matrix interaction in breast cancer dormancy and bone metastasis.

Tasks. The PhD candidate will perform correlative, multiscale characterization of the microstructure and composition of the native early metastatic and dormant niche in-vivo and ex-vivo. His/her tasks will be:

- Work with in-vivo mouse models
- In-vivo imaging by bioluminescence and microcomputed tomography
- Ex-vivo multiscale and multimodal tissue characterization

Research team. Our team is interdisciplinary and investigates the influence of biomaterial physical properties on cell behaviour, tissue regeneration and disease progression. We use a multiscale and multimodal approach to characterize the properties of biological tissues. The project will run in collaboration with **Prof. David Mooney** (Harvard University), **Prof. Franziska Jundt** (Uniklinikum Würzburg), **Prof. Claudia Fischbach** (Cornell University), **Prof. Georg Duda** (Charité University Hospital Berlin), **Prof. Bettina Willie** (McGill University) and **Dr. Raluca Niesner** (DRFZ Berlin).

Profile. The applicant should have keen interest in multidisciplinary work and a strong drive to excel in a competitive international research environment. A background in biochemistry, biotechnology, biophysics or a closely related field is required. Skills in imaging methods and characterization of biological tissues are of advantage. The project can be started September 2018 onwards. The working language is English.

Interested? Please send a motivation letter explaining why you would like to join the project, your CV, a transcript of your university record and two references to Amaia Cipitria (amaia.cipitria@mpikg.mpg.de, indicating "Dormatrix - PhD application" in the subject line .