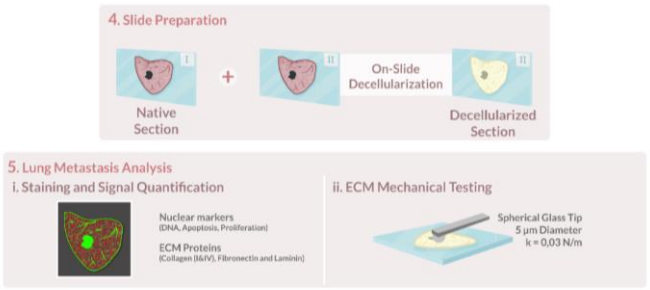
UNIVERSITAT DE BARCELONA

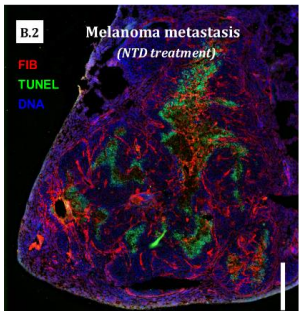
PREDOCTORAL POSITION IN

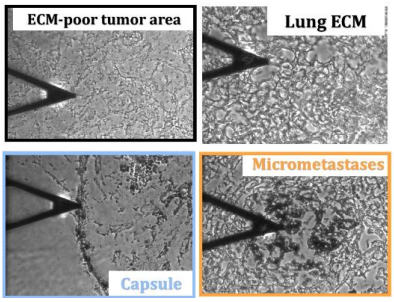
MECHANISMS OF ECM REMODELLING DUE TO BIOPHYSICAL STIMULI SUCH AS HYPOXIA AND COMPRESSION IN LUNG CANCER

Biophysics and Bioengineering Unit
School of Medicine and Health Sciences - University of Barcelona

The PhD project will study the biophysical mechanisms regulating the interaction between cancer cells and the extracellular matrix in the context of cancer metastasis into the lung. The successful candidate will work with advanced biophysical techniques including: Image quantification, Atomic Force Microscopy and Traction Microscopy and use their outputs in machine learning algorithms. The project will also involve the design and implementation of bioengineering devices, the use of biomimetic soft scaffolds produced from decellularized lung tissue and the testing of a small drug panel with potential against cancer metastasis.







The successful applicant will work under the supervision of Dr. Núria Gavara, within the Biophysics and Bioengineering Unit. The Unit is focused on bioengineering with a multiscale approach ranging from cells to organs. The particular interests of Dr. Gavara are on the mechanobiology of the cytoskeleton and the extracellular matrix and their potential in understanding and diagnosing physio- and pathological states.

This is a 3-year predoc position within a funded research project and its anticipated starting date is autumn 2024. We are seeking a highly motivated individual with a strong interest in multidisciplinary research, interested in using and developing cutting-edge biophysical tools to investigate translationally or clinically-focused problems on respiratory pathology or cancer and potential translation to industry. **He/she is expected to hold a Master's degree in biomedical engineering or related topics.** Programming skills and knowledge of image processing or machine learning will be highly valued.

Candidates should send by mid October 2024 an e-mail with an application letter and CV to:

Dr. Núria Gavara
ngavara@ub.edu
https://gavaralab.wordpress.com/