MECHANONCODE

MechanoOptical Biomarkers for non-communicable diseases

WHAT YOU'LL FIND INSIDE:

About MechanoNCoDe

This project was funded under the Vision ERC programe Cyprus Research and Innovation Foundation (VISION ERC/0524/0003).

Introduction

The proposed research aims to develop novel MechanoOptical Biomarkers to revolutionize diagnostics by enabling mechanical characterization and high-resolution imaging of diseased tissues with enhanced sensitivity and specificity. This project will focus on assessing the MechanoOptical fingerprints (MOFPs) of non-cummunicable diseases (NCDs), specifically cancer (desmoplastic tumors, like breast and melanoma) and pulmonary fibrosis. The hypothesis is that supplementary information from different microscopes (Brillouin and Atomic Force Microscope-AFM) can be used to develop novel MechanoOptical biomarkers for NCD diagnosis, treatment monitoring, and prognosis. Cutting-edge technologies and experimental approaches will be leveraged to study, design, and optimize these biomarkers.

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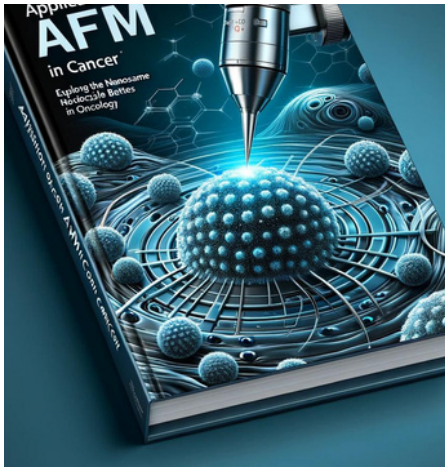
Key Objectives of the Project

Specific scientific and technological objectives:

- Development of appropriate protocols for AFM and Brillouin microscopy of tissue specimens
- Assess the MOFPs of pulmonary fibrosis
- Identify unique MOFPs of highly desmoplastic tumors during cancer progression and after treatment



Consortium

Host organization

EUC Research Centre

Foreign Research Organizations

UTS UNIVERSITY OF TECHNOLOGY SYDNEY

MEDICAL UNIVERSITY OF VIENNA

How to Get Involved

Are you a student, researcher, or institution interested in mechanobiology of NCBs? Stay tuned for more opportunities to engage with MechanoNCoDe as we develop this innovative program. Subscribe to our newsletter for updates and opportunities to participate in upcoming events.

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