



**PhD Advanced Course
Molecular Biomarkers and
Technologies
14-18 October 2024
ECTS: 6
Classes: 22.5 hours**

Coordinator: Elsa Rodrigues
Organizing Committee:
Elsa Rodrigues
Joana Amaral
Cecília Rodrigues

Monday – 14 October

9:50 Opening remarks

OPENING LECTURE

Chairs: Elsa Rodrigues, Marta Afonso

[10:00 Use of 3D models for the identification of regenerative mechanisms in human liver](#)

Volker Lauschke

Professor in Translational Pharmacology, Karolinska Institutet (KI)

Director of the Biofabrication and Tissue Engineering Facility, KI

Deputy Head of the Margarete Fischer-Bosch Institute of Clinical Pharmacology, Germany

BIOMARKERS AT A GLANCE

[11:00 What is a biomarker?](#)

Marta Afonso

Assistant Professor at Faculty of Pharmacy, Universidade de Lisboa

BIOMARKERS IN NEUROSCIENCES – Part I

[12:00 What transcriptomes tell us about stressed human cells](#)

Nuno Barbosa Morais

Assistant Researcher at Instituto de Medicina Molecular, Universidade de Lisboa

Invited Associate Professor at Faculty of Medicine, Universidade de Lisboa

LUNCH

BIOMARKERS IN NEUROSCIENCES – Part II

Chairs: Elsa Rodrigues, Maria João Nunes

[14:00 Sex and gender precision medicine for brain and mental health](#)

Antonella Santucci Chadha

*CEO of the Women's Brain Foundation
Vice-President of Euresearch*

15:00 Biomarkers in neurodegenerative diseases – progress and opportunities

*Amanda Heslegrave
Senior Research Associate
University College London*

TUESDAY – 15 October

10:00 Workshop I

Hands on omics: Applications of genomics and transcriptomics in biomarker research

Marta Afonso

LUNCH

BIOMARKERS IN CANCER

Chairs: Elsa Rodrigues; Vanda Marques

14:00 TBA.

*Omid Hamid, MD
Chief of the Translational Research & Immuno-Oncology Department and
Co-Director of Cutaneous Malignancies, The Angeles Clinic & Research Institute
Director of Experimental Therapeutics, Cedars Sinai Medical Care Foundation
Professor at the Department of Medicine, Cedars Sinai Medical Center*

15:00 Liquid biopsy biomarkers for the risk stratification and early diagnosis of biliary tract tumors

*Pedro Rodrigues
Ikerbasque Research Fellow at the Liver Diseases Group
Biogipuzkoa Health Research Institute*

16:00 Identifying patients for targeted therapies in oncology

*Marta Martins
Staff Scientist at Instituto de Medicina Molecular, Universidade de Lisboa
Assistant Professor at Universidade Lusófona*

WEDNESDAY – 16 October

BIOMARKERS IN REGENERATIVE MEDICINE AND METABOLIC DISEASES – Part I

Chairs: Elsa Rodrigues, Andreia Neves Carvalho

13:00 Single-cell and spatial omics of oligodendroglia in development and in disease

*Gonçalo Castelo-Branco
Professor of Glial Cell Biology at Karolinska Institutet (KI)
Acting Deputy Head of the Department of Medical Biochemistry and Biophysics, KI*

Member of the Nobel Assembly, KI

THURSDAY – 17 October

14:00 Workshop 2

Biomarker Profiling in Colorectal Cancer: Bridging Bench to Bedside

Vanda Marques

18:00 Student tutorials

Elsa Rodrigues

Friday – 18 October

MACHINE LEARNING, DIGITAL BIOMARKERS AND WEARABLE DEVICES

Chairs: Maria João Nunes, André Santos

9:00 Biomarker discovery using machine learning

Alejandro Ricon

Assistant Professor at Pharmacology Department and Julius Center for Health Sciences and Primary Care UMC Utrecht

Utrecht University

10:00 Developing Biomedical devices

Cristina Santos

Assistant Professor at Industrial Electronics Department

University of Minho

11:00 *Identifying prognostic biomarkers in oncology and rheumatology using sparse regularized models*

Susana Vinga

Associate Professor at Department of Computer Science and Engineering, Instituto Superior Técnico,

Universidade de Lisboa

LUNCH

BIOMARKERS IN REGENERATIVE MEDICINE AND METABOLIC DISEASES – Part II

Chairs: Elsa Rodrigues, Joana Amaral

14:00 Post-translational modifications in liver disease: latest discoveries and therapeutic Potential

Malu Martinez-Chantar

Group Leader at Center for Cooperative Research in Biosciences CIC bioGUNE

15:00 Leveraging mass spectrometry for biomarker discovery in Niemann-Pick Type C disease

Stephanie Cologna

Associate Professor of Chemistry

*Associate Vice Chancellor for Research in STEM
University of Illinois Chicago.*

16:00 Regenerative hepatology: the 21st century Prometheus

Pedro Batista

Group Leader at the Health Research Institute of Aragon (IIS Aragon)

*Assistant Professor at the Department of Biomedical and Aerospace Engineering at University
Carlos III of Madrid*