



Cell migration workshop: concepts, mechanisms and techniques

Preliminary program

1st October

9:00: Welcome

9:30 – 10:30: Lecture 1: **Mammalian cell migration: concepts** (*Douglas M. Noonan, Università degli Studi dell'Insubria, Italy*)

10:30 – 11: Lecture 2: **Strategies to quantify migratory phenotypes** (*Ana Fernandes, CBIOS - Universidade Lusófona, Portugal*)

11 – 11:30: Coffee break

11:30 – 12:30: Lecture 3: **Molecular mechanisms of cell migration: a technical approach** (*Nuno Saraiva, CBIOS - Universidade Lusófona, Portugal*)

12:30 – 14: Lunch

14 – 16: practical classes (list below)

16 – 16:30: Coffee break

16:30 – 18:30: practical classes

19: Dinner

2nd October

9:00 – 11:00: conclusion of practical classes

11 – 11:30: Coffee break

11:30 – 12:15: Lecture 4: **Dietary compounds and cell migration: impact on health and disease + discussion** (*Claudia Cerella, Laboratoire de Biologie Moléculaire et Cellulaire du Cancer, Luxembourg*)

12:15 – 12:30: Concluding remarks

12:30 – 13: Evaluation (optional, for ECTS attribution)

Practical classes

P1 - Collective cell migration assays

Wound Healing Assay, Zone Exclusion Assay

P2 - Chemotaxis and chemoinvasion

Transwell-based assay

P3 - Analysis of cell adhesion and cytoskeleton

Fluorescence microscopy

P4 -- Data analysis with Image J

Random / Collective cell migration

ECM degradation

Trainers

Douglas M. Noonan

Università degli Studi dell'Insubria, Italy

Prof Douglas Noonan received a B.A. in Biology from the College of Wooster (Ohio) in 1979 and a Ph.D. in Cell Biology from Case Western Reserve University. In 1985 he did a Postdoctoral Fellowship at the National Institutes of Health (NIH) in Bethesda, USA, where the chemoinvasion assay was invented. Prof Noonan was the first to clone perlecan, a proteoglycan of the extracellular matrix, and investigate its function in diabetes and tumor progression models. Prof Noonan has works on tumor, endothelial cell, monocyte and neutrophil migration and invasion.

Ana Sofia Fernandes

CBIOS - Universidade Lusófona, Portugal

Ana Sofia Fernandes is graduated in Pharmaceutical Sciences (2004), has a PhD in Pharmacy (specialty of Toxicology, 2010, Univ. Lisboa) and is an European Registered Toxicologist (2018). She is an Assistant Professor at Universidade Lusófona. She is also the Scientific Director for Innovation and the coordinator of the Laboratory of Pharmacology and Therapeutics of CBIOS Research Center. Her main research interest is to explore the impact of ROS and redox modulators on cancer etiology and progression, including in cell migration mechanisms.

Nuno Saraiva

CBIOS - Universidade Lusófona, Portugal

Nuno is a PhD in Cell Biology and Virology from Imperial College, London and MSc in Genetic and Molecular Biology from Faculty of Sciences, Lisbon University. He is currently a Lecturer in Cell and Molecular Biology at Lusófona University, where he also develops his research projects as a member of CBIOS. His research is focused on the role of calcium and redox signaling in cancer cell migration mechanisms.

Claudia Cerella

Laboratoire de Biologie Moleculaire et Cellulaire du Cancer, Luxembourg

Claudia Cerella received her Master in Biology (2000) and her PhD in Cellular and Molecular Biology (2005) at the University of Tor Vergata (Rome). After training at the Occupational Medicine, PTV (Rome), she moved to the Laboratory for Molecular and Cellular Biology of Cancer (LBMCC), Fondation Recherche sur le Cancer et les Maladies du Sang, Kirchberg Hospital, Luxembourg, first as postdoc (2007-2011), then as Researcher-Cell Death Team Leader (2012-today). Fields of interest at LBMCC include cancer cell motility modulation, as well as the dissection of mechanisms involved in the attraction and migration of immune cells towards immunogenic dying cancer cells.

Helena Pinheiro

Instituto de Medicina Molecular, Portugal.

Helena has a degree in Biochemistry from the University of Porto and a Master in Biomedical Research from the University of Coimbra, where she studied the effects of antenatal glucocorticoids in brain structure and development and their putative implications in brain pathology. Currently, Helena is pursuing a PhD in Cellular and Molecular Biology in the University of Lisbon. Her work is focused on the mechanisms controlling mRNA distribution in skeletal muscle.

Prices

Workshop on Cell Migration

- General: 80 €
- Reduced rate: 75 €

Workshop on Cell Migration + Workshop on Food Metabolites and the Impact of Microbiota

- General: 100 €
- Reduced rate: 90 €

Notes:

The fee includes attendance to lectures, laboratory classes, and coffee-breaks.

The reduced rate applies to students, teachers and researchers from University Lusófona and from Nova University

Fees do not apply to NutRedOx members attending the training school in Molecular Nutrition.