

## INTERNSHIP VACANCY FORM

Name of the Internship	<b>Modeling collective cell migration.</b>
Internship Duration	From 01/07/2017 until 30/09/2017. Possible to progress to a Master thesis.
Intern's Position	Undergraduate internship
Objectives and Schedule	Recently, we generated an open source software tool, which we termed PolNet, that enables vascular network-level cross-correlation of rheology and cell polarity at the single-cell level. The software operates with 2D images, and we want now to upgrade the software to analyse 3D networks. The student will use Matlab to generate scripts that will enable to extract and generate blood vessels and polarity vectors in 3D from confocal microscopy images. From this step, the student will integrate the Matlab into PolNet software. The work will be orientated by Dr. Claudio Franco (Group Leader at iMM), Dr. Anna Pezzarosa (Senior Research at iMM) and Dr. Miguel Bernabeu (Group Leader at Edinburgh University).
Profile of the Institution	The Instituto de Medicina Molecular de Lisboa (iMM Lisboa, <a href="https://imm.medicina.ulisboa.pt/en/">https://imm.medicina.ulisboa.pt/en/</a> ) is a leading biomedical research institute of excellence, conducting basic, clinical and translational biomedical research and innovation with the aim of contributing to a better understanding of disease mechanisms, developing novel predictive and diagnostics tests, and new therapeutic approaches. iMM Lisboa expertise is focused on Oncobiology, Stem Cells & Regeneration, Clinical Sciences and Human Genetics, Immunology & Inflammation, Development & Aging, Neurosciences & Behaviour ( <a href="https://imm.medicina.ulisboa.pt/en/investigacao/labs/">https://imm.medicina.ulisboa.pt/en/investigacao/labs/</a> ).
Main Tasks to accomplish	Generate a Matlab script to segment blood vessels and endothelial cell polarity in 3D. Integrate the Matlab script into PolNet software.
Profile of the Intern	A good expertise in Matlab, and coding in Python and/or C++. The student must be open minded, organized, enthusiastic, hard-working.

Scholarship	[ ]			Yes	[ X ]			No		
Monetary Value of the Scholarship				[ ]	By day	[ ]			By Month	
Other Benefits										
Transportation	[ ]	Yes	[ X ]	No	Lunch		[ X ]	Yes	[ ]	No
Monetary Value	5 euros lunch card			<i>Ticket/Lunch Card</i>		[ X ]	Yes	[ ]	No	
Other Benefits										