

Title: Project iFLASH – Imaging calcium in the Aging Synapse

Synopsis:

Lopes_lab@iMM_Lisboa is focused on understanding the mechanisms inducing the "early-aging", which render the hippocampus - the brain area related to learning and memory – particularly susceptible. The team explores the molecular mechanisms associated to hippocampal loss of function and its outcome in behavior performance and synaptic function, using rodent models.

We are seeking a highly motivated biomedical or bioengineering Master student for the project iFlash, in order to setup a miniscope in our lab to image calcium signals from live brain (GCaMP6f mice)

The miniature fluorescence microscope is a design pioneered by Mark Schnitzer's Lab at Stanford and published in a paper in Nature Methods in 2011. It uses wide-field fluorescence imaging to record neural activity in awake, freely moving mice. The microscope introduced (Miniscope) has a mass of 3 grams and uses a single, flexible coaxial cable (0.3mm to 1.5mm diameter) to carry power, control signals, and imaging data to custom open source Data Acquisition (DAQ) hardware and software. For more info please visit Miniscope.org.

To apply and more info please email Luísa Lopes@iMM Lisboa, lvlopes@medicina.ulisboa.pt using the subject reference iFLASH.

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Webpage of the group: <https://imm.medicina.ulisboa.pt/en/investigacao/labs/lopes-lab/>

Bibliography:

Nature Methods 8, 871–878 (2011) doi:10.1038/nmeth.1694

Remunerated or volunteer training: Volunteer (Master thesis)