



POSTDOCTORAL POSITION IN COMPUTATIONAL NEUROSCIENCE

1-2 Postdoctoral positions funded by the **ERC Starting Grant dEMORY** will be available as of **November 1st 2015** (the start date is flexible) at [IMBB-FORTH](http://www.imbb-forth.gr) in Crete, in the lab of Dr. **Panayiota Poirazi**.

Application deadline: October 20th, 2015 (applications will be continuously screened until the positions are filled).

- Available for 2 years, with a **yearly** salary up to 28,000-36,000 € (gross salary including benefits), depending on experience and career stage.
- **Requirements:** Expertise in computational neuroscience, preferably in compartmental modeling and neural/dendritic computations.

THE PROJECT: Dissecting the Role of Dendrites in Memory

The goal of this project is to characterize the role of dendrites in learning and memory processes so as to formulate a unifying theory regarding their contribution in memory formation across brain regions and abstraction levels. This will be achieved via the development of computational models at different abstraction levels in the hippocampus the prefrontal cortex and the amygdala. By manipulating the biophysical, anatomical and plasticity properties of dendrites and tracking the effect on memory, the project aims to infer the key rules by which these thin structures shape mnemonic processes. These rules will then form the basis for deducing theoretical abstractions of trainable neurons with dendrites.

The project has been running since 2012 and has already produced a number of outcomes, which can be found at: www.demory.gr, www.dendrites.gr

IMBB-FORTH



The [Foundation for Research and Technology-Hellas](http://www.forth.gr) (FORTH) is one of the top European Research Centers. It has ranked 1st in terms of high impact publications in Greece and 12th in the

number of FP7 grants in Europe. It should be noted that since the establishment of the ERC grant scheme in 2007, a total of 39 awards have been made to scientists working in Greek Institutions and 11 of them are located in Institutes of FORTH.

The [Institute of Molecular Biology and Biotechnology](http://www.imbb-forth.gr) (IMBB) at FORTH is the top Biological Institute in Greece, in terms of high quality personnel, publications, infrastructure and competitive grants. IMBB-FORTH is located in Heraklion, one of the most ancient and historical Greek cities, on the picturesque island of Crete. Crete, the homeland of major artists, such as El Greco and Nikos Kazantzakis, impressively combines the outstanding

geophysical variety (forests, mountains, gorges, and beaches) with its rich history of thousands of years, resulting in the well-known Cretan culture and cuisine.

THE POIRAZI LAB

The [Computational Biology Laboratory](#) at IMBB-FORTH performs research that is at the forefront of Computational Neuroscience. We are particularly interested in understanding how dendrites and their integrative properties contribute to learning and memory functions. Towards this goal, we build abstract mathematical as well as detailed biophysical models of neural cells and circuits across multiple brain regions (hippocampus, amygdala, PFC, V1) and abstraction levels (single neurons, microcircuits, neuronal networks). The work of our lab has led to several high impact publications, some of which have shaped the field of dendritic computations.

TO APPLY:

Candidates that match the required profile will be continuously interviewed until the positions are filled. Candidates should send a **resume and two (2) reference letters** to [poirazi\[at\]imbb.forth.gr](mailto:poirazi[at]imbb.forth.gr). If possible, recommendations should be sent by the referees.