

WARNING / AVVISO IMPORTANTE

Research Theme 2.3 has been replaced by the following theme:

Il tema di ricerca 2.3 è stato sostituito dal seguente tema:

**Theme 2.3: Determinants of Neuronal Connectivity**

**Tutor: Dr. Fabio Benfenati**

**N. of available positions: 1**

The most critical initial step in the formation of neuronal networks is the establishment of proper axonal-dendritic connections, which must be temporally and spatially tightly regulated. Neurons establish a striking polarity with a single axon transmitting signals and with multiple dendrites receiving them. This neuronal polarity is the base for the establishment of proper connections in the brain. The project includes studies in the development of neuronal polarity *in situ* in cortical embryonic slice cultures in order to understand how the polarity of precursors, migrating neurons and axon-extending neurons are interconnected. It will also investigate the extent to which the relevant extrinsic and intrinsic signals contribute to polarity using models such as dissociated neurons, patterned substrates and slice overlay assays.

**For more details concerning the project, please contact: [fabio.benfenati@iit.it](mailto:fabio.benfenati@iit.it)**