

Post-doctoral position in Computational Neuroscience/Biological Physics at the Ecole Normale Supérieure (Paris, France)

We seek to recruit a post-doctoral research associate in Computational Neuroscience/Biological Physics to work on a research program funded by the Human Brain Project (HBP) on the “Plasticity of Neuronal Inhibition and its Functional Implications : computational and analytical studies”. The plasticity of inhibitory synapses has been largely underestimated. Recent data from the Triller lab and others have demonstrated that inhibitory synapses are plastic and have elucidated calcium-dependent mechanisms underlying this plasticity (e.g. Lévi et al. Neuron 2008, Bannai et al. Neuron 2009; Bannai et al. Cell report 2015). Tonic and Phasic excitatory activity activates distinct receptors and generate specific spatiotemporal patterns of calcium signaling control of GABAergic synapses.

The aim of the project is to establish the theoretical basis of :

1. The calcium-dependent regulation of inhibition
2. Its consequences on dendritic integration
3. Its impact on local network dynamic

The project will be pursued between the team of V Hakim (<http://www.lps.ens.fr/~hakim/>) for the theoretical aspects and the team of A Triller (<http://www.ibens.ens.fr/spip.php?rubrique22>) for the experimental counterpart.

Applicants are expected to have a strong background in physics or applied mathematics with a strong interest in the application of quantitative methods to the study of biological systems. They should be able to work interactively in a highly collaborative research environment including biologist, physicists and mathematicians.

The interested applicants should submit (1) a Curriculum Vitae (including publications), (2) a brief description of prior research, (3) scientific interests, and (4) contact information for three references as a single PDF file to triller@ens.fr

The position is offered for an initial duration of 18 months with the potential for further extension. An early start in the fall 2016 is preferred. The salary will depend on the CV of the candidate.