Postdoc position in Cellular Neuroscience

Institute of Biology of the Ecole Normale Supérieure (IBENS, Paris)

Team: "Glutamate Receptors and Excitatory Synapses" (http://www.biologie.ens.fr/neuronr/)
Head : Pierre PAOLETTI

Location: Institut de Biologie de l'Ecole Normale Supérieure (IBENS), Paris, France

Start date: 1st semester 2023

We seek to hire one highly motivated postdoctoral scientist to investigate the role of atypical ionotropic glutamate receptors (iGluRs) in synaptic plasticity and brain function. Our lab recently unveiled that GluN1/GluN3 receptors form a novel type of signaling receptors - excitatory glycine receptors (eGlyRs) – that are widespread in the brain and control neuronal excitability and emotional states (*Grand et al. Nat Comm 2018*; *Bossi et al., Neuron 2022*; see also *Otsu et al., Science 2019*). Thus, eGlyRs add to GluD receptors as members of unconventional iGluRs lacking glutamate sensitivity (*Stroebel et al., Neuropharmacology 2021*). The existence of such glutamate-insensitive iGluRs raise key questions about their activation mechanism, mode of signaling (ionotropic vs metabotropic) and involvement in circuit function and plasticity. We propose to address these issues by using a combination of advanced methodologies including cellular electrophysiology and imaging, optogenetics, as well as genetically engineered mice.

The candidate should have a solid expertise in patch-clamp electrophysiology and show strong interest in cellular neuroscience with a focus on neurotransmission and synaptic plasticity.

The project is to be developed in the team of Pierre Paoletti at the Institute of Biology of the Ecole Normale Supérieure (IBENS) in Paris. The Paoletti team has international recognition for its work on glutamate receptor structure and function, as well as the regulation of synaptic transmission and plasticity. The position has 2 years of initial funding.

IBENS is prime European Life sciences institute that covers diverse fields including Genetics & Genomics, Cell & Developmental Biology, Ecology & Evolution, and Neuroscience. It is located in the center of Paris and benefit from an outstanding environment provided by ENS and nearby PSL University institutions (Curie Institute, Collège de France, ESPCI ParisTech…).

Candidates should send a CV and a brief statement of research experience to Pierre Paoletti: pierre.paoletti@ens.psl.eu

Selection of publications from the host team:

- Vergnano et al. (2014) **Neuron**, 82(5), 1101-1114.
- Zhu & Paoletti (2015) **Curr Op Pharmacol**, 20, 14-23.
- Hackos et al. (2016) **Neuron**, 89(5), 983-99.
- Klippenstein et al. (2017) **eLife**, 6:e25808
- Streobel et al. (2018) **Curr Op Physiol**, 2:1-12
- Grand et al. (2018) **Nat Comm**, 9(1):4769
- Esmenjaud et al. (2019) **EMBOJ**, 38(2):e99894
- Paoletti et al. (2019) **Nat Rev Neurosci**, 20(9):514-532
- Stroebel et al. (2021) **Neuropharmacology**, 193:108631
- Tian et al. (2021) **Nature Communications**, 12(1):4709
- Bossi et al. (2022) **Neuron**, 110(15):2438-2454.e8