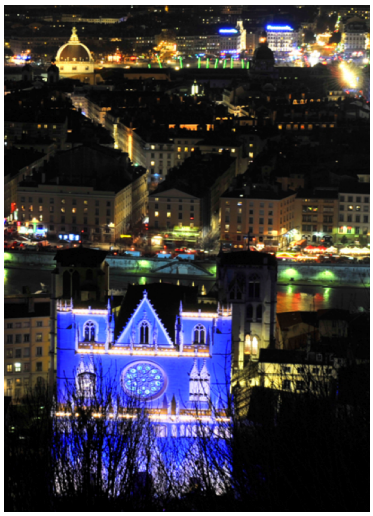

MeLiS
Mechanisms in integrated Life Sciences

Postdoctoral position in Molecular Neuroscience in Lyon, France.

A postdoctoral position is available in the laboratory of Jean-Louis Bessereau at the University of Lyon, France. It will focus on the **molecular mechanisms of synaptogenesis** using *C. elegans* as a genetically tractable model organism. This position is provisionally funded for 3 years.

Our laboratory focuses on identifying the cellular and molecular mechanisms involved in the organization and maintenance of the synapse, with particular emphasis on the control of neurotransmitter receptor expression and localisation (inmg.fr/melis/en/team_bessereau.php) Our research strategy is based on the combination of genetics, imaging, electrophysiology and biochemistry in the nematode *Caenorhabditis elegans*. In recent years, we have identified an anterograde synaptic organizer, Ce-Punctin, that controls excitatory vs. inhibitory identity of postsynaptic domains and localizes neurotransmitter receptors through cross-talk between extra- and intracellular scaffolds. (***Nature***, 2014, 511:466-70; ***Neuron***, 2015, 86:1407-19; ***Nat. Commun***, 2020, 11:2674; ***J. Cell. Biol.***, 2021, 220:11144). This pathway is evolutionarily conserved and is involved in synapse formation and maintenance in the mouse central nervous system (***Cell Rep***, 2023, 42: 112947).

The postdoctoral project will investigate the mechanisms underlying the specificity and diversity of cholinergic synapses at single neuron resolution. Our laboratory has used CRISPR/*Cas9* to tag a battery of ionotropic acetylcholine receptors and *in vivo* imaging shows that within a single neuron, different receptors are reproducibly segregated at different synapses. Despite our complete knowledge of the *C. elegans* connectome, the mechanisms underlying the specification and identity of these synapses are not known. These questions will be addressed using genetics, genome engineering and *in vivo* imaging. The project will take an integrative approach in close collaboration with expert microscopists and electrophysiologists.

The candidate should be highly motivated, able to work independently and have good interpersonal and communication skills. Applicants should have a strong background in molecular, cell biology and/or neuroscience. Previous experience with *C. elegans* manipulation and genetics will be appreciated but is not mandatory. Fluency in English and the ability to work in an international environment is mandatory. Ability to speak French is not required.

Our team is part of the MeLiS Department, Lyon, France (inmg.fr/melis/en/index.php), which provides access to state-of-the-art facilities and a strong scientific environment, including a large *C. elegans* laboratory community. The project is funded by a grant from the FRM (Fondation pour la Recherche Médicale). Salary will depend on previous experience according to national guidelines and will include health care and pension benefits. The initial appointment will be for one year and may be extended for a further two years.

Applicants should send a C.V., a statement of research accomplishments and interests, and contact information for three references to:

jean-louis.bessereau@univ-lyon1.fr.

Applications will be considered until the position is filled.