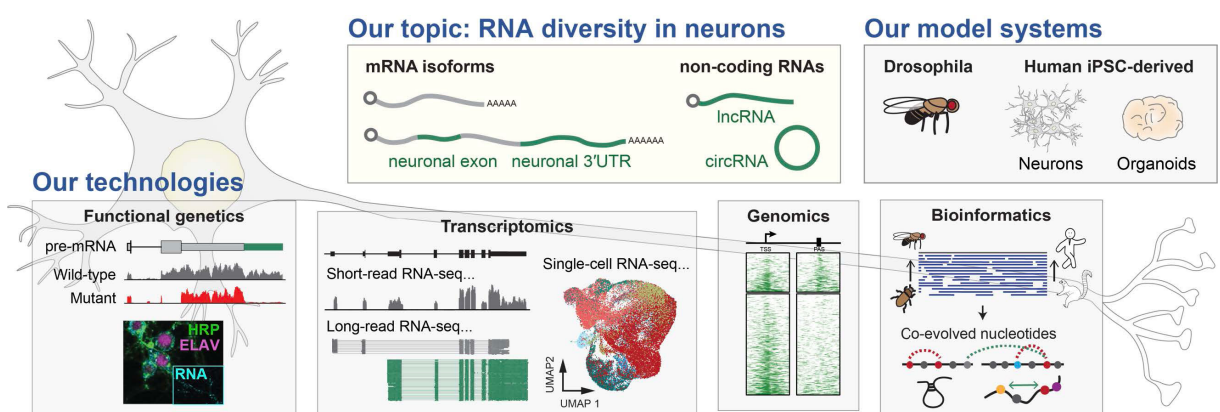




MASTER STUDENT POSITION IN RNA BIOLOGY AND NEUROGENETICS – REGULATION OF MRNA ISOFORMS IN THE NERVOUS SYSTEM

About us

In our lab, we study the regulation and the function of nervous-system specific RNAs. Neurons, more than any other cell type, use alternative RNA processing to diversify their transcriptome. Consequently, thousands of signature RNA sequences are generated: splice isoforms, long 3' untranslated regions (3' UTRs), and non-coding RNAs exclusive to neuronal cells. Faulty RNA processing is emerging as a hallmark of neurodevelopmental disorders and neurodegeneration, and we aim to uncover the RNA mechanisms underlying this dysfunction.



<https://biomedizin.unibas.ch/en/research/research-groups/hilgers-lab>

Short project description

This project aims to investigate modes of action through which neuronal RNAs regulate cellular processes, in a manner distinct from more broadly expressed RNAs. The student will test how different mRNA isoforms from the same gene differ in their localization in the cell, stability, structure, translation, and RNA-protein interactions. The project will use Drosophila as a main model system, and hypotheses will be tested functionally in human iPSC-derived neurons.

We offer

- A dynamic, welcoming and highly interactive international environment
- A place to learn, critically think, develop your own ideas, and grow as a scientist
- Hands-on experience with research techniques: Drosophila functional genetics and iPSC-derived cell culture, imaging, biochemistry, and our special focus, brain Omics.
- Mentorship and guidance to support your future career
- Engagement in the research process and contribution to paper writing, with the opportunity to be included as a co-author on publications.

Relevant publications from the lab

Alfonso-Gonzalez et al., *Cell* 2023. DOI: 10.1016/j.cell.2023.04.012

Grzejda and Hess et al., *EMBO Reports* 2025. DOI: 10.1038/s44319-025-00401-z

Alfonso-Gonzalez and Shi et al., *Genes & Development* 2025. DOI: 10.1101/gad.352670.125

Interested?

Please send a motivation letter and a CV to Valérie Hilgers with (valerie.hilgers@unibas.ch).