



MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2025-2026

(internship from January to June 2026)

Host laboratory: INMG-PGNM, 8 Avenue Rockefeller, 69008, Lyon

Host team : Laboratoire du Métabolisme énergétique et développement neuronal/
<https://pgnm.inmg.fr/courchet/>

Internship supervisors :

Martijn Kerkhofs, post-doctoral researcher, martijn.kerkhofs@univ-lyon1.fr

Julien Courchet, principal investigator, julien.courchet@univ-lyon1.fr

Project title : **Characterization of the neurodevelopmental aspects of ZTTK syndrome in a mouse model**

Project summary : The subject of the internship will be the characterization of a mouse model, mimicking aspects of the Zhu-Takenouchi-Tokita-Kim (ZTTK) syndrome. This is a broad-spectrum developmental syndrome with a distinct neurodevelopmental component. This results in intellectual disability, autism spectrum disorder (ASD)-like behaviour and epilepsy. The syndrome itself is related to mutations in a protein called SON, a splicing co-factor and a scaffolding partner for a nuclear subdomain termed the nuclear speckles. Loss of SON function leads to wide changes in splicing patterns, affecting many neuronal genes. In our lab we are particularly interested in painting a bigger picture ranging from the molecular changes (e.g. changes in splicing patterns) and how they lead to defects at the level of individual neurons, neuronal circuits and the brain as a whole.

3-5 recent publications :

<https://doi.org/10.1093/brain/awae320>

[10.1038/s41467-018-06584-5](https://doi.org/10.1038/s41467-018-06584-5)

[10.1038/s41467-024-46146-6](https://doi.org/10.1038/s41467-024-46146-6)