MASTER 2 Fundamental and Clinical Neurosciences

Internship proposal 2026-2027

(internship from January to June 2027)

Host laboratory:
MeLiS *Mécanismes en sciences intégratives du vivant*

Host team :
ZeNeB: Zebrafish Neurogenetics and Behaviour
https://zeneb.org/ *https://melis-lyon.fr/en/team-randlett/*

Internship supervisors :
Owen RANDLETT; Group Leader, CR Inserm; owen.randlett@univ-lyon1.fr

Project title : Molecular and Circuit Mechanisms of Alcohol-Induced Behavioral States and Their Adaptations

Project summary :

Alcohol profoundly alters brain activity and behavior, and a key challenge is not simply explaining intoxication, but understanding why some individuals develop problematic alcohol use while others do not. We are interested in the hypothesis that aberrant adaptations and adaptability to alcohol's intoxicating effects influence abuse potential, and in this project will use the zebrafish model to investigate how alcohol and related pharmacological manipulations dynamically influence brain-wide neural activity and behavior. Behavioral assays will be combined with methods that allow observation of neural activity across the brain. By linking pharmacological perturbations, neural activity patterns, and behavior, this work aims to reveal how specific neural circuits contribute to vulnerability to alcohol abuse and addiction.

3-5 recent publications :

Estradiol Promotes Habituation Learning via an Unidentified Target, Bypassing the Suppressive Effects of Established ERs. Hsiao A*, Darvaux-Hubert I*, Hicks D*, Joux E*, De Freitas S*, Dracos E, Lizé J, Perrichet J, Baas D, Randlett O. ***Endocrinology*** (2025) Jun 10;166(8):bqaf110. doi: 10.1210/endocr/bqaf110

pi_tailtrack: A compact, inexpensive, and open-source behaviour-tracking system for head-restrained zebrafish: Randlet O. ***Journal of Experimental Biology*** (2023) 226, jeb246335. doi:10.1242/jeb.246335

Functional and pharmacological analyses of visual habituation learning in larval zebrafish. Lamiré LA, Haesemeyer M, Engert F, Granato M, Randlett O. ***eLife*** (2023) https://doi.org/10.7554/eLife.84926.3

Distributed Plasticity Drives Visual Habituation Learning in Larval Zebrafish. Randlett O, Haesemeyer M, Forkin G, Shoenhard H, Schier AF, Engert F, Granato M. ***Current Biology*** (2019) 29(8):1337-1345

Whole-brain activity mapping onto a zebrafish brain atlas. Randlett O, Wee CL, Naumann EA, Onyeka N, David S, Fitzgerald JE, Ruben P, Lacoste AMB, Clemens R, Florian E, Schier AF. ***Nature Methods*** (2015) 12(11):1039–1046.