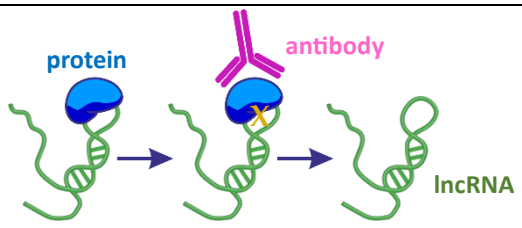
Institut de Génétique Moléculaire de Montpellier
IGMM / CNRS – Université de Montpellier
1919 Route de Mende, 34293 Montpellier Cedex 05

2027 Internship Offer

Master 1: YES – Duration: 4 months **Master 2**: YES – Duration: 5 months

Team, Contact	Robert FEIL, Institute of Molecular Genetics of Montpellier (IGMM), **Isabel CHILLON** (isabel.chillon@igmm.cnrs.fr)
Title	Regulatory roles of long non-coding RNAs (lncRNAs) during cellular stress
Research Themes and questions	This project aims to investigate how specific long non-coding RNAs (lncRNAs) regulate gene expression under conditions of cellular stress, thereby restoring homeostasis. In particular, the student will contribute to characterizing the direct protein partners of the lncRNA Meg3 that are engaged during the DNA damage response in neurons, which the lab has recently identified. The results of this internship will help us understand the role of lncRNAs in dysregulated pathways involved in neurodegenerative diseases.
Methods and experimental approaches	**Model system:** primary neuronal cells differentiated from mouse embryonic stem cells. **Experimental approaches.** The student will apply biochemical and functional assays to validate lncRNA-protein interactions and assess their functional significance: - eCLIP-RT-qPCR: to validate lncRNA-protein interactions identified by a screening assay. - Detection of the marker γH2AX by immunostaining and flow cytometry: to identify interactions involved in DNA damage pathways. - Apoptosis and cell cycle analysis measured by flow cytometry: to interrogate interactions involved in proliferation and programmed cell death.
Illustration	eCLIP-RT-qPCR 

2-3 Publications	1. López-Perrote A, Martín-Cuevas EM, Mérida-Cerro JA, Aicart-Ramos C, González-Corpas A, González J, Le Coq J, Boskovic J, **Chillón I#,** Llorca O#, Moreno-Herrero# F and Huarte M# (2026) CONCR lncRNA organizes a 3´-end structural domain that engages DDX11 for DNA replication and sister chromatid cohesion. *Moll Cell.* Accepted. #Co-corresponding authors. 2. Assenza S, Blanco C, Favard C, Carnesecchi J, Marcia M and **Chillón I** (2025) Conserved architecture of a functional lncRNA-protein interaction in the DNA damage response pathway. *bioRxiv* 2025.2007.2024.666508. https://www.biorxiv.org/content/10.1101/2025.07.24.666508v1