



Fiche proposition de stage - *Internship offers*

Offre pour / Offer for (you can make offers for both level, if the subjects are different, please use a new form)

Master 1 X

Master 2 X

Parcours concerné(s) : Epigénétique, Génétique et Biologie cellulaire (EpiGenBio)

Intitulé du stage <i>Title</i>	How do the Condensin complex and topoisomerase I cooperate in the cellular response to replication stress during S phase?
Laboratoire d'accueil <i>Host laboratory</i>	Institut de Génétique Humaine
Nom du responsable <i>Name of the PI</i>	Philippe Pasero
Nom d'encadrant <i>Supervisor</i>	Armelle Lengronne
Description (3 phrases) <i>Description</i> (3 sentences)	This project aims to understand how the three-dimensional organization of the genome and its regulators—the SMC complexes cohesin and condensin, together with topoisomerases—contribute to genome stability during DNA replication, particularly in response to replication fork stalling under replication stress. Using both yeast and human cells , the project seeks to investigate how condensin and topoisomerase I cooperate through: (1) physical interactions, using co-immunoprecipitation; and (2) functional interactions , using microscopy to examine their co-recruitment to DNA, DNA fiber spreading to assess the impact of disrupted interactions on the replication stress response in topoisomerase I mutants, and CUT&RUN analysis to investigate DNA topology during S phase in these same mutants.
Durée prévue (2 à 6 mois) <i>Duration</i> (2 to 6 months)	6 months
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