

2027 Internship Offer

Master 1: YES – Duration: 6 months

Master 2: YES – Duration: 6 months

Team, Contact	Team Schwob Cyril Ribeyre (cyril.ribeyre@igmm.cnrs.fr)
Title	Replication Fork Stalling and Structural Variants: Uncovering the Triggers of Genomic Instability
Research Themes and questions	<p>Structural variants (SVs) are large genomic alterations that drive diseases such as cancer. While their formation is linked to DNA repair, the initial triggers remain unclear. Replication Fork Stalling (RFS) is a suspected instigator, but direct evidence is lacking. We have developed a novel ChIP-seq method to map RFS regions in human cells, and preliminary machine learning analyses reveal a strong overlap between RFS regions and LINE1 elements, known SV hotspots.</p> <p>The primary objective of the internship is to map RFS under diverse conditions (e.g., drug treatments, oncogene activation, or tumor suppressor inactivation) to generate training data. This data will be used to develop machine learning models capable of identifying molecular signatures associated with RFS.</p>
Methods and experimental approaches	<p>Cell culture ChIP-seq Bioinformatics analysis (MACS, Bowtie)</p>
Illustration	
2-3 Publications	