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: 6 months **Master 2**: YES – Duration: 6 months

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| Team, Contact | Team Schwob<br>Cyril Ribeyre (cyril.ribeyre@igmm.cnrs.fr)<br>Vincent Coulon (vincent.coulon@igmm.cnrs.fr) |
| Title | Decoding DNA Synthesis Beyond S Phase: New Mechanisms in Genome Stability and Cancer |
| Research Themes and questions | DNA replication is traditionally thought to occur only during the S phase of the cell cycle. However, recent findings show that cells can also synthesize DNA after S phase, raising questions about genome stability and disease. Using an inducible degron system to target key replication factors, we have observed that cells compensate for disrupted S phase synthesis with robust DNA synthesis in G2. Our data suggest that the mechanisms driving G2 synthesis may differ from those in S phase.<br><br>Key Questions:<br>What molecular pathways enable DNA synthesis in G2?<br>Are there unknown factors involved in this process?<br>Does G2 synthesis protect the genome or introduce instability, or both?<br>Is this phenomenon more common in cancer cells? |
| Methods and experimental approaches | Cell culture<br>Flow cytometry<br>Western-blot<br>Immunofluorescence Microscopy<br>Proteomics<br>Nanopore sequencing |
| Illustration | |
| 2-3 Publications | |