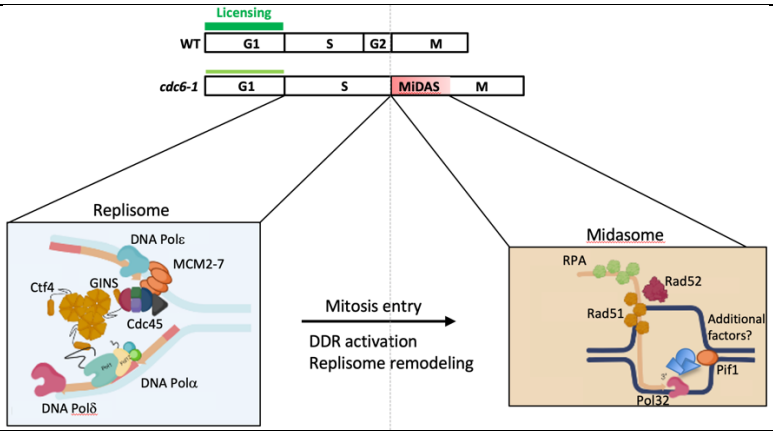
Institut de Génétique Moléculaire de Montpellier
IGMM / CNRS – Université de Montpellier
1919 Route de Mende, 34293 Montpellier Cedex 05

2027 Internship Offer

Master 1: YES – Duration: 6 months **Master 2**: YES – Duration: 6 months

Team, Contact	Etienne Schwob, nicolas.talarek@igmm.cnrs.fr
Title	Mechanism of Mitotic DNA Synthesis
Research Themes and questions	Several lines of evidence show that cancer cells complete their DNA synthesis in mitosis (MiDAS) using an uncharacterized complex, named MiDASome, which we aim to identify using a highly synchronous yeast system we have devised in the lab. To identify the composition of the MiDASome we are currently implementing the iPOND (isolation of proteins on nascent DNA) method in yeast for the first time. The requirement of the identified candidates for MiDAS will be tested by combining several approaches. As proteins in DNA synthesis are usually highly conserved from yeast to man, hits identified will substantially increase the list of potential candidates to target cancer cells.
	We will combine Nanopore sequencing, yeast genetics (genetic interaction between mutants), cell biology (microscopy, protein-protein interaction, cytometry) and DNA combing.
Illustration	
2-3 Publications	Barba Tena JD, Schwob E, Talarek N. Determination of S-Phase Duration Using 5-Ethynyl-2'-deoxyuridine Incorporation in Saccharomyces cerevisiae. J Vis Exp. 2022 Oct 21;(188). doi: 10.3791/64490. Montecchi R, Schwob E. Long-Term Imaging of DNA Damage and Cell Cycle Progression in Budding Yeast Using Spinning Disk Confocal Microscopy. Methods Mol. Biol. 1672, 527-536 (2018).