



UNIVERSITÉ
TOULOUSE III
PAUL SABATIER



COLLÈGE
DE FRANCE
— 1530 —

UGA
Université
Grenoble Alpes

We are seeking for highly motivated Post docs and PhD students in microbiology, cell biology, genomic, biophysics or computational biology for a collaborative project between College de France (Paris), Toulouse University and Grenoble University in France

The groups of Olivier Espéli, Francois Cornet and Ivan Junier teamed up to understand the processes at play during bacterial chromosome segregation. Sister chromosome segregation is a fundamental process of the cell cycle, still incompletely understood, that allows each organism to transfer genetic information to daughter cells. In all organisms, this process is tightly regulated to avoid loss of genetic information (aneuploidy, chromosomal breaks). In this project, we will use the bacterial model *E. coli* to study the mechanisms underlying the pairing and pairing release of newly replicated sister chromatids. Our recent observations suggest that sister chromatid pairing involves the establishment of specific chromatin, particular dynamics of paired loci and their segregated neighbors, and transient genome conformations.

The recruited Post-doc and PhD students will participate in the characterization the pairing and segregation mechanisms, the functioning of the terminal region of the chromosome as a hub dedicated to the control of decatenation and the development of *in silico* models that will allow a quantitative interpretation of the experimental data. They will work on independent but mutually beneficial projects. They will participate to regular joint meetings with the partner teams. They will benefit from rotations in the partner teams to perform specific experiments or learn new methods.

Post doc contracts are for 2 years starting in 2022 with possible extensions, PhD student contract is for 3 years.

Biologists should contact Francois Cornet francois.cornet@univ-tlse3.fr and Olivier Espéli olivier.espeli@college-de-france.fr. Physicists and computational biologist should contact Ivan Junier ivan.junier@univ-grenoble-alpes.fr. Please send CV and the contact of one or two reference persons.

