

**Post-doctoral position for 2 years
in Saint-Antoine Research Center (CRSA, INSERM, Sorbonne Université, Paris, France)
on the effects of *Saccharomyces* supplementation on human gut microbiota composition
and functions and their consequences on host cells**

Scientific goal: The intestinal microbiota is a large and diverse microbial community that inhabits our intestine. Taking antibiotics to eliminate pathogenic bacteria disturbs the intestinal microbiota and this antibiotic-induced dysbiosis is associated with several gastrointestinal symptoms. The probiotic yeast *Saccharomyces cerevisiae* has been used for years for the prevention and treatment of diarrhea. Several studies demonstrated that *Saccharomyces* supplementation stabilizes the intestinal microbiota or leads to the faster reestablishment of a healthy microbiota. However, the mechanisms by which *Saccharomyces* acts on the gut microbiota are poorly understood.

In this context, the aims of this project are to (i) perturbate the human microbiota with different antibiotics *in vitro*, (ii) analyse the effects of different *Saccharomyces* supplementations on microbiota composition and functions and (iii) assess effects on human cells and intestinal biopsies.

Strategy: Healthy human microbiota will be cultured *in vitro* using MiPro and SHIME® models. Microbiota composition will be analysed by 16S, shotgun sequencing and qPCR. Microbiota functions will be studied by targeted and untargeted metabolomics. Effects on intestinal epithelial cells, fresh human PBMCs and human intestinal biopsies (using already constituted biobank) will be analysed by ELISA and multiplex.

Required skills: We are looking for a creative, motivated and rigorous candidate. The project will require a wide variety of techniques in different fields, including microbiology, cell culture and immunology. The candidate should have a recent PhD, be technically accomplished and have strong knowledge in microbiology (strong expertise in anaerobic culture is notably mandatory) and at least basic knowledge in *in vitro* gut models. Some skills in bioinformatics would be a plus. Knowledge of French language is not a requirement.

Research environment: The post-doctoral scientist will work in Pr. Harry Sokol and Pr. Philippe Seksik's laboratory (<https://www.crsa.fr/equipe-philippe-seksik.html>) in Saint-Antoine Research Center in the heart of Paris. The laboratory is fully equipped for anaerobic culture and is the only academic laboratory in France to be equipped with a SHIME® system. The post-doctoral fellow will interact with the PI (Dr. Nathalie Rolhion) and also with other senior scientists, post docs, PhD students, engineers and technicians. He/she will also interact with industrial partners, other labs in France and abroad and with several platforms.

Application process: The position is vacant from November 2022 on a full-time basis. Highly motivated candidates should send an application (including a cover letter, a *curriculum vitae* and the names of (at least) two referees) by email to nathalie.rolhion@inserm.fr and harry.sokol@gmail.com before September 15th 2022. Please indicate "Post-doc *Saccharomyces* Application" in the title of the email.