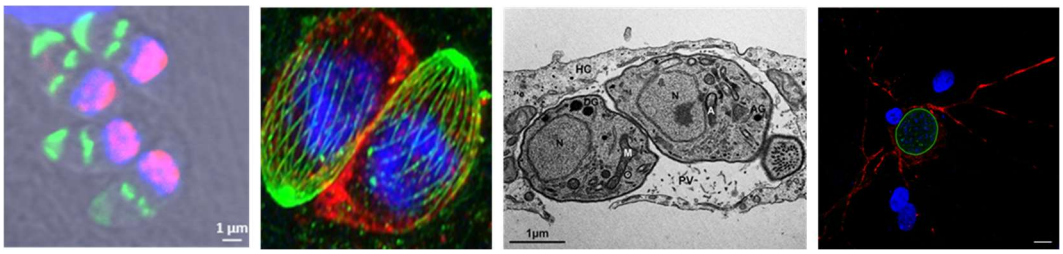
# Postdoc in molecular parasitology (*Toxoplasma gondii*)

A 24 months postdoc position is open in the team Apicomplexan parasites integrative biology (API-B: https://www.ciil.fr/teams/apicomplexa-parasite-integrative-biology). The post-doctoral fellow will work in the context of a collaborative ANR (French national grant agency)-sponsored project (PRC PSBToxo 2026-2030). Net salary will be adjusted depending on experience, starting at 2200 € / mo, including health benefits. The position is expected to start in early 2026. Please send a CV, a cover letter and the name of at least two references to mathieu.gissot@pasteur-lille.fr

**What we do in the lab**: *Toxoplasma gondii* is the parasite responsible for toxoplasmosis. In the team, we aim to understand the molecular determinants controlling the ability of these parasites to proliferate and persist in the host. For that, we create genetic mutants of the parasite and investigate the biological role of the corresponding proteins in the life cycle of the parasite.




**The project**: The life cycle of *T. gondii* is dependent on its ability to encyst itself in certain tissues. This crucial step of differentiation induces a profound change in metabolism with the production of amylopectin grains which serve as carbon storage crucial for survival of the parasite for prolonged periods in the host organism. The aim of this collaborative project is to explore the molecular mechanisms that enable the *T. gondii* parasite to accumulate storage polysaccharide to be used during the latent phase of toxoplasmosis. These energy storages enable the parasite to persist in the host, notably in the brain of infected individuals. A better understanding of the mechanisms by which these polysaccharides accumulate could ultimately lead to the elimination of these latent forms, which are resistant to all available treatments. We aim at discovering which proteins regulate the level of amylopectin in the parasite. To this end we will create mutant of the parasite targeting a specific protein and explore its role in sugar homeostasis with a specific emphasis on nucleotide sugars.

**Qualifications:** The applicant will hold a PhD in relevant field (parasitology, genetics or cell biology) and be motivated by exploring the biological role of proteins through the production of genetic mutants. The applicant will explore the biological role of the targeted proteins by using molecular and cell biology techniques.

**The Pasteur Institute in Lille and the CIIL:** The team is part of the Center for Infection and Immunity in Lille, located on the campus of the Institut Pasteur de Lille, and takes advantage of the extensive core facilities (animal, imaging, proteomic and genomic platforms). The Center for Infection & Immunity of Lille (CIIL) develops research projects on the molecular and cellular mechanisms of infectious and chronic inflammatory diseases with the aim to apply this knowledge to the development of improved diagnostics, vaccines and therapeutics.


**Lille**: the city is located at the heart of Europe. It is a dynamic European hub for science, research, and innovation. Home to one of the biggest French universities, the city fosters a collaborative environment for scientific advancement. With excellent infrastructure, an international community, and a high quality of life, Lille offers an ideal setting for researchers and scientists looking to grow their careers.