# POST-DOCTORAL POSITION IN STRUCTURE/FUNCTION ANALYSIS OF MYCOBACTERIAL GLYCOLIPIDS

## CNRS / University of Toulouse, France

**Starting date:** September 2021 (open until filled)

**Duration:** Up to 3 years

**Location:** Team "Immunomodulation by Mycobacterial Lipids and Glycoconjugates", headed by Jérôme Nigou, IPBS, CNRS / Université de Toulouse, Toulouse.

**Website:** http://www.ipbs.fr/immunomodulation-mycobacterial-lipids-and-glycoconjugates

**Context and project:**

Tuberculosis is one of the top ten causes of death worldwide and the leading cause of death from a single infectious agent. *Mycobacterium tuberculosis* (Mtb), its causative agent, is a highly successful intracellular pathogen that has adapted to subvert the function of phagocytic cells. To this end, it uses different strategies, many of which involve the highly abundant, structurally diverse, and potently immunomodulatory glycolipids expressed at its cell envelope. Although key strategies have been identified, the underlying molecular mechanisms remain to be fully uncovered. Hence, one of our team objective is to decipher at the molecular level the role and structure-function relationships of glycolipids in the innate immune recognition of Mtb. We have recently identified the signature of yet unknown lipids produced by virulent Mtb strains, but not by the attenuated BCG strain. These Mtb-specific lipids are likely to be key immunomodulatory molecules.

The project of the recruited candidate will be to purify and perform the structural characterization of these newly identified glycolipids. He/she will also be involved in determining their ability to modulate innate immune response and to contribute to Mtb virulence in macrophages and/or in mice.

The IPBS provides an excellent scientific environment and is fully equipped with state-of-the art equipment needed to perform the project, including chromatography, NMR, MS, imaging, BSL2 and BSL3 facilities.

**Profile required:**

- The minimum qualification: PhD degree in biochemistry, structural biochemistryanalytical chemistry, or microbiology.
- The ideal candidate for this position should be highly motivated, have excellent verbal and written communication skills, leadership skills, and independent thinking and problem solving skills.
- Previous experience in the fields of lipids or glycoconjugates will be a plus.
- Candidates must assume a leading role in a team involving several graduate and PhD students, and have the ability to work in a multidisciplinary team.
- Candidates must have proven track record of publishing peer reviewed papers, excellent organizational skills and attention to detail; they must possess a strong work ethic.

**How to apply:**

Applications should be made online at : https://bit.ly/3vj06pp
and include a detailed CV, a short graphical research summary (1-3 pages), a motivation letter, and contact details for at least two referees.

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