

**M1-Molecular and Cellular Biology (MCB)  
Internship Proposal Form  
Chemistry-Biology Department**

**(Deadline Friday 15<sup>th</sup> December 2023)**

**Laboratory Address and Affiliation:**

Institut de Biologie Structurale  
CNRS/CEA/UGA  
71 av. des Martyrs  
38044 Grenoble

**Laboratory/Team Research area (Keyword)**

Pneumococcus Group  
Biology of the bacterial cell wall (peptidoglycan, teichoic acids, penicillin-binding proteins)

**Summary of the Proposed Internship Project (10 lines)**

Title: **In vitro synthesis of bacterial cell wall**

DESCRIPTION:

The bacterial cell wall is formed by mesh-polymer of peptidoglycan onto which other polysaccharides are attached, including teichoic acids.

As part of a larger multi-year project, the trainee will prepare recombinant enzymes from *Streptococcus pneumoniae* such as penicillin-binding proteins and phospho-transferases involved in peptidoglycan synthesis and teichoic acid attachment, and setup in vitro assays of their activities to allow further studies of cell wall metabolism.

**Methodologies and/or Techniques to be used**

Recombinant protein production and purification, in vitro biochemical assays

**Person to contact:**

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**Additional information**

A strong interest in fundamental microbiology and in vitro approaches would help!