

Laboratory Address and Affiliation

Pneumococcus group (Headed by Thierry Vernet)
Institut de Biologie Structurale
CNRS(UMR5075)/CEA/UGA
71, avenue des Martyrs
CS10090
38044 Grenoble Cedex 9, France

Laboratory/Team Research area (Keyword)

Bacterial sporulation. Spore morphogenesis. Structural biology. Biochemistry. Molecular biology. Protein-protein interactions.

Summary of the Proposed Internship Project (10 lines)

Title: Structural studies of proteins involved in bacterial sporulation

DESCRIPTION:

Bacterial sporulation is a morphological differentiation process leading to the development of a spore that is resistant to extreme environments (temperature, dehydration, irradiation, ...). Proper development of the spore requires the assembly of a multiprotein complex called the SpoIIIA-SpoIIQ complex or "A-Q complex". This complex displays similarities to endotoxin secretion systems and has been hypothesized to serve as a channel for molecular transport between the mother cell and the developing spore. In collaboration with research groups located in the U.S. and in Australia, we are studying the structure and function of the A-Q complex. We propose an internship project in which the student will produce and purify recombinant constructs of some A-Q proteins, perform preliminary structural studies (crystallization) and characterize protein-protein interactions established with other components of the A-Q complex.

Methodologies and/or Techniques to be used

Molecular biology. Biochemistry. Protein-protein interaction assays. X-ray crystallography.

Person to contact:

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Additional information

We are looking for a highly motivated and pro-active student who can easily communicate in English as a large part of the internship will be supervised by a person who does not speak French.
Candidates must send their CV, a letter of motivation, L1 and L2 grades by email.