

A post-doctoral position is available to study the structure of the channel that bacteriophage T5 forms through *E. coli* wall when infecting the cell. All bacteriophages *i.e.* bacterial viruses, perforate the heavily armoured bacterial cell wall, allowing the injection of their DNA into the host cytoplasm. Whereas the sequence of events has been thoroughly studied for phages with long contractile tails and those with short tails, nothing is known concerning the structure, protein identity and dynamics of the channel leading to cell wall perforation and DNA transport for the very large family of phages that bear a long flexible tail. The project wishes to obtain a structural movie at the highest possible resolution describing the details of the molecular events leading to cell wall perforation, combining biochemistry, immuno-localisation, single particle electron microscopy of purified T5 tails interacting or not with its bacterial receptor, in detergent or nanodiscs, and tomography electron microscopy of infected mini skinny cells.

This project is a collaboration between two leading research teams in the field of biochemistry and structural biology of bacteriophages and electron microscopy: the teams of Cécile Breyton (IBS, Grenoble) and of Guy Schoehn (IBS, Grenoble), and with access to state-of-the-art platforms, including an electron microscopy platform equipped with a 200 kV Feg EM and a 300 kV Polara equipped with a K2 s u m m i t direct electron detector. Access to a Krios will also be available soon at ESRF. Grenoble, capital of the French Alps, is a very lively and international city. IBS is part of the Partnership for Structural Biology, including the EMBL outstation, ILL and ESRF.

- **Location:** Institute for Structural Biology (IBS), Grenoble France
- **Starting date:** September 2017
- **Duration:** depending on experience (2 years for young post-docs)
- **Financial support:** French National Research Agency (ANR, 2017). The salary will be based on the CNRS guidelines for post-doctoral positions. Possible extension by the CEA “Eurotalent” program (<http://eurotalents cea.fr/english/postdoctoral-fellowship/Application/apply-now> deadline Sept 2017).
- **How to apply:** Applicants must have a good expertise in electron microscopy tomography, knowledge in phage biology will be a plus. Interested candidates should send their CV summarising qualifications and experience, including the names and addresses of two referees to Cécile Breyton (Cecile.Breyton@ibs.fr) and Guy Schoehn (Guy.Schoehn@ibs.fr)