

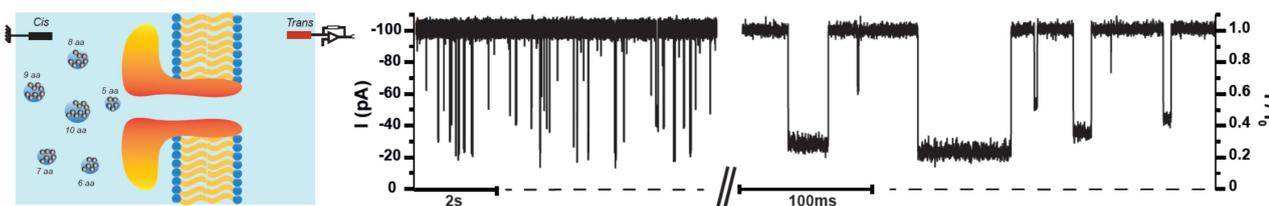


Title: nanopore engineered for protein sequencing

-Short description

*Context

Nanopores, while inserted in membranes and submitted to electrical voltage, provide powerful single-molecule sensors for the analysis of large biomolecules such as nucleic acids or proteins with the ultimate goal of sequencing their monomers, *i.e.*, nucleotides, aminoacids. The LAMBE has demonstrated the potential of protein channel, the aerolysin, for peptide/protein analysis. Next challenges are to augment the capabilities of wild-type aerolysin, *i.e.*, sensitivity, specificity, by means of synthetic biology tools, *e.g.*, mutants, chimeric assembly of aerolysin with a functional moiety such as an enzyme. A start-up, DreamPore, explores the applications in the peptide/protein analysis.



*Goal

The internship will comprise of two phases:

- Bibliographic review of chimeric constructions based on aerolysin and other biological pore-forming proteins
- Proof of concept experimentation on a specific construction (confidential)

-Funding for this project

ANR EPSILOMICS (Hôpital Lariboisière, LAMBE, SATIE, Excilone); ANR PurPepSize (LAMBE); DIM Respire (LAMBE, SATIE, Hôpital Lariboisière); iLAB-bpiFrance 2018 for the start-up DreamPore.

-Selected bibliography

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