

## **Understanding the effects of candidalysin on host cell membranes at the molecular scale**

Postdoc position 12-month Univ. Bordeaux, CBMN, Pessac, starting in Dec. 2024/Jan. 2025

We are currently seeking a postdoctoral fellow to study the mode of action of the candidalysin toxin using physico-chemical approaches at the CBMN lab in Bordeaux.

Candidalysin is the first cytolytic peptide toxin isolated from a human fungal pathogen. In the case of *Candida albicans*, the main causal agent of infections, candidalysin production induces i) the formation of pores in host cell membranes that lead to cell lysis and ii) the inflammasome reaction which activates the immune response. Whereas the final effects of this toxin are well described, the underlying mechanisms and molecular interactions governing its activity are not yet totally understood. This is mostly due to the underuse of approaches giving access to high resolution imaging and molecular sensing. Filling this gap requires the combination of innovative methods at the interface between biology, biophysics and physico-chemistry. In this project, we will use atomic force microscopy (AFM), force spectroscopy and expansion microscopy approaches to probe the interactions at the nanometric and molecular scales and decipher the mode of action of this toxin.

### Candidate profile

- Young PhD degree (<2y) in Chemical biology / Biology-Microbiology / Physical chemistry
- Background in AFM would be appreciated but is not mandatory
- Knowledge in expansion microscopy is a plus
- Enthusiasm for interdisciplinary research
- Writing reports and article

Please reach out for any further questions. Send your CV, your publication list, a short research statement, and contact info for two referees to [sofiane.elkirat@u-bordeaux.fr](mailto:sofiane.elkirat@u-bordeaux.fr)