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CALL FOR APPLICATIONS 2025 – FELLOWS

Supervisor	Alessandra Carbone
Supervisor page	https://www.ihes.fr/~carbone/
Host Institution	Sorbonne Université https://www.sorbonne-universite.fr/en
Research Lab	Computational, Quantitative and Synthetic Biology https://www.ibps.sorbonne-universite.fr/en/research/computational-quantitative-and-synthetic-biology
Research Team	Analytical Genomics https://www.ibps.sorbonne-universite.fr/en/research/computational-quantitative-and-synthetic-biology/analatical-genomics

Project Title

Reconstruction of interspecies protein-protein interaction networks with deep learning

Project Description

Protein-protein interaction (PPI) networks play a key role in biology and medicine in the interpretation of protein functions in cellular processes. In the past two decades, working with networks has significantly advanced our understanding of the relationships between molecules. This was possible thanks to many computational attempts and high throughput experimental methods. Deep learning approaches allow today to make huge improvements in molecular recognition and structural modeling. Here we wish to tackle the question of reconstructing PPIs for interspecies interactions. The group has previous work done in this research direction.

Keywords

Protein-protein interaction, interspecies interaction, network, deep learning

Description of the Host Research Lab

The CQSB (UMR7238) is a multidisciplinary research department working at the interface between biology and quantitative sciences. It is composed of both theoretical teams (computer science, mathematics, and physics) and experimental teams (microbiology, genetics, genomics, quantitative imaging, synthetic biology). The laboratory is designed to promote a balanced interaction between theoretical and experimental approaches in biology, and to foster the formulation of new experimental questions, data analysis, and the modeling of biological phenomena. The department is supported by the CNRS and Sorbonne University, and is part of the Institut de Biologie Paris-Seine (IBPS).

To submit your application, please send an email with the required documents to
msca-pf@sorbonne-universite.fr