



expression
génétique
microbienne



Post-doctoral position in RNA biology

A post-doctoral position is available under the supervision of Drice Challal (Assistant professor, Université Paris Cité) in the Laboratory "Microbial Gene Expression" at the Institut de Biologie Physico-Chimique (IBPC), Paris. This position is funded by the **index ICB** (Institut de Chimie Biologique) within the team "RNA control of gene expression" led by Maude Guillier. The contract is for 12 months. Possible extension to work on a related project could be considered.

Project Overview

RNA secondary structures play crucial roles in bacterial gene expression and mRNA fate. These structures modulate for instance translation efficiency or stability, by influencing access to the ribosome or the recruitment of regulatory factors. In *Escherichia coli*, intramolecular RNA interactions frequently **control translation initiation**, thus constituting a key layer of post-transcriptional regulation. This project aims to **identify new small-molecule ligands targeting regulatory RNA structures that affect translation efficiency *in vivo***. The focus will be on translation inhibitory structures that lie within many type I toxin mRNAs, as well as translation activating stem-loops identified by the host lab. Using fluorescent reporter systems developed in *E. coli* and a library of RNA-targeting small molecules provided by the partner from LCBPT (Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques), the candidate will explore how specific ligands modulate these RNA structures and their biological outcomes. This interdisciplinary approach bridges **RNA biology and chemistry**, providing insights into RNA-mediated regulation and opening new avenues for RNA-targeted antimicrobial strategies.

Research Environment

The IBPC is located in the center of Paris on the "Montagne Sainte-Geneviève" campus. The institute offers a highly collaborative and dynamic research environment with access to all required scientific equipment (<http://www.ibpc.fr/UMR8261/equipe%20MG/AccueilMG.html>). The project will benefit from the complementary expertise of the host lab on RNA biology and gene regulation in bacteria and the partner team led by Laurent Micouin (<https://lcbpt.u-paris-sciences.fr/chemistry-towards-life-sciences/#NSync>), specialized in synthetic organic chemistry and RNA-ligands.

Candidate Profile

The candidate must hold a PhD in molecular biology, microbiology or biochemistry with a solid expertise in RNA biology. We are seeking for a motivated candidate with a strong interest in gene expression regulation in bacteria. Expertise in small-molecule screening and RNA-ligand interactions would be an asset.

Application

Interested candidates should send a detailed CV, a cover letter describing their interests and motivation and contact information for two to three references to **Drice Challal** (drice.challal@ibpc.fr).