

2-year research engineer position in structural biology

Ecole Polytechnique offers a unique interdisciplinary environment, including laboratories dedicated to molecular and cellular biology, chemistry, biomechanical engineering, biophysics, optics, computer science and applied mathematics. Ecole Polytechnique is a member of the “Institut Polytechnique de Paris”. It is also part of the vibrant Saclay science cluster just south of Paris. These organizations are combining their strengths to develop the excellence of research.

A 2-year research engineer position funded by the French National Research Agency (ANR) is available at the “Translation mechanisms” team led by Emmanuelle Schmitt and Yves Mechulam at the Structural Biology of the Cell laboratory (BIOC) at Ecole Polytechnique, <https://portail.polytechnique.edu/bioc/en/recherche/translation-mechanisms>. The BIOC laboratory is a joint research unit of the CNRS and the Ecole Polytechnique, located on the Palaiseau campus and perfectly equipped for the project. Moreover, the laboratory has a privileged access to the CIMEX (Centre Interdisciplinaire de Microscopie Electronique de l’X) which has a Titan Themis 300kV microscope equipped with a Falcon 3 direct electron detector.

Project: The project aims at identifying interaction between RNA degrading machines and the ribosomes in Thermococcales Archaea. Many questions remain open about the biological roles and structures of the RNA-degrading machines. How do they act, recognize their RNA targets and coordinate their actions? What are the molecular bases of the interplay between 5’-3’ and 3’-5’ RNA decay pathways? Is there a link between RNA decay pathways and the translation apparatus? The project proposes to tackle these critical questions by using a large variety of techniques.

The recruited candidate will mainly use biochemistry and structural biology, particularly cryo-EM, to identify interactions between the degrading and translating machineries.

Candidate: The candidate should have a PhD in biology, chemistry, or biophysics and a solid background in protein expression, purification of macromolecular complexes and structural biology, including cryo-EM. Applications should be addressed to Emmanuelle Schmitt (emmanuelle.schmitt@polytechnique.edu). Interested candidates should send their CV, a cover letter describing their research interests and motivation, and the name of people who can be contacted for reference.

