Postdoctoral Position in Peptide Chemical Biology and Protein Bioconjugation

Applications are invited for a 16-month postdoctoral position in chemical biology and protein engineering, focused on the development of a new generation of site-selective protein bioconjugation technologies at the interface of chemistry, structural biology, and molecular recognition.

The project addresses a central challenge in modern chemical biology: how to selectively and functionalize proteins in a programmable manner while preserving native structure and function. **We aim to establish an original, biomimetic platform for protein labelling, inspired by the chemistry of native chemical ligation (NCL) and naturally occurring acyl-transfer processes**.

Supported by compelling preliminary data demonstrating site-selective lysine acylation of challenging proteins at low micromolar concentrations, the project will explore a broadly applicable methodology for introducing diverse functional payloads —including imaging probes, affinity tags, and bioactive molecules— onto biologically relevant protein targets, with future perspectives extending toward protein modification in complex environments.

The successful candidate will contribute to a multidisciplinary effort encompassing:
– design and synthesis of peptide/protein conjugation systems;
– characterization and optimization of molecular interactions and acyl-transfer reactivity;
– biochemical and biophysical analyses (HPLC-MS, binding measurements, protein characterization);
– application of the methodology to recombinant proteins and biologically relevant targets.

We seek highly motivated applicants holding a PhD in chemistry or chemical biology. Experience in peptide or protein chemistry or bioconjugation will be highly valued.

The host laboratory Centre de Biophysique Moléculaire (CBM, CNRS UPR 4301) is an interdisciplinary research institute at the interface of chemistry, biology, and physics, dedicated to understanding the molecular mechanisms of life and disease through approaches spanning structural biology, chemical biology, imaging, and biomolecular engineering. Located on the CNRS campus in Orléans, the CBM combines state-of-the-art instrumentation and expertise in chemistry, biophysics, and life sciences to foster innovative, cross-disciplinary research.

The host team *"Chemo-Engineering and Chemical Biology of Peptides and Proteins"* develops next-generation chemical tools to engineer, functionalize, and study peptides and proteins with molecular precision. Positioned at the interface of chemistry and biology, the team combines peptide/protein design, chemical synthesis, bioconjugation, and biomolecular engineering to create innovative strategies for probing and controlling protein function.

Duration: 16 months

Starting date: 1st of September 2026

Application: Please send a CV, a brief statement of research interests, and contact information for referees to Dr Vincent Aucagne (aucagne@cnrs-orleans.fr) and Dr Carlo Pifferi (carlo.pifferi@cnrs-orleans.fr)

Application deadline: June 24th 2026