

Postdoctoral researcher position in Biochemistry, 24 months, Université Paris Cité

Project funded by ANR CE 43 2021 coordinated by O. Ploux:

CryptoGreen « Green production of cryptophycins, promising anti-cancer drugs »

A **two-year postdoctoral position** (from 0 to 3 years after PhD) is available in the group of Prs. Ploux and Méjean « Secondary metabolism of cyanobacteria », LIED UMR CNRS 8236, Faculty of Sciences, Université Paris Cité. The Faculty of Sciences has 12 200 students, 1020 staff and 51 laboratories in various disciplines: Chemistry, Computer Science, Engineering, Mathematics, Physics, Biomedical Sciences and Life Sciences and is located on the Grands Moulins campus, in the 13th arrondissement of Paris.

Research in the **group of Prs. Ploux and Méjean** aims to decipher the biosynthetic pathway of secondary metabolites of cyanobacteria. To this end, the group develops specific expertise in different fields (microbiology of cyanobacteria, biochemistry, analytical chemistry, isotopic incorporation studies, genomics, mass spectrometry...) to successfully solve complex research projects such as the elucidation of the biosynthesis of anatoxin-a and cylindrospermopsin two major cyanotoxins (Méjean et al. (2022) *J. Am. Chem. Soc.* 144, 14627–14637, <https://doi.org/10.1021/jacs.2c03932>).

Your Job

We propose, in this collaborative project involving three academic laboratories, to microbiologically produce cryptophycin-1, a potent antiproliferative agent, from a cyanobacteria *Nostoc* strain cultivated in photobioreactors. To this end, we propose to complete the description of the biosynthesis of cryptophycin-1, for which several steps are still obscure (the actual precursor of the cryptophycin synthase is unknown).

The postdoc will be mainly involved in the microbiological and biochemical parts of the project but also in the analytical chemistry and LC-MS analyses in the study of biosynthesis through isotopic incorporation experiments and *in vitro* enzymology with the protein CrpA.

Profile

- PhD in protein biochemistry, microbiology/ molecular biology or related field
- Strong interest in the elucidation of biosynthetic pathway of specialized metabolites and characterization of enzymatic function
- Expertise in molecular biology and biochemistry and basis of analytical chemistry
- Previous experience with cyanobacteria is a plus.
- Self-motivated, proactive, curious and independent.
- The ability to work in a multidisciplinary team is a must.

How to apply ?

Applicants are invited to send a CV, a cover letter with a short overview of research activities (max. 3 pages) and the names of three references to Prof. O. Ploux, olivier.ploux@chimieparistech.psl.eu and Pr. A. Méjean, annick.mejean@u-paris.fr