



Postdoctoral Position in Supramolecular Antiviral Chemistry – 13 Months – France (Nancy)

We are inviting applications for a 13-month postdoctoral position in synthetic chemistry, based in France and starting in **September/October 2025**. This position is open to international candidates. Working language is **English**; knowledge of **French** is welcome but not required.

Project Overview: The selected postdoc will contribute to the **VIPRO-COMBAT** project, focused on the development of **photoactivatable supramolecular antiviral assemblies** (Supramolecular Antiviral Dots – SADs) targeting human coronaviruses (HCoV). These RNA-enveloped viruses cause respiratory infections ranging from mild to severe pneumonia, and to date, no specific antiviral therapy has been approved. The project's objective is to design and synthesize supramolecular prodrugs that remain inactive until locally triggered by **viral protease activity**. These constructs will incorporate **antimicrobial peptides** and a “**Lock and Release**” system, enabling site-specific activation under **near-infrared light**. This dual-controlled strategy ensures precise activation only within infected tissues. The approach aims to combine **phototherapy** with **advanced light-triggered therapeutic strategies and real-time molecular monitoring**, offering a functional proof-of-concept for targeted antiviral phototherapeutics.

Research Environment: This position is embedded in a vibrant and interdisciplinary environment, combining the expertise of three leading research teams: **LRGP (Laboratoire Réactions et Génie des Procédés)**, **LCPM (Laboratoire de Chimie Physique Macromoléculaire)**, and **L2CM (Laboratoire Lorrain de Chimie Moléculaire)**. The successful candidate will benefit from an ecosystem that blends synthetic chemistry, materials science, chemical biology, and photophysics — with access to state-of-the-art facilities and a strong collaborative culture. Expect a **dynamic, forward-thinking atmosphere** where creative ideas are welcomed and translated into impactful science.

Candidate Profile: We are seeking a highly motivated researcher with:

- A PhD in **organic or organometallic chemistry**.
- **Strong experience in molecular synthesis**; familiarity with **peptide synthesis** is highly desirable.
- A basic understanding or interest in **chemical biology or antiviral mechanisms**.
- **Knowledge of photophysics** is a strong advantage.
- Open-mindedness for **multidisciplinary collaboration**, particularly with biology-focused teams.
- Excellent communication skills in English (spoken and written).

Application: To apply, please send the following documents in a single PDF:

- A cover letter outlining your research interests and motivation
- Your CV (including publications)
- Contact details for two academic references

Application deadline: 15/08/2025

Please send your application to: mihayl.varbanov@univ-lorraine.fr and florence.dumarcay@univ-lorraine.fr

We strongly encourage applications from candidates of all nationalities, backgrounds, and identities.