



Laboratoire de Synthèse des Assemblages

Moléculaires Multifonctionnels

Prof. Valérie Heitz



## Post-doctoral Position in Chemistry

### Synthesis of New Antimicrobial Peptide-Photosensitizer Conjugates

**Funding :** French National Research Agency (ANR)

**Salary :** ca 2750 euros/ month gross salary

**Starting date :** January, 2022

**Duration:** 18 months

**Workplace :** Université de Strasbourg, Institut Le Bel, 4, rue Blaise Pascal, Strasbourg.

#### Research project

The fast spread of multi-resistant microorganisms represents a threat to public health that urgently needs new therapeutic approaches less prone to the development of resistant strains. Our objectives are the design, synthesis and in-depth biophysical studies of new antimicrobial peptide-photosensitizer (AMP-PS) conjugates for synergistic and selective inactivation of pathogens. The chosen AMPs will selectively drive the PS to the bacteria while near IR light excitation will destroy them by creation of reactive oxygen species (ROS), without inducing bacterial resistance or damage to host tissues. The project involves a consortium of three partners located at the University of Strasbourg specialized in synthesis, biophysical and antibacterial studies, and in the design of biomaterials.

The recruited postdoctorate will be in charge of the synthesis of porphyrin-based photosensitizers and their coupling to different peptides. Synthesis of the peptides will be done in collaboration with our partner. The candidate will contribute to the biological evaluation of the synthesized compound. He/she will share the progress of his/her work through consortium seminars, written reports and will participate in scientific congresses.

#### References related to the project.

1. Schmitt, J. *et al.*, *Angew. Chem. Int. Ed.* **2015**, *54*, 169.
2. Schmitt, J. *et al.*, *Bioconjugate Chem.* **2018**, *29*, 3726.
3. Jenni, S. *et al.*, *Org. Biomol. Chem.*, **2019**, *17*, 6585.

#### Candidate profile

The candidate with a PhD in molecular chemistry should have a strong background in organic synthesis, skills in multistep synthesis and coupling reactions, characterization methods (NMR 1D and 2D, mass spectrometry, absorption spectroscopy), and purification techniques (column chromatography, flash chromatography, HPLC).

Strong motivation for research at the interface of chemistry and biology, independence and organization, as well as good written and oral communication skills are expected.

**Application:** before November 15, 2021 to Prof V. Heitz, [v.heitz@unistra.fr](mailto:v.heitz@unistra.fr).

Cover letter and a detailed CV.

Two letters of recommendation sent directly to Prof. Valérie Heitz or contact details of two referees.

✉: Laboratoire Synthèse des Assemblages Multifonctionnels  
<http://www.lsamm.fr/>

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