Laboratoire CEISAM - UMR CNRS 6230
Université de Nantes, UFR Sciences et Techniques
2 Rue de la Houssinière, 44322 Nantes, France
Team CORAIL, Organocatalysis and Photooxygenation
(Dr. V. Coeffard, Dr. P. Nun)

PhD Position 2021-2024

Development of Photosensitizers for Applications in Organic Synthesis and Photodynamic Therapy

■ Job descritpion

A PhD position is offered for a 36-month period (starting from ***October 2021***) at the University of Nantes, France (Website of the group: https://ceisam.univ-nantes.fr/equipe-corail/).

The fellow will conduct research on the design and applications of new photooxygenation catalysts. Based on the expertise of the group on the synthesis of photosensitizers [*Eur. J. Org. Chem.* **2019**, 6352-6358; *Synlett* **2020**, *31*, 463-468; *J. Org. Chem.* **2020**, *85*, 10603-10616] and the implementation of singlet oxygen-mediated transformations [*Chem. Eur. J.* **2018**, *24*, 4790-4793; *Chem. Commun.* **2019**, *55*, 7398-7401], the project will involve the synthesis and characterization of new photosensitizers enabling selective and controlled release of singlet oxygen. These photosensitizers will be harnessed in asymmetric photooxygenation and synthetic chemistry. Applications in photodynamic therapy could also be investigated. Spectroscopic characterizations of the photosensitizers will also be conducted as well as theoretical calculations in order to deeply understand the photophysical properties.

The position is located in the Laboratory CEISAM, a recently constructed building that provides cutting edge facilities in a comfortable and modern environment in which to conduct research. All equipment necessary for the execution of the project is available in the host laboratory or within the University of Nantes.

■ Desired skills and experience

Applicants should have the following qualifications:

- Master degree in Organic Chemistry with an excellent academic record.

- Strong expertise in multi-step synthesis as well as hands-on experience in catalysis. Knowledge in photochemistry as well as theoretical calculations would be an asset.

- Experience with standard characterization techniques including IR, UV-Vis, multinuclear NMR, GC and MS spectroscopies.

- Ease with teamwork in a multidisciplinary environment.

- Proficiency in English and good communications skills.

Interested and qualified candidates should send a cover letter, a CV and two letters of recommendation in a single PDF file to Dr. Vincent Coeffard (Email vincent.coeffard@univ-nantes.fr). The evaluation process will start immediately.