

Laboratoire de Chémo-Biologie Synthétique et Thérapeutique (CBST)

UMR 7199, Unistra/CNRS

Équipe "nanoparticules intelligentes"

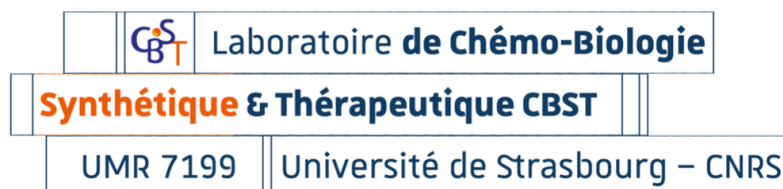
Faculté de Pharmacie,

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<https://cbst.unistra.fr/>



PhD position in Chemical Biology / Nanomedicine

Starting October 2024

3-year fixed-term contract

The Smart Nanoparticles groups from the Laboratory of Synthetic and Therapeutic Chemo-Biology (UMR 7199), located at the Faculty of Pharmacy of Strasbourg, has an available PhD position for a motivated student eager to work on the organic chemistry and photochemistry applied to nanomedicine and siRNA release for the treatment of skin inflammatory diseases. In the context of a collaborative project funded by the ANR with nucleic acid transfection, toxicology, cell imaging and skin inflammatory diseases experts. The ultimate goal of this interdisciplinary project is to establish a CarbonDots-based siRNA delivery platform, to evaluate therapeutic effects of light-induced siRNA released by photodynamic activation. The PhD student will oversee the synthesis of light sensitive carbon dots and photosensitizers able perform photodynamic activation. These new families of photactivatable nanoparticles will be used to complex and to release therapeutic siRNA *in vitro* and *in vivo* for the treatment of atopic dermatitis. The recruited student will be in charge of all the chemistry and physico-chemical aspects of this collaboration, interacting regularly with scientists from other domains

SPECIFIC DUTIES AND ACTIVITIES

- Carry-out multi steps organic synthesis and subsequent product purification/analysis
- Synthesis, purification and physical characterization of CarbonDots and siRNA/CarbonDots complexes
- Photophysical characterizations of Photosensitizers
- Participate in the life and organization of the laboratory
- Present results at meetings and conferences

REQUIREMENTS

- University diploma in organic chemistry (M2, Dipl. Ing ...)
- Excellent knowledge and practical skills in organic chemistry, experience on chemical biology or nanomedicine would be beneficial.
- Working knowledge of analytical methods, including NMR, HPLC, and MS, experience on DLS would be beneficial.
- Ensure the highest standard of record keeping (lab notebook, analysis etc.)
- Experience in literature search engines and chemical databases (e.g. SciFinder)
- Good inter-personal skills with an appetite to work in a multidisciplinary setting
- Good written and verbal communication skills in English, Knowledge of French would be a plus

To apply, please send a CV, copy of Master Grades (M1 and M2 if available), and a cover letter before July 15th, 2024 to Dr. Alexandre SPECHT: specht@unistra.fr