



## 12 months renewable postdoctoral contract

### Centre de Biophysique Moléculaire, dpt NMNS, Tours, France

Natural Deep Eutectic Solvents (NaDES) in Cosmetics:  
Design, Formulation, Characterization, Biological evaluation.

#### **Summary of the scientific frame :**

The postdoctoral contract is part of the DES4Skin project, funded by the French National Research Agency (ANR) and started in march 2022. This project aims to explore the potential of Natural Deep Eutectic Solvents (NaDES) as biobased ingredients to enhance the naturality of cosmetic / dermatological formulations while discovering new physicochemical/sensory properties. The major aim is to improve the efficacy of skin-applied products to deliver active molecules to the different layers of the skin. The consortium also includes the SIMBA laboratory of the University of Tours, the Galien Institute of Paris-Saclay, and URCOM at the University of Le Havre-Normandie.

The postdoctoral researcher will focus on formulating NaDES tailored for cosmetic applications and their integration into dispersed systems such as emulsions and creams (DOE approach). Responsibilities will include optimizing formulation processes, characterizing these new systems, monitoring their stability, and assessing their efficacy. Notably, the laboratory is equipped with PermeGear® diffusion cells system and a gen2-SCA Raman spectrometer (RiverD) for in vivo skin penetration analysis.

#### **Work location and conditions :**

Founded in 1967 and gathering nearly 130 persons, the CBM fosters interdisciplinary collaboration between physicists, chemists and biologists. Our research focuses on the understanding of the role and the mechanisms of action of biomacromolecules. At the interface between physics, chemistry and biology, the researchers are investigating the structure, dynamics and interactions of biomacromolecules at the molecular, cellular and organism level. (<http://cbm.cnrs-orleans.fr/>).

The candidate will work within the **NMNS department** of the Center for Molecular Biophysics (CBM UPR 4301 CNRS), specializing in formulation and analysis, located at the Faculty of Pharmacy at the University of **Tours**, Grandmont Campus. The department houses around 20 research staff, is fully equipped for formulation, characterization and biological evaluation of cosmetic and dermatological formulations. The candidate will be allocated a desk and a personal computer in an office accommodating 2 to 4 people.

The post-doc will work directly with a professor, a lecturer, a doctoral student and two technicians. The specific tasks will be discussed with the candidate according to his/her/their skills and points of interest. He/she will have the opportunity to supervise trainees.

The candidate will join the regional **Cosmétosciences** network, which includes both research laboratories and companies (<https://cosmetosciences.fr/en/>).



**Profile/Required Skills:**

- Holder of a Ph.D. in formulation science or chemistry
- Scientific rigor and curiosity
- A team-oriented mindset and an enthusiasm for interdisciplinary work and challenges are essential
- Strong oral and written communication skills in English (or French), along with scientific rigor, curiosity, and an ability to synthesize information effectively
- Strong skills in the physicochemical analysis of dispersed systems (e.g., microscopy, spectroscopy, chromatography, rheology) are highly recommended
- Experience in skin penetration analysis (handling reconstructed skins and/or ex vivo human skin in diffusion cells) would be appreciated
- Knowledge of eutectic solvents is a plus

**Salary:** French University salary scale depending on experience

**Contract Start Date:** beginning of 2025, depending on availability and administrative processing timelines.

**Application Documents:** CV, cover letter, recommendation letter(s) (Optional)

**Application Deadline:** December 15, 2024

**Send your application or questions to:**

Prof. Emilie Munnier

emilie.munnier@univ-tours.fr

+33 2 47 36 71 02

<https://orcid.org/0000-0002-6691-4484>

[linkedin.com/in/emilie-munnier-2b554a95](https://www.linkedin.com/in/emilie-munnier-2b554a95)