



## natural Deep Eutectic solvents for Microalgae biorefinery in Cosmetics (DERMIC)

### Post-doctoral fellowship 18 months

The use of microalgae have focused the interest of cosmetic industry for some years now, as renewable resources of various biomolecules. Natural Deep Eutectic Solvents (NaDES) represent an exciting opportunity for microalgae eco-extraction. NaDES are considered as a new generation of green ionic liquids. Their main interest lies in their renewability and biodegradability as they are prepared by mixing vegetal cellular constituents. Their composition makes also NaDES truly biocompatible allowing to avoid solvent removal step. Numerous references described NaDES as solvent for solid/liquid extraction of plants, mostly focusing on polyphenols and flavonoids but no reference deals with microalgae extraction. This project propose a biorefinery approach using NaDES to produce several cosmetic high added-value ingredients from microalgae biomass. Cosmetic dedicated NaDES will be designed, characterized and applied to several microalgae to propose a sustainable upgrading scheme.

The post-doctoral fellow will be in charge of designing a NaDES library for selective extraction of target microalgae secondary metabolites, based on SIMBA laboratory knowledge. Three microalgae species will be investigated for preliminary screening and intensification will be performed on selected system.

This project was funded by the National Research Agency, and will take place in the EA 7502 SIMBA (Faculty of Pharmacy, University of Tours). The fellow will work in collaboration with one PhD student, one technician and a master student.

#### Skills / diploma

PhD in natural product chemistry/ extraction process engineering/ chemistry

Extraction/biorefinery skills will be mandatory, expertise in microalgae extraction will be welcomed. High analytical skills (LC-MS, UPLC, UV-spectroscopy) are required. A basic expertise in design of experiment will be necessary.

The fellow should be a team player and should work in autonomy.

Salary: 24.4 – 26.5 k€ per year free of taxes

Starting point of the project: march 2020

Application limit : 15/01/2020



Contact :

Dr Leslie Boudesocque-Delaye

[leslie.boudesocque@univ-tours.fr](mailto:leslie.boudesocque@univ-tours.fr)

<https://simba.univ-tours.fr/>

Contact

Dr Leslie Boudesocque-Delaye

[leslie.boudesocque@univ-tours.fr](mailto:leslie.boudesocque@univ-tours.fr)

<https://www.linkedin.com/in/leslie-boudesocque-delaye-a441701b>