

LE STUDIUM RESEARCH FELLOWSHIP

– COSMETOSCIENCES – ARD CVL

(Open to international experienced researchers)

Research Project: PIERIC

Research Field: Chemistry/Biochemistry

CONTEXT

In the framework of the **COSMETOSCIENCES Programme** financed by the Centre-Val de Loire Regional Council (France), LE STUDIUM Loire Valley Institute for Advanced Studies is recruiting an experienced scientist.

Through the COSMETOSCIENCES Programme, the Centre-Val de Loire Region has placed cosmetics research at the heart of its regional innovation strategy for smart specialisation since 2015.

The successful candidate will be invited for a one-year fellowship to work with the LBLGC research team (Laboratoire de Biologie des Ligneux et des Grandes Cultures, Université d'Orléans). As a LE STUDIUM Loire Valley Institute for Advanced Studies Research Fellow, s/he will be part of an outward-looking and stimulating pluridisciplinary scientific and international community and will benefit from the dynamic scientific environment of the Centre-Val de Loire region.

SCIENTIFIC RESEARCH CONTEXT

The principles of 'green chemistry' are gaining traction in many sectors, including cosmetics, due to the need to reduce pollution from toxic chemicals, make industrial processes safer and more sustainable, and provide consumers with 'clean-labeled products'. During the last decade, green technology is moving from an option to a must in modern industrial processing. Plants produce a rich and diverse array of natural products that have been extracted and used by humans for millennia. Solvents are the core of the food, pharmaceutical, cosmetic, agrochemical, chemical, and biotechnological process technologies. The application of natural deep eutectic solvents (NaDES) – natural product-based green liquids became the most actively investigated as potential green solvents. NaDES are considered the promising alternative to conventional organic solvents, suitable for green extraction since they have high solvency, high flash points with low toxicity and low environmental impacts, easily biodegradable, obtained from renewable (non-petrochemical) resources at a reasonable price and easy to recycle without any deleterious effect to the environment.

One of the goals of the PIERIC (CosmetoSciences) project is to create green NaDES-based extraction methodologies for various plant natural product categories from

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diverse plants for cosmetic applications. The chemical characterization as well as biological evaluation of these extracts will be also considered.

This part of the project will be carried out in close collaboration with teams from other regional laboratories ICOA (Organic and Analytical Chemistry - University of Orleans/CNRS), NMNS (Nanomedicines and Nanoprobe - University of Tours) and SIMBA (Synthesis and Isolation of Bio-Active Molecules - University of Tours) laboratories and our industrial partners.

MISSION OF THE RESEARCH SCIENTIST

The successful candidate will have the following missions:

- to strengthen the theoretical and modeling knowledge of the research team
- to develop green extraction methodologies using new NaDES applied to diverse plant natural product families
- to use the simulation outcomes to help design and validate new NaDES (using software such as Cosmo-RS)
- to characterize the obtained plant extracts for their phytochemical composition (HPLC, LC-MS) and biological activities (*in vitro*, *in silico* and *in cellulo*)
- to carry out internationally outstanding research for the above-mentioned project
- to disseminate this research through articles in journals of international standing, monographs and other appropriate forms of dissemination, including national and international conference presentations
- to support, comply with, and fully contribute to research plans and policies of the teams and industrial partners involved in the project.

ESSENTIAL SKILLS AND EXPERIENCE

LE STUDIUM Loire Valley Institute for Advanced Studies is looking to recruit a senior researcher profile with:

- record of publications in international peer-reviewed journals and significant international networks;
- ability to mobilize the literature and to build testable hypotheses;
- research experience in the field of study, able to innovate and interact with diverse and multi-disciplinary teams and stakeholders including industry;
- Experience in green extraction methodologies (ultrasound, green solvents, ...);
- Experience in the chemical and biological characterization of plant extracts relevant for cosmetic applications (including previous successful phytochemistry and biochemistry experiences);
- Ability to initiate new projects in the field of plant-based green extraction technologies;

ELIGIBILITY CRITERIA

Applicant researchers will:

- Be in possession of a Doctoral degree and at least five years of full-time equivalent research experience after PhD

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- Be national or long-term resident of a country other than France. Long-term residents are researchers who spent a period of full-time research activity of at least 5 consecutive (without breaks in research) years in a country other than France.
- Comply with the following mobility rule: applicants must not have resided or carried out their main activity (work, etc.) in France for more than 12 months in the 3 years immediately prior to the deadline of application.

CONDITIONS OF EMPLOYMENT

The position is based in Chartres, France and offers 12 months of residency.

The successful candidate will be welcomed into the Cosmetosciences Programme and LBLGC research team and LE STUDIUM faculty of international research fellows working in the Centre-Val de Loire region. The research fellow will be provided with the necessary means of work (laboratory facilities, office, telephone, internet, access to databases, computer tools, etc.).

The scientific working languages are French and English.

Entitlements detailed in the French labor contract of employment include:

- A personal salary.
- Rental costs of a fully furnished apartment for the candidate and her/his family. Utilities (water, heating, electricity, tax) have to be paid by the fellow.
- Logistics and administrative assistance by a member of LE STUDIUM operational team before and during the fellowship (visa, housing, bank, insurance, schooling...).

FULL JOB DETAILS, CONDITIONS OF ELIGIBILITY, EMPLOYMENT & APPLICATION AVAILABLE ON LE STUDIUM WEBISTE

Online application via LE STUDIUM platform: **Apply section**

The deadline for application is **June, 9th 2021**. Applications will be reviewed as they come in.

The position is expected to be filled **no later than September 1st, 2021**

The application shall consist of three elements:

- A completed online LE STUDIUM application form with personal information and details of track records;
- A curriculum vitae of maximum two pages including information not in the online application;
- A motivation letter.

Upload documents as pdf files.