

Post-Doctoral position in Organic Chemistry - 18 months

Chemo-enzymatic synthesis of resveratrol derivatives and evaluation of cosmetic properties

Industrial Agro-Biotechnologies Chair (ABI) - AgroParisTech
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The Industrial Agro-Biotechnologies research and development unit (URD ABI) has for primary vocation to develop new biotechnological processes (enzymatic, green chemistry) and to demonstrate their feasibility at the laboratory scale. The research activities currently underway within the laboratory are both in the development of new materials / bio-based polymers from renewable building blocks, and in the production of higher added value molecules for the cosmetic or pharmaceutical industries from biorefinery co-products.

The ANR PRCE Glycostil (Glycosylated Stilbenes Biobased Production for Cosmetic Applications) project focuses on the production and chemo-enzymatic modification of stilbenoids for the cosmetic market. This project relies on an public private partnership covering the entire value chain: production by cell culture of stilbenes (RIPB / Novéal), chemo-enzymatic modifications and activities screening (URD ABI), purifications and characterizations (URD ABI / ICMR), determination of biological properties (Medyc / Noveal) and technico-economic and life cycle studies (Novéal). The project was recently selected and funded by the French National Research Agency (ANR).

The candidate, will join the URD ABI "Green chemistry" team, and will be entrusted with the synthesis of a library of resveratrol derivatives. As part of this project, the recruited post-doc will have to use both biotechnological processes (enzymatic catalysis) and conventional organic chemistry processes (metal catalysis). The impact of the modifications (oligomerization, glycosylation, esterification) on the physicochemical properties of the compounds will be evaluated (antioxidant, lipophilic / hydrophilic balance) as well as the biological properties.

Profile:

The candidate should have a PhD in organic / synthetic chemistry, as well as strong skills in analytical chemistry. Experience in biocatalysis / metal-mediated catalysis and / or in Design of Experiments would be a plus. The candidate will have to demonstrate a scientific openness to collaborate with all the stakeholders of the project as well as an appetite for transdisciplinary projects.

Position required for January / February 2021 for a period of 18 months.

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