



August 24, 2021

POST-DOCTORAL POSITION - duration – 2 years

As part of the governmental recovery economic action, the LBVPAM laboratory in collaboration with the company IFF-LMR naturals is looking for a candidate for a post-doctorate application for a period of 2 years. The LBVPAM has been developing quality research activity for the past fifteen years on the study of the biosynthetic pathways of aromatic and perfume molecules, mainly on four study models, rose, lavender, petunia and pelargonium. Since 2013, the LBVPAM has maintained a sustained collaboration with IFF-LMR naturals on the improvement of the production of a quality essential oil of pelargonium with a rose scent. This work resulted in the defense of two theses which made it possible to acquire knowledge on the biosynthetic pathways leading to the major compounds of the perfume character, geraniol and its derivatives such as citronellol and its esters. IFF-LMR naturals is a producer of raw materials for perfumery, located in Grasse, which organizes the cultivation of raw materials in production areas where it promotes fair and renewable trade.

The natural products sector has recorded a significant growth (10% per year) and the search for new scent molecules is a permanent research axis in the sector. As part of this recovery plan, IFF would like to develop biotransformation methods for the recovery of plant residues, floral waters or essential oils that have not been marketed. Two approaches are being considered, biofermentation by wild yeast strains and the modification of products by cell culture of transformed micro-organisms (bacteria, yeasts) (deglycosylation, hydroxylation, etc.). For this work IFF has collaborators in France and the USA who can provide expertise and technological assistance in both fields. This work will be primarily carried out mainly on the IFF site and on plant material obtained from the distillation of pelargonium although the transformation of products from other plants may be considered.

Alternately, the post-doctoral fellow will spend at least 50% of his working time at LBVPAM where he will continue to characterize the enzymes involved in the citronellol biosynthetic pathway. In pelargonium, the reduction of geraniol to citronellol continues through oxidations leading to rose oxides, products of great interest for perfumery. The enzymes responsible for these oxidations, probably P450, are not currently known. This academic work can be enhanced by high-level publications.

The alternation of work on the two sites is to be discussed but remains flexible. The position if the file is accepted is set at the end of December 2021. The post-doctoral fellow will be paid by Jean Monnet University. The salary is € 2,727 gross monthly .

**The profile of the candidate:** a young doctoral student with solid experience in analytical biochemistry (GC-MS, LC-MS), as well as experience in the production of metabolites in biofermenters or yeast cultures. Knowledge of molecular biology will be an added advantage. A first experience in a industrial environment is desirable.

Applications should be sent by email to:

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