



Postdoctoral position: Assessment of stress conditions for production of microalgal high-value metabolites

Microalgae are unicellular eukaryotic photosynthetic organisms living in oceans or freshwater systems. Microalgae represent a sustainable source of high-value metabolites such as lipids, carbohydrates, proteins and pigments. A number of studies have shown that the production of these active compounds depends on the growth phase and/or culture conditions. Among these microalgae, *Isochrysis galbana*, widely used in aquaculture, has received increasing interest especially because of its high amounts of long chain polyunsaturated fatty acids such as docosahexaenoic acid.

The aim of this project is to study the metabolic pathway of high value molecules especially lipids in various growth stages and stress conditions such as nutriment starvation, temperature. In our laboratory, four genes encoding lipolytic enzymes have been identified in the genome of *Isochrysis galbana* using RACE PCR strategy and *silico* analysis using BLASTP alignment. We propose to compare transcript level of these genes, fatty acid and lipid productivities under different stress conditions. At the same time, a comparative proteomic analysis must be performed to highlight the impact of the different culture conditions.

This study could provide useful indications for metabolic engineering in order to improve valuable compounds content.

Qualifications

The candidate must:

- hold a PhD degree or equivalent at the time of hiring
- be less than 40 years of age at the effective starting date
- not have prepared the thesis or previously carried out a research activity within the host laboratory
- have graduated not more than 5 years prior to the date of application.

The successful applicant should have extensive experience in two-dimensional gel electrophoresis. The postdoctoral scientist will spend the majority of time developing and improving technologies associated with 2D gel electrophoresis. Experience with culture of microalgae and in lipid analysis would be useful.

Contacts

- Josiane Héroult: josiane.herault@univ-lemans.fr
- Céline Loiseau: celine.loiseau@univ-lemans.fr

Practical aspects

The candidate will be based in Laval, France (CeRIUM², Institut Universitaire de Technologie de Laval, 15 rue des Docteurs Calmette et Guérin, 53020 Laval)

The fellowship covers a period of 12 months. He or she will be affiliated to the MMS laboratory (http://www.mms.univ-nantes.fr/23221706/0/fiche__pagelibre/&RH=MMS_FR1&RF=1352222888411).

The postdoctoral fellow will receive a brut salary of about 2,695 € per month.

Application process

Applications should comprise:

1. a personal letter of application,
2. a detailed curriculum vitae and a list of publications.

Deadline for applications

Deadline for applications: 15th May 2017. For any further query, please send a message to one of the above addresses.

Approximate start date: 4th September 2017.