



MetaToul JOB ANNOUNCEMENT

Job Title: Application Engineer on Bioimpulse project: Establishment of a reference flux map of a yeast strain

Grade : "Ingénieur d'étude" (application engineer)

Starting from: End of 2019

Duration: 12-month contract, full-time position

Place of work: Toulouse, France

MetaToul background:

MetaToul is the Metabolomics and Fluxomics Platform of the Genopole de Toulouse. MetaToul gathers 4 sites, developing multidisciplinary and complementary expertise and application fields, and providing state-of-the-art MS & NMR methods that allow getting a detailed picture of metabolomes and fluxomes, as well as their response to genetic or environmental changes. MetaToul is part of MetaboHUB, a national infrastructure metabolomics and fluxomics that provides technology tools and advanced services to actors of academic research and industry.

This position is located on the site MetaToul-Metabolic networks hosted by Toulouse Biotechnology Institut, a French leading laboratory in the fields of microbiology, biotechnology, biocatalysis, and bioprocess engineering. MetaToul-Metabolic networks develops a broad range of methods for comprehensive investigations of cellular metabolic networks, including quantitative metabolomics, isotopic investigations of metabolic pathways, fluxomics, and in silico modeling of metabolic networks. This site is at the forefront of the development of innovative and high-throughput methods for fluxomics and, more generally, the use of ¹³C-labelling strategies for in-depth metabolic investigations, a key approach to address current challenges in systems biology and synthetic biology.

Bioimpulse project:

ResiCare©'s (Michelin Group brand) develops and markets high-performance resins dedicated to industrial applications. These resins are unique and made without formaldehyde, isocyanate or resorcinol. They offer custom-made resins to improve product performance with a minimum impact on the process.

In this context, the BioImpulse project aims to develop new technologies for the production of a range of non-toxic glues and resins from yeasts fermentation.

In this project, MetaToul platform will be involved:

- In the task 1.1 for the optimization of the yeast strain
- In the task 1.6 for the exploration of the metabolic pathways of the strain

MetaToul will establish a reference flux map of the yeast strain selected in order to highlight the active metabolic networks.



Main purpose of the job/ Specific tasks of the position:

In this context, the recruited engineer will have the mission to carry out the fluxomic experiments.

He / she will perform:

- metabolite sampling & sample preparation of yeast
- NMR and mass spectrometry analysis
- data processing for flux calculation

The engineer may also be involved in the project to use robotic platforms for cells cultivation, metabolite extraction and sample preparation.

Qualifications and minimum working experiences:

Academic background:

Master in metabolic biochemistry, microbiology, analytical (bio)chemistry.

Desired skills:

Knowledge in metabolism and microbiology

Knowledge in mass spectrometry and/or NMR

Excellent organization and project management skills

Ability to manage competing priorities, to take initiatives and to work autonomously in a team.

Person to contact for further information and for the application process:

Floriant Bellvert : bellvert@insa-toulouse.fr

Cécilia Bergès : berges@insa-toulouse.fr

Please send your application including:

The application should contain the following attachments:

- A motivation letter explaining your interest in this particular position (max. one page)
- A full CV (max. two pages)
- Copies of relevant diplomas or university certificates
- Contact information for at least two relevant references