Metabolic and functional analysis of PHAs Synthesis in purple bacteria: focus on light and carbon source (PHASyn).

Job description:

This full-time research position involves the achievement of a PhD thesis related to the analysis and mathematical modelling of the PHAs production by a purple bacteria. The candidate will be in charge of culturing bacteria (batch and bioreactor), collecting experimental data, and analyzing the relationship between the culture conditions and the amount and composition of produced PHAs. The metabolism analysis involves using proteomic and mutagenesis. Mathematical modeling involves the derivation of dynamic models expressing the relationship between culture conditions and PHAs production, which could be used for process optimization and control. This research project is highly transversal and will be a co-supervision between the department of proteomic and microbiology and the department of automatic control.

Education:

Master degree in Biology, Biotechnology, Bioengineering, or Chemical Engineering with background knowledge in mathematical modeling, optimization, and control.

Master degree in Control Engineering (or equivalent), with background knowledge in microbiology and interest in metabolism analysis.

This position entails the achievement of a PhD in sciences in three years and the candidate should be in conditions to enter the doctoral school of UMONS.

Salary:

The position offers a net salary of +/- 1900 euros/month.

Application procedure:

The applicant must send their CV as well as motivation letters to baptiste.leroy@umons.ac.be