Biosyntia

We're looking for new talent!

PhD position in a biotech start-up

Application deadline is extended: New deadline November 15th 2017
Earliest starting date: January 2018

Founded in 2013 and located in Copenhagen, Denmark, Biosyntia is a thriving biotech startup with a focus on metabolic engineering and bioprocess development. We use state-of-the-art tools to speed up the development of cell factories for sustainable production of high-value ingredients.

We are further expanding our R&D efforts and are looking for an ambitious and enthusiastic candidate to conduct a three-year PhD study within biotechnology. The candidate will become part of our young and dynamic team of 15 talented people including several full time researchers, business developers, masters students, and interns at Biosyntia's facilities in Copenhagen, Denmark.

About the project

Genetically engineered organisms are being increasingly used by industry to sustainably produce pharmaceuticals, biofuels, biomaterials and food additives. A rapidly expanding repertoire of synthetic biology tools enables the precise engineering of microorganisms, creating synthetic modules with non-natural and *de novo* activities. However, the introduction of synthetic components and pathways often requires significant rewiring and reprogramming of the host organism to achieve efficient production of a desired product. Consequently, there is an urgent need for new approaches to monitor the performance of synthetic circuits, to give insight into their interaction with core metabolism and ultimately to provide a better understanding of how to synthetically reprogram the host for optimal industrial application.

The PhD candidate will work closely with researchers at Biosyntia to design, construct, and implement biological circuits in microorganisms with the aim of improving biological production of high value ingredients. To do this, the student will learn and apply computational prediction tools and state-of-the art molecular and synthetic biology methods. Engineered strains will be subject to thorough investigations using genomics, RNA-seq and proteomics followed by computational and statistical analysis. Such comprehensive analysis will provide unique and unprecedented insight into the interrelation of synthetic circuits and host metabolisms and ultimately help guide future directions of synthetic biology in industrial cell factories.

While spending the majority of his/her time at Biosyntia in Copenhagen, Denmark, the PhD

student will be enrolled at the Technical University of Berlin (TUB) and be co-supervised by Professor Nediljko Budisa. As part of the PhD program, research stays are planned to other partners of the SynCrop network including TUB, University of Edinburgh in the lab of Professor Peter Swain, and ETH, Switzerland in the lab of Professor Uwe Sauer.

About SynCrop

SynCrop (Synthetic Circuits for Robust Orthogonal Production) is a European research-training network allowing young researchers to conduct their PhD study in an interactive setting in excellent preparation for the future academic or industrial job market.

15 PhD students in the network will do exciting science at the interface between synthetic biology and computational biology. They will develop synthetic biology circuits and understand their influence on cellular metabolism. Such capability will allow them to address important problems in biotechnology, where synthetic biology promises new exiting avenues of development. More information can be found here: http://www.syncrop.org/

About the daily supervisor: Luisa Gronenberg

"I am motivated by a desire find alternatives to our petroleum-driven way of life. For biobased-production to live up to its promise, I believe academic results must be translated into industrial success stories, setting examples that this is possible.

For my PhD studies in the department of Chemistry and Chemical Biology at Harvard University I worked on elucidating a very fundamental biochemical process – the protein machinery that builds the E. coli outer membrane. The environment was very academic, with little exposure to industry, so I sought out a more applied project for my postdoc.

I joined the laboratory of Professor James Liao at UCLA to gain experience in metabolic engineering. There I worked on redirecting central metabolism in E. coli and cyanobacteria and supervised several PhD students as part of a large collaborative project to increase the efficiency of carbon fixation.

After my postdoctoral training I finally wanted to apply my skills in metabolic engineering and synthetic biology towards commercialization of cell factories. So, four years ago, I joined Biosyntia, as its first full-time researcher. I spend part of my time in the laboratory working on our technology and part of my time on project management. I think the environment here at Biosyntia is ideal for a PhD fellow who is not only interested in developing sustainable production processes, but is also curious in how those processes can be commercialized. This is a unique view that not many PhD programs offer."

Assessment

Requirements:

- We invite students with a masters degree in biological or computational science from all over the world. However, the SynCrop program requires that the student has not been living in Denmark for more than 6 months in the past three years.

In the assessment of the candidate, consideration will be given to:

- Project experience / coursework in molecular biology, computational skills, and statistical analysis
- The candidate's interest in becoming part of a dynamic, small startup team

We offer

Biosyntia offers an interesting and challenging study in an international environment with a great deal of responsibility. We aim towards creating an environment of academic excellence, innovation, and positive spirit. Gross salary is determined by Marie Skłodowska-Curie Actions and is approximately 3.800 €/month (more details here).

Further Information

Please visit www.biosyntia.com or contact Hans Genee at hjg@biosyntia.com, (+45) 2980 3018.

Application procedure

Applications must be submitted in English as *one* PDF file containing all materials to be given consideration. Applications are to be sent to info@biosyntia.com. Deadline is October 1st 2017.

- Letter of motivation
- CV
- References with contact information
- (Recommendation letters if available, max 3 pages)