



Ph.D. student position in Systems Metabolic Engineering

University of Tartu, Estonia is collaborating with Graanul Invest AS to design yeast-based cell factories for efficient conversion of lignocellulosic biomass extracted mixed sugars into value-added chemicals.

BACKGROUND

University of Tartu (UT) belongs to the top 2% of Universities in the world and ranks 3rd in the QS University Rankings for Emerging Europe and Central Asia. ERA Chair in Synthetic Biology at the University of Tartu is a research group established in 2016 to advance bio-based technologies for energy and chemical production. Graanul Invest AS (GI) is an Estonia based company, one of the world largest wood-pellet producer with the ambition to become European leader in producing lignocellulosic biomass derived biofuels, biochemicals and biomaterials. In the current project, GI is collaborating with UT to design robust cell factories, adapted growing on mixed sugar streams derived from an industrial extraction of lignocellulosic biomass, and optimize the process to a level, ready to be scaled-up into industrial applications.

UT is currently seeking a Ph.D. student in Systems Metabolic Engineering to design cell factories for efficient utilization of industrial production derived mixed-sugars extracted from lignocellulosic biomass and conversion into value-added chemicals.

MAIN DUTIES/RESPONSIBILITIES

A Ph.D. student will be responsible for screening the potential candidate strains, developing metabolic engineering methods for the non-conventional yeast strains (CRISPR-Cas9, Gibbson, Golden Gate techniques), optimization of production pathways and characterization of the cells in bioreactors using lab-scale fed-batch and continuous cultivation techniques and systems biology tools.

Applicants are requested to write a letter, in which they describe their abilities and motivation, accompanied by their curriculum vitae and the names and contact information of at least two referees. Written applications should be sent before May 6, 2018, by email to lahtvee@ut.ee. Project start from September 2018. Work will be carried out at the University of Tartu, Estonia.

SUPERVISION

The candidate will report to the project Principal Investigator Dr. Petri-Jaan Lahtvee and will be supported and supervised by Dr. Nemailla Bonturi (UT) and Dr. Peep Pitk (GI).

QUALIFICATIONS

We are looking for a highly motivated, critical, and ambitious Ph.D. student with previous experience in metabolic engineering and fermentation technologies. The candidate should be flexible and eager to work in an international research group. M.Sc. degree in biotechnology, gene technology or in a similar field is required. Previous experience in bioinformatics is a plus.

SKILLS & PERSONAL CHARACTERISTICS

- Strong drive and motivation for personal development.
- Ability to work independently and as a part of a team.
- Good analytical skills.
- Good English language skills.

WE OFFER

- High level international working environment.
- Direct collaboration with an industrial partner.
- Competitive salary.
- Training in a competitive field of Systems and Synthetic Biology.
- International collaboration network.
- Opportunity to continue working with Graanul Invest also after the end of the project.