Systematic approach towards high-level protein production in yeast

Summary

Recent developments in enzyme engineering have leveraged advances in machine learning, directed evolution, and synthetic biology to design more efficient and specific biocatalysts. These innovations have significantly enhanced the ability to tailor enzymes for industrial processes, from pharmaceutical synthesis to sustainable biofuel production. The importance of enzyme engineering lies in its potential to replace harsh chemical processes with greener, more sustainable alternatives, contributing to cleaner manufacturing and environmental preservation. Despite progress in enzyme engineering, a systematic approach to analyzing enzyme production—spanning construction, expression, and activity—remains underdeveloped. To address this gap, the PhD project plans to implement a high-throughput platform that enables rapid construction, expression, and screening of enzyme variants for comprehensive performance analysis. The project is carried out in close collaboration with AS TFTAK - an independent Research Institute in Tallinn, Estonia.

Research field:	Chemistry and biotechnology
Supervisors:	Prof. Dr. Petri-Jaan Lahtvee
	Srðan Gavrilović
	Steven Axel van der Hoek
Availability:	This position is available.
Offered by:	School of Science
	Department of Chemistry and Biotechnology
Application deadline:	Applications are accepted between June 01, 2025 00:00 and June 30, 2025 23:59 (Europe/Zurich)

Description

Supervisors: Petri-Jaan Lahtvee, Srðan Gavrilović, Steven van der Hoek

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