

# Master Thesis

## Understanding Glycosylation: A DoE Approach to find Critical Process Parameters

### Where?

BOKU University  
Muthgasse 18, 1190 Vienna, Austria

### When?

Earliest April 2025

### How long?

6 months

### Our research group

The Borth lab specializes in engineering recombinant mammalian host cell lines, particularly Chinese Hamster Ovary (CHO) cells. These cells are the key players in the biotechnology industry for producing therapeutic proteins such as monoclonal antibodies (mAbs).

### Your research topic

The Master Thesis is part of the DigiTherapeutX project, which consists of four research groups at BOKU, University of Salzburg (PLUS) and TUWien. This project aims to deepen our understanding of bioprocess design and how variations in process parameters impact product quality, particularly in the context of the growing demand for monoclonal antibody (mAb) production. In your thesis, you will investigate critical process parameters - such as temperature, pH, and cofactor supplementation - using a Design of Experiments (DoE) approach. You will evaluate their effects on cellular metabolism, product titer, and overall product quality.

### What you will get

- Industry-Relevant Experience: (Fed)batch cell cultivation at both small and larger scales.
- Cell Culture and Bioreactor Training: Hands-on experience with benchtop-scale bioreactors.
- Scientific Skills Development: Learn to write reports, analyze data, and prepare presentations.
- Networking Opportunities: Collaborate with project partners from TU Wien and PLUS.

### What you bring

- Motivation and team spirit, an appetite to learn
- Interest to work on a multidisciplinary project with high impact on the CHO community
- Background and practical experience in mammalian cell culture preferable

### Interested?

Send us a short CV.

Contact: Larissa Hofer ([larissa.hofer@boku.ac.at](mailto:larissa.hofer@boku.ac.at)) and/or Nicole Borth ([nicole.borth@boku.ac.at](mailto:nicole.borth@boku.ac.at))

