Tentative project offers for master thesis projects spring 2023 at Gyros Protein Technologies

About Gyros Protein Technologies
Gyros Protein Technologies provides enabling peptide synthesis and bioanalytical solutions, helping scientists in research through bioprocess applications. Our peptide synthesizers and chemistries deliver uncompromising purity, flexibility and quality in less time. Sensitive, accurate and robust nanoliter-scale immunoassays for pharmacokinetics/pharmacodynamics, immunogenicity and quantitating bioprocess impurities and viral titer are performed on our proprietary platforms [Gyrolab™ xPand and Gyrolab xPlore™]. Peptide synthesis and bioanalytical solutions: accelerate your discovery, development and manufacturing of safer biotherapeutics. Gyros Protein Technologies is a division of Mesa Laboratories. https://www.gyrosproteintechnologies.com/

Background
Gyrolab technology offers fully automated miniaturized immunoassays simplifying the workflow with increased performance. Immunoassay techniques are widely used for determination of the concentration of biomolecules in wide range of applications in life science. It has been used in established areas like drug and vaccine development and in vitro diagnostics for decades, but also it is also used in new emerging fields including cell and gene therapy. The ELISA technique has been the gold-standard but new more efficient techniques with improved performance are replacing this methodology.

Master thesis projects

1. **Development of an immunoassay with increased sensitivity**

Gyrolab immunoassay is a sensitive bioanalytical technique and fit for purpose in most application. In order to reach the sensitivity for next generation requirements different aspects needs to be considered. Most often this include quality of reagents but there are also opportunities optimizing the immunoassay protocol. This process is included in an immunoassay kit development. To further increase the sensitivity different new approaches can be explored.

This project aims to improve the sensitive of an immunoassay developed with current fluorescence detection technologies. Evaluation of different fluorophores and the influence of the chemical microenvironment. The goal is to increase the response and maintain low background to increase the signal to noise and the sensitivity of the assay.

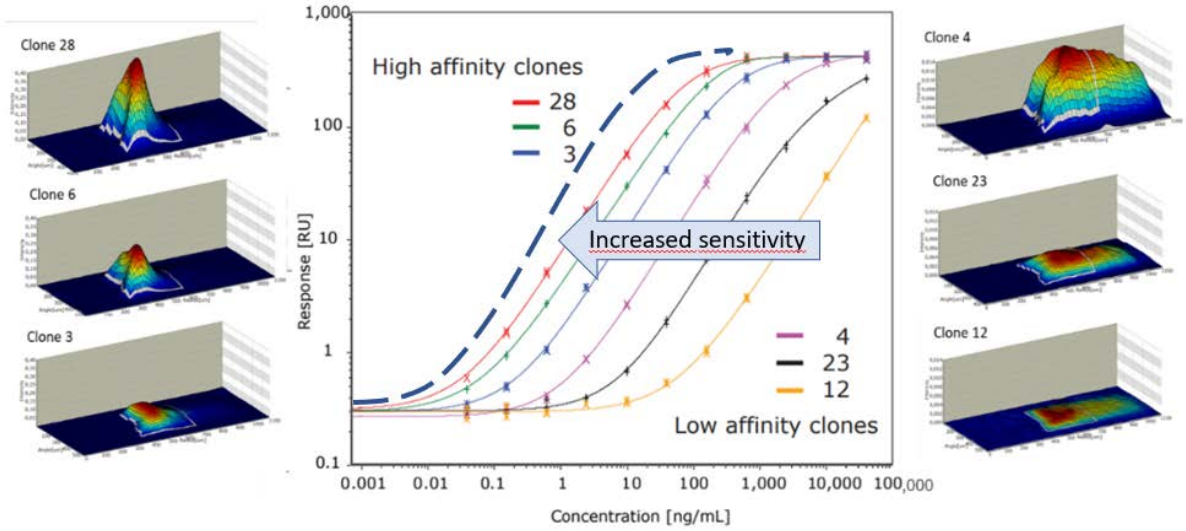

Figure 1: Standard curves for an immunoassay using different antibody reagents. The curve with improved sensitivity for next generation is presented as a dashed curve. Column profiles show the response signal generated for each detection antibody reagent.

Apply by sending your application letter and CV to sara.sandstedt@gyrosproteintech.com