

Two Master degree projects within Analytical Technology, Cytiva Uppsala

Help us improve access to life-changing therapies that can transform human health

We are Cytiva, a global provider of technologies and services that advance and accelerate the development and manufacture of therapeutics. Formerly part of GE Healthcare, we have a rich heritage tracing back hundreds of years, and a fresh beginning since 2020.

Our customers undertake life-saving activities. These range from fundamental biological research to developing innovative vaccines, biologic drugs, and novel cell and gene therapies. Our job is to supply the tools and services - the pots, pans, soups and sauces - they need to work better, faster and safer, leading to better patient outcomes.

Background

Analytical tools are of the greatest importance for the development new material for chromatography resins and affinity ligands, which are some of the focus areas for Cytiva. At our lab in Uppsala we have the possibility to analyze materials using many different kinds of analytical techniques, but we would like to increase our knowledge and will offer two master thesis projects within this area.

1) TGA - characterization of chromatography resins and membranes

What You'll Do

The Master thesis project will be carried out at Cytiva R&D in Uppsala and focused on characterization of chromatography resins and membranes. Specifically, the main objective of the project is to set up and explore the use of Thermogravimetric analysis (TGA) coupled with evolved gas analysis (EGA) through FTIR for characterization of our materials. Other analysis techniques, such as e.g. SEM, BET surface area, titrations etc. will be used in connection to the TGA-FTIR work as needed, depending on the specific studies that are undertaken.

Who you are

A Master thesis student in chemistry/physics/biotechnology/materials science or similar with an interest in materials analysis. The project is 30 hp and expected to start in January 2023.

2) NMR - quality control of the protein-based ligands

What You'll Do

The master thesis work includes the use of a high throughput strategy for quality control of the protein-based ligands using solution NMR spectroscopy technique. Most of the work will focus on processing and analyzing large amount of NMR data. Tools, such as design of experiments, multivariate calibration, and univariate/multivariate classification, will be introduced to help validate the methodology. As proof of concept, if time permits, similar approach will be tested towards other formulations and even new modalities.

Who you are

You have education in Chemistry/Physics with engineering background and are eligible for a master thesis work (Examensarbete). A basic familiarity with programming and/or scripting language(s) is expected (e.g., R / MATLAB / Python). The thesis work could preferably be 30 hp starting in January 2022.

For questions/application, please contact section manager **Gerd Rundström, gerd.rundstrom@cytiva.com**