

## **Background**

In our lab located at the Translational Laboratory Medicine in the RadboudUMC we focus on sugar metabolism in the cell. We are studying a group of disorders called congenital disorders of glycosylation (CDG) where patients have problems with sugar metabolism. CDGs are very rare disorders where a gene mutation in metabolism pathways causes specific defects which can have severe consequences for the patient. In our group we are trying to understand the changes and mutations and find possible treatment option. We do this with a wide arrange of tools from iPS cells to mass spectrometry.

## **Project**

We want to compare sugar metabolism in health and disease with the use of different patient derived materials. This is important since there might be different changes that we see in cells compared to plasma. For cells we need a specific method to look at the metabolism closely. An important step is to be able to understand the glycosylation status from different cell organelles, which can be achieved by cell fractionation. This way we will have as little as possible interference from intermediate products and at the same time get a overview of glycosylation status of organelles. You will be culturing patient derived cells and testing different methods. This project will include but not limited to cell culture, ultracentrifugation and mass spectrometry.

## **Tasks**

- Optimizing cell culture protocols for mass spectrometry
- Cell fractionation
- Sample preparation for mass spectrometry of the fractions
- Data analyses and interpretation.

For this (at least) 6 month project we are looking for a master student. Experience with mass spectrometry and/or cell culture is preferable but not mandatory. Starting date: beginning 2022

## **Contact**

Write an email with your motivation to: [Merel.Post@radboudumc.nl](mailto:Merel.Post@radboudumc.nl)