

BSc/MSc-project for students in Biomedical Engineering, DTU/KU

Title: **Discovering new biomarkers for auto-immune diseases**

Description: The luminal surfaces of blood vessels are covered with a carbohydrate-rich matrix that protects the vasculature. As part of the inflammatory response part of this matrix is enzymatically removed and shed to the blood stream. We have discovered that these components can serve as sensitive biomarkers of e.g. multiple sclerosis and possibly other auto-immune diseases. We would need to optimize and validate an assay to detect these components as well as identify which are key predictors for diseases.

Project aims:

- To setup and validate quantitative assays (e.g. Luminex)
- To assess stability of the markers
- To identify which biomarker(s) are most closely associated with disease

Required qualifications: Knowledge in immune-based assays, biochemistry, immunology

Responsible institution: DTU Nanotech

Contact information: Casper Hempel: cash@nanotech.dtu.dk

Allowed no of students per report: 1-2

DTU supervisor: Casper Hempel