BSc/MSc-project

Title: Cellular deformation in response to hydrodynamic stress

Description:
In a collaboration between DTU and the Blood Bank, Rigshospitalet, we are investigating deformability of blood cells, in both donors and patients. Preliminary results indicate that deformability measures in red blood cells can be used as an indication of particular blood cell related diseases or as discriminators between blood cells from different donor groups. Current plans include a new camera detection system, advances in the image analysis, and/or extending the investigations to white blood cells. We have project-openings that deal with both the technical aspect and project-openings including red blood cells or white blood cells, or both, depending on the nature of the project (BSc or MSc) and the suggested starting date.

Required qualifications:
Good understanding of the topics covered in Physics 1.
Programming experience with Matlab, C or Python.
Previous experience with image analysis and/or machine learning is an advantage.

Responsible institution: DTU

Contact information:
Kirstine Berg-Sørensen; kirstine.berg-sorensen@fysik.dtu.dk

Allowed no of students per report: 1-2 (2 recommended for BSc project)

Suggested DTU supervisor:
Kirstine Berg-Sørensen, DTU Physics.
Co-supervisors: Rodolphe Marie, DTU Nanotech and Anders Nymark Christensen, DTU Compute