

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 may be used as an indication of particular blood cell related diseases. Currently plans include a new experimental setup, 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, previous experience with Matlab, image analysis and/or machine learning an advantage.

Responsible institution: DTU

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

DTU supervisor: Kirstine Berg-Sørensen, DTU Physics. Rodolphe Marie, DTU Nanotech; Rasmus Reinhold Paulsen and Anders Nymark Christensen, DTU Compute