

BSc-project

Title: Ultrasound blood flow visualization in 2-D and 3-D

Description: Ultrasound methods developed at the Center for Fast Ultrasound imaging allow measuring the blood flow in 2-D and 3-D. These methods are continuously being developed and tested in collaborations with Rigshospitalet and BK Ultrasound. Most recently, a comparative study has been performed on 10 volunteers including MRI, two clinical ultrasound methods, three new ultrasound methods, CFD simulations, and patient specific, 3-D printed phantoms. We need to implement different ways of visualizing the measured blood flow based on the scientific literature as well as our own ideas. The project specifically concerns devising and implementing different visualization techniques to show the acquired ultrasound data. Medical doctors will evaluate the implemented visualizations.

Required qualifications: Comfortable in MATLAB

Responsible institution: DTU Elektro

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Allowed no of students per report: 1-2

DTU supervisor: Matthias Bo Stuart, co-supervision by PhD students who need the visualization and industrial partner from BK Ultrasound