MSc-project

Title: Sound speed detection for early diagnosis of hepatic steatosis (fatty liver).

Description:

Hepatic steatosis is usually reversible if recognized and treated at an early stage. Hepatic steatosis appears as a diffuse increase in echogenicity (bright liver) and this feature only is usually used for its diagnosis. However, the major limitation of this type of screening tool for hepatic steatosis is the modest sensitivity of 67% and specificity of 77% that would result in an incorrect diagnosis in up to 33% of patients. Using an accurate liver sound-speed as an additional indicator could improve the sensitivity and specificity of hepatic steatosis detection. The project will consist on the development of an accurate sound speed estimator for a more robust detection of hepatic steatosis.

Required qualifications:

31545 Medical imaging systems and signal processing
Experience in Matlab

Responsible institution:

Center for Fast Ultrasound Imaging, DTU Elektro.

Contact information:

Post Doc Carlos A. Villagómez Hoyos cavh@elektro.dtu.dk

Allowed no of students per report: 1

DTU supervisor:

Professor Jørgen A. Jensen, jaj@elektro.dtu.dk