

BSc/MSc Project

PRACTICAL EXPERIENCE WITH ELECTROMYOGRAPHY MEASUREMENTS

We are looking for students who are interested in surface electromyography (EMG) measurements. For an ongoing clinical project, additional EMG recordings from healthy subjects are needed. This part could be yours. As a Biomedical engineering student, you get the opportunity to acquire practical experience with surface electromyography during dynamic and static exercises, signal processing, wavelet filtering and other interesting data processing. It is possible to get this work credited with ECTS points – e.g. as a Bsc/MSc project or a special course. Suggested supervisor are Tine Alkjær, Ass. Prof. from KU-SUND (talkjaer@sund.ku.dk) and Sadasivan Puthusserypady, Ass. Prof DTU-Elektro(spu@elektro.dtu.dk).

About the project:

As part of a PhD project, measurement of neuromuscular activity of the abdominal muscles in patients with a stoma during performance of exercises is required. The surface electromyography is used to bilaterally record the signals of the rectus abdominis muscle and the three layers of muscle in the abdominal wall. The measurements performed on healthy subjects will help in the interpretation of the EMG signals collected from the study population.

Each measurement takes about an hour and involves preparation of the EMG as well as following a protocol for both exercises and EMG measurements. The collected signals can then be processed in MatLab. The amplitude during activity to the amplitude at rest are compared to determine the abdominal activity.

This is a project in collaboration with associate professor Tine Alkjær from the Department of Neuroscience and Pharmacology, University of Copenhagen. Tine will be responsible for practical issues related to the project. Together with Tine, the research physiotherapist Anders Vinther, and the research student Rune will instruct in preparation of the EMG and protocol for the measurements.

For more information, feel free to call or write an e-mail:

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