

Laboratory of Medical Electronics

The Laboratory of Medical Electronics (LME) at the Lübeck University of Applied Sciences develops innovative biomedical measurement principles. Past research focuses were the electrical bioimpedance measurement and the determination of the arterial stiffness.

Since 2017, the team of the LME works on the non-invasive detection of muscle contractions to control prostheses. The major aim in this project is to reduce the susceptibilities of common measurement techniques. For that, innovative measurement devices for recording Electromyograms (EMG), Mechanomyograms (MMG) and bioimpedance changes are developed.

The developed electronic systems are a combination of analog circuits with digital hardware components (e. g. μ C, DSP, FPGA, ADC, DAC) under aspects of medical safety.

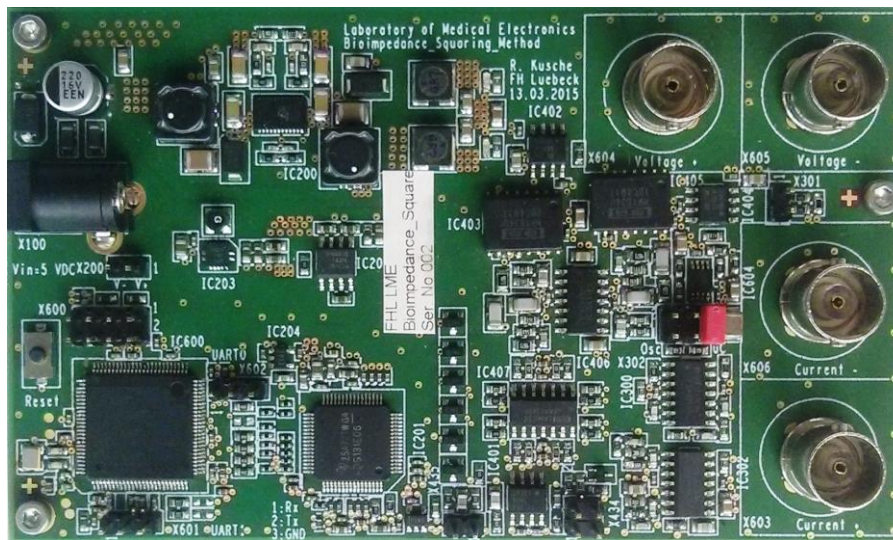


Figure 1. Embedded bioimpedance measurement system.

Intern Project

The research internship will take place in the Laboratory of Medical Electronics at the Lübeck University of Applied Sciences. Possible tasks for interns are:

- Hardware development (digital / analog / mixed signal)
- (embedded) Programming (C/C++, VHDL, C#, Python)
- Digital Signal Processing (DSP) with FPGA or MATLAB
- Literature Research

Qualifications

- Skills in analog circuit design
- Skills in programming (C/C#/C++)
- Interest in biomedical engineering
- Self-motivated