



Student Assistant / M.Sc. project

Software development for hardware control applied to *in vivo* label-free biochemical microscopy

Description:

At the Chair for Biological Imaging of TUM, we are pushing the limits of resolution, imaging depth, and specificity of optical microscopy. To accomplish these goals, we are developing innovative, custom-built sensing technologies and using state-of-the-art laser technology found in few places around the world. In order to strengthen and extend the capabilities of our imaging systems, we are recruiting for a Student Assistant or Master's Student to work on **real-world instrumentation** for hardware/software **automation** and control of our **label-free photoacoustic microscopy** system for biomedical and biological applications. This project aims to achieve the synchronization/automation of a microscopy system comprising a fast data acquisition card (digitizer), high-speed motorized stages, and tunable infrared pulsed laser. The successful candidate will also help create a graphical user interface for the microscopy system.

Requirements:

- Extensive programming experience with real-world instrumentation (hardware/software integration and control), using one or (preferably) more of the major programming languages, such as LabVIEW, Matlab, C++/C#, and Python.
- Bachelor's degree in Mechatronic, Electrical Engineering, Electromechanical Engineering, or related discipline.

Additional qualifications

- Highly motivated to work independently and in teams
- Eager to face intellectual challenges
- Fluent programming ability in Arduinos
- Experience with electronics preferred

Contact information:

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