

**Master 2016**

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**Development of LabView routine for automated Raman spectroscopic imaging of biological cells at different sample positions.**

***ABSTRACT - Masterthesis***

Automation of Raman spectroscopic imaging to enable automated sequential recording of cells at different sample positions is a must to increase data collection efficiency. For this purpose Lab VIEW user interface has been used and combined with the commercially available spectrometer software of an existing Raman spectrometer. The validation of the established visual interface (VI) was tested by measuring leukocytes from blood smears of healthy donors. Parameters such as accurate selection of cell position, Raman spectral signal quality with an autofocus option were verified. Raman spectroscopic image analysis was carried out to generate false color Raman images. The obtained morphological information was compared by staining the blood smear with maygrünwald and giemsa. Good comparison of false color Raman image and stained cell image was obtained.