

Diploma or Master Thesis

Optical detection of fluorescence and luminescence signals for PCR and Immunoassays on centrifugal microfluidic disks

Background

This project is part of the research activities of a multidisciplinary team of 22 employees organized in 4 groups for pressure driven and centrifugal microfluidics, assay development, prototyping and Loac foundry service.

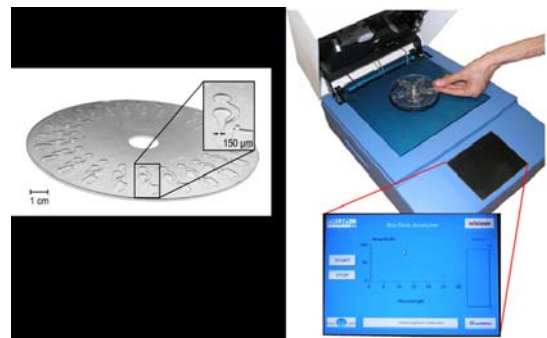
The miniaturization of bioanalytical systems has an enormous relevance in the rapid expanding field of life sciences. The miniaturization allows the realization of low-priced analytical devices, operating portable and autonomous. They provide analytical results consuming only tiny amounts of sample and operate where the sample is delivered, at the point of care.

Project

The aim of this project is to develop modules for a biodisk player which meet the increased demands of process technologies for different diagnostic methods, mainly PCR and Immunoassays. Instantly the development of **opto-electronical modules for the luminescence and fluorescence detection** as integrated parts of a centrifugal biodisk analyser based upon a first prototype is of special interest.

Both the **characterisation of the existing prototypes** and the **optimisation of the opto-electronical components** are essential parts of this work.

During this thesis the student will achieve advanced knowledge of centrifugal microfluidic bioanalytical technologies.



Please contact us for further informations:

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