

Diploma or Master Thesis

Development of a thermocycler for a centrifugal biodisk analyser

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.

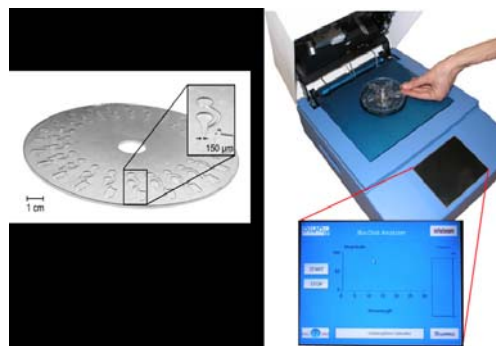
The miniaturization of bioanalytical systems has an enormous relevance in the rapid expanding field of life sciences. The miniaturization allows the realization of low-priced analytical devices, operating portable and autonomous. They provide analytical results consuming only tiny amounts of sample and 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 further development of an **integrated temperature cycling system** based upon a first prototype is of special interest.

Both the realisation of a **communication interface** between the temperature controller and the PC as system controller and the **characterization and optimization of the whole mechatronical system** will be essential parts of this work.

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



Please contact us for further informations:

Supervising PHD student

Dipl.-Ing. Jürgen Burger

Laboratory of MEMS applications

Building 103, Room 02-098

phone +49 761 203-7321

email: juergen.burger@hsg-imit.de

Head of the research team

Dr. Felix von Stetten

Laboratory of MEMS applications

Building 106, Room 04-003

phone +49 761 203-7393

email : felix.von.stetten@imtek.uni-freiburg.de