

The Department of Microsystems Engineering (IMTEK) is one of the world's largest and leading academic research centers in the field of microsystems technology. The Laboratory for MEMS Applications (Prof. Dr.-Ing. Zengerle) develops tools for diagnostics, microfluidics and life-science research. For a research project in collaboration with academic and industrial partners, we are looking for a

PhD Student (m/f/d)

in the area of assay development
and microfluidic integration for the

Detection of plant pathogens by isothermal DNA amplification on a lab-on-a-chip system



The aim of this project is to develop a novel and universal lab-on-a-chip system for the automated detection of plant pathogens. The identification of pathogens is based on loop-mediated isothermal amplification (LAMP). The whole analysis workflow, including sample preparation and amplification reaction, should be automated by microfluidic integration.

Your tasks:

- Design and optimization of a universal detection assay based on LAMP
- Support assay automation by integration in microfluidic cartridges
- Investigation of concepts for reagent pre-storage
- Experimental evaluation of the method and benchmarking with reference system
- Presentation and publication of results at international conferences and in journals
- Support project management and close cooperation with microfluidic engineering and process development

Your profile:

- University degree in biology, biochemistry, molecular medicine, microsystems engineering or similar with outstanding performance
- Experience in the field of nucleic acid detection (e.g. PCR, LAMP) and good knowledge in assay development
- Profound analytical skills and knowledge in molecular biology
- Good team spirit and solid communication skills in English and German language

We offer:

- Young, dynamic, creative team and environment
- Attractive workplace in modern, excellently equipped laboratories
- Opportunity to prepare a PhD thesis based on the project results
- Close collaboration with academic and industrial partners

If you are interested, please contact us for further information:

Dr. Nadine Borst

Laboratory for MEMS Applications
Building 103

phone: 0761 / 203-73208
Email: nadine.borst@imtek.uni-freiburg.de