

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 we are looking for a

Masters student (m/f/d)

in the area of Lateral flow Assay Development

Development of an ultrasensitive lateral flow immunoassay for the detection of a tuberculosis biomarker



Tuberculosis (TB) caused 1.3 million deaths in 2022 and is the second leading infectious killer after COVID 19. TB is present in all countries and age groups. TB is curable, but lack of rapid and accurate diagnostics is a missing link in its management. The overall goal of this project is to develop a rapid diagnostic test for TB by the detection of a urinary biomarker specific to TB. Urine as a sample is a convenient alternative to sputum, the conventional sample for TB diagnosis. Detection of TB from non-sputum-based samples has been specified as a priority by the World Health Organization. The specific goal of this project is to use a strategic combination of lateral flow assays and centrifugal microfluidics to develop a diagnostic test for TB that surpasses the sensitivity of current urine-based TB tests.

Your tasks:

- Development of an immunoassays/ELISA for a TB antigen
- Development and optimization of a lateral flow immunoassay for the TB antigen
- Optimization of urine sample processing to enhance the performance of the immunoassay
- Test the assay on an existing centrifugal microfluidic disc

Your profile:

- You are a student of biology, biotechnology or similar, OR of microsystems technology
- Basic lab skills like pipetting, dilutions, documentation etc.
- Basic knowledge in the field of immunoassays is preferable
- Good team spirit, creativity and solid communication skills in English

We offer:

- A young, dynamic, interdisciplinary team and environment
- An attractive workplace in modern, excellently equipped laboratories with the opportunity to gain insights into many exciting work areas (e.g. microfluidics, molecular assays, global health)
- An opportunity to prepare a Master's thesis based on the project results

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

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