

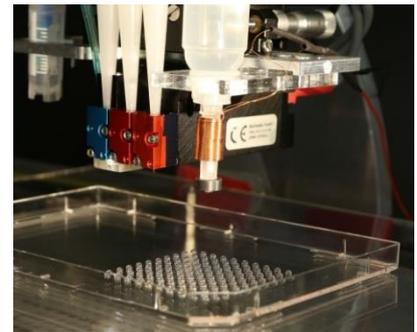
The Department of Microsystems Engineering (IMTEK) is one of the world's largest and leading academic research centers in the field of microsystems technology. The Laboratory for MEMS Applications (Prof. Dr.-Ing. Zengerle) develops tools for diagnostics, microfluidics and life-science research. For a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

PhD student (m/f)

in the area of Microfluidics

Investigation and implementation of sensor concepts for single spheroid deposition

The scientific and technical goal of the present project is to provide an automated platform for *in vitro* experiments with three-dimensional microtumors, which can initially be used in the clinical environment for the purpose of personalized therapy selection. The individual placement of intact and vital tumoroids in wells of plates allows the targeted recording of growth kinetics depending on tumoroid number and nutrient medium volume. The main goal of the thesis is to develop a suitable concept for single spheroid deposition using a non-contact dispenser.



Your tasks:

- Investigation and implementation of sensor concepts for single spheroid deposition
- Realization of several capacitive or optical structures placed at or around the dispenser
- Investigate different control strategies with the distributed sensors and actuators
- Integration of the deposition module into a large liquid handling device
- Evaluation of flow rate and composition by artificial intelligence algorithms

Your profile:

- You have completed a university degree in physics, mechanical engineering, mechatronics, microsystems technology or similar with above-average success.
- Knowledge in the field of sensor technology (optical, capacitive, flow, pressure)
- Good team spirit and solid communication skills in English

We offer:

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

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

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