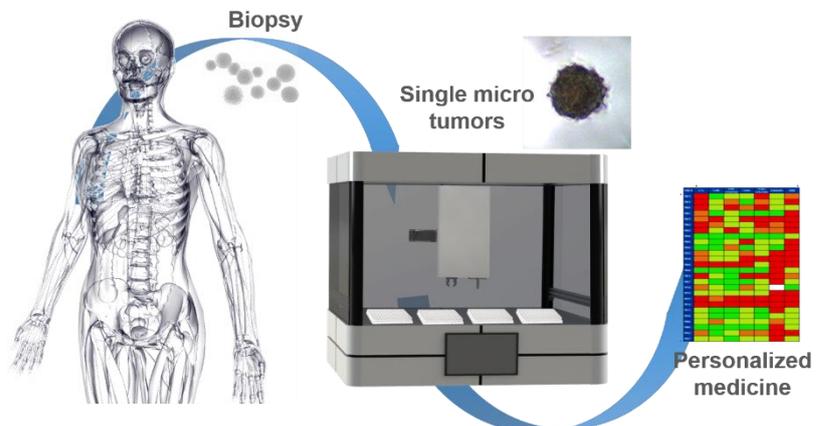


The Department of Microsystems Engineering (IMTEK) is one of the world's largest and leading academic research centers in the field of microsystems technology. The Laboratory for MEMS Applications (Prof. Dr.-Ing. Zengerle) develops tools for diagnostics, microfluidics and life-science research. For a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

## PhD student (m/f)

in the area of Microfluidics

**Sensor concepts for dispensing single micro tumors for personalized medicine**



The scientific and technical goal of the present project is to provide an automated platform for *in vitro* experiments with three-dimensional micro tumors, which initially can be used in the clinical environment for the purpose of personalized therapy selection. The individual placement of intact and vital tumoroids in wells of microplates 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 micro tumor detection and deposition using a non-contact nano-dispenser.

### Your tasks:

- Investigation and implementation of sensor concepts for deposition of single micro tumors
- 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 dispensing module into a large liquid handling device
- Evaluation of micro tumors by artificial intelligence algorithms

### Your profile:

- You have completed a university degree in physics, mechanical engineering, mechatronics, microsystems engineering 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:

#### **Sabrina Kartmann**

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