



Analysis and evaluation of microfluidic single-cell imaging data

About Us: The “Microsystems in Bioprocess Engineering” group is situated within the Chemical Engineering (CIW) Faculty of the KIT. Our goal is to bridge the gap between microfluidic technologies and bioprocess development. We develop novel microfluidic tools (e.g., single-cell cultivation systems) and apply them to investigate research questions relevant to bioprocessing. Utilizing the acquired knowledge, our aim is to pioneer the development and establishment of new bioprocesses. Our work is conducted in a highly interdisciplinary manner, involving collaboration with experts in e.g. microbiology, physics, material and data science.

Background: Microfluidic cultivation provides potential to study cellular behavior at the single-cell level with high control over environmental conditions. Combined with live-cell imaging, performance indicators across several defined constant and dynamic microenvironments can be investigated with resulting high amount of data which needs further evaluation. Therefore, imaging data must be processed to perform segmentation and single-cell tracking.

Your tasks:

- Analysis and evaluation of single-cell imaging data (segmentation, tracking) and data visualization
- Testing of published automatized single-cell analysis tools

Working conditions:

- Starting earliest date possible with possibility to extend the contract
- Approx. 20 h/month, flexible working hours
- Payment according to “Vergütung studentischer und wissenschaftlicher Hilfskräfte”

Your qualification:

- Background in bioengineering, biotechnology or similar preferred but not mandatory
- Interest in multidisciplinary research
- Structured, independent and meticulous working method
- Preferred: Experience in working with ImageJ or similar image analysis software tools & basic programming skills

Contact:

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Please apply with CV and transcript of records. Thank you!

