Jena School for Microbial Communication
Graduate School of Excellence

Martina Graf

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Title PhD Project

Detection of Low Microbial Content in Microfluidic Droplets through Scattered Light Imaging

Main Research Interests

- Microfluidics
- Biochemical Engineering
- Bioinformatics

Methodological Experiences

- (Automated-) Image and Data Analysis
- Microscopy
- Microbiological Techniques

Curriculum Vitae

03/2021 - Doctoral Research Student: HKI Jena
- Microfluidics Group at Bio Pilot Plant
- Head of Institute: Prof. Dr. Miriam Agler-Rosenbaum

10/2018 – 08/2020 Master: Biotechnology, TU Braunschweig
- Focus: Bioprocess Engineering
- Master's thesis at the Modeling & Simulation Group and the Micro Scale Bioengineering Group of Research Center Jülich GmbH. Supervisor: Dr. Katharina Nöh

10/2019 – 12/2019	Internship: Research Center Jülich GmbH ❖ Modeling and Simulation Group, Institute of Bio- and Geosciences: Biotechnology ❖ Optimization of the experimental setup for robust microfluidic single-cell analysis under dynamic conditions
05/2019 – 08/2019	Research Assistant: TU Braunschweig ❖ Institute of Biochemical Engineering ❖ Morphology engineering of a microorganism
08/2018 – 12/2018	Semester Abroad: University of Rhode Island, RI USA ❖ Focus: Chemical Engineering
10/2017 – 08/2018	Research Assistant: TU Braunschweig ❖ Institute of Bioinformatics and Biochemical Engineering ❖ Creation and conduction of the bioinformatics tutorial ❖ Cell culture techniques
10/2015 – 07/2018	Bachelor: Biotechnology, TU Braunschweig ❖ Focus: Bioprocess Engineering ❖ Bachelor's Thesis at the Institute of Biochemical Engineering. Supervisor: Prof. Dr. Karsten Hiller

Publications

Non-peer-reviewed articles, conference abstracts, theses

- Martina Graf (2020), Quantitative Microbial Single-Cell Analysis under Dynamic Conditions. TU Braunschweig and Research Center Jülich GmbH, Institute of Biochemical Engineering, Modeling & Simulation Group and Micro Scale Bioengineering Group. First referee: Prof. Dr. Rainer Krull, second referee: Prof. Dr. Dietrich Kohlheyer
- Martina Graf (2018), ^{13}C-metabolische Flussanalyse zur Untersuchung der Rolle von N-acetyltransferase 8-like (NAT8L) in Makrophagen. TU Braunschweig, Institute of Bioinformatics and Biochemical Engineering. First referee: Prof. Dr. Karsten Hiller, second referee: Prof. Dr. Michael Meyer-Hermann