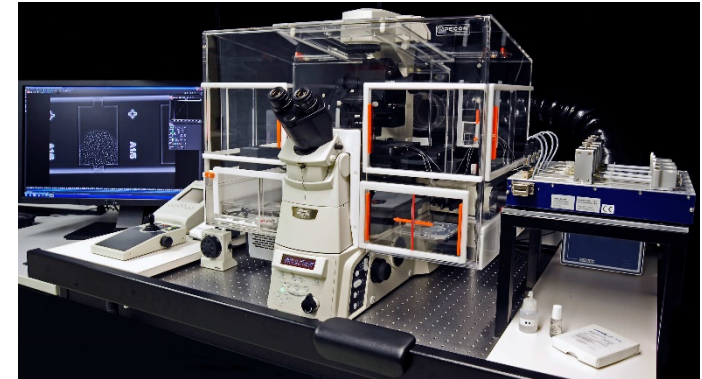


BACTERIAL MICROCOLONIES

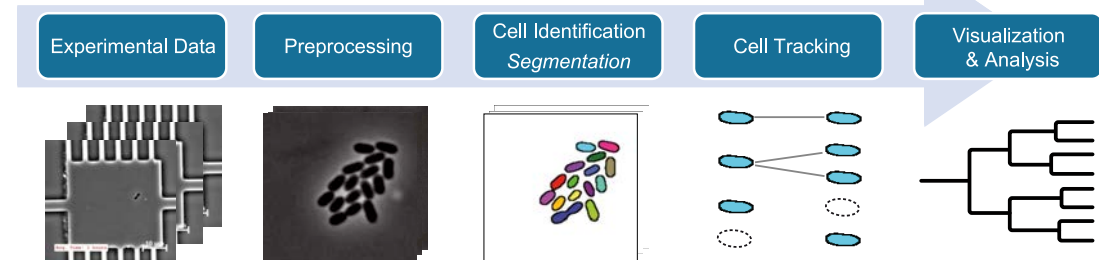
Data Generated by Microscale Bioengineering Group & Analyzed by Modeling & Simulation Group

- Bacterial Microcolony Data at IBG-1
- Micro-Scale Bioengineering (Jun.-Prof. Dr. Kohlheyer)
 - Produce Image Data in Terabyte Range
 - Lack Efficient Analysis Tools
- Modeling & Simulation (Dr. Nöh)
 - Works on all Pipeline Steps:
Image Preprocessing, Image Segmentation, Tracking, Visualization, Simulation
- Many tools, no fully automatic solution, no common benchmark datasets

The logo for the Microscale group, featuring a stylized blue and yellow 'μ' symbol followed by the word 'scale' in a light blue, sans-serif font.

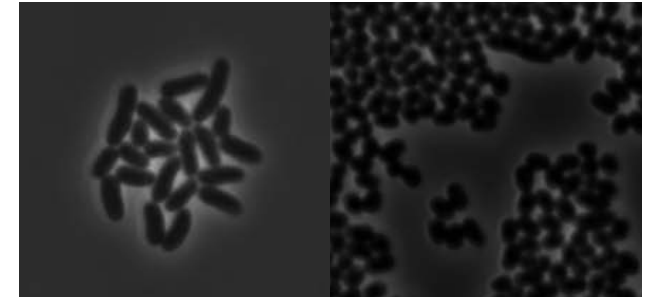


The logo for the Modeling & Simulation group, with the word 'Modsim' in a blue, serif font. The letter 'o' is stylized with a circular arrow around it.

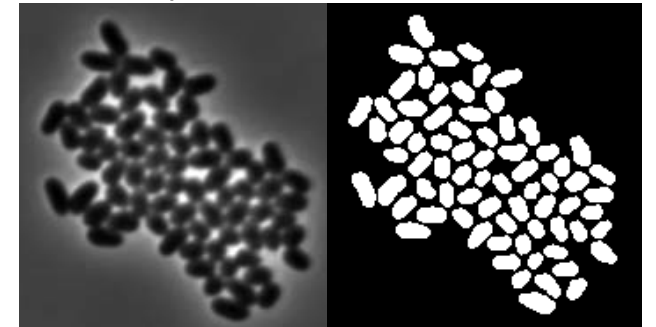


BACTERIAL MICROCOLONIES

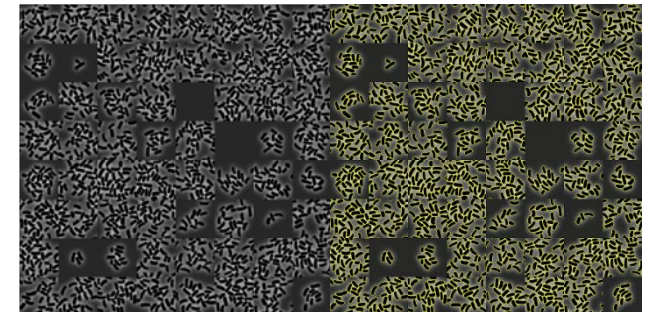
- Bacterial Microcolony Data at IBG-1
 - Currently around 110 TB
- Dozens of hand corrected time-lapses (rarely with perfect GT)
- Very few „pixel perfect“ frames (used internally for our Neural Network approaches)
- Simulated data in the future?
 - First tests using custom simulator/image generator



Some simple, some hard.



Few pixel perfect GT annotations



Simulated microcolonies