

## Automated tracking and characterization of cell dynamics for classifier models

I. Belyaev, N. Al Zaben, A. Marolda, A. Medyukhina, K. Huenniger, O. Kurzai, M. T. Figge

01/08/2017



No. 11

### Automated tracking and characterization of cell dynamics for classifier models

I. Belyaev, N. Al Zaben, A. Marolda, A. Medyukhina, K. Huenniger, O. Kurzai, M. T. Figge

#### Project Aim

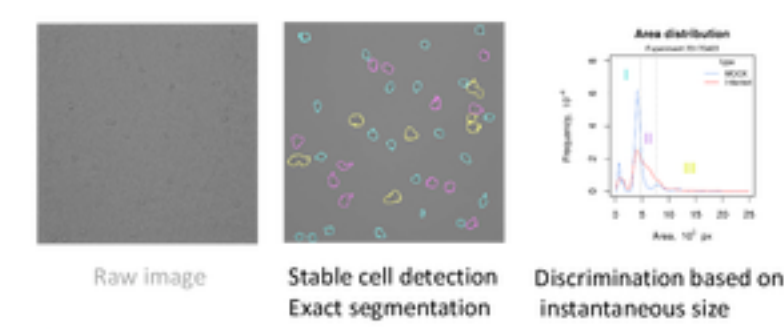
Automated characterization of cells based on interpretable features, in order to construct classifier models based on dynamic cell properties.

#### Project Outline



#### State of the art

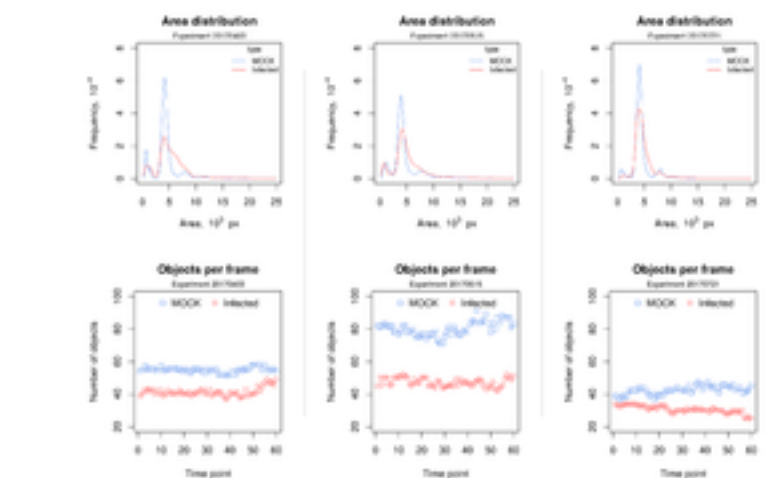
##### Results



##### Focus on

- Protrusion formation
    - High contribution to shape indexes
    - Important for cell communication
  - Extracellular vesicles
    - Additional dynamic descriptor of cells
    - Stain-free detection
  - Neutrophil trails
    - Mediate immune cell behavior
    - Dynamic formation and topology of trail networks as population descriptor
- Create and analyze a classifier model, based on morphokinetic descriptors.

#### Discussion



#### Cooperation

