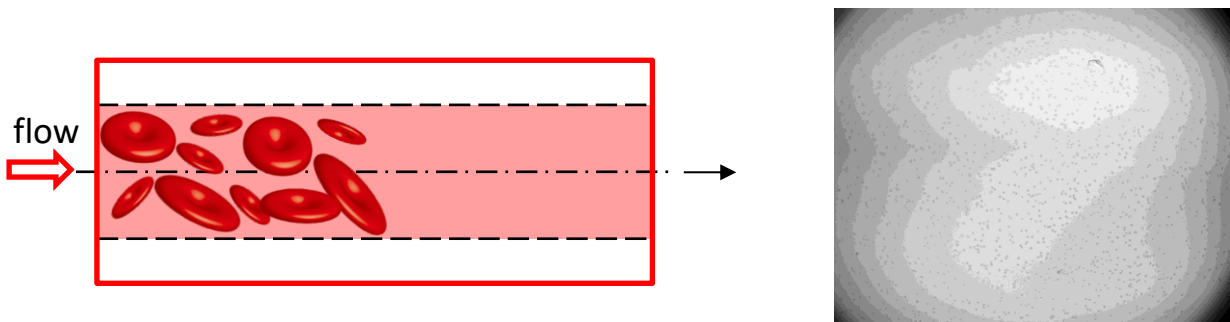


# ADP!

## Optimization of a manufacturing process for transparent erythrocytes ("ghost cells")



For the optical measurements of particle dynamics in blood flow, a method for producing hemoglobin-reduced, nearly transparent erythrocytes ("ghost cells") was established at the SLA. In this process, the cell membrane is first deliberately damaged by a concentration difference so that the hemoglobin can be washed out in several centrifugation steps. The cell membrane is then closed again in a further step. Some of the cells are then labeled with a fluorescent dye.

The process described has already been successfully applied. However, in order to be able to carry out a larger number of more extensive experiments, the process must be accelerated and stabilized. The aim of this ADP is to systematically optimize the production of "ghost cells" in order to increase the producible volume and ensure a consistently high quality of the cells produced.

Possible tasks within the framework of the ADP are:

- Literature research on methods of systematic process optimization and relevant process parameters
- Analysis of the existing manufacturing process using a suitable methodology
- Development of tooling and optimization of centrifugation cycles
- Implementation, documentation, and standardization of the optimized process

The exact content of the ADP can be adjusted depending on its scope and personal interest.

Start: Immediately

If you are interested, simply contact Till Werner [werner@sla.tu-darmstadt.de](mailto:werner@sla.tu-darmstadt.de).