IRTG 914 - Advanced Methods Course – winter semester 2019/2020

"Flow cytometry: basic principles and applications"

Flow cytometry is a powerful technique for detection of multiple characteristics in single cells, including surface and intracellular proteins as well as DNA content. It is widely used by both experimental and clinical immunologists.
The aim of the course is to introduce basic principles and applications of flow cytometry in experimental and clinical immunology. During the theoretical part of the course, participants will learn about the design of a flow cytometer, basic settings and principles of sample acquisition, compensation, critical controls, and gating strategies for data analysis. Common examples of flow cytometry applications in experimental and clinical immunology will be overviewed.
During the hands-on experience, the participants will learn how to analyze the flow cytometric data with the FlowJo software. The participants will get various exercises on setting up compensation, choosing an optimal gating strategy, performing batch analysis and statistics.

Speaker/supervisor: Natallia Salei (AG Schraml)

Literature:

1. https://www.bio-rad-antibodies.com/introduction-to-flow-cytometry.html
2. Development, application and computational analysis of high-dimensional fluorescent antibody panels for single-cell flow cytometry. Jolanda Brummelman, Claudia Haftmann, Nicolás Gonzalo Núñez, Giorgia Alvisi, Emilia M. C. Mazza, Burkhard Becher & Enrico Lugli. Nature Protocols, 2019