
**Abstract:** Abdominal surgeries can save lives as they allow surgeons to remove malignant tumors or to fight abdominal infections. However, abdominal surgeries can also lead to a fibrotic complication called peritoneal adhesions. Adhesions are internal scars that cause significant sufferance and health costs. Until date, adhesions cannot be cured. Adhesion formation relies on myofibroblasts that are derived from surrounding mesothelial (serous) membranes. However, the mechanism of mesothelial cell migration is largely unknown. I use intravital microscopy to study cellular migration in the abdominal cavity in real-time. In this seminar, I would like to introduce a new multi-photon Leica Stellaris microscope that is located in Murtenstrasse 35. I will discuss the principles of intravital microscopy and provide some exemplary research questions that could be addressed using it. I will present one particular imaging model in detail and discuss how I developed it and how it ultimately allowed us to discover a novel migratory behaviour of GATA6+ cavity macrophages. Finally, I will report some unpublished data and how we plan to leverage this microscopy system to study immune-mediated mesothelial cell migration.

**Host:** Prof. Dr. Anne Angelillo-Scherrer, Chair of the Johanna Dürmüller-Bol DBMR Award Committee 2021, Blood Research Program, Department for BioMedical Research, University of Bern.

The DBMR Research Conference takes place from 5 pm – 6 pm and will be followed by an apéro.