

DBMR Research Conference

Langhans Auditorium, Pathology
Murtenstrasse 31, 3008 Bern

Date: Monday, April 3, 2023, 5 pm – 6 pm

Title: Patient – derived Ex Vivo Models for Functional Tumor Profiling

Speaker: Prof. Chantal Pauli, MD, Department of Pathology and Molecular Pathology, University Hospital Zurich and Medical Faculty, University of Zurich (CH)

Bio: Prof. Chantal Pauli is a physician-scientist specialized in pathology and molecular pathology. She trained in Switzerland, and did two research fellowships in the USA, one at Scripps (San Diego, USA) with a focus in degenerative joint disease and tissue engineering, the other one at Weill Cornell Medicine (New York, USA) with a focus in precision medicine. She currently is leading the soft tissue and bone pathology service in the Department of Pathology and Molecular Pathology at the University Hospital in Zurich (USZ) and has her own research group “the Laboratory for Systems Pathology and Functional Tumor Pathology” at the University Hospital Zurich (USZ) and the Medical Faculty, University of Zurich (UZH).

Abstract: As the precision oncology approach only benefits a low percentage of patients, additional valuable information about tumor vulnerabilities is necessary. Functional precision oncology is an approach to directly test drugs on patient derived tumor cells in order to provide immediate translatable and more precise information to guide individual therapies. Our main clinical activity is the development of high-fidelity patient derived *ex vivo* cancer models for functional precision oncology. With such an approach we can complement static features by generating dynamic data that may encompass key vulnerabilities, including those conveyed by altered signaling pathways due to, for example, epigenetic changes not necessarily driven by distinct genomic aberrations. Our research activities encompass a panomics approach, complemented with functional screening (drug and CRISPR screens) of *ex vivo* patient derived solid cancer models for the discovery and identification of novel drug targets and drug vulnerabilities in especially rare cancers such as soft tissue sarcomas and cancers that are difficult to treat (e.g. pancreatic cancer). We study the environmental influences on drug responses using different hydrogels. With the establishment of resistant patient derived *ex-vivo* cancer cell models we obtain insight into the mechanism of acquired drug resistance. Together with our collaborators we further pursue projects using cutting-edge machine learning algorithms to better predict drug responses and synergies in patient derived *ex vivo* cancer models. This presentation will focus on our clinical and research work.

Prof. Chantal Pauli, MD, has been invited by Prof. Mark A. Rubin, MD, Director DBMR, Cancer Therapy Resistance, 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.

Next DBMR Research Conference

Monday, May 1, 2023, 5 pm – 6 pm

Speaker: The recipient of the Johanna Dürmüller-Bol DBMR Research Award 2021 - Dr. med. Dr. sc. Nat. Joel Zindel

Title: tba



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