



μBONE Workshop

TOPIC: Organotypic models and advanced imaging tools to dissect the biology of human bone metastasis

When: October 13-14th, 2020

Where: Georg-Speyer-Haus
Paul Ehrlich Strasse 42-44
Frankfurt am Main, 60596

Organizer: Alexander Schäffer

The workshop will focus on new modelling and imaging strategies to dissect the biology of bone metastatic disease. The first module will provide hands on training for whole bone preparation and high-resolution imaging of bone metastatic lesions followed up by quantitative analysis and spatial distribution.

The second and third modules will primarily provide hands on training on recently established 2D and 3D organotypic niche models that contain essential constituents of the bone marrow niche. These models allow exploration of cellular interactions between tumor and bone resident stromal cells in a fully human and modular setting.

Module 1: Modeling and imaging human bone metastasis *in vivo*

Module 2: Using 2D organotypic cultures as novel platforms for drug screening

Module 3: Generation of a 3D humanized *ex vivo* system

Participants are invited to express their interest for a specific module.

Detailed program

First day

1PM – 2PM

Welcome and introduction to modules by Alexander Schäffer

Module 1

2PM – 6PM

- Intra-caudal injections as experimental model for human bone metastasis
- Sample preparation and staining for whole bone imaging

Module 2

2PM – 6PM

- Establishing 2D co-cultures using primary ECs, MSCs and bone metastatic cells
- Exploring cellular interactions using the CQ1 imaging platform
- Evaluating the impact of therapeutic intervention

Module 3

2PM – 6PM

- Establishing 3D organotypic co-cultures using primary ECs, MSCs, collagen scaffold and bone metastatic cells
- Exploring cellular interactions using the CQ1 imaging platform

6PM Get together with Pizza in Forum

Second day

Module 1

9AM – 12AM

- Whole bone imaging and introduction to data analysis

Module 2 & 3

9AM – 12AM

- Imaging of triple 2D and 3D co-culture
- 3D reconstruction and introduction to data analysis

12 – 13PM

- Closing remarks and discussion
- Farewell with Coffee and snacks in the forum