

SCIENTIFIC SEMINAR



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for Regenerative Therapies

When the images are talking to us. Application of imaging mass spectrometry in clinical translational research.

Intra-tissue heterogeneity and its evolution over disease course have assisted an expansion of tissue sample collection accompanying patient treatment and trials worldwide. In-depth analysis and further interpretation with respect to potential clinical implications will achieve a better grasp of the extent of intra-tissue heterogeneity in several diseases to improve personalized patient treatment. Disease progression, in general, is known to be affected by cellular interplay and the surrounding microenvironment. Taken together, there is an unmet need for reliable disease risk classification that takes the microenvironment and spatial heterogeneity into account. Mass spectrometry imaging (MSI) innovative technology combines the comprehensive mass spectrometric technique with a conventional histological evaluation. It allows unlabeled as well targeted analysis of molecules (e.g., metabolites, proteins, peptide, lipids, and glycans) directly on a single tissue section, preserving their spatial coordinates and generating a molecular intensity map displaying the spatial relative molecule abundance. Consequently, BIH's Mass Spectrometry Imaging unit helps discover biomarkers for therapy stratification and decipher tissue heterogeneities by advancing MSI technology and combining it with machine-learning algorithms.

Tuesday, 06.06.2023, 15:00

Host: Frauke Alves



Lecture Hall, City Campus

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