

SPEAKER

Andreas Trumpp**Biologist and researcher
Specialized in stem cells and
cancer**DKFZ, HI-STEM gGmbH
NCT Heidelberg, Germany**From Stem Cells in Leukemia to Neurons
in Pancreatic Cancer****June 24th, 2024 | 11:00 CEST****[Link to Zoom](#)**

Single mutations in Hematopoietic Stem Cells (HSCs) can lead to clonal hematopoiesis (CH), which becomes increasingly prevalent with age. CH is linked to a higher risk of cardiovascular disease and the development of acute myeloid leukemia (AML) stem cells (LSCs) driving this aggressive disease.

The Trumpp team has developed MAC-scoring, the first reliable predictive biomarker measurement for AML patients treated with the BCL-2 inhibitor Venetoclax (VEN). MAC-scoring is based on the intracellular expression levels of BCL-2, BCL-xL, and MCL-1 in LSCs, enabling the rapid and cost effective prediction of individual AML patients' response to VEN. (Waclawiczek et al., Cancer Discovery, 2023). VEN/HMA has revolutionized the treatment of this aggressive disease, and new insights into therapy response and resistance mechanisms will be presented.

In the second part, a new in vivo retrograde tracing technology called TRACE-N-Seq will be presented to study pancreatic cancer (PDAC) innervating neurons at single-cell resolution. The resulting data sets reveal the reprogramming of neurons by PDAC cells. This offers new therapeutic strategies by combining denervation techniques with clinically used drugs (chemotherapy or immunotherapies) to more effectively target pancreatic cancer, which will be presented and discussed in the lecture.

Prof. Trumpp heads the Division "Stem Cells and Cancer" at the German Cancer Research Center (DKFZ) and is Managing Director of Heidelberg Institute for Stem Cell Technology and Experimental Medicine (HI-STEM gGmbH). He completed his dissertation at the European Molecular Biology Laboratory (EMBL), performed postdoctoral research at the University of California at San Francisco and headed a research group at the Swiss Institute for Experimental Cancer Research (ISREC) and the Ecole Polytechnique Fédérale de Lausanne (EPFL).

His group explores the principles of normal and malignant stem cell function as well mechanisms of therapy resistance at the molecular, genomic, metabolic and single cell level. The team focusses on AML, breast- and pancreatic cancers.

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