

A Lecture Series Focused on Induced Pluripotent Stem Cells





## Robert Zweigerdt, PhD

Research Center for Translational Regenerative Medicine (REBIRTH) Hannover Medical School (MHH), Hannover, Germany

## MAKING AND REPAIRING HUMAN HEARTS

Human pluripotent stem cell (hPSC) technology is a versatile approach. This talk will cover advanced hPSCs bioprocessing in fully controlled stirred tank bioreactors (STBR) including directed differentiation into specific lineages in particular hPSC-derived cardiomyocytes and discuss strategies for their clinical translation by functional testing in preclinical large animal models, in particular in non-human primates.

In another aspect, the generation, characterization and application of hPSC-derived Heart Forming Organoids (HFOs) will be presented. This in vitro model recapitulates aspects of early native heart development in combination with vasculature and anterior foregut endoderm anlagen.

Moreover, recent advancements of HFOs towards blood formation will be shown.









