BioRN Lounge with: Andreas Trumpp, HI-STEM, DKFZ

Topic: “Stem Cells and Cancer: From Molecular Mechanism to Clinical Trials”

April 24, 2018, 7pm
At the restaurant Urban Kitchen, Poststr. 36/5 in Heidelberg
Register by emailing to Sibylle Geilenberg: sg@biorn.org

Prof. Dr. Andreas Trumpp

About:
The presentation will cover recent results of HI-STEM including novel concepts on the organization of stem cell hierarchies and pathways essential for leukemic stem cells. In addition, new developments in breast cancer liquid biopsies and resistance mechanism operational in pancreatic cancer will be discussed.

Speaker: Prof. Dr. Andreas Trumpp, HI-STEM, DKFZ
Over the last 15 years the Trumpp team has contributed to a better understanding of the molecular and cellular basis of normal and malignant stem cell self---renewal and differentiation as well as the role of MYC in stem cells and cancer. For example, they demonstrated that the most potent hematopoietic stem cells (HSC) or pluripotent stem cells can exist in a state of MYC mediated deep dormancy during homeostasis to preserve their genomic integrity. However, bacterial/viral infections or chemotherapy activates dormant HSCs to quickly restore functionality (Cell 2008, 2016 and 2017; Nature 2009, Cell Stem Cell 2014). Recently, single cell analyses of the human hematopoietic system revealed a cellular continuum downstream of HSCs without the establishment of discrete progenitor stages (Cell 2017 and Nature Cell Biology, 2017). They also have identified a novel pathway in leukemic stem cells, which link metabolic traits to epigenetic alterations in AML stem cells (Nature 2017) and characterized a MYC super-enhancer differentially regulated in these malignant cells (Nature 2018). The group has also isolated and characterized circulating metastasis stem cells in the blood of breast cancer patients and identified a novel mechanism that mediates resistance of pancreatic tumors to clinically used drugs (Nature Biotech. 2013; Nature Medicine 2016).