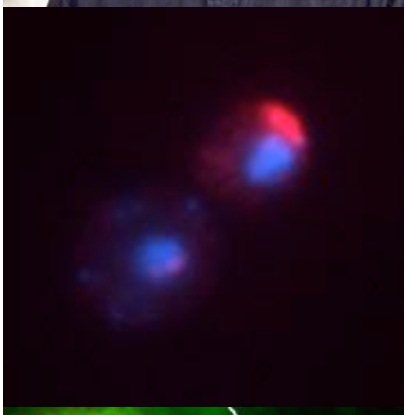
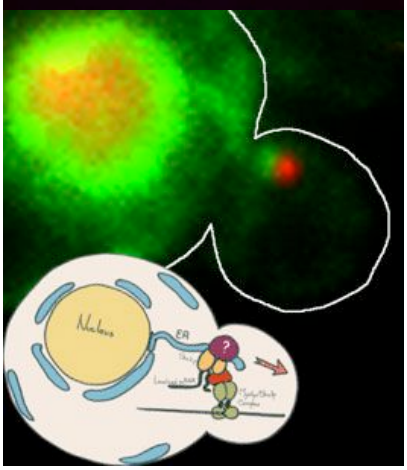
SFB 960-/BZR – Kolloquium

Dienstag, 08. Oktober 2019, 17.00 Uhr
H 53





Prof. Dr. Ralf-Peter Jansen

Eberhard Karls Universität Tübingen

"RNA-BioID: a new way to map the proteome of RNPs !?"

The Jansen lab focusses on intracellular mRNA trafficking. mRNA carries the cell's building instructions from the genome in the nucleus to the cytosol where proteins are synthesized. Whether and where mRNA is translated into protein is an important decision for the cell. We investigate the mechanisms of mRNA localization and translation in yeast and human cells and study the composition of RNA-protein complexes that are crucial for post-translational regulation.
Topic of the talk: The temporal and spatial expression of genes is required for maintaining cellular asymmetry, proper embryonic development, neuronal function, and cell fate. In mouse embryonic fibroblasts (MEFs) this cellular asymmetry is generated by localizing various cellular mRNAs to its protrusions. Among those mRNAs, β-actin mRNA plays a significant role in defining cellular asymmetry. Its local translation helps the cells to respond to extracellular cues and to move in order to maintain tissue homeostasis and repair. However, the mechanism of transport and regulation is still not fully understood. Since mRNA function is controlled by various proteins, we established a new method (RNA-BioID) that uses proximity labelling to identify all proteins that associate with a specific mRNA during its lifetime. I will report on the application of this method and the function of novel mRNA-binding proteins.

Host: Prof. Dr. Remco Sprangers, Lehrstuhl für Biophysik-I. remco.sprangers@ur.de