

# TWINCORE - Seminar

Tuesday August 23<sup>rd</sup>, 2016, 5 p.m.

TWINCORE Lecture Hall

## Cytoskeletal rearrangements during infection and pathogen defense



### Prof. Theresia Stradal

This talk will briefly introduce into basic mechanisms of cell motility and its manipulation by pathogens, followed by an overview of current projects.

Dynamic reorganization of the actin cytoskeleton is driven e.g. by actin nucleators like Arp2/3-complex and its activators such as WASP and WAVE. Rho GTPases in turn regulate the activity of these NPFs and other actin machines by transducing activatory upstream signals.

One current project deals with immune cells isolated from a mouse model lacking WAVE-complex, which normally translates Rac-signaling into lamellipodium protrusion. These cells consequently show severe defects in migration and phagocytosis. Interestingly, these mice are not immune-deficient but instead suffer from severe autoinflammation. In two other projects, we are targeting the expression of several actin regulatory genes via CRISPR-Cas, followed by analyses of their cellular phenotypes and infectability.

### Who is Theresia Stradal?

She studies both the defense mechanisms of the host and virulence mechanisms of selected pathogens. In the past, she was able to unravel regulatory mechanisms of cell motility as well as examples of how bacterial virulence factors influence them.

- Head of the department Cell Biology at the HZI and W3 professorship at the Institute for Zoology of the Technische Universität Braunschweig (since 2014)
- Before: W2 professorship by the Institute for Molecular Cell Biology at the University of Münster
- Group leader position in the Cell Biology department at the GBF