

Go Your Own Way: The role of mRNA localization in the directed growth of filamentous fungi

Initiative: zukunft.niedersachsen (nur ausgewählte Ausschreibungen)

Ausschreibung: Forschungsk Kooperation Niedersachsen - Israel

Bewilligung: 08.05.2019

Laufzeit:

Fungi are essential constituents of most ecosystems, but are also of growing concern as pathogens of plants, animals and humans. At the same time, their rich and often unusual metabolism is of increasing importance in biotechnological applications, including the production of pharmaceuticals, fine chemicals, food and biofuels. The control and exploitation of fungi is, however, severely hampered by a profound lack of understanding of the cellular mechanisms mediating their growth and development. The hallmark of filamentous fungi is their growth as multicellular, highly polarized filaments, known as hyphae, which steer their growth in response to environmental cues. Although this directed growth is essential for the propagation and development of any filamentous fungus, the molecular mechanisms mediating this cellular behavior remain only poorly understood. In this collaborative project, we are investigating the role of mRNA transport in fungal cell polarity, signaling, directed growth and cell fusion. In our experimental analysis we are combining classical, molecular and chemical genetics with fluorescence microscopy, live cell imaging and RNA biochemistry. The expected results will open a new research field in fungal biology with the long-term goal to better understand, control and exploit this fascinating group of organisms.

Projektbeteiligte

Prof. Dr. Andre Fleißner

Technische Universität Braunschweig
Fakultät für Lebenswissenschaften
Institut für Genetik
Braunschweig

Prof. Dr. Oded Yarden

The Hebrew University of Jerusalem
The Robert H. Smith Faculty of
Agriculture, Food and Environmental
Plant Pathology and Microbiology
Rehovot
Israel

