



University of Stuttgart

Stuttgart Research Center Systems Biology (SRC SB)

Systems Biology Seminar Talk

„Engineering of *Aspergillus niger* towards a multipurpose cell factory: Why and how? “

Prof. Dr.-Ing. Vera Meyer

TU Berlin



Abstract:

Filamentous fungi are microorganisms with unique properties in relation to protein and metabolite production, plant pathogenicity, and human diseases. This group includes beneficial fungi that serve as major resource for sustainable applications in areas such as bio-fuel and chemical production, but also as potential foes as serious and growing causes of human disease and mortality and threats to crops and food security.

One of my interests is to understand and rationally rewire the industrial cell factory *Aspergillus niger*. On the one hand, I together with my team generate and evaluate different omics data types for *A. niger* and use these Big Data to predict gene function as well as gene regulatory networks. On the other hand, we engineer titratable and tightly regulated conditional mono- and polycistronic synthetic gene switches and target them to specific genomic loci. By combining these two activities, we not only successfully improve *A. niger* as producer for proteins, new natural products or even new-to-nature compounds, we also enter a new era in *Aspergillus niger* biology: predictive biology.

CV:

Vera Meyer studied biotechnology at the Sofia University (Bulgaria) and the TUB (Berlin University of Technology, Germany). After obtaining a PhD degree (2001) and habilitation (2008) at the TUB, she worked as Assistant Professor at Leiden University (2008-2011). She has been visiting scientist at the Imperial College London (2003) and at Leiden University (2005-2006). In 2011, she became Full Professor of Applied and Molecular Microbiology at the TUB. Vera Meyer has research interests on fungal biotechnology with main emphasis on systems biology, genetic engineering and antifungal drug development.

Wednesday
June 5, 2019
10 a.m. – 11 a.m.

Lecture Hall 0.106
Allmandring 31
Stuttgart