

Institut für Mikrobiologie und Biotechnologie

## Einladung

### zum Biologischen Kolloquium

**Prof. Dr. Nadav Bar**  
**Universität Trondheim, Norwegen**

am: **Mi., 03.05.2017**  
um: **13:30 Uhr**  
in: **N25 / H9**

Titel: **"Merging Control Theory with  
Systems and Synthetic  
Biology: Creating the future cell factories"**



Control theory has been extensively developed in mechanical, electrical and chemical engineering since the mid 20th century. Recently, scientists had applied feedback control in biological systems and single cells to understand and to regulate dynamics of bacteria, birds, insects and bats. Here, we will present two important control strategies: We will demonstrate how simple controller are crucial to guide bats to their prey during high maneuver flight in the dark. We will also demonstrate how more complex optimal control can transform fermentation processes to stable and effective ones. We will discuss synthetic biology and provide examples how to design genetic circuits that can achieve feedback control in cell cultures.



Gäste sind herzlich eingeladen!