

# BayCEER Kolloquium

Lectures in Ecology and  
Environmental Research

WS 2016/17



UNIVERSITÄT  
BAYREUTH

Thursday

**02.02.2017**

**12:00 in H6, GEO**

**Prof. Dr. Thomas Foken**

BayCEER / MikroMeteorologische Beratung,  
Bischberg

## **Wind throw, bark beetles and climate change: Research at the Waldstein site**

The presentation focuses on fluxes of energy, carbon dioxide and matter in and above a Central European spruce forest. The transition from a forest affected by acid rain into a heterogeneous forest occurred as a result of wind throw, bark beetles and climate change. Scientific results obtained over the last 20 years at the FLUXNET site DE-Bay (Waldstein-Weidenbrunnen) are shown together with methods developed at the site, including the application of footprint models for data-quality analysis, the coupling between the trunk space and the atmosphere, the importance of the Damköhler number for trace gas studies, and the turbulent conditions at a forest edge. Also model studies such as higher-order closure models, Large-Eddy Simulations, and runoff models for the catchment will be compared with the experimental data. Moreover, by highlighting processes in the atmosphere it offers insights into the functioning of the ecosystem as a whole.