BayCEER Kolloquium

Lectures in Ecology and Environmental Research

WS 2019/20

UNIVERSITÄT BAYREUTH

Donnerstag/Thursday
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12:00 in H6, GEO

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Inside the fog: towards an improved forecasting of nocturnal fog by using turbulence-resolving simulations

Fog as a meteorological phenomenon can have a high impact on the economy but also on personal safety. The estimated total economic losses associated with fog events on aviation, marine and land transportation to be comparable to those of winter storms. There is thus increasing demand for precise fog forecasting. Despite the improvements in numerical weather prediction models over recent years, accurate forecasting of fog is still challenging. The main reason is fog's considerable variability in space and time as a result of the nonlinear interaction between several processes, such as radiation, turbulent mixing, cloud microphysics, and energy transfer in the atmosphere–surface–soil continuum. Turbulence-resolving simulations (so-called large-eddy simulations, LES) provide an ideal framework for studying these processes and their interaction. This talk provides an introduction into the fog physics and its life cycle and outline recent advancements in fog research using high-resolution LES at Leibniz University Hannover.

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The lectures are an inter-disciplinary platform for students, junior and senior scientists. Abstracts and further information: www.bayceer.uni-bayreuth.de/kolloquium/