

EINLADUNG

zum Vortrag

von

Prof. Dr. David G. Schmale III

Virginia Tech University, Blacksburg, Virginia, USA

Drone-ing for Microbes along Highways in the Sky

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Dienstag, 7. Juni 2016, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

The air around us is crawling with microscopic life forms. Some of these microbes are causal agents of disease. Others are weather-makers. A few have crossed continents. New technologies are needed to study the movement of microorganisms in the atmosphere. We have used drones (unmanned aerial vehicles (UAVs)/ unmanned aircraft systems (UAS)) to study the transport of microorganisms tens to hundreds of meters above the ground. These drones are equipped with unique devices for collecting microbes in the atmosphere during flight. Autonomous systems enable teams of drones to perform complex atmospheric sampling tasks and coordinate flight missions with one another. Data collected with drones can be used to validate and improve disease forecasting models along highways in the sky, connecting transport scales across farms, states, and continents. Growers can use information from drones to make appropriate plant disease management decisions, such as the timely application of fungicides. Drones may be used to excite the next generation of biologists and engineers, and raise important ethical considerations about the future of human-robot interactions.

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