BayCEER Kolloquium

Lectures in Ecology and Environmental Research

WS 2021/22

UNIVERSITÄT BAYREUTH

Donnerstag/Thursday
04.11.2021
12:15 in H8, GEO

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Animal Ecology I, BayCEER, UBT

Challenges in environmental hazard assessment – Demonstrating the absence of effects and predicting toxicity for untested materials

As a society we want to protect ourselves and our environment from negative impacts caused by pollutants (e.g., microplastic) and toxic substances. Regulatory decisions about the approval or ban of a new substance thus require a careful assessment of its ecotoxicological risk by comparing its hazard (toxicity) to its expected concentration in the environment (exposure).
In my talk I want to highlight two challenges specific to hazard assessment that show how both, decisions on a very basic statistical level and complex predictive modeling approaches can help us draw more reliable conclusions. On a very fundamental basis, I will discuss statistical challenges we face when the goal is to demonstrate the absence of negative side-effects, a prerequisite for the registration of new chemicals in the EU. On a more complex level, I will discuss how we can use in silico methods to approach the difficulty that we can only test a few standard test species in the lab with a limited number of contaminants, but at the same time aim at protecting all potentially exposed organisms in a contaminated environment.

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