



# Guest Lecture

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Host: Assoz.-Prof. Dr. Stephen Wickham



## Legacy of the past - resting egg genomics and eco-evolutionary dynamics

In recent years, the potential importance of interactions of rapid ecological and evolutionary changes occurring at contemporary time scales has been received considerable attention, in particular in the context of global change. While the current period of global change, often also termed Anthropocene, is definitely not short of rapid ecological changes, it is unclear how frequent rapid evolutionary changes can follow ecological change and how they interact. Two factors facilitating rapid evolutionary changes are large population sizes – allowing for a larger number of mutations - and hybridization among diverged taxa – generating new allelic combinations and/or introducing adaptive alleles into a population. We, therefore, study the *Daphnia longispina* complex, comprising ecologically diverged and hybridizing water flea species to understand the consequences of hybridization for the evolution of this complex and eco-evolutionary dynamics in lake ecosystems. We have made use of whole-genome time series obtained from *Daphnia* resting eggs deposited in lake sediments to reconstruct recent cases of secondary contact and interspecific hybridization following anthropogenic habitat disturbance through cultural eutrophication in European peri-Alpine lakes. Currently, we are establishing isofemale lines collected from various peri-Alpine lakes, and geno- and phenotype them to test the consequences of rapid evolutionary changes on eco-evolutionary dynamics in lab and mesocosm experiments in the context of global change.

**Friday, April 19, 2 PM**

**NLW-Faculty, Room 421, 2nd floor**

