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Lecture Series Environment & Biodiversity

# Individuality, flexibility & adaptations to a changing world

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Host: Dr. Sophie von Merten



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NLW Faculty, Room 424, 2nd floor

Research focus:

Behavioral ecology, ecophysiology

evolutionary ecology, rodents







## Abstract

Human activities cause unprecedented alterations to environments worldwide — from climate change and habitat destruction to overharvesting and the introduction of invasive species. These human-induced rapid environmental changes (HIREC) expose organisms to evolutionary novel conditions that typically involve higher rates of change compared to those experienced in their evolutionary past. Plasticity and behavioural flexibility are considered mechanisms of fast adjustment and may thus play a pivotal role in understanding how animals cope with rapid environmental change. However, flexibility is generally assumed to be costly, either in terms of energy-consumption or in the sense of fitness pay-offs. In several experiments, my group explored how flexibility in behaviour and developmental plasticity in response to changes in the quality of the environment help animals to adjust to environmental change and urbanisation and which costs arise from such fast adjustment processes. As model organisms we used several rodent species, mainly the house mouse (*Mus musculus*), a species that, much like our own species, has managed to adapt to vastly different environments and spread all over the world.

