

**THESIS OPPORTUNITY: Is problem solving ability in bank voles hereditary?**



*Bachelor or Masters thesis opportunity*

**BACKGROUND:** Behavioural innovations and problem solving allows individuals to increase their fitness by gaining access to rewards not accessible to the entire population. This is especially important in an ever-changing world with increasing environmental variation. Variation in problem solving ability among individuals may be related to environmental or social factors, ontogeny, or genetics. Problem solving ability is a plastic trait in many species, but understanding how heritable problem-solving ability is allows us to understand the degree of genetic components involved in animal cognition. Knowing how heritable a trait, such as problem-solving ability, is allows us to estimate how that trait will be affected under natural selection. This is important for problem solving ability, as it can help species buffer the effects of a highly variable environment.

This project will look at problem solving ability in three generations of bank voles, including both male and female parents and offspring.

**THE WORK:** Experiments will be conducted in the lab in Potsdam (timeline flexible, but ideally starting soon) and recorded using videos. The work will involve a combination of running lab problem-solving experiments and analysing data from videos. Interests of the student can also be happily incorporated into the experiment or developed further! Lots of flexibility to include additional interests or questions.

FOR MORE INFORMATION contact Molly at [gilmour@uni-potsdam.de](mailto:gilmour@uni-potsdam.de) and Lea at [vodjerek@uni-potsdam.de](mailto:vodjerek@uni-potsdam.de).

