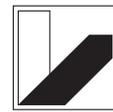


# BayCEER Kolloquium

Lectures in Ecology and  
Environmental Research

Winter 2024/25



UNIVERSITÄT  
BAYREUTH

Donnerstag/Thursday

16.01.2025

12:15 in H6, GEO

**Dr. Marina Scheumann**

University of Veterinary Medicine Hannover

## Comparative Bioacoustics: How are emotions encoded in animal acoustic signals?

Emotions play a crucial role in our daily life by coordinating and evaluating social interactions. Darwin (1872) already suggested that vocal emotional communication follows similar rules in humans and animals. While some support exists for cross-taxa similarities in the expression of acoustically conveyed emotions, increasing studies have shown a more diverse pattern. This diversity might be explained by the use of different methodological approaches between species, making it difficult to draw general conclusions on cross-taxa vocal affect-coding rules in mammalian vocalizations. By applying the same behavioural paradigm to mammalian infants from five different orders, we found inter-species differences in vocal responses and arousal-dependent changes in vocalizations. These differences suggest that vocal communication is affected by socio-ecological factors such as breeding system, ontogeny, and vocal production mechanisms. Furthermore, cross-taxa recognition experiments in humans suggest that familiarity with the species and the context is important for accurately recognizing the emotional state of an animal. Moreover, some burrow-living species combine non-vocal acoustic displays with vocalizations to signal their arousal state. Thus, the encoding of emotions in animal vocalizations underlies evolutionary processes similar to other behavioural adaptations. Therefore, studying vocal communication can provide deeper insights into evolutionary adaptations to the socio-ecological environment.

