Workshop on animal social network analysis

Instructors:

Daniel Redhead, Assistant Professor, Department of Sociology, University of Groningen & Department of Human Behavior, Ecology & Culture, Max Planck Institute for Evolutionary Anthropology.

Ben Kawam, Postdoctoral Researcher, Department for the Ecology of Animal Societies, Max Planck Institute for Animal Behavior.

Overview:

This half-day workshop introduces participants to the current state-of-the-art in Animal Social Network Analysis (ASNA), highlighting recent methodological advances and best practices. Participants will gain a conceptual understanding of key analytical challenges—such as statistical/social dependencies, causal inference, and data-method alignment—and learn how to apply cutting-edge model-based tools to their own research using the STRAND R package. The workshop will combine a lecture, hands-on programming, and opportunities for individual feedback.

By the end of the workshop, participants will be able to:

- Identify and avoid some common methodological pitfalls in ASNA (e.g., misuse of permutation tests, ratio indices).
- Understand how model-based and generative approaches improve inference and interpretability in network analyses.
- Use Directed Acyclic Graphs (DAGs) to justify model structure and avoid confounding.
- Implement generative network models using the STRAND R package.
- Use the tools above as part of a practical workflow to rigorously connect their own biological hypotheses to their datasets.

Target Audience:

Researchers and students in behavioural ecology, anthropology, and related fields with a basic understanding of R and an interest in network-based approaches to animal behaviour.

Requirements:

Participants should bring a laptop with R and **must have the STRAND package installed to participate in the hands-on programming session**. Example datasets and scripts will be provided.