Master's Thesis Projects (45/60 credits): Molecular Mechanisms of Behavior

Are you interested in the interplay between evolutionary biology and animal behavior? We invite students to join our research program for a thesis project exploring molecular mechanisms underlying key phenotypic traits in the guppy (*Poecilia reticulata*), an important model system in behavioral and evolutionary biology.

What you'll be doing

Your project will build on extensive groundwork of experimental evolution, behavioral experiments, and molecular work which have produced datasets ready to be analyzed. Your work will be purely computational: analyzing sequence data, building visualizations, and producing results aimed to directly contribute to a scientific manuscript.

You will contribute to developing bioinformatic pipelines combining short- and long-read RNA sequencing to study gene expression and alternative splicing. How to best combine data from multiple technologies is an emerging field, providing the opportunity to contribute to exploratory work at the intersection of bioinformatics and behavioral biology.

Alongside the computational work, there will be a strong emphasis on understanding both animal behavior and bioinformatics methods literature, scientific writing, and communicating results clearly, treated as an integral part of your training throughout the project.

Two available themes

1. **Development of sexually selected traits:** how gene expression and alternative splicing contribute to characters shaped by sexual selection across developmental stages.
2. **Social cognition:** genomic and transcriptomic variation associated with behavioral differences following exposure to different predation pressures.

Good to know

- The project is available immediately.
- The project suits someone who enjoys problem-solving and is comfortable with some uncertainty while we develop computational approaches together. Additional support from external collaborators will be available if needed.
- Previous experience with R and bioinformatics tools is an advantage, though curiosity and enthusiasm to learn are highly valued.

More information about the lab: albertocorralscience.github.io

Please send a short statement of interest to alberto.corral@ebc.uu.se. Informal inquiries to discuss the projects are also very welcome.

Department: Evolutionary Biology Program, Ecology and Genetics Dpt
Place: EBC Uppsala
Start: Flexible; starting immediately works well
Project length: 45-60 credits
Application: Contact the supervisor!