Environmental DNA (eDNA) methods in ecology and conservation

Environmental DNA, commonly known as eDNA, is an exciting, multi-faceted tool for ecological and conservation research. eDNA is sampled directly from many types of environmental sources including, air, soil and water and is typically used for rapid biodiversity assessments (using high throughput sequencing in combination with metabarcoding) or the detection and quantification of specific species (using PCR or quantitative PCR).

eDNA is used in a rapidly growing number of applications in ecological research ranging from the assessment of water quality to soil diversity assessment, trophic analyses of digestive contents, diagnosis of health status of fisheries, early detection of non-indigenous species, studies of global ecological patterns and biomonitoring of anthropogenic impacts. This course will take a decidedly interdisciplinary perspective, drawing on examples of research from community ecology, conversation ecology and agroecology. The course will provide an introduction to – and overview of – the research field with a focus on the following questions:

- What research questions in ecology and conservation can be answered by studying eDNA and how is and can it be used by government and biomonitoring agencies?
- What are the main strengths and weaknesses of eDNA methods and applications?
- How to make the right decisions for analysing data derived from eDNA research?

The course will comprise lectures, keynote presentations from leading eDNA researchers and practical (literature-based) group-exercises.

More details, including a detailed course plan and confirmed teachers will be announced before the end of January. The course is free of charge. PhD students from ClimBEco and GENECO have acceptance priority.

The course is given with support from the Graduate research school ClimBEco and GENECO. The course is organized by Georgina Brennan and Fabian Roger (Centre for Environmental and Climate Research, Lund University).

please apply by February 28th at the latest