Arctic Seminar Series
16 December 2016 at 14.00-15.00
ARC meeting room, 1540-020, Roskilde: I0.19

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Monitoring aquatic biodiversity using environmental DNA

Ecosystems across the globe are under significant threat, suffering from various forms of anthropogenic disturbances, which are greatly impacting global biodiversity, economy and human health.

Reliable monitoring of species is crucial for data-driven conservation actions in this context but remains a challenge owing to non-standardized and selective methods that depend on practical and taxonomic expertise, which is steadily declining.

Environmental DNA (eDNA) – DNA obtained directly from water, soil etc. – has proven a successful avenue in describing species compositions in contemporary environments, and may be an appropriate candidate for the conservation challenge, since it is cost-efficient and non-invasive. Coupled to high-throughput DNA sequencing, it is now possible to study entire species assemblages in aquatic ecosystems using a bottle of water.

In my talk, I will give an introduction to the achievements of aquatic eDNA, especially for describing macro-organismal communities in contemporary ecosystems. I will focus mainly on our results from marine ecosystems around the world, and address challenges and perspectives of eDNA for addressing questions in ecology, conservation and environmental sciences.

Centre for Geogenetics http://geogenetics.ku.dk/

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