MARINE & FRESHWATER RESEARCH INSTITUTE

matís

MOBeDNA: Monitoring Biodiversity using eDNA

MOB eDNA

Monitoring Biodiversity with eDNA

2nd - 3rd of October 2019

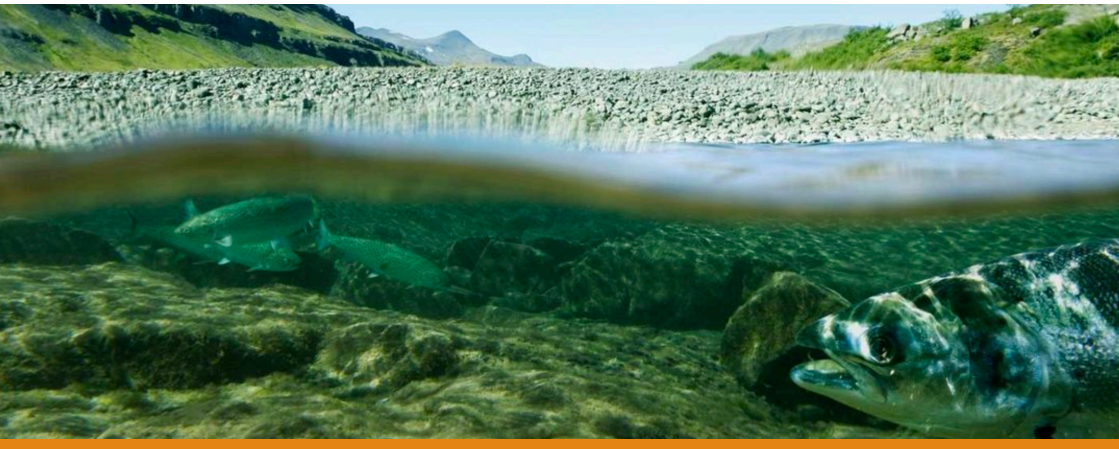
Auditorium, 1st floor
Marine and Freshwater Research Institute
Skúlagata 4, 101 Reykjavík

MOBeDNA Conference in Iceland

Biological diversity is probably declining more rapidly than ever before in the history of the oceans. Changes in marine species distribution and migration patterns due to climate change has already been demonstrated in many species. In addition, it has been suggested that climate-driven habitat change and/or species loss in the oceans are likely to be greatly underestimated as only a small fraction of the species in the deep sea and polar oceans have so far been identified. This makes the loss of species in the oceans much more difficult to record and evaluate than on land. This is mainly because ocean life is largely hidden from view.

An emerging conservation tool is the use of environmental DNA (eDNA), which gets around some of the limitations of traditional surveys. It provides a quick and affordable way to figure out what life is present in the ocean. The sources of eDNA can vary, but usually include skin cells, mucus, eggs, urine or faeces. Surveys of eDNA present a many advantage compared to conventional surveys methods: they are often easier to set up and implement, are less expensive, and are non-invasive, i.e. they are non-lethal and do not disturb the studied organisms. eDNA has been shown to be a powerful tool for investigating biodiversity in various ecosystems in a relatively low-cost and effective manner while minimizing any stress induced by human interaction.

MOBeDNA is a free public conference where domestic and international specialist of eDNA research will present the opportunity, challenges, sampling protocols and technical advances in eDNA studies. The conference is funded by AG-Fisk.



Nordic Co-operation

AG-Fisk

Agenda

Wednesday 2nd of October 2019

8.30-9.10 Registration

9.10-9.20 Welcoming words
Davíð Gíslason, Research Scientist at Matís

CHAIRMAN: *Davíð Gíslason*

9.20-10.05 Biodiversity Genomics & Environmental DNA: Applications and Advances for Biomonitoring
Robert Hanner

10.05-10.35 Coffee break

10.35-11.20 From samplers to ecogenomic sensors: Use of automated methods and instruments for aquatic eDNA assessment
Einar Eg Nilsen

11.20-12.05 Application of eDNA surveys to fisheries: Recent advances and future directions
Ian Salter

12.05-12.20 eCAP: Tracing capelin with environmental DNA (eDNA)
Chris Pampoulie

12.20-12.35 Marine eukaryotic biodiversity from COI metabarcoding of eDNA samples: new insights and knowledge gaps
Owen S. Wangensteen

12.35-13.30 Lunch break

CHAIRMAN: *Chris Pampoulie*

13.30-14.15 Natural Sampler DNA
Stefano Mariani

14.15-14.30 A molecular approach to study diet of *Pandalus borealis*
Pauline Urban

14.30-14.45 A net with no holes: using environmental DNA to revolutionise the assessment of marine pelagic communities
Marine Cusa

14.45-15.15 Coffee break

15.15-16.00 Taking eDNA monitoring to the next level: Using unique genomic signatures for biodiversity and population structure assessments
Sissel Jentoft

16.00-16.15 Environmental DNA exploration of Antarctic pelagic ecosystems: from species inventories to trophic webs
Mariani Stefano

16.15-17.00 Open discussion

Agenda

Thursday 3rd of October 2019

CHAIRMAN: *Sæmundur Sveinsson*

9.10-9.55	Marine environmental DNA in the Anthropocene – Applications in the Arctic and sub-Arctic *Kim Præbel*
9.55-10.10	eDNA in preserved sediment trap samples: An observational approach to link climate variability, plankton diversity and marine ecosystem services in the Arctic *Ian Salter*
10.10-10.25	iDNA - how to use a scavenger as a management tool *Pauline Urban*
10.25-10.55	Coffee break
10.55-11.10	Mapping marine phytoplankton in Iceland through environmental DNA metabarcoding *Mia Cerfonteyn*
11.10-11.25	Metagenomics of microbes in Icelandic marine waters *Clara Jegousse*
11.25-11.40	Microorganisms in groundwater spring sources in Iceland *Ragnhildur Guðmundsdóttir*
11.40-12.30	Discussion and closing