

## Monday 23rd June – Tromsø museum

08:00 – 09:00: Registration and coffee

09:00 – 12:00: Pre-conference workshop: Bioinformatics

Room: Tromsø museum – Museumsalen

09:00 – 12:00: Pre-conference workshop: Neotoma

Room: Tromsø museum – Rotunden

12:00 – 13:00: Lunch break

13:00 – 16:00: Pre-conference workshop: Nanopore sequencing

Room: Tromsø museum – Museumsalen

13:00 – 16:00: Bioinformatic core group meeting

Location: Tromsø museum – Rotunden

13:00 – 15:00: GEC - Governance Engagement Committee

Room: Botany building – 5 minute walk from the Tromsø museum

16:00 – 17:00: SedaDNA society board meeting

Room: Tromsø museum – Museumsalen

17:00 – 18:00: SedaDNA society public meeting

Room: Tromsø museum – Museumsalen

18:00 – 21:00: Ice breaker

Location: Tromsø museum

## Tuesday 24th June – Framsenderet

08:00 – 09:00: Registration, coffee and poster setup

09:00 – 09:30: Welcome

Room: Longyearbyen

09:30 – 10:30: Parallel session: Lacustrine sedaDNA 1 (A1)

Room: Longyearbyen Chair: Dilli Rijal

Time	Presenting author	Title
09:30 - 09:45 Oral	Laura Parducci	30,000 years of flora diversity in southern Italy: metabarcoding and pollen analyses at Lago Grande di Monticchio
09:45 - 10:00 Oral	Kuldeep D. More	Unraveling Post-LGM Plant Community Dynamics in Southeast Alaska using SedaDNA approach
10:00 - 10:15 Oral	Lauren T. Clark	A Sequence of Southern Sweden: Sedimentary Ancient DNA Analysis of Environmental Change on the Kullen Peninsula
10:15 - 10:30 Oral	Sandra Garcés-Pastor	Wild and domesticate mammals drove late-Holocene alpine plant diversity in the European Alps

09:30 – 10:30: Parallel session: Marine sedaDNA 1 (A2)

Room: Kompasset Chair: Andreas Altenburger

Time	Presenting author	Title
09:30 - 09:45 Oral	Katarzyna Melaniuk	Reconstruction of variability in past sea-ice over 150 000 years using ancient DNA- a case study from the Greenland Sea.
09:45 - 10:00 Oral	Heike H. Zimmermann	Revealing Holocene ice-ocean-biota relationships with sedimentary ancient DNA metagenomics in Melville Bay, North-West Greenland
10:00 - 10:15 Oral	Nele Manon Vollmar	Is sea-ice cover reflected in sedimentary DNA? – a case study from the Weddell Sea, Southern Ocean
10:15 - 10:30 Oral	Prashasti Singh	Exploring the evolutionary and adaptive mechanisms of <i>Fragilariopsis cylindrus</i> using sedaDNA

10:30 – 11:00: Coffee break

## Tuesday 24th June – Framsenderet

11:00 – 12:30: Parallel session: DNA taphonomy (B1)

Room: Longyearbyen Chair: Lucas Elliott

Time	Presenting author	Title
11:00 - 11:15 Oral	Pablo Nicolas Arellano Caicedo	Environmental salinity and pH determines DNA-mineral interactions
11:15 - 11:30 Oral	Charline Giguet-Covex	What can we learn by working with different sedaDNA fractions from plants?
11:30 - 11:45 Oral	Ismael G. Espinoza	Environmental Controls on Recovery of Plant Environmental DNA in Lake Sediments from Wisconsin, USA
11:45 - 12:00 Oral	Benjamin Vernot	Environmental DNA as a tracer for past behavior
12:00 - 12:15 Oral	Witold Szczuciński	Applications of sedaDNA for sedimentological studies and the role of sedimentary processes in the interpretation of sedaDNA records

11:00 – 12:30: Parallel session: Terrestrial aDNA (B2)

Room: Kompasset Chair: Youri Lammers

Time	Presenting author	Title
11:00 - 11:15 Oral	Maria Zicos	Sedimentary ancient DNA from the Middle Paleolithic Cave site Ararat 1, Armenia
11:15 - 11:30 Oral	Christoph Schwörer	Unlocking the untapped potential of ancient DNA preserved in plant macrofossils
11:30 - 11:45 Oral	Scott Cocker	Exploring Arctic ground squirrel evolutionary history with ancient (environmental) DNA
11:45 - 12:00 Oral	Bianca De Sanctis	Ancient microbial metagenomics of subglacial precipitates from beneath the Laurentide and Antarctic ice sheets
12:00 - 12:05 Lightning	Susanna Sawyer	sedaDNA preservation at Satsurblia Cave, Georgia using a microstratigraphic approach
12:05 - 12:10 Lightning	Alba Bossoms Mesa	Genetic insights into the occupational history of El Castillo Cave over time
12:10 - 12:15 Lightning	Annegret Larsen	SedaDNA reveals a late Holocene shift from wet to dry floodplain ecosystems
12:15 - 12:20 Lightning	Aloïs Revéret	From poppies to mammoth: comparing postglacial ecosystems and depositional environments on either side of the Norwegian Channel
12:20 - 12:25 Lightning	Annabelle L. Horton	Potential of SedaDNA as a Proxy to Distinguish between Nor'easter and Hurricane Overwash Deposits

12:30 – 13:30: Lunch break

## Tuesday 24th June – Framsenderet

13:30 – 14:30: Plenary: Eske Willerslev

Room: Longyearbyen

14:30 – 15:30: Parallel session: Lacustrine sedaDNA 2 (C1)

Room: Longyearbyen Chair: Dilli Rijal

Time	Presenting author	Title
14:30 - 14:45 Oral	Ernst Johnson	A High-Coverage Brown Bear Mitochondrial Genome from Early Holocene Sediment in Northern Sweden
14:45 - 15:00 Oral	Youri Lammers	The last mammoth in the Polar Urals and its correlation to vegetation change
15:00 - 15:15 Oral	Nevé Baker	Reconstructing beaver-modified Holocene ecosystems with sedimentary ancient DNA
15:15 - 15:20 Lightning	Sisi Liu	Sedimentary ancient metagenomics infers plant-mammal community dynamics across northern Eurasia and North America during the Late Pleistocene-Holocene

14:30 – 15:30: Parallel session: Marine sedaDNA 2 (C2)

Room: Kompasset Chair: Sylvain Monteux

Time	Presenting author	Title
14:30 - 14:45 Oral	Linda Armbrrecht	Distinct marine eukaryote sedaDNA signatures characterise East and West Antarctic ecosystems
14:45 - 15:00 Oral	Hasitha Nethupul	Marine Eukaryote Community Responses to the Climate Changes in Storfjordrenna Over the Past 13.65 Kyr BP: Insights from Sedimentary Ancient DNA
15:00 - 15:15 Oral	Alexandra Schmidt	Genetic Resilience and Long-Term Monitoring of Phytoplankton Dynamics Using Sedimentary Ancient DNA
15:05 - 15:20 Oral	Ana Gomes	Reconstructing the past functioning of the biological carbon pump: a sedimentary ancient DNA approach

15:30 – 16:00: Coffee break

16:00 – 18:00: Poster session

Room: Lysgården

16:00 – 18:00: Polar museum (free access)

20:00: Conference dinner

Location: Maskinverkstedet

## Wednesday 25th June – Framsenderet

08:30 – 09:00: Coffee break

09:00 – 10:30: Parallel session: Computational methods 1 (D1)

Room: Longyearbyen Chair: Lucas Elliott

Time	Presenting author	Title
09:00 - 09:15 Oral	Maya Lemmon-Kishi	Decoding Time: A Phylogenetic Framework for Molecular Dating of Sedimentary Ancient DNA
09:15 - 09:30 Oral	John Williams	First steps to integrating aeDNA with the Neotoma Paleoecology Database
09:30 - 09:45 Oral	Marieke Beaulieu	Process-based modelling of Fennoscandic plant communities using sedimentary ancient DNA
09:45 - 10:00 Oral	Tristan Cordier	Benchmarking transfer function's calibration approaches for sedimentary ancient DNA
10:00 - 10:15 Oral	Elisa Davis	Exploring Southern Ocean diversity: sedaDNA Bioinformatic Pipeline benchmarking for rare eukaryotic taxa
10:15 - 10:30 Oral	Zihao Huang	Hybridization Capture and Efficiency Enhancement for Ancient Environmental DNA

09:00 – 10:30: Parallel session: Archaeology (D2)

Room: Kompasset Chair: Claire-Elise Fischer

Time	Presenting author	Title
09:00 - 09:15 Oral	Lise Alonso	Presentation of MAGIC2 project : Mountain AGro-ecosystems past trajectories developed by different soCieties under different bioClimatic conditions
09:15 - 09:30 Oral	Sam Hudson	SedaDNA & Environmental Archaeology- The Prehistoric Environment of the Stonehenge Landscape
09:30 - 09:45 Oral	Ruairidh Macleod	Linking sedaDNA to Middle Holocene Hunter–Gatherer Population Dynamics at Lake Baikal
09:45 – 10:00 Oral	Mary Lucas	Sedimentary ancient DNA analysis of cooking pits from the Iron Age site of Rødskjær in Northern Norway
10:00 - 10:05 Lightning	Thomaz Pinotti	Reconstructing past cultural practices using Picuris Pueblo oral tradition and sedimentary ancient DNA
10:05 - 10:10 Lightning	Aldona Mueller-Bieniek	Well drained archaeological sediments and post deposition processes seen in archaeobotanical studies
10:10 - 10:15 Lightning	Aurora Campo	Developing a Standardized Protocol for Sediment Sampling in Greek Archaeological Sites for Ancient DNA Analysis

10:30 – 11:00: Coffee break

Wednesday 25th June

11:00 – 12:30: Parallel session: Molecular methods (E1)

Room: Longyearbyen Chair: Bastian Fromm

Time	Presenting author	Title
11:00 - 11:15 Oral	Lasse Vinner	Automated sequencing data production from ancient environmental samples
11:15 - 11:30 Oral	Yucheng Wang	Advancing ancient environmental DNA target genome capture to facilitate genomic and genetic analysis
11:30 - 11:45 Oral	Flore M.D. Wijnands	Arctic Ocean ecosystem reconstruction using sedaDNA: a comparison of shotgun metagenomics and metabarcoding
11:45 - 12:00 Oral	Nichola Ann Strandberg	Empirical comparisons of metabarcoding, capture probe and shotgun sequencing using surface sediments, vegetation surveys and PhyloNorway
12:00 - 12:15 Oral	Amedea Perfumo	Reawakening ancient DNA for biotechnology
12:15 - 12:20 Lightning	Ryan Paterson	Challenges and Opportunities of environmental palaeoproteomics
12:20 - 12:25 Lightning	Jérémy Courtin	Unlocking Arctic Marine Biodiversity: Enhancing Taxonomic Resolution with Sedimentary Ancient DNA
12:25 - 12:30 Lightning	James McKenna	eWHALE: Combining environmental DNA sampling, whale watching and citizen science for stakeholder-driven marine biodiversity protection

11:00 – 12:30: Parallel session: Human impact 1 (E2)

Room: Kompasset Chair: Scarlett Zetter

Time	Presenting author	Title
11:00 - 11:15 Oral	Xaali O'Reilly-Berkeley	The potential of sedaDNA to increase our understanding of island ecosystem dynamics
11:15 - 11:30 Oral	Amy Thorpe	Reconstructing Past Microbial Communities in Lake Ecosystems Using Sedimentary DNA
11:30 - 11:45 Oral	Robin Crucitti-Thoo	Investigating 250 Years of Cyanobacterial Community Dynamics in a Currently Eutrophic Lake Using Sedimentary DNA
11:45 - 12:00 Oral	Juliane Romahn	7,000 Years of Change: How Environmental Shifts Shaped Phytoplankton Communities in the Baltic Sea
12:00 - 12:15 Oral	Narumi Tsugeki	A trial assessment of chemical burden on marine mammal dynamics over the past 100 years by using sedimentary DNA: an example of finless porpoise
12:15 - 12:20 Lightning	Yuanyu Cheng	Protecting the future by learning from the past: Salmon nursery lake ecosystem reconstruction through sedimentary DNA
12:20 - 12:25 Lightning	Agnes Weiner	Using sedimentary ancient DNA to trace changes in past marine biodiversity in Norwegian fjords
12:25 - 12:30 Lightning	Elena Baños	Unraveling Historical Dynamics of Marine Biological Invasions: A sedaDNA study of Intertidal Ecosystems

## Wednesday 25th June

12:30 – 13:30: Lunch break

13:30 – 14:30: Plenary: Ulrike Herzs Schuh

Room: Longyearbyen

14:30 – 15:30: Parallel session: Computational methods 2 (F1)

Room: Longyearbyen Chair: Youri Lammers

Time	Presenting author	Title
14:30 - 14:45 Oral	Aurora Campo	A Snakemake Pipeline for SNP Calling in Ancient DNA: Identifying Heterozygous Sites for Positive Selection Analysis
14:45 - 15:00 Oral	Nicola Alexandra Vogel	keelime: Hybrid assembly for ancient environmental DNA using pangenome graphs
15:00 - 15:15 Oral	Kevin Nota	Beyond Genera, the Next Frontiers in Ancient Environmental Genomics
15:15 - 15:20 Lightning	Chenyu Jin	Population Genomic Insights of Woody Plant species from Ancient Arctic Sediments
15:20 - 15:25 Lightning	Yuanyang Cai	Quality Control of Ancient Environmental Genomic Data and Reference Databases for improved Taxa Profiling

14:30 – 15:30: Parallel session: Human impact 2 (F2)

Room: Kompasset Chair: Mary Lucas

Time	Presenting author	Title
14:30 - 14:45 Oral	Caroline Kisielinski	Integration of Indigenous perspective with sedimentary ancient DNA analysis to address local conservation in Nevada, USA
14:45 - 15:00 Oral	Franka Gaiser	Spatio-Temporal Dynamics and Drivers of Plant Diversity in the European Alps: Diversification and Homogenisation Over 12,000 Years
15:00 - 15:15 Oral	Laura Saskia Epp	From the Early Anthropocene to the Great Acceleration: Comparing biodiversity dynamics in water bodies under differing human impact
15:15 - 15:30 Oral	Dilli Rijal	What are the drivers of plant species diversity in the Alps and northern Fennoscandia?

15:30 – 16:00: Coffee break

## Wednesday 25th June

16:00 – 17:00: Parallel session: Lacustrine sedaDNA 3 (G1)

Room: Longyearbyen Chair: Aloïs Revéret

Time	Presenting author	Title
16:00 - 16:15 Oral	Laura Gedminienė	Environmental Dynamics of the Southern Baltic Region revealed by plant sedaDNA and diatom
16:15 - 16:30 Oral	Daniel Diaz de Quijano	Past Winter conditions reconstructed from microeukaryote sedaDNA: A Siberian study case
16:30 - 16:45 Oral	Sushmita Singh	Holocene Paleoclimate and Paleoecology reconstruction using SedaDNA and lipid biomarkers: Toli lake, Garhwal Himalaya, India
16:45 - 17:00 Oral	Katharina Dulias	Long-term genetic diversity patterns of ostracods and diatoms in Nam Co sediments

16:00 – 17:00: Parallel session: Marine sedaDNA 3 (G2)

Room: Kompasset Chair: Anders Schomacker

Time	Presenting author	Title
16:00 - 16:15 Oral	Kathleen Stoof-Leichsenring	Long-term community, interaction and functional shifts in (sub)polar regions detected by marine sedimentary ancient DNA shotgun sequencing
16:15 - 16:30 Oral	Christiane Boeckel	Virus-host interactions throughout the Late Quaternary inferred from lake and marine sedimentary DNA
16:30 - 16:45 Oral	Josefine Friederike Weiß	Shifts in Marine and Terrestrial Ecosystem Inputs to marine sediments: Insights from sedaDNA, automated habitat classification and Biomass Estimation.
16:45 - 17:00 Oral	Mailys Picard	Reconstructing the impact of rising anoxia with paleoecology - an Arctic case study

Room: Longyearbyen

17:00 – 17:30: Closing

## Thursday 26th June

Post-conference excursions