



Extraction of microbial DNA & RNA in environmental samples

Open Workshop Wednesday 22th of August 8.30-14.00 - at GEUS Øster Voldgade 10 in collaboration with Nordic Environmental Nucleotide Network and MOBIO-laboratories – free of charge - limited seats - register by mail to tukn@geus.dk

The workshop will address the again actual search for methods that capture the microbial community DNA and/or RNA in soil and sediments. The agenda of the workshop will include the following topics:

1. Historic developments of methods to extract DNA and RNA from soil
2. Variability of extraction methods
3. Coverage of diversity issues with different methods
4. Standardizing methods for DNA and RNA extraction for worldwide projects.
5. Extraction of DNA and RNA from low biomass samples.

8.30 – 9.00: Coffee and bread

9.00 – 9.05 Introduction to the workshop

*9.05 – 9.30: **Lise Øverås**. (University of Bergen): The history of DNA extraction from environmental samples.*

*9.30 – 9.45 **Susanne Kennedy** (MOBIO-laboratories): Impact of DNA extraction protocol on Next Generation Sequencing*

*9.45-10.00 **Jacob Bælum** (Novo Nordisk Foundation – Center for Bio-sustainability): Extraction of DNA and mRNA from deep subsurface clay soils.*

10.00-10.20 Coffee break

*10.20-10.35: **Carsten Suhr Jacobsen** (GEUS): Inter laboratory testing of a blocking reagent for increased recovery of DNA from low biomass soils*

*10.35-10.50: **Peter Holmsgaard** (University of Copenhagen): Nycodenz gradient changes diversity estimates by NGS sequencing compared to direct methods*

*10.50-11.05: **Sebastian Terrat** (INRA – Dijon) Influence of Soil DNA Extraction Procedure to Assess Microbial Diversity using Pyrosequencing of 16S rDNA.*

*11.05-11.20: **Sara Halin** (Swedish University of Agricultural Sciences): Challenges and possibilities by standardizing DNA/RNA extraction protocols.*

*11.20-11.35: **Bin-Bin Liu** (Norwegian University of Life Sciences): Variability of mRNA extraction protocols*

11.35-12.00 Discussion

12.00-13.00 Lunch

*13.00–13.15: **William E Holben** (University of Montana): GC fractionation – what can be learned from this.*

*13.15-13.30: **Timothy M. Vogel** (University of Lyon): DNA extraction from soil.*

*13.30- 13.45: **Janet Jansson** (Lawrence Berkeley Lab): Earth microbiome project: how to efficiently handle DNA extraction from 30.000 samples*

13.45-14.00 Discussion

14.00 end of day – walk of the city by local NENUN students and scientist. We plan to walk – GEUS – Rosenborg Castle (Guided tour one hour - the Crown Jeweler) – Kings Garden – The Citadel (refreshment at 16.00) – The Little Mermaid - Amalienborg Castle (from the outside) – Nyhavn (around 18.00). Total distance walked is around 5.5 kilometers. In Nyhavn several good restaurants are located giving possibilities for ending the day with some food and drink together.