**Program SIU and ForBio course**

**„DNA Metabarcoding – Part 2– Bioinformatics“**

Feb. 05 -Feb. 10, 2018 Meeting room at [**Sydspissen Hotel**, Tromsø](http://www.sydspissenhotell.no/)

Teachers:

Eric Coissac LECA, Grenoble

Tristan Cumer LECA, Grenoble

Inger Alsos Tromsø Museum, UiT

Youri Lammers Tromsø Museum, UiT

Peter Heintzman Tromsø Museum UiT

Stefaniya Kamenova CEES, UiO

DNA Metabarcoding methodology and data processing & analyses and will be presented during Lectures and Group discussions/roundtables. We shall also discuss various applications of DNA Metabarcoding.

**Monday, 05 February**

*8.45 Coffee/tea*

*9-10.30:*

Practical session 1: UNIX operating system and main commands (group 1)- *Eric Coissac*

Practical session 2: basic applications of R/R-studio (group 2)- *Tristan Cumer*

*10.30-11: Coffee/tea*

*11 -13:*

Practical session 1: UNIX operating system and main commands (group 1)- *Eric Coissac*

Practical session 2: basic applications of R/R-studio (group 2)- *Tristan Cumer*

*13-14: Lunch break*

*14-15.30:*

Practical session 1: UNIX operating system and main commands (group 2)- *Eric Coissac*

Practical session 2: basic applications of R/R-studio (group 1)- *Tristan Cumer*

*15.30-16.00: Coffee/tea*

*16-18:*

Practical session 1: UNIX operating system and main commands (group 2)- *Eric Coissac*

Practical session 2: basic applications of R/R-studio (group 1)- *Tristan Cumer*

**Tuesday, 06 February**

*8.45 Coffee/tea*

*9-10:*

Lecture 1: Selection of DNA metabarcoding markers & primer design – *Eric Coissac*

*10 -10.30 Coffee/tea*

*10.30 -13.00:*

Practical session 3: EcoPrimers & EcoPCR (group 1)- *Eric Coissac*

Round table: Questions & Answers session on Unix and R (group 2)- *Tristan Cumer*

*13-14 Lunch break*

*14-15:*

Lecture 2: Raw sequence analysis (OBITools)- *Eric Coissac*

*15-15.30 Coffee/tea*

*15.30-17.30:*

Practical session 3: EcoPrimers & EcoPCR (group 2)- *Eric Coissac*

Round table: Questions & Answers session on Unix and R (group 1)- *Tristan Cumer*

**Wednesday, 07 February**

*8.45 Coffee/tea*

*9-10:*

Lecture 3: Metabarcoding of vascular plants from soil and sediments- *Inger Alsos*

*10 -10.30 Coffee/tea*

*10.30 -11:30:*

Lecture 9: Ancient animal DNA in the environment- *Pete Heintzman*

*11:30-13 Lunch break*

*13:00-15:00*

Practical session 4: OBITools (part 1) (group 1)- *Tristan Cumer*

Round table: Questions & Answers session on interpretation of ancient DNA data (group 2)- *Inger Alsos and Pete Heintzman*

*15-15.30 Coffee/tea*

*15.30-17:30:*

Practical session 4: OBITools (part 1) (group 2)- *Tristan Cumer*

Round table: Questions & Answers session on interpretation of ancient DNA data (group 1)- *Inger Alsos and Pete Heintzman*

**Thursday, 08 February**

*8.45 Coffee/tea*

*9-10:*

Lecture 5: DNA data analysis (taxonomic assignment and MOTU clustering, etc.)- *Eric Coissac*

*10 -10.30 Coffee/tea*

*10:30-11:30*

Lecture 6: DNA Metabarcoding “Molecular lab stuff”- *Eric Coissac*

*11:30-13:00 Lunch break*

*13:00-15.00:*

Practical session 5: OBITools (part 2) (group 1)- *Tristan Cumer*

Round table: Questions & Answers session on DNA data analysis (group 2)- *Eric Coissac*

*15-15.30 Coffee/tea*

*15.30-17:30:*

Practical session 6: OBITools (part 2) (group 2)- *Tristan Cumer*

Round table: Questions & Answers session on DNA data analysis (group 1)- *Eric Coissac*

**Friday, 09 February**

*8.45 Coffee/tea*

*9-10:*

Lecture 7: Ecological analyses and applications of DNA Metabarcoding data: diet analysis- *Stefaniya Kamenova*

*10 -10.30 Coffee/tea*

*10.30 -13.00:*

Practical session 7: OBITools (part 3) (group 1)- *Tristan Cumer*

Round table: Questions & Answers session on diet analysis (group 2)- *Stefaniya Kamenova*

*13-14 Lunch break*

*14-15:*

Lecture 8: Quality control and filtering of environmental DNA data- *Youri Lammers*

*15-15.30 Coffee/tea*

*15.30-17:30:*

Practical session 7: OBITools (part 3) (group 2)- *Tristan Cumer*

Round table: Questions & Answers session on diet analysis (group 1)- *Stefaniya Kamenova*

**Saturday, 10 February**

*10-11, Coffee/tea 9.45*

Lecture 9: Introduction to environmental DNA datasets for practical sessions 8 and 9- *Tristan Cumer and Youri Lammers*

*11:30 -13.00:*

Practical session 8: Project work in groups (1-4); working with wolf diet, soil samples and modern lake sediment (and vegetation surveys) datasets- *Tristan Cumer and Youri Lammers*

*13-14 Lunch break*

*14-16:00:*

Practical session 9: Project work in groups (1-4); working with wolf diet, soil samples and modern lake sediment (and vegetation surveys) datasets- *Tristan Cumer and Youri Lammers*

**Sunday, 11 February**

FREE TIME & Departure