

Welcome!

UiO / NORBIS course

IN-BIOS 5000 / 9000

Sequencing technologies, data analysis, and applications

NORBIS

- NORBIS is a national research school in bioinformatics, biostatistics and systems biology.
- <https://norbis.w.uib.no>
- Sponsor of this course



Lectures and hands-on sessions

- Lectures and hands-on session usually from 09.15 to 16.00 or 17.00 Monday-Friday for two weeks
- Always in room 1456 Shell

Food & drinks

- Free coffee and tea provided each morning at 09.15
- Lunch 12.00-13.15. Canteen in the other end of the building is recommended. (Costs not included.)
- Free pizza on campus planned for Friday 1 November at 16.15

Simplified Schedule

Monday 28 Oct: Intro to molecular biology, Sequencing, Illumina, PacBio

Tuesday 29 Oct: Nanopore, Library prep, Design, File formats, Fox access

Wednesday 30 Oct: Pre-processing of HTS data, Containers, Pipelines

Thursday 31 Oct: *De novo* genome assembly

Friday 1 Nov: *De novo* genome assembly cont.

Monday 4 Nov: Variant calling (VC) in general, Human germline VC

Tuesday 5 Nov: Human germline VC cont., Somatic variant calling

Wednesday 6 Nov: Microbiome analysis, Multi-omics network analysis

Thursday 7 Nov: Transcriptomics in general, Small RNA transcriptomics

Friday 8 Nov: Machine learning in comp. biology, Exam info, Evaluation

Exam and credits

- 80% mandatory attendance required
- Exam part 1:
 - Practical home project
 - Handed out after lectures finished
 - Oral presentation on 9-10th December
- Exam part 2:
 - Written, digital exam on 10 December at 1700-1900 in Digital exam facilities in Silurveien 2, Sal 3D
- Pass/fail for both master and PhD students
- Only registered students (including guest PhD students) will get official study credits (10)
- NORBIS may create diplomas, if needed, for others

Wifi

- Eduroam (preferred):
 - SSID: **eduroam**
 - Example username: username@uio.no
 - Replace username with your own
 - Replace uio.no with your home institution (or use UiO account)
- Guest network:
 - SSID: **uioguest**
 - Web login form, password by SMS to your mobile phone
 - Temporary access for 12h
- Temporary eduroam account:
 - Contact Torbjørn

Software needed on laptop

- Terminal
 - Linux, Mac, and Windows 10 /11
 - Older Windows: gitbash recommended
- ssh
- scp

Educloud Fox access

- Hopefully you have already got access as described in email and on website
- Please make sure you have access today
- Missing BankID? Contact me before lunch.
- We'll fix any problems tomorrow afternoon

Educloud Fox cluster

To login:

```
ssh ec-username@fox.educloud.no
```

Credentials needed:

1. Username (ec-something)
2. One-Time Code (6 digits, provided by Authenticator app)
3. Password

More details on course website and on Tuesday.