Projects

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Learning objectives

Cooperate in groups

Strength / Weaknesses

Analytical & reflective

Applications

Formulate/perform a project

NGS

Explain key steps

Unix command line

Theoretical principles
Projects

• Try analyze a “real” dataset and present results on poster
• 4-5 pr. group
• You can find a dataset on SRA/ENA
• You can use your own data if everyone in the group agrees and it can be presented on a poster
• Don’t analyze too large datasets (time, resources)
Group formation

- Try to create groups with multiple competences
- Chose a group based on eg. field of interest
- Ask a question of the dataset and try to answer it in the project
  - Technical question?
  - Biological question?
Previous projects 1

- microRNAs as phylogenetic marker in Squid NGS data
- Prochloron: The missing link in Chloroplast evolution
- Genomic analysis of 20 *S. pneumoniae* strains
- The origin of the 2010 Haiti Cholera outbreak
- Guinea-pig gut microbiome analysis
- Mouse chromatin modification (MeDIP-seq)
Previous projects 2

- Abundance of resistance genes in different soil metagenomes
- RNAseq analysis of \textit{S. aureus} methicillin susceptible and resistant strains
- Mosquito-associated viral metagenomics
- Bacterial Whole genome analysis of \textit{S. oralis} and \textit{S. mitis}
- Augmenting de novo assembly of \textit{E. coli} using PacBio reads
- Comparison of Salmonella strains using Illumina, 454 and Ion Torrent
- Integration of RNAseq, Chipseq and genome variation in cancer
Previous projects 3

• Detecting Downs Syndrome in cell-free circulating DNA
• Detection of Minority Variants in HIV-1 infected patients
• Comparison of Koala and Cow gut microbiome
• Genomics and transcriptomic analysis of *Lactococcus lactis*
• The anti-bacterial gut microbiome
• Genes involved in flowering of the Sweet Cherry
• Bacterial composition of the oral cavity
Posters

• Each group will create a poster

• You can print posters at the DTU library for 20-30kr
1) The group number, student names and student numbers of all group members, must be stated on the poster.

2) The poster must specify the individual students contribution to the project. It is allowed to state that everyone contributed equally.

3) The poster must not extend the poster board (160 cm high, 120 cm wide)

Note, if you print through us the poster dimensions are: 1189mm x 841mm

http://wiki.bio.dtu.dk/teaching/index.php/Poster
- Fill in group information in google doc
- 5 min presentation tomorrow at 9
- Project assistance: 10-12 + 13-14 every day
- Me + one teaching assistant
Screen

- Use screen to keep jobs running after you log out

- start: screen
- detach: ctrl-A + D
- attach: screen -r
- X-window (plots, acroread, nedit, gedit, …)
- Use “top” to see what is running