



E5444 Analysis of sequencing data

Lesson 2 – Projects description

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Projects description



Group project

- During the semester - Group project (2-3 persons) – max 20 points – finished **before the start of the exam period**
- **Aim:** Analysis of NGS data from raw data to interpretation
- **Data:** Downloaded from databases or your own
- The projects will be **defended last two weeks of the semester**
- The project has to score **minimum 10 points**
- **PROJECTS MUST BE SELECTED before 13.10.2023**



Project

- **Type of samples:**
 - Bacteria/fungi/mouse/human/plant/metagenome
- **Type of sequencing:**
 - WGS, WMGS, RNAseq, variant calling, ITS/16S
- **Possible aims and numbers of samples:**
 - identification of strains (5-10) by WGS – taxonomy/phylogeny
 - differentially expressed genes (min 10 per group) by RNAseq / functions/pathways
 - identification of mutations by targeted sequencing of mutations (min 10 per group)
 - identification of taxonomical composition /functional annotation (min 10 per group)



Data

- Own data or publicly available data
- Published article, with clear methodology and sample preparation
- **Instrument:**
 - Illumina (MiSeq, HiSeq, NextSeq, NovaSeq)
- **Strategy:**
 - RNA Seq, WGS, WES, WMGS, 16S/ITS
- **Layout:**
 - Single, Paired
- **Organism:**
 - Human, Mouse/Rat, Bacteria, Fungi, Plant
- **Processing:**
 - Raw read files