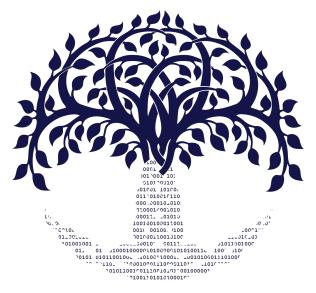
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# DTU Health Technology Bioinformatics

### **Projects**

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## **Project Groups**

- Group work, 4 per group, and present results on a poster
- Try to form diverse groups in terms of skills
- Analyse your own data!
- Supplement with existing data (e.g. MetaHIT, SRA...)
- Project data has been sequenced by BGI:
  - Data has NOT arrived...yet
  - You can start right away: run FastQC, do trimming...

NEXTflex™	Sequence
DNA Adapter	5'AATGATACGGCGACCACCGAGATCTACACTCTTTCCCTACACGACGCTCTTCCGATCT
	5'GATCGGAAGAGCACACGTCTGAACTCCAGTCAC <u>CGATGT</u> ATCTCGTATGCCGTCTTCTGCTTG
Primer 1	5'AATGATACGGCGACCACCGAGATCTACAC
Primer 2	5'CAAGCAGAAGACGCATACGAGAT

## Project exam

- Poster exam
- Each group will prepare a poster
- Each group will present the poster for the examiners
- Each group member will be questioned individually about the course objectives and the project (~5-10min)
- 40% final grade

# Project previous years



## **Project titles**

### **'16**

- The Effect of Chili Consumption on the Abundance of Bacteroidetes in the Human Gut
- INFLUENCE OF CAPSAICIN ON THE GUT MICROBIOME β-DIVERSITY
- Investigating the effect of capsaicin on Firmicute bacteria in the human gut
- The effect of capsaicin on the butyrate production pathway and taxonomical distribution in a gut environment
- The interplay between dietary intervention with chili peppers, the human gut microbiome and bacterial resistance

### **'15**

- Effect of alcohol intake on vitamin B12 producing bacteria in the gut microbiome
- · Effect of alcohol on the enrichment of acid resistant bacteria in the gut microbiome
- Investigating the effect of one night of (excessive) alcohol consumption in pushing the microbiome towards having a higher abundance of microbiome markers of T2D, peptic ulcers, cirrhosis, etc.

## **Project titles**

- '16 • The Effect of Chili Consumption on the Abundance of Bacteroidetes in the Human Gut INFLU **SIN ON THE GUT MICROBIOME β-DIVERSITY**  Inver Eirmicute bacteria in the human gut think about metabolism • Th **xonomical** d microbio... **'15**
- · Effect of alcohol intake on vitamin B12 producing bacteria in the gut microbiome
- · Effect of alcohol on the enrichment of acid resistant bacteria in the gut microbiome
- Investigating the effect of one night of (excessive) alcohol consumption in pushing the microbiome towards having a higher abundance of microbiome markers of T2D, peptic ulcers, cirrhosis, etc.

## **Group work**

Form groups (~4-5 students per group)

- Discuss potential projects
- Do literature search
- Have a look at metadata (sort and organise)
- Have a look at barcodes and samples (you might have to revisit the multiplexed fastq file)
- Fill out the project information (link on wiki)

# **Projects**

- Think questions that can be answered with the data available
- Think questions that can be answered with tools learned in this course
- Additional programs etc. are encouraged BUT you will have to be able to explain how they work and what they show