**Practical assignment**

**Module topic: Module 3: Sample collection, preparation and library prep for 16S**

**Contact session title: Module 3 (Parts 1-5)**

**Trainer: Shantelle Claassen-Weitz**

**Participant:** <*write your name here>*

**Date:** <*write today’s date here*>

**Designing a 16S rRNA gene sequencing study**

**Introduction**

*You are a collaborator in an international multicentre study focussing on bacterial profiles using 16S rRNA gene sequencing.*

*It is required that you construct an* ***optimal study design*** *with your collaborators, bearing in mind that the success of any experiment starts with its study design.*

**Tools used in this session**

*Module 3 Parts* ***2*** *and* ***3***

*Databases such as Pubmed, Google Scholar, Ebsco and Scopus*

[*https://www.ncbi.nlm.nih.gov/pubmed/*](https://www.ncbi.nlm.nih.gov/pubmed/)

[*https://scholar.google.com/*](https://scholar.google.com/)

**Please note**

* **Hand-in information** please upload your completed assignment to the Vula ‘Assignments’ tab. Take note of the final hand-in date for each assignment, which will be indicated on Vula.

**Task: Design a 16S rRNA gene sequencing study**

**Task: instructions**

*Pair up with 3 other participants in your class (the four of you are collaborators in this study).*

*Generate a hypothesis which you would like to address using 16S rRNA gene sequencing.*

*Put together an* ***optimal study design*** *for your multicentre international study.*

*Your study has to be a longitudinal study of for example cases and controls, an intervention and placebo group, etc.*

*Your study design should include information on:*

* *Participant selection*
* *Clinical and demographic data from participants (of Importance to your study)*
* *Sample collection*
* *Sample transportation and storage*
* *Sample processing*

*Reproducibility and contamination are two potential limitations for 16S rRNA sequencing experiments. How would go about designing an experiment in order to account for theses issues during data analysis.*

**Task: participant’s answer**

<*start typing your answer here*>

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