

## MICB 475 Meeting #8 Minutes

2023-11-16

Emily to take minutes

### 1. Review Plots (at bottom of agenda)

- a. Are they publication ready?
- b. Any feedback on how they are looking?
  - i. Inside theme( ): Base\_size → command that makes text bigger → Avril uses size 18 in order to make text bigger and easier to read.
  - ii. DESeq low BMI plot: can change p cutoff, and change the level of fold change required to be displayed on graph in order to make plot smaller
  - iii. Alpha Diversity plots: where did the third dot go for low BMI in the formula group? Look into → trace it back to make sure nothing weird happened. Emily and Maddy to look into how the split up phyloseq object was created.
  - iv. DESeq 2: ideal if the genera next to each other for each group so that low and high graphs can be compared
    1. Include anything that's specific anywhere, filter DESeq2 so that each
    2. Plot the bacteria groups that are significant in at least one group for all the groups → make transparent if the group isn't significant in one group, make it transparent
    3. Avril will help with the code for this
    4. Can include the analysis for all BMI phyloseq object too

### 2. Confirm that birth-mode was controlled for correctly in analysis

- a. For alpha diversity
  - i. Potentially could be worth standardizing the method for analyzing alpha and beta diversity (i.e. look into mom\_bmi\*feed)
  - ii. Standardize plots, i.e. make the plots the same type → otherwise people think you have a reason for making the plots different types of graphs
- b. For beta diversity: was not addressed in bray-curtis or weighted unifrac analysis, but was in permanova analysis with the code:
  - i. Split up plots into low BMI vs. High BMI
- c. Do we have to control for birth mode for our DESeq analysis?
  - i. Yes → in formulas, add + baby\_delivery after ~feed

### 3. PICRUST2:

- a. What input files do we need to use in R studio to visualize results?
  - i. pred\_metagenome\_unstrat.tsv.gz
- b. R added X to beginning of sample names → need to remove the X
- c. Can reach out for help if we

**4. Next steps:**

- a. Oral presentation: Dec 5-7
  - i. In last meeting: ideal to have presentation done so that we can practice presenting to Avril and Evelyn
  - ii. Story should be mostly complete, figures, etc. do not need to be perfect
- b. Draft manuscript: Dec 10
  - i. By next wednesday: develop idea of what our story is going to be based on our data
  - ii. Next wednesday: talk about oral presentation, ask any questions, workshop story etc.
  - iii. Need to be working on manuscript early on if we want time for feedback