MICB 475 Meeting November 25th

1. **Progress Updates - issues and troubleshooting**
    a. ANCOM-BC
    b. ALDEx2
    c. Picrust
    d. Random forest
2. **Updated powerpoint slides**
        i. MICB 475 - Team 10 - Meeting 10- 11/26/2024 - Google Slides
        ii. Choosing figures for manuscript - For actual paper?
        iii. Appendix
    b. Aim 1
        i. Conclusion: Looking at alpha diversity between 2 groups, there are no statistically significant differences
        ii. MANUSCRIPT: Observed, Chao1 and Shannon = typical observed ones in a microbiome paper (Figure 1)
        iii. PMS should change to pMS
        iv. Beta Diverity: add circles around groups
    c. Aim 2
        i. Only include Jaccard / Bray-Curtis
        ii. Table for supplemental pairwise analysis (supplemental and table for presentation)
        iii. Taxa bar plot
            1. Make labels bigger
            2. Mostly pMS making an impact
            3. Crop out only to include main colours
            4. Look into Verrucomicrobiae
    d. Aim 3
        i. Core Microbiome
            1. Make taxa bar plots → look at top 80%, or look at bottom 20%
            2. Colour bars in a different colour
            3. Use “healthy” consistently in labels
            4. Two venn diagrams from first slideshow
            5. Include those instead for figure 3: do the age one
            6. Can add in results that we did age by but have no significance
            7. Losing some species with age but then the smoking is increasing other species
        ii. ALDeX2
            1. Instead: do old smokers with oms/healthy. Young smokers pms/healthy. Young non smokers - pms/healthy

2. Young more susceptible to smoking
    i. Influential, pMS is an additional factor
    ii. Control
    iii. Supplemental

    iv. Four panel:
        i. Young non smokers PMS v. healthy
        ii. Young smokers PMS v. healthy
        iii. Old non smokers PMS v. healthy
        iv. Old smokers PMS v. healthy
    v. Annotate the species in the graphs
    vi. Stick to volcanos
    vii. Be transparent that most not significant
iii. Picrust
    1. Make MS comparisons
    2. Upregulated vs down regulated
    3. Table if many pathways
    4. Figure if few pathways

e. Aim 4
    i. Refine model. Do 1 prediction for young and 1 for old
    ii. Test old model on young to verify prediction differences

Action items

- Listed in minutes