Introduction to Microbial Community Analysis
October 29th – 31st
The Jackson Laboratory for Genomic Medicine,
Farmington CT

At the end of this workshop, participants will be able to:

- Explain what the microbiome is and why it is an important research topic
- Identify pitfalls in experimental design
- Contrast the information that can be provided by several microbiome analysis methods
- Execute basic genomic analysis scripts
- Describe new opportunities and future directions of microbiome research

Tuesday, October 29th

(Optional Workshop)

9:00 am
Introduction to Unix
Dave Mellert, Ph.D.
Manager, IT Applications

12:00 pm
Lunch (not provided by The Jackson Laboratory)

(Optional Workshop)

1:00 pm
Introduction to R
Sandeep Namburi
Cloud Systems Analyst

4:30 pm
Participant Introductions

5:00 pm
Participant Poster Session & Social Hour

6:00 pm
Dinner (not provided by The Jackson Laboratory)
**Wednesday, October 30th**

8:30 am  
**Course Introduction**  
Julia Oh, Ph.D.  
Assistant Professor

8:45 am  
**Introduction to Microbiota and the Microbiome**  
Mark Adams, Ph.D.  
Professor & Director, Microbial Genomic Services

9:30 am  
**Methods & Study Design**  
Julia Oh, Ph.D.  
Assistant Professor

10:30 am  
- Break –

10:45 am  
**Introduction to 16S Analysis**  
Mark Adams, Ph.D.  
Professor & Director, Microbial Genomic Services

12:00 pm  
Lunch (provided)

1:00 pm  
**Workshop: 16S Analysis Exercise & Making Basic Microbiome Plots in R**  
Jethro Johnson, Ph.D.  
Postdoctoral Associate – Weinstock Lab  
 Helpers: Preeti Bais, Jacquelynn Benjamino & Lauren Long

4:00 pm  
**Brainstorming Session**

5:00 pm  
**Social Hour**

6:00 pm  
Dinner (not provided by The Jackson Laboratory)

**Thursday, October 31st**

8:30 am  
**Microbial Isolates & Comparative Genomics**  
Mark Adams, Ph.D.  
Professor & Director, Microbial Genomic Services

9:30 am  
**Shotgun Metagenomic Analysis**  
Julia Oh, Ph.D.  
Assistant Professor

10:30 am  
- Break –

11:00 am  
**Workshop: Shotgun Metagenomic Analysis**  
Jethro Johnson, Ph.D.
12:00 pm  Lunch (provided)

1:00 pm  
*continued* Workshop: Shotgun Metagenomic Analysis  
Jethro Johnson, Ph.D.  
Postdoctoral Associate – Weinstock Lab  
Helpers: Preeti Bais, Wei Zhou & Akintunde Emiola

2:00 pm  
Statistical Analyses  
Julia Oh, Ph.D.  
Assistant Professor

3:30 pm  - Break –

3:45 pm  
Introduction to Special Topics  
Julia Oh, Ph.D.  
Assistant Professor

4:00 pm  
Special Topics: Single Cell Metagenomics  
Akintunde Emiola, Ph.D.  
Postdoctoral Associate – Oh Lab

4:20 pm  
Special Topics: Metagenomics SNP Tracking and More  
Wei Zhou, Ph.D.  
Bioinformatics Analyst II

4:40 pm  
Special Topics: Viral Metagenomics  
Brandon Albright, Ph.D.  
Postdoctoral Associate – Weinstock Lab

5:00 pm  Dinner (not provided by The Jackson Laboratory)