



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

9:00 am	<i>(Optional Workshop)</i> Introduction to Unix Dave Mellert, Ph.D. Manager, IT Applications
12:00 pm	Lunch (not provided by The Jackson Laboratory)
1:00 pm	<i>(Optional Workshop)</i> 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.

Postdoctoral Associate – Weinstock Lab
Helpers: Preeti Bais, Wei Zhou & Akintunde Emiola

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)