

Technology for Microbiome Research
Joint Berkeley Initiative for Microbiome Sciences
March 19th, 2021

9:00 Introduction to the Initiative (Britt Koskella)

9:10 Keynote I: *Cultivating the uncultivable* (Romy Chakraborty)

9:35 Session I: Characterizing Microbial Communities

- *Ask not what you can do for stable isotopes...* (Ella Sieradski)
- *Applying long read sequencing and assembly methods to obtain high quality isolate genomes and metagenome assembled genomes* (Lauren Lui)
- *Neutral barcoding for lineage tracking within host microbiomes* (Robin Herbert)

10:20 Coffee break

10:25 Session II: Bioinformatics for Microbiomes

- *Microbiome fractionation and phylogenomics with KBase* (Dylan Chivian)
- *QB3 services for microbiome research* (Christopher Hann-Soden)
- *Household microbes, COVID-19 severity, and the Old Friends hypothesis* (Joshua Ladau)

11:05 Coffee break

11:10 Overview of breakout rooms

11:15 Breakout rooms for AM talks

11:15 – Icebreaker

[Cultivation of Novel Microbes](#)

[Stable Isotope Probing](#)

[Long Read Sequencing](#)

[Tn7 Lineage Tracking](#)

[KBase](#)

[Amplicon Surveys](#)

11:30 – Discussion

11:45 Breakout rooms for AM talks

11:45 – Icebreaker

[Cultivation of Novel Microbes](#)

[Stable Isotope Probing](#)

[Long Read Sequencing](#)

[Tn7 Lineage Tracking](#)

[KBase](#)

[Amplicon Surveys](#)

12:00 – Discussion

12:15 Report back from breakouts

12:25 Lunch break

12:50 Keynote II: *Linking genome biology to ecosystem processes through fabricated ecosystems* (Trent Northen)

1:15 Session III: Imaging and Microscopy

- *Visualizing host-associated microbiomes with light sheet microscopy* (Brandon Schlomann)
- *Synchrotron infrared bioimaging of microbial systems* (Patricia Valdespino)

1:45 Coffee break

1:50 Session IV: Functional Genomics and Genome Engineering

- *CRAGE enables rapid domestication of non-model bacteria* (Yasuo Yoshikuni)
- *Using RB-TnSeq to understand and improve nitrogen fixation in diverse microbes* (Kelly Wetmore)
- *Targeted genome editing within microbial communities* (Ben Rubin, Brady Cress)

2:35 Coffee break

2:40 Breakout rooms for PM talks

2:40 – Icebreaker

[Light Sheet Microscopy](#)

[Synchrotron Infrared Spectromicroscopy](#)

[CRAGE](#)

[RB-TnSeq](#)

[DART/ET-Seq](#)

2:55 – Discussion

3:10 Breakout rooms for PM talks

3:10 – Icebreaker

[Light Sheet Microscopy](#)

[Synchrotron Infrared Spectromicroscopy](#)

[CRAGE](#)

[RB-TnSeq](#)

[DART/ET-Seq](#)

3:25 – Discussion

3:40 Report back from breakouts

3:50 Closing remarks