

SDSU Metagenomics and Viromics Workshop

June 22nd through 26th

This is a combination of lectures, discussions, and practical hands on experience to bring people up to date on data analysis for metagenomics. Everyone is invited, but space is limited. Please contact Rob Edwards (redwards@mail.sdsu.edu) to register for this workshop.

Monday 22nd

- 10 am Rob Edwards Welcome remarks, Introduction, goals of the workshop.
- 10.30 am Background to metagenomics
- 11.15 am coffee break
- 11.30 am The goals of metagenomics analysis / Preprocessing data: Sequence quality and contamination
- 12.30 Lunch (on your own)
- 1.30 pm Practical:
 - Pairing data (or not)
 - assembling data (or not)
 - prinseq
- 3.30 pm Coffee break
 - fastqc
 - deconseq
 - genomePeek
 - Submitting data to mg-rast.
- 4pm PI Lecture: Linda Wegley
- 6 pm wrap up

Tuesday 23rd

- 10 am Genome annotation
- 11.15 am coffee break
- 11.30 am Genome Annotation Examples
- 12.30 lunch
- 1.30 pm Practical:
 - FOCUS
 - SuperFOCUS
 - Real time metagenomics
- 2.30 pm Coffee break
- 3 pm Population genomics
- 3.30 pm Practical:
 - crAss
 - groopM
 - metabat
 - Recruitment plots
- 4pm PI Lecture: Liz Dinsdale

6pm wrap up

Wednesday 24th

10 am Genome and Metagenome Annotation Stories

11.15 am Coffee break

11.30 am MG-RAST

12.30 Lunch

1.30 pm Practical:

- MG-RAST
- SEED
- RAST

2 pm Things to think about with pipelines

2.30 pm Coffee break

3 pm Predicting proteins from protein characteristics

4pm PI Lecture: Anca

5 pm Practical:

- Ivireons

6 pm wrap up

Thursday 25th

10am 16S metagenomics

11.15 am Coffee break

11.30 am Practical:

- Qiime

12.30 Lunch

1.30 pm Practical:

- Phylogentic analysis of metagenomes
- Using blast on the cluster
- Analysis of all existing metagenomes

3.30 pm Coffee break

4 pm PI Lecture: Jim Mitchell

5 pm Practical:

- PHACTS

6 pm wrap up

Friday 26th

10am Statistical analysis of metagenomes

11.15 am Coffee break

11.30 am Statistical analysis of metagenomes

12.30 Lunch

1.30 pm Practical:

- Statistical analysis of metagenomes
- STAMP
- PRIMER stats

3 pm End of workshop BBQ