

Quick Introduction to the Workshop and Core

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The **mission** of the Bioinformatics Core facility is to facilitate outstanding omics- scale research through these activities:

Data Analysis

The Bioinformatics Core promotes experimental design, advanced computation and informatics analysis of 'omics' scale datasets that drives research forward.

Research Computing

Maintain and make available high-performance computing hardware and software necessary for todays data-intensive bioinformatic analyses.

Training

The Core helps to educate the next generation of bioinformaticians through highly acclaimed training workshops, seminars and through direct participation in research activities.

UC Davis Bioinformatics Core in the Genome Center

Core Facility Manager

Dr. Matthew Settles

Faculty Advisor

Dr. Ian Korf

Data Analysis Group

Genomics Bioinformatics

Dr. Joseph Fass
Dr. Monica Britton
Nikhil Joshi

Proteomics Bioinformatics

Metabolomics Bioinformatics

Dr. Jessie Li

Biostatistics

Dr. Blythe Durbin-Johnson

Undergraduate Assistants

Research Computing Group

System Administration

Michael Casper Lewis
Richard Feltstykke

Database/Web Programming

Adam Schaal

Undergraduate Assistant

Contacts

- Bioinformatics related questions, include but not limited to
bioinformatic methods questions, software use, data questions
Bioinformatics.core@ucdavis.edu
- Computing Issues, include but not limited to
User account questions, equipment failure/malfunction, software
install, software failures (not related to use)
helpdesk@genomecenter.ucdavis.edu
- Training courses information
training.bioinformatics@ucdavis.edu

Goals

- End to End understanding of microbial community analysis
- Discussions
 - Experimental design
 - Cost estimation
 - Technologies
 - Workflow
- To work through a complete experiment, starting from raw data to completion, including making a few figures.
- Goal is 30-40% lecture/discussion 60-70% hands-on

Workshop Info

Internet

If your home institution is on eduroam, you should be on already

If not you can use CalVisitor

<https://technology.berkeley.edu/wi-fi>

Schedule is loose, we will try and have short breaks, lunch is ~12-1pm

More Info

- Workshop materials posted on github

https://ucdavis-bioinformatics-training.github.io/2018-May-Microbial-Community-Analysis-Workshop_UCB/

https://github.com/ucdavis-bioinformatics-training/2018-May-Microbial-Community-Analysis-Workshop_UCB

- Course will be conducted on our server and cluster
- ganesh.genomecenter.ucdavis.edu
- Cluster usage will be under reservation ‘workshop’
- Everyone should have a username/password.

- **Monday 21st**

Introductions

Morning Hands on: Intro to Command Line (Joe)

Morning Talk: “What is Bioinformatics?” (Matt)

Afternoon Talk: “Intro to Microbial Sequencing” (Shana & Dylan)

Late Afternoon Hands On:

- Installing workshop software and setting the environment

Homework: Running Jobs on the cluster

- **Tuesday 22nd**

dbcAmplicons: Processing Sequence Reads Through abundance tables

- **Friday 23rd**

Morning Hands on: Intro to R (Jessie)

Afternoon Hands on: Microbial Community Analysis with R (Matt)

Closing