Computational Biology and Genomics Workshop

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Colorado State University Todos Santos Center
Todos Santos, Baja California Sur

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Learning objectives

- Learn how to use UNIX and the command line interface.

- Learn how to design genomics experiments.

- Learn how to handle and manipulate genomics datasets.

- Learn how to analyze genomics data.

- Learn how to visualize genomics data.

Schedule

Monday: Introduction to high-throughput sequencing and computational biology

- Illumina sequencing
- Command line tools
- Experimental design

Tuesday: Comparative (meta)genomic analysis

- Alignment and Read mapping
- Assembly and Annotation
- Variant Calling

Wednesday: Microbiome analysis

- 16S rRNA Amplicon Sequencing and Microbial Diversity

Thursday: Data Visualization and RNA-Seq

- R, R Markdown and Data Visualization
- RNA-seq

Friday: RNA-seq, Python, GitHub

- RNA-seq (cont.)
- Python and GitHub

https://dbsloan.github.io/TS2018/