
Gen711 Documentation

Release latest

September 26, 2016

0. Course Description:

The methods, applications, and implications of genomics—the analysis of whole genomes. Microbial, plant and animal genomics are addressed, as well as medical, ethical and legal implications. The lab provides exposure and experience on a range of bioinformatics approaches—the computer applications used in genome analysis.

1. Contact Information for Professor Matthew MacManes

- Office: 189 Rudman Hall
- Phone: 603-862-4052
- Email (preferred): Matthew.MacManes@unh.edu
- Twitter: @macmanes
- Office hours: Tues/Fri 8-10AM in 189 Rudman, or by appt. Schedule at <http://genomebio.org/office-hours/>

2. Lecture: MWF 11:10-12:00PM Rudman G89

3. Lab: Friday 3:10-5:00PM Hewitt 301

4. Syllabus Syllabus

5. Lecture Materials.

- Welcome Lecture 0
- BLAST Lecture 1
- Lecture 4Sept15
- Lecture 9Sept15
- Alignment Lecture 14Sept15
- Alignment Lecture 16Sept15
- [HMM Info](#)
- HMM/fastQ Lecture 21Sept15
- Illumina Lecture 23Sept15
- Trimming Lecture 28Sept15
- Error Correction Lecture 30Sept15
- Lecture 5Oct15
- Lecture 7Oct15
- A few more Review Slides
- Lecture 15Oct15 Diginorm
- Lecture 19Oct15
- Lecture 21Oct15
- Lecture 28Oct15
- Lecture 4Nov15
- Lecture 6Nov15
- Lecture 13Nov15
- Lecture 16Nov15

- [Lecture 18Nov15](#)
- [Lecture 30Nov15](#)
- [Final Lecture](#)

6. Lab lessons

- [labs/getting_started](#)
- [Launch an EC2 Instance](#)
- [Lab 04Sept15: labs/Lab0_blast](#)
- [Lab 11Sept15: labs/Lab1_alignment](#)
- [Lab 11Sept15: Github and Why use Git](#)
- [Lab 18Sept15: labs/Lab2_hmmer](#)
- [Lab 25Sept15: labs/Lab2_fastq](#)
- [Lab 2Oct15: labs/lab4.trimming](#)
- [Lab 15Oct15: labs/lab5.khmer](#)
- [Lab 23Oct15: labs/lab6.prep](#)
- [Lab 30Oct15: labs/lab7.analyze](#)
- [Lab 6Nov15: labs/lab8.mapping](#)
- [Lab 13Nov15: labs/lab9.expression](#)

7. Reading

- [Lab reading for 9/4. PCFB Chapter 4: See Matt if you don't have a copy of the book yet.](#)
- [Week 1 lecture Reading](#)
- [Reading Week2: Google BLAST and Type 1 error, Benjamini-Hochberg correction.](#)
- [Week 2 lecture/lab Reading We will continue with this material in week 3 as well.](#)
- [Lab reading for 9/14. PCFB Chapter 5](#)
- [HMM Reading for week of 9/21](#)
- [Lab reading for 9/21. PCFB Chapter 6](#)
- [Read Trimming](#)
- [Error Correction](#)
- [Another error correction paper](#)
- [Khmer paper](#)
- [Skewer paper](#)
- [Digital Normalization](#)
- [Assembly](#)
- [Everything you wanted to know about everything \(CS oriented\)](#)
- [Seq Assembly Demystified](#)
- [How to Assemble a genome videos](#)
- [Full Bioinformatics video series](#)

- BUSCO paper
- Explain Shell
- Command Line Bootcamp

8. Homework

- files/hw1 Due date: 18Sept15
- files/hw2 Due date: 30Oct15

9. Exams

- Yikes!!!: labs/mock.exam1
- Utter Panic: labs/mock.exam2
- Practice for exam2: labs/Exam2_Practice
- The real deal exam 2: labs/exam2