

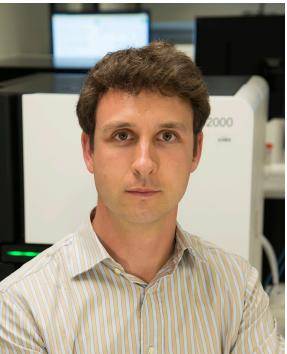


Cold
Spring
Harbor
Laboratory

Advanced Sequencing Technologies & Bioinformatics Analysis

<http://meetings.cshl.edu/courses.html>

Introductions to Bioinformatics instructors



Malachi Griffith

Associate Professor of Medicine
Associate Professor of Genetics
Assistant Director, MGI

Obi Griffith

Associate Professor of Medicine
Associate Professor of Genetics
Assistant Director, MGI

Felicia Gomez

Instructor of Medicine

Chris Miller

Assistant Professor of Medicine

Aaron Quinlan

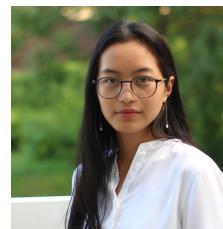
Professor of Human Genetics and of Biomedical Informatics



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Huiming Xia
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griffithlab.org

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QUINLAN LAB @ UU

quinlanlab.org



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Introduction to SEQTEC Informatics – philosophy and goals

Do “the bioinformatics” for someone, and you help them for a day. Teach someone to do bioinformatics, and you help them for a lifetime.

- Ancient Chinese proverb

- Course goals
 - Learn concepts and develop skills for sequence analysis
 - Build the foundation for tackling your own analysis challenges
 - Learn to think like a bioinformatician
 - Have fun

Course outline

Thursday - Introduction to technologies

Friday - Bioinformatics basics and NGS data fundamentals

Monday - Variant calling/interpretation, RNAseq introduction

Tuesday - RNAseq expression analysis

Wednesday - RNAseq differential expression and interpretation

Thursday - Single cell RNAseq

Friday – Additional applications

Course format for a typical day

- Lecture
- BREAK
- Practical exercises
- Lunch
- Practical exercises
- BREAK
- Practical exercises
- Wrap-up and Q&A

Student poll (respond in slack)

Not counting the pre-requisites and materials for this course:

- Do you consider yourself a bioinformatician?
- Are you familiar with linux/command line?
 - Intermediate?
 - Expert?
- Do you sometimes write code?
- Are you familiar with R?
 - Intermediate?
 - Expert?
- Do you use git/github?
- What organism do you work with? (Put an animal emoji in slack)
- Are you interested in bulk RNAseq, scRNAseq, or both?
- Who has a dual monitor setup?