## Introduction to Galaxy

### Cal State San Marcos

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Galaxy Team / Galaxy Community



# Agenda

9:00	Welcome: Introductions, logistics, background				
	Galaxy with RNA-seq				
9:30	Concepts, formats, and quality control				
10:45	Break				
11:00	Mapping reads to a genome				
12:20	Lunch				
1:20	Differential expression				
2:50	Break				
3:05	Creating reusable workflows				
5:00	Done				

### Today's materials

- Some slides specific to this workshop
- Galaxy Training Network
  - Slides and Tutorial
- All of it available online.
  - https://galaxyproject.org/events/ 2018-01-csusm-workshop/
  - http://bit.ly/gxy-sanmarcos

### Today's Goals

- Teaching you how to do bioinformatic analysis in Galaxy
- We'll use an RNA-Seq example to do that
- At the end of the day you'll have a basic understanding of
  - how to use Galaxy to explore, run, and share bioinformatics analyses
  - how to get Galaxy and bioinformatics help
  - RNA-Seq data analysis

#### What is Galaxy?

#### Keith Bradnam's definition:

"A web-based platform that provides a simplified interface to many popular bioinformormatics tools."

From

"13 Questions You May Have About Galaxy"

http://bit.ly/13questions

### Galaxy User Interface

- Lets do a whirlwind introduction to the Galaxy interface.
- Most of what we touch in this intro we will revisit later today.

<u>usegalaxy.org</u>

### Galaxy is available several ways ...

http://galaxyproject.org

#### As a free for everyone service on the web: usegalaxy.org



### Public Galaxy servers

General Purpose / Genomics servers 19 servers as of this yesterday

Domain Specific

36 servers

Tool publishing servers

44 servers

**Total** 

99 servers

bit.ly/gxyServers

## **Galaxy Services**













#### Can't use a service? Galaxy is available on other Clouds









The Open Source Toolkit for Cloud Computing

http://aws.amazon.com/education http://globus.org/ http://wiki.galaxyproject.org/Cloud https://launch.usegalaxy.org/

### Hands On: RNA-Seq in Galaxy

http://galaxyproject.github.io/training-material/topics/transcriptomics/tutorials/srna/tutorial.html

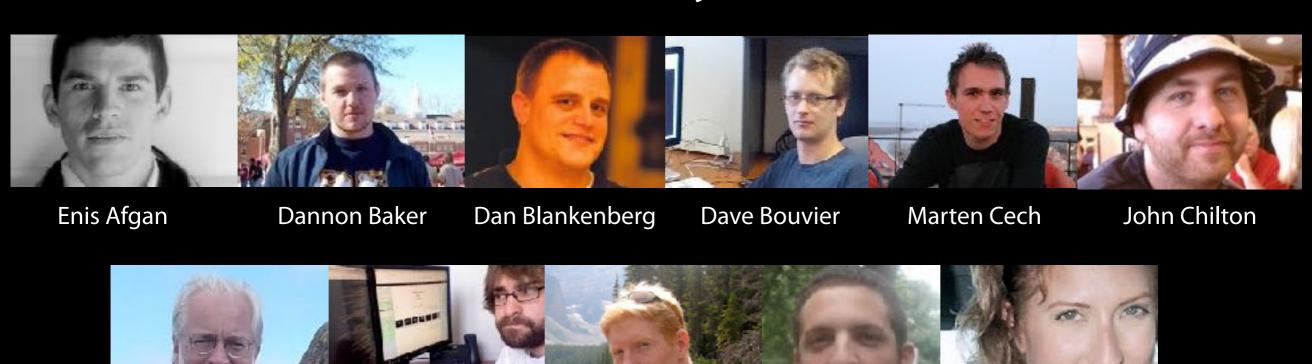
http://bit.ly/csusm-rna

bit.ly/gxy-sanmarcos

## Community and Ecosystem

galaxyproject.org

### The Galaxy Team



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