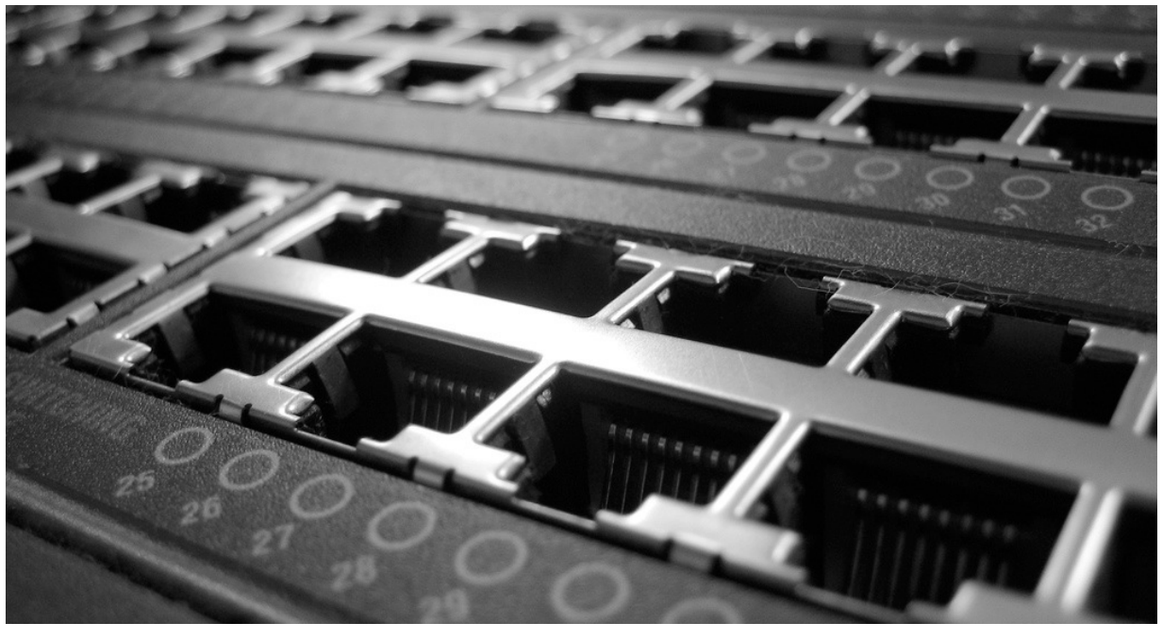


Introduction to RNA-seq using High-Performance Computing (HPC)

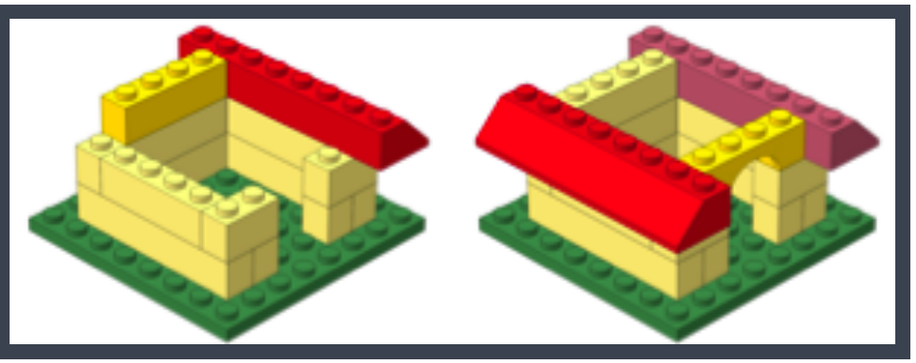
Harvard Chan Bioinformatics Core

in collaboration with

HMS Research Computing

https://tinyurl.com/hbc-rnaseq

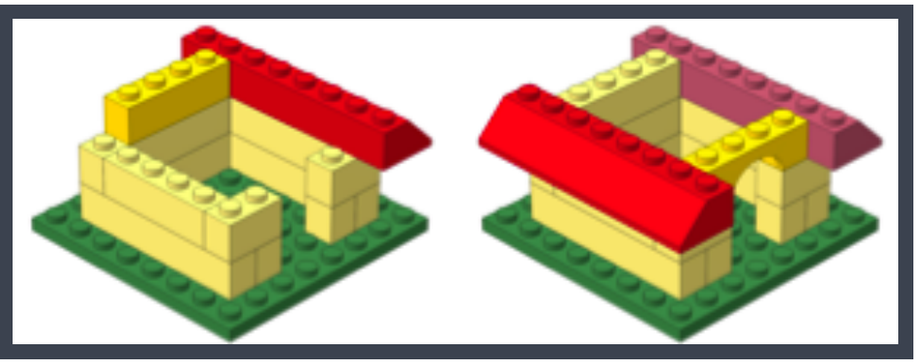
Learning Objectives



- ✓ Describe best practices for designing a bulk RNA-seq experiment
- ✓ Describe steps in an RNA-seq analysis workflow (from sequence data to expression quantification).
- ✓ Implement shell scripts on a high-performance compute cluster to perform the above steps.

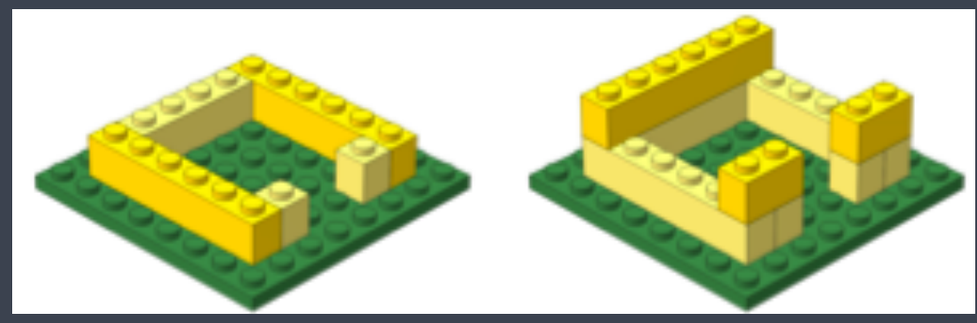
We won't be covering how to perform differential gene expression (DGE) analysis on count data in this workshop.

Survey



https://tinyurl.com/hbc-rnaseq-exit

R and DGE



Workshop registration opens about 3 weeks prior to workshop date(s). Register by clicking on the class title.

Topic	Category	Date	Duration	Prerequisites
Introduction to RNA-seq Part I (Experimental design -> Raw data -> Count matrices)	Advanced	March 29th, April 1st & 5th	Three 2.5h sessions	Shell
Introduction to R	Basic	April 19th, 22nd, 26th & 29th	Four 2h sessions	None
Bulk RNA-seq Part 2 (Differential Gene Expression on expression counts)	Advanced	May 6th, 10th, 13th & 17th	Four 2h sessions	R

https://bioinformatics.sph.harvard.edu/upcoming-workshops

Get an O2 account!

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O2 Cluster Account

Description

What does it do?

Get an account on O2, the HMS High Performance Compute cluster

Available To

Who is eligible?

Any HMS or HMS-affiliated researcher who has an HMS eCommons account.

Cost

What does it cost?

There is no cost to labs whose PI has a primary or secondary faculty appointment in an HMS Quad department.

If the PI of your lab does not have a primary or secondary faculty appointment in an HMS Quad department, cluster usage will be charged for beginning later in 2021. Please see the following page for current details about rates: https://it.hms.harvard.edu/rc/core/rates.

Support

Please fill out the online help request form, or email rchelp@hms.harvard.edu.

How to Access

How do I get it?

Two-factor authentication is required to request an account on O2, as well as for O2 logins once your account is created. Harvard University uses a mobile app called Duo that makes the process quick and easy. Even if you already use Duo for HarvardKey, you will still need to setup a Duo profile for HMS.

- Setup HMS two-factor Authentication (HMS Duo Mobile)
- Reactivate or Reconnect HMS two-factor Authentication (HMS Duo Mobile)

Once you have Duo set up, Click the "Get Service" link to login and complete the request form.

Get this service | Learn more

Don't see what you're looking for?

Interested in additional training?

All workshop materials available at:

https://hbctraining.github.io/main

Upcoming relevant courses from our partners at Countway Library:

1. Writing a Data Management Plan (April 13th)
2. Introduction to Data Repositories (April 27th)
3. How and Where to Publish your Data (May 11th)

Office hours

- Office hours for trainees
- Every other Wednesday, 11am - noon
- 4 x 30 minute slots available

Thanks!

- Kathleen Chappell and Andy Bergman from HMS-RC
- Data Carpentry

Contact us!

HBC training team: hbctraining@hsph.harvard.edu

O2 (HMS-RC): rchelp@hms.harvard.edu

HBC consulting: bioinformatics@hsph.harvard.edu

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