

Introduction to Variant Calling

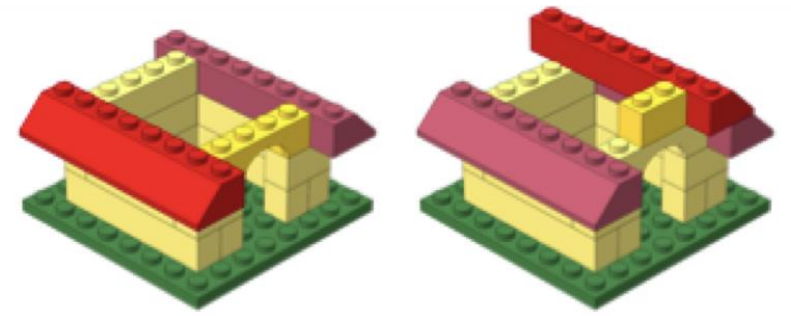
<https://tinyurl.com/Intro-to-variant-analysis>



Harvard Chan Bioinformatics Core



Learning Objectives

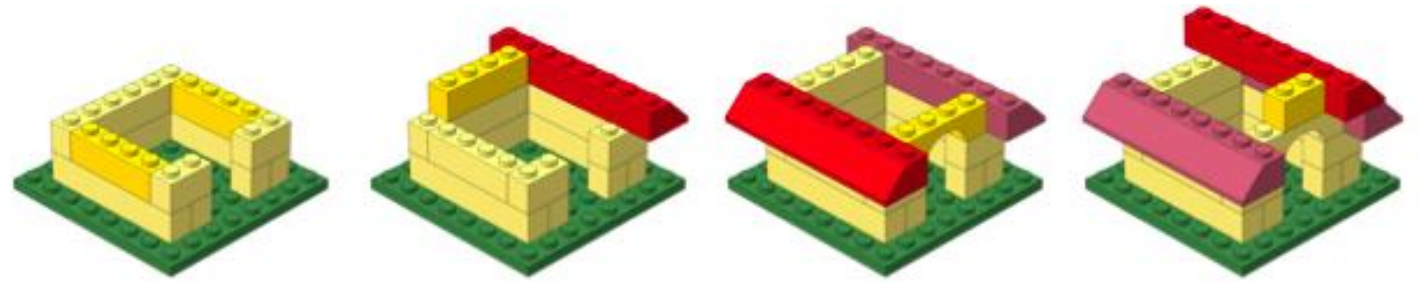


- ❖ Evaluate QC metrics for variant calling
- ❖ Call variants using GATK
- ❖ Filter variants to retain only high-quality variant calls
- ❖ Annotate variants using SnpEff and dbSNP
- ❖ Prioritize variants by their impact
- ❖ Visualize variants in IGV
- ❖ Implement cBioPortal to analyze variants

Exit survey

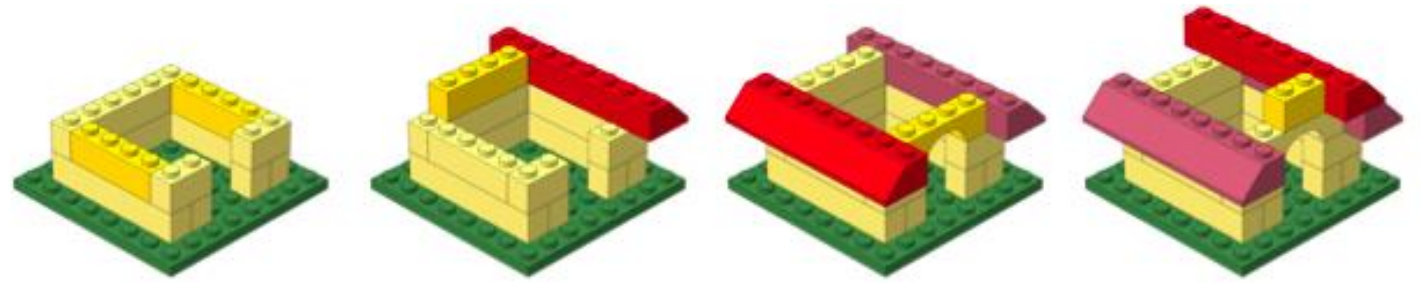
<https://tinyurl.com/hbc-varcalling-exit-survey>

Keep building!



Topic	Category	Date	Duration	Prerequisites
Introduction to R	Basic	October 8, 11, 15, 18	Four 2h sessions	None
Introduction to SingleCell RNA-seq	Advanced	October 25, 29, November 1	Three 2.5h sessions	R
Pseudobulk	Advanced	November 12, 15, 19	Three 2.5h sessions	R
Peak analysis	Advanced	December 3, 6, 10	Three 2.5h sessions	R

Keep building!



- ❖ Introduction to scRNA-seq and data pre-processing
 - ❖ October 23rd 1-3pm
 - ❖ Shell and R pre-requisite
- ❖ Introduction to shell
 - ❖ November 20th 1-4pm
- ❖ Tips and Tricks on O2
 - ❖ December 11th 1-4pm
 - ❖ Shell pre-requisite

Get an O2 account!

Home > Service Catalog

Search IT services and kn 

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 \(HMS Duo Mobile\)](#)

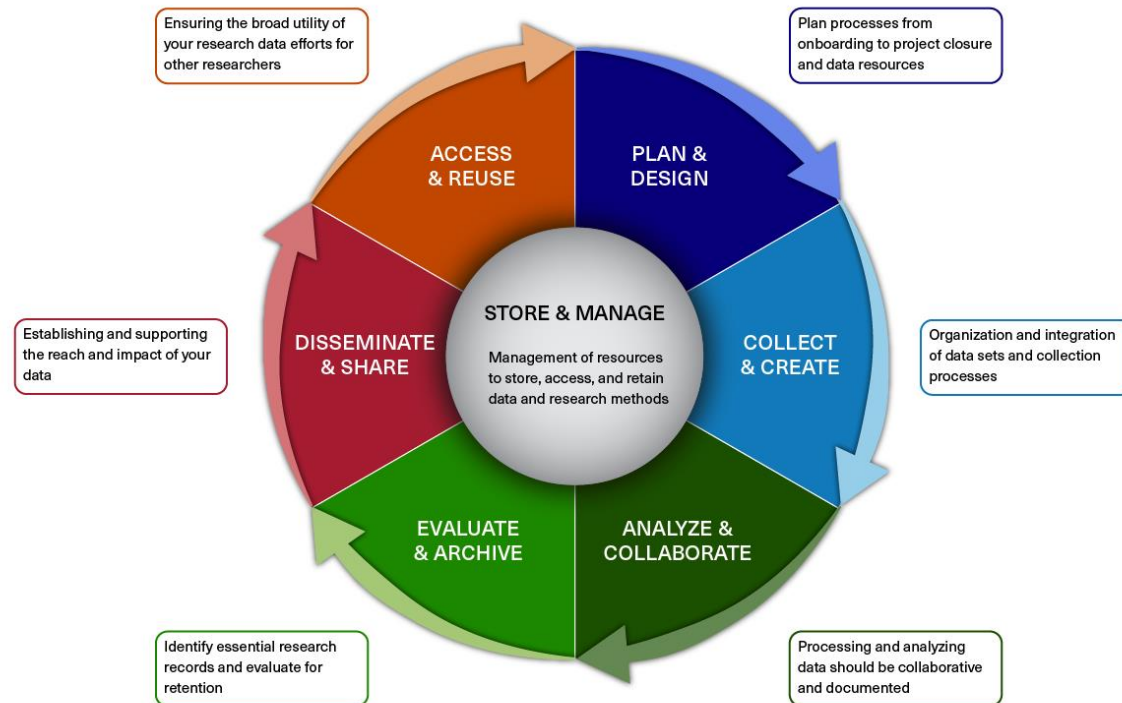
Once you have Duo set up, Click the "Get Service" link to login and complete the request form.

[Get this service](#) [Learn more](#)

[Don't see what you're looking for?](#)


Research Data Management (RDM)


BIOMEDICAL RESEARCH DATA LIFECYCLE





Fall 2024 Data Lifecycle Training

Plan & Design


September 24 
Managing Research
Data Efficiently


September 26 
Project and Lab
Onboarding


October 31 
Data Horror Stories:
Avoid the Nightmare


November 19 
Writing a Data Management
and Sharing Plan


Collect & Analyze

September 19 
Intro to MATLAB


October 10 
Research Computing:
Intro to Python


October 16 
scRNA pre-processing


November 21 
Research Computing:
Intro to O2


December 5 
RCBio: easy and quick HPC
pipeline builder & runner

Store & Evaluate


October 22 
Introduction to the
General Records Schedule


October 24 
Computing Strategies
and Resources

November 22 
Managing Paper Records:
Off-Site Records Storage


December 17 
Managing Electronic
Records: Shared Drives
and Emails


Share & Publish



September 18 
Interact with your data
using RShiny

November 14 
Principles of Finding
and Citing Data

November 20 
GitHub Part I

December 3 
Research Management:
Tools for Open Science

December 12 
Data Sharing in
Repositories

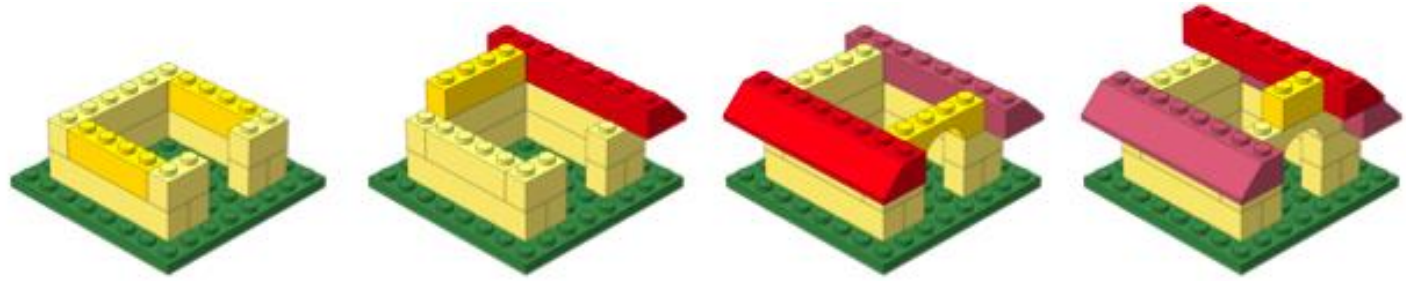
 In-person
 Virtual



Learn More & Register
bit.ly/rdmwg-calendar



Data Discussions



❖ Let's Get Your Data Organized

❖ October 9th 12-12:30pm

❖ Let's Name Your Data

❖ November 6th 12-12:30pm

❖ Let's Write a README

❖ December 11th 12-12:30pm

Better RDM practice benefits you

- ❖ **HMS Data Management LMA**

- ❖ **Webpage:** <https://datamanagement.hms.harvard.edu>

- ❖ [Sign up](#) for quarterly email updates

- ❖ **Harvard-wide Research data Management**

- ❖ <https://researchdatamanagement.harvard.edu/>

Join us for HBC Community Breakfast!

- ❖ An opportunity to get to know others in the community
- ❖ Free food and beverages
- ❖ Great conversations



**January 9th 2025
9-10:30am**

More Info:

<http://bioinformatics.sph.harvard.edu/breakfast/>

Thanks!

- ❖ Kathleen Chappell and Andy Bergman from HMS-RC
- ❖ Dr. Tali Mazor from DFCI
- ❖ [Data Carpentry](#)

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Contact Us

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