

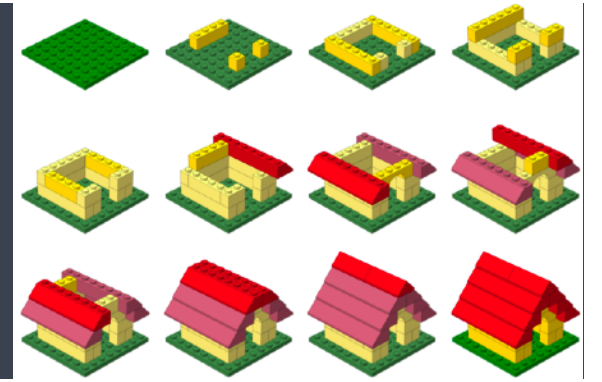
# Introduction to R

Harvard Chan Bioinformatics Core

<https://tinyurl.com/hbc-r-online>

Sponsored by DF/HCC, CFAR, and HMS Foundry

# Learning Objectives



- ✓ Comfortably use RStudio (a graphical interface for R)
- ✓ Fluently interact with R using RStudio
- ✓ Become familiar with R syntax
- ✓ Understand data structures in R
- ✓ Inspect and manipulate data structures
- ✓ Install packages and use functions in R
- ✓ Visualize data using *ggplot2*
- ✓ Utilize pipes, tibbles and functions from the Tidyverse package suite

# Exit survey

<https://tinyurl.com/r-workshop-hbc>

# Interested in additional training?

<https://bioinformatics.sph.harvard.edu/current-bioinformatics-topics-workshops>

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## Short workshops: Current Topics in Bioinformatics

These workshops are free and open to all researchers at Harvard University and affiliated institutions.

- **Workshops** on bioinformatics methods & related skills.
- Once a month for 3 hours
- Hands-on workshops - be prepared with your MAC or Windows computer
- **Free and open to everyone at Harvard University and its affiliates**
- Will typically meet the **third Wednesday of the month from 1-4 online via Zoom** (meeting time is subject to change-please check)

# Harvard Catalyst Online Resource

<https://projects.iq.harvard.edu/hcatrresource>

 HARVARD UNIVERSITY

HARVARD.EDU

## Harvard Catalyst Introduction to R:

*An online, hands-on training resource for learning the basics of R*

[Contact](#)



## HARVARD CATALYST

Harvard Clinical & Translational Science Center

HOME Lessons Faculty Supplemental Resources

### Welcome to Introduction to R

This **online, hands-on learning resource** will introduce you to using R and RStudio. R is a simple programming environment that enables the effective handling of data, while providing excellent graphical support. RStudio is a tool that provides a user-friendly environment for working with R. This resource is intended to provide both basic R programming knowledge and information on utilizing R to increase efficiency in data analysis.

This comprehensive online learning resource was created in collaboration between [Harvard Catalyst](#) and the [Harvard Chan Bioinformatics Core](#). It includes a series of videos explaining fundamental concepts in R and demonstrates the application through live coding. It is geared toward those interested in learning the basics of R for reproducible data wrangling and visualizations (ggplot2), and/or performing data analyses that require a basic knowledge of R.

Resource lessons address the following:

- **R syntax:** Understanding the different 'parts of speech' in R, and introducing variables and functions, demonstrating how functions work, and modifying arguments for specific use cases.
- **Data structures in R:** Explaining the classes of data structures and the types of data used by R.
- **Data inspection and wrangling:** Reading in data from files, and using indices and various functions to subset and create datasets (including the tidyverse suite of packages).
- **Visualizing data:** Visualizing data using plotting functions from the external package ggplot2.
- **Exporting data and graphics:** Generating new data tables and plots for use outside of the R



# Data Management

- HMS Data management -

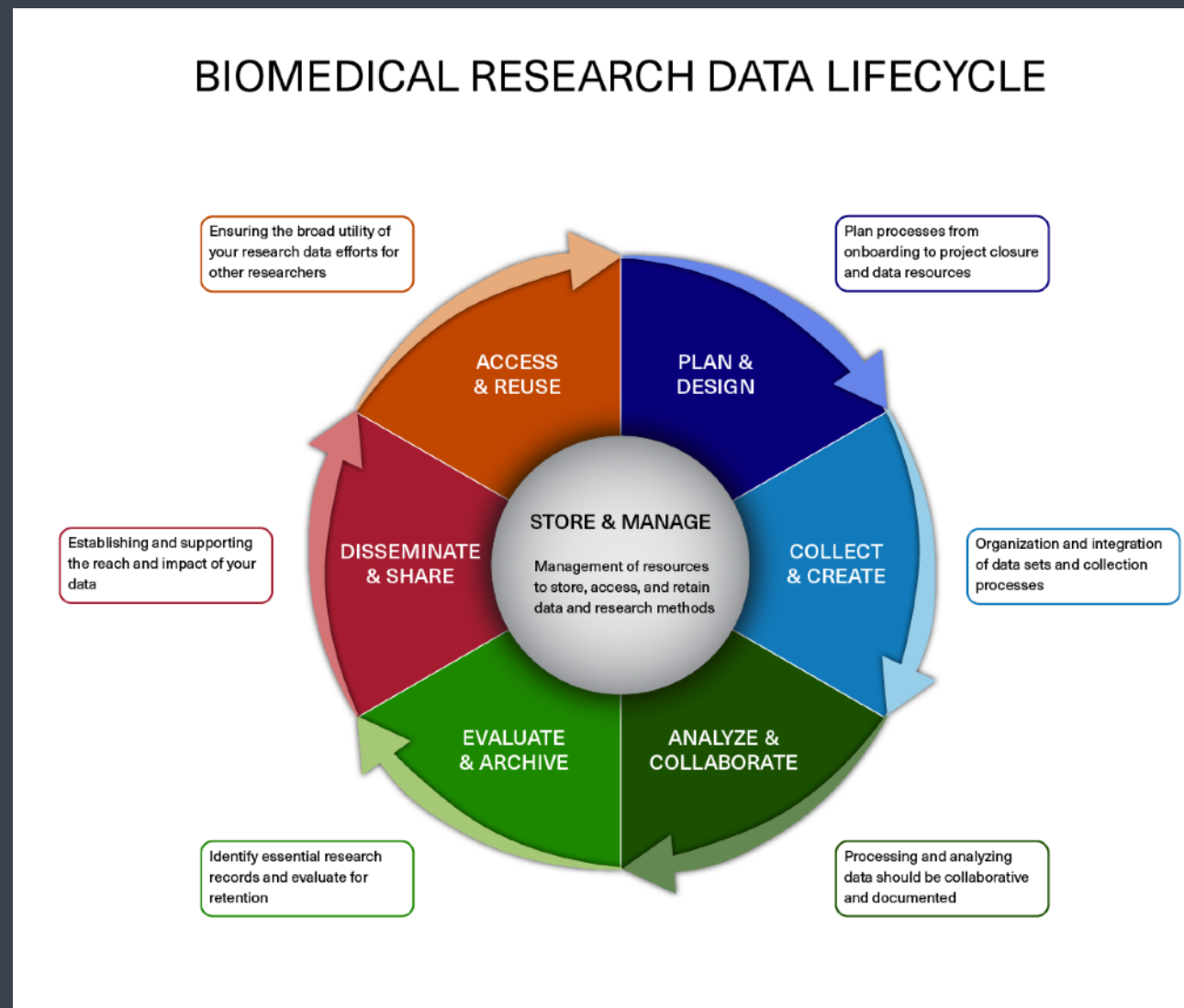
Webpage: <https://datamanagement.hms.harvard.edu/>

[Click here to sign up for data management related emails](#)

- Harvard-wide Research Data Management -

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

# Data Management Short Workshops





<https://datamanagement.hms.harvard.edu/about/news-events/rdmwg-calendar>


# Data Management Short Workshops


## Spring 2024 Data Lifecycle Training

### Plan & Design


**April 17**   
Writing a Data Management  
and Sharing Plan for  
Grant Applications


**April 24**   
Principles of Data  
Stewardship


**May 1**   
Don't Leave Yet! Research  
Data Offboarding Done Right


**May 8**   
Don't Leave Yet! Research  
Data Offboarding Done Right


### Collect & Analyze


**February 21**   
Basic Shell

**March 6**   
Using Metadata to Find,  
Interpret & Share Your Data


**March 13**   
Intro to MATLAB


**March 13**   
Introduction to GIS


**April 17**   
Intermediate Shell


**May 15**   
Active Project Version  
Control with Git


### Store & Evaluate

**February 7**   
The When, Where, and  
How of Data Storage


**February 27**   
Introduction to the  
General Records Schedule


**March 20**   
Managing Data Transfer  
Between Collaborators


**March 26**   
Managing Your  
Paper Records


**May 7**   
Managing Your  
Electronic Records



### Share & Publish

**January 16**   
Data Sharing and Reuse  
on the Vivli Platform

**February 13**   
Introduction to  
Harvard Dataverse

**February 15**   
Research Management  
Using the Open Science  
Framework

**April 10**   
Achieving FAIR Data:  
Selecting a Repository  
for Your Data

 In-person  
 Virtual



**Learn More & Register:** [bit.ly/rdmwg-calendar](https://bit.ly/rdmwg-calendar)



<https://datamanagement.hms.harvard.edu/about/news-events/rdmwg-calendar>



# Get (stay) in touch with us!

*Sign up for our mailing list:*

<https://tinyurl.com/hbc-training-mailing-list>

*Training email:* [hbctraining@hsph.harvard.edu](mailto:hbctraining@hsph.harvard.edu)

*Consulting email:* [bioinformatics@hsph.harvard.edu](mailto:bioinformatics@hsph.harvard.edu)

**Twitter:** [@bioinfocore](https://twitter.com/bioinfocore)