




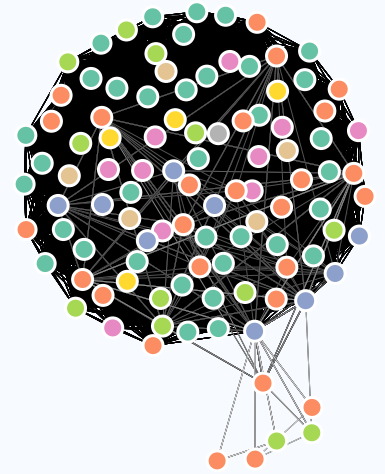
TED LADERAS, PHD

Bioinformatics Trainer, DNAnexus

I am passionate about teaching students to think about data, and have taught Data Science to a variety of groups, including graduate students, post-docs, staff, and clinicians. I am also an RStudio Certified Trainer in both the *tidyverse* and *Shiny*.







EDUCATION

- 2014
|
2009
PhD, Biomedical Informatics
Oregon Health & Science University  Portland, OR
 - Dissertation: Connecting Genotypes to Drug Sensitivities in HER2 Positive Cancer Cell Lines⁷
- 2004
|
2002
M.S., Biomedical Informatics
Oregon Health & Science University  Portland, OR
 - Thesis: Developing and validating a tool for microarray cluster analysis²
- 1998
|
1994
B.A., Chemistry
Reed College  Portland, OR
 - Thesis: Resonance-Raman Spectroscopy, Chromium Hexacarbonyl, and Me: A Tale of Intrigue



View this CV online with links at laderast.github.io/cv

CONTACT

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-  github.com/laderast
-  laderast.github.io
-  [linkedin](#)
-  503-481-8470

LANGUAGE SKILLS

- R/RStudio
- Documentation
- RMarkdown
- Shiny
- High Performance Computing
- Linux Administration
- Web Development

Last updated on 2021-06-08.



TEACHING

● Teaching Statement

I believe in democratizing data science. To this end, I have been involved with several national educational efforts: Big Data to Knowledge, National Library of Medicine's efforts with data science. My workshops, lectures and lessons have been utilized at multiple schools, and by multiple audiences, including clinicians, bioinformaticians, undergraduates.

I utilize evidence-based pedagogical techniques in my teaching, specifically active learning and psychological safety. I am a firm believer in making students feel psychologically safe and giving them space to be curious. Many of my students have become collaborators in my teaching materials, improving them with their ideas and their questions. As a result, my work has been recognized as being accessible to a wide audience.

I believe that we must give graduate students more transferrable skills, and so I have co-founded BioData Club, a community of practice at OHSU and beyond that focuses on teaching and learning data science skills. I am dedicated to my students, and courses and workshops show consistently high ratings and evaluations. I am also a certified instructor for both The Carpentries and RStudio.

In my educational work, I have focused on *Exploratory Data Analysis* (EDA) as a way to be curious and to not be afraid of your data, *Predictive Modeling and Data Analytics*, *interactive visualization*, *Open Science*, *Team Science*, and the importance of *interdisciplinary collaboration*. I am dedicated to making my work accessible and reproducible by others.



COURSES

Current
|
2021

● **BSTA504: R Programming³**

Biostatistics Program, OHSU-PSU School of Public Health
📍 Portland, OR

- **Course Director.** Basics of effective analysis using the tidyverse, Rmarkdown, and statistical modeling.

Current
|
2015

● **BMI569: Data Analytics⁴**

Biomedical Informatics, Oregon Health & Science University
📍 Portland, OR

- **Course co-director.** Hybrid course co-taught with Kaiser Permanente Insight group.
- Winner of the Sakai Torchbearer Award 2020. Multiple nominations from students.


Current
|
2020

● **HIP 523 Computerized Data Management**


Human Investigations Program, Oregon Health & Science University
📍 Portland, OR

- **Course instructor.** Taught two active lab sessions in exploratory data analysis and predictive modeling.

Current
|
2020

- **BMI535/635: Management and Processing of Large Scale Data**
Biomedical Informatics, Oregon Health & Science University  Portland, OR
 - **Course co-director.** A course that focuses on UNIX scripting, parallel computing, and large scale databases.
 - With Michael Mooney.


Current
|
2020

- **BMI507: Ready for R⁵**
Biomedical Informatics, Oregon Health & Science University  Portland, OR
 - **Course director.** A gentle introduction to visualization, data transformation, and statistics using R and the tidyverse.


Current
|
2020

- **NEUS643: Stats for Neuroscientists⁶**
Neuroscience Graduate Program, Oregon Health & Science University  Portland, OR
 - **Course director.** An introduction to image processing, statistics, and machine learning focusing on confocal microscopy data.
 - Lecture/Active Learning Labs using RStudio.cloud.


2019
|
2015

- **BMI551/651 Bioinformatics and Computational Biology II: Statistical Methods**
Biomedical Informatics, Oregon Health & Science University  Portland, OR
 - **Course co-instructor.** Provided drop-in sessions for R/Bioconductor programming and general tutoring.

2018
|
2017

- **HMSP410/PHE427: Introduction to Health Informatics⁷**
Health Systems Management/Public Health Education, Portland State University  Portland, OR
 - **Course co-director.** A gentle introduction to relevant data science and informatics concepts for undergraduate students.
 - Includes sections on data literacy, genomics, and metadata

2018

- **NEUS642: Python Bootcamp for Neuroscientists⁸**
Neuroscience Graduate Program, Oregon Health & Science University  Portland, OR
 - **Course director.** Week long introduction to Python for non-computational neuroscientists.
 - With Daniela Sadari, Lucille Moore, Brad Buran, Charles Heller, Zack Swartz, Lisa Karstens, Stephen David, Michael Mooney.



EDUCATIONAL SCHOLARSHIP

Current
|
2015



RBootcamp⁹

Online Course

📍 International

- **Online Interactive** Introduction to the Tidyverse. Currently available as a free course to everyone.
- Written with Jessica Minnier. Taken by incoming Bioinformatics and School of Public Health students. **Over 2000 external users**. Used interationally. Used for training at T-Mobile, OHSU, and multiple institutions
- Over 2000 external users. Used interationally. Used for training at T-Mobile, OHSU, and multiple institutions

Current
|
2018



burro¹⁰

R Package

📍 International

- R Package for exploring data using a Shiny interface. Provides guided exploration of variable association.
- Software is used in multiple courses to teach exploratory data analysis.

Current
|
2015



BioData Club¹¹

Oregon Health & Science University

📍 National

- Co-founder. **Data Science** focused **community of practice**. We are students, postdocs, staff, and faculty focused on learning Data Science skills together
- Developed partnerships with various OHSU groups, including the OHSU Library. Contributed to Data Science Competencies.
- Currently at over 340 members spanning OHSU and beyond.

2021
|
2017



A gRadual Introduction to Shiny¹²

Workshop

📍 National

- Workshop introducing basic interactive visualization and dashboard building using the Shiny framework for R
- Written with Jessica Minnier, Pierrette Lo, and Dar'ya Pozhidayeva
- Given for PDX R User Group, WNAR 2019, and BioData Club 2019. Used by multiple colleges, including Reed College and Lehmann College.

10/2020



Lowering Psychological Burdens for Students¹³

OHSU Faculty Development Workshop

- Faculty development discussion at OHSU on improving psychological safety in classroom.
- Material is based on Carpentries Instructor Training.

9/2020









The MD in .Rmd: Teaching Clinicians Data Analytics with R¹⁴

R/Medicine Conference

📍 Online conference

- Talk on our BMI569 Data Analytics course with Kaiser Permanente.

- 9/2020 ● **Data Carpentry: R for Social Scientists**  Georgia Gwinnett College (online)
- Co-instructor. Taught faculty best practices with spreadsheets, OpenRefine, and R
- 08/2020 ● **Open Science Tools Panel¹⁵**  National
- Medical Library Association Conference
- Invited Panel Member with Kristi Holmes and Vicky Steeves.
- 12/2019 ● **How to make a reproducible paper¹⁶**
- BioData Club Workshop
<https://doi.org/10.6084/m9.figshare.12413195.v1>  Regional
- Workshop introducing best practices in data management and code management to make an analysis reproducible. Written with Aurora Blucher. Given for BioData Club.
- 11/2019 ● **My Experience with RStudio Instructor Training¹⁷**
- RStudio Education Blog
- Story about becoming an RStudio Certified Instructor in the Tidyverse and Shiny
- 10/2019 ● **Data Storytelling Workshop¹⁸**  Regional
- BioData Club Workshop
- You are making a figure for your paper and want it to be the best it can be. Come and learn techniques for communicating your findings clearly. Learn about the role of color, annotations, and simplifying your figures to communicate effectively.
 - Workshop given for BioData Club. RStudio materials can be freely accessed online.
- 7/2019 ● **Clinical Data Wrangling: Active/Didactic Learning.**  National
- Symposium on Data Science and Statistics
- Ted Laderas, Nicole Weiskopf, and Eilis Boudreau. Talk given for Symposium on Data Science and Statistics.
- 7/2019 ● **Data Scavenger Hunts: Learning about datasets together¹⁹**
- CSV Conference <https://doi.org/10.6084/m9.figshare.12654140.v1>  International
- Talk given for CSV Conference
- 7/2019 ● **Engaging Students in Statistics & Data Science**
- Symposium on Data Science and Statistics
- Session Chair. Part of Symposium on Data Science and Statistics 2019.

- 6/2019 ● **Conversations about Sleep: Clinical Data Wrangling** 📍 National
 AMIA Informatics Educators Conference

 - Ted Laderas, Nicole Weiskopf, and Eilis Boudreau. Talk given for American Medical Informatics Association's Informatics Educator's Conference
- 5/2019 ● **decampr** 📍 National
 R Package

 - R Package for editing interactive lessons using the course-R-starter framework by Ines Montani
 - Written with Jessica Minnier
- 5/2019 ● **Teaching Bioinformatics Students about Clinical Data²⁰** 📍 Regional
 OSU Center for Genome Research and Computing Spring Conference <https://doi.org/10.6084/m9.figshare.12654152.v1>

 - Invited talk.
- 2/2019 ● **NHANES Data Scavenger Hunt²¹** 📍 Regional
 BioData Club Workshop

 - An introduction to Exploratory Data Analysis using the burro app to explore outcomes using the NHANES (National Health and Nutrition Examination Survey) dataset.
 - Written with Jessica Minnier and Thomas Frohwein
- 2019
|
2017 ● **Clinical Data Wrangling²²** 📍 OHSU
 NLM T15 Data Science Workshop

 - Multi-day workshop on understanding clinical data quality issues through both didactic lecturing and active data exploration.
 - Written with Eilis Boudreau and Nicole Weiskopf.
 - Given as an intro to both our incoming clinical and bioinformatics students.
- 2019
|
2015 ● **Introduction to iGraph²³** 📍 OHSU
 Interactive Lecture

 - Workshop introducing the basics of network analysis using the `igraph` package.
 - Given for the last 4 years in Guanming Wu's Network Analysis course
- 2019
|
2018 ● **BioDataClub Kit²⁴** 📍 National
 Guidance and website

 - With Robin Champieux. Website and kit for establishing a BioData Club and your local institution
 - Adopted by Northwestern.

- 1/2019 ● **Democratizing Data Science Using LearnR and Shiny²⁵**
 RStudio Conference 📍 National

 - Poster on interactive visualization and pedagogy.
 - Written with Jessica Minnier

- 2019 ● **Software Carpentry** 📍 International

 - Contributor to instructor training materials.
 - Training materials have been used to train over 100 instructors.

- 2019 ● **A gradual introduction to Shiny**
 Western North American Region (WNAR) of the International Biometric Society conference 📍 National

 - Workshop instructor with Jessica Minnier. 15 attendees

- 10/2018 ● **Data Exploration to Enable Cross Disciplinary Collaboration.**
 Cancer Informatics for Cancer Centers (CI4CC) Fall Symposium 📍 National

 - Invited Speaker. Building Capacity: Leveraging National Efforts on Data Science Training in Cancer Center Context

- 5/2018 ● **Open Resources for Teaching Data Science Skills²⁶⁾**
 From Evidence to Scholarship Conference 📍 Reed College, Portland, OR

- 2018 ● **cvdRiskData Prediction Workshop²⁷**
 Big Data to Knowledge (BD2K) workshop 📍 Regional

 - A workshop given for Portland State University students exploring the difficulties of predicting cardiovascular risk using shiny for exploratory data analysis and caret for machine learning. Part 1 and Part 2.
 - Written with David Dorr
 - Altmetric score of 47

- 2018
|
2017 ● **Data Literacy Tutorial²⁸**
 Interactive Tutorial 📍 Portland State University

 - Interactive tutorial introducing the basic concepts of visualization and data literacy
 - Used in both HMSP410 and PHE427 courses.

- 2018 ● **Academic Site Workshop Using GitHub Pages²⁹**
 BioData Club Workshop 📍 Regional

 - Workshop for setting up a personal academic website using GitHub Pages
 - 115 students, faculty, and staff have used this workshop, many at external institutions

- 2018 ● **How are Data Science and Systems Science Connected?**³⁰ 📍 Regional
 Systems Science Program, Portland State University

 - Talk given about the relationship between machine learning and systems science
- 2017 ● **DSIExplore**²¹ 📍 Regional
 R Package

 - LearnR interactive tutorial explaining the basic behind exploratory data analysis for categorical and continuous data
 - Written with Jessica Minnier
 - Given for 65 adult students in 2017.
- 2017 ● **Training future biocurators through data science trainings and open educational resources.**
 F1000 Research

 - Nicole Vasilevsky, Ted Laderas, Jackie Wirz, Bjorn Pederson, David A Dorr, William Hersh, Shannon McWeeney, Melissa Haendel.
- 2017 ● **Data Science for Basic Scientists**²² 📍 OHSU
 OHSU Symposium on Educational Excellence
<https://doi.org/10.6084/m9.figshare.12654158.v1>

 - Invited talk.



RESEARCH

● Research Statement

My research interests are complex diseases, precision medicine, applications of systems science (including network analysis and modeling), and applying data integration to difficult and high-impact translational research questions. These questions include immune system profiling in both infectious disease (tuberculosis) and Acute Myeloid Leukemia, understanding drug sensitivity in the context of multiple cancer types (AML, Colorectal, Breast and Head and Neck Cancer), and quantifying expression differences in alcoholic preference. I have worked with a large number of datatypes (high-throughput immunophenotyping, proteomics, expression, genomic, and functional drug screen data) and have focused on methods and frameworks integrating these datatypes within the biological and clinical context of these translational research questions.

My training in biomedical informatics as a master's student in Biomedical Informatics, as an NLM Predoctoral Fellow, and as a NLM Postdoctoral fellow has enabled me to communicate with a wide variety of collaborators by giving me a strong background in Cancer Biology, Software Development, and Clinical Systems.

Additionally, I am a strong advocate for Open Science initiatives, most notably the effort for reproducibility in scientific analysis. To this end, I have developed multiple novel software pipelines that transparently process data from raw data to through the final stages of analysis.



RESEARCH SOFTWARE/INTELLECTUAL PROPERTY

Current
|
2017



flowDashboard³³

R Package

- Visualization framework in R/Shiny and processing pipeline for CyTOF and high dimensionality flow cytometry data.
- Dashboards have been used by 3 research groups at OHSU.

2014



surrogateMutation³⁴

R Package

- R Package for mapping mutations and copy number alterations to networks and associated statistics.
<http://dx.doi.org/10.5281/zenodo.17303>³⁵

2011



ExonModelStrain³⁶

R Package

- R Package for detecting alternative exon usage in the Affymetrix Exon Array.

2004



Consense-Cluster³⁷

R Package

- R Package for comparing multiple clustering methods
- 17 citations



SELECTED PUBLICATIONS, POSTERS, AND TALKS

2020



Reversible suppression of T cell function in the bone marrow microenvironment of acute myeloid leukemia³⁸

PNAS <https://doi.org/10.1073/pnas.1916206117>

- Adam J Lamble, Yoko Kosaka, **Ted Laderas**, Allie Maffit, Andy Kaempf, Lauren K Brady, Weiwei Wang, Nicola Long, Jennifer N Saultz, Motomi Mori, David Soong, Clare V LeFave, Fei Huang, Homer Adams, Marc M Loriaux, Cristina E Tognon, Pierrette Lo, Jeffrey W Tyner, Guang Fan, Shannon K McWeeney, Brian J Druker, Evan F Lind
- OHSU School of Medicine Paper of the Month August 2020.

2019



Illuminating Biological Pathways for Drug Targeting in Head and Neck Squamous Cell Carcinoma³⁹

PLOS One <https://doi.org/10.1371/journal.pone.0223639>

- Gabrielle Choonoo, Aurora S. Blucher, Samuel Higgins, Mitzi Boardman, Sophia Jeng, Christina Zheng, James Jacobs, Ashley Anderson, Steven Chamberlin, Nathaniel Evans, Myles Vigoda, Benjamin Cordier, Jeffrey W. Tyner, Molly Kulesz-Martin, Shannon K. McWeeney, and **Ted Laderas**.
- Role: Senior Author. Did code review of entire workflow and published the workflow as an RMarkdown Notebook at mybinder.org

- 2019 ● **CSF1R inhibitors exhibit anti-tumor activity in acute myeloid leukemia by blocking paracrine signals from support cells⁴⁰**
Blood <https://doi.org/10.1182/blood-2018-03-838946>
- David K Edwards, Kevin Watanabe-Smith, Angela Rofelty, Alisa Damnernsawad, **Ted Laderas**, Adam Lamble, Evan F Lind, Andy Kaempf, Motomi Mori, Mara Rosenberg, Amanda d"Almeida, Nicola Long, Anupriya Agarwal, David Tyler Sweeney, Marc Loriaux, Shannon K McWeeney, Jeffrey W Tyner.
- 2019 ● **Immune checkpoint inhibitors reverse T-cell functional suppression in the bone marrow of a subset of AML patients**
The Journal of Immunology
- Evan F Lind, Adam J Lamble, Yoko Kosaka, **Ted Laderas**, Lauren Brady, Fei Huang, Brian J Druker, Jeffrey W Tyner, Shannon McWeeney
- 2018 ● **Immunogenomic Exploration of the Acute Myeloid Leukemia Microenvironment Identifies Determinants of T-Cell Fitness.⁴¹**
Blood <https://doi.org/10.1182/blood-2018-99-118424>
- Lauren K Brady, David Soong, Evan F Lind, Yoko Kosaka, Adam J Lamble, Michael Schaffer, Brendan P Hodgkinson, Clare Lefave, **Ted Laderas**, Shannon K McWeeney, Homer Adams, Yann Abraham, Pegah Safabakhsh, Jeffrey W Tyner, Brian J Druker, Fei Huang.
- 2018 ● **Integrated functional and mass spectrometry-based flow cytometric phenotyping to describe the immune microenvironment in acute myeloid leukemia⁴²**
Journal of immunological methods
<https://doi.org/10.1016/j.jim.2017.11.010>
- Adam J Lamble, Matthew Dietz, **Ted Laderas**, Shannon McWeeney, Evan F Lind
 - Role: Developed computational pipeline and dashboard framework for displaying high dimensional flow and cytometry data.
- 2017 ● **Teaching data science fundamentals through realistic synthetic clinical cardiovascular data⁴³**
Biorxiv
- **Ted Laderas**, Nicole Vasilevsky, Bjorn Pederson, Shannon McWeeney, Melissa Haendel, and David Dorr.
 - Contribution: First author: helped conceive study, designed bayesian network, developed course material based on dataset.
 - Dataset has been used in BMI569, HIP523, and a workshop at PSU.
- 2016 ● **Comprehensive characterization of VISTA expression in patients with acute myeloid leukemia⁴⁴**
Journal of Clinical Oncology
https://doi.org/10.1200/JCO.2016.34.15_suppl.e14546
- Adam Lamble, Yoko Kosaka, Fei Huang, Kate Sasser, Cristina Tognon, **Ted Laderas**, Shannon McWeeney, Marc Loriaux, Brian J Druker, Jeffrey Tyner, Evan Lind

- 2015 ● **The Consensus Molecular Subtypes of Colorectal Cancer**⁴⁵
Nature Medicine <https://doi.org/10.1038/nm.3967>
- Justin Guinney, Rodrigo Dienstmann, Xin Wang, Aurélien de Reyniès, Andreas Schlicker, Charlotte Soneson, Laetitia Marisa, Paul Roepman, Gift Nyamundanda, Paolo Angelino, Brian M. Bot, Jeffrey S. Morris, Iris Simon, Sarah Gerster, Evelyn Fessler, Felipe de Sousa e Melo, Edoardo Missiaglia, Hena Ramay, David Barras, Krisztian Homicsko, Dipen Maru, Ganiraju C. Manyam, Bradley Broom, Valerie Boige, **Ted Laderas**, Ramon Salazar, Joe W. Gray, Douglas Hanahan, Josep Taberner, Rene Bernards, Stephen H. Friend, Pierre Laurent-Puig, Jan P. Medema, Anguraj Sadanandam, Lodewyk Wessels, Mauro Delorenzi, Scott Kopetz, Louis Vermeulen, and Sabine Tejpar.
 - Contribution: mapped and analyzed OMICs data to consensus cancer subtypes.
 - Currently at 1807 citations.
- 2015 ● **Between Pathways and Networks lies Context**⁴⁶
Science Progress <https://doi.org/10.3184/003685015x14368898634462>
- Ted Laderas, Guanming Wu, and Shannon McWeeney.
- 2015 ● **A network-based model of oncogenic collaboration for prediction of drug sensitivity**⁴⁷
Frontiers in Genetics <https://dx.doi.org/10.3389%2Ffgene.2015.00341>
- Ted G Laderas, Laura M Heiser, Kemal Sönmez
- 2011 ● **Computational detection of alternative exon usage**⁴⁸
Frontiers in Neuroscience <https://doi.org/10.3389/fnins.2011.00069>
- Ted G Laderas, Nicole AR Walter, Michael Mooney, Kristina Vartanian, Priscila Darakjian, Kari Buck, Christina A Harrington, John Belknap, Robert Hitzemann, Shannon K McWeeney
- 2009 ● **High throughput sequencing in mice: a platform comparison identifies a preponderance of cryptic SNPs**⁴⁹
BMC genomics <https://doi.org/10.1186/1471-2164-10-379>
- Nicole AR Walter, Daniel Bottomly, **Ted Laderas**, Michael A Mooney, Priscila Darakjian, Robert P Searles, Christina A Harrington, Shannon K McWeeney, Robert Hitzemann, Kari J Buck
- 2007 ● **Consensus framework for exploring microarray data using multiple clustering methods**⁵⁰
OMICS <https://doi.org/10.1089/omi.2006.0008>
- Ted Laderas and Shannon McWeeney
 - Based on master's Thesis. Currently at 17 citations
- 2007 ● **TandTRAQ: an open-source tool for integrated protein identification and quantitation**⁵¹
Bioinformatics <https://doi.org/10.1093/bioinformatics/btm467>
- Ted Laderas, Cory Bystrom, Debra McMillen, Guang Fan, Shannon McWeeney

SELECTED DATA SCIENCE WRITING

I regularly blog about education, data science, and mental health in a variety of places, but especially at my blog.⁵²

● Selected Blog Posts

Personal Blog

- Package Building: How DESCRIPTION, NAMESPACE, roxygen, and devtools::document work together⁵³
- So You've Accidentally Checked a Large File Into Git⁵⁴
- Getting LearnR tutorials to run on mybinder.org⁵⁵

9/2020

● Getting LearnR tutorials to run on mybinder.org⁵⁶

- Short blog post about building your docker container and file structures needed for getting a LearnR package running on mybinder.org⁵⁷

3/2020

● Rebuilding the RBootcamp and Generating R Tutorials⁵⁸

RStudio Education Blog

- Story about building our interactive RBootcamp using Ines Montani's interactive R/Python Framework.
- Written with Florencia D'Andrea and Jessica Minnier

2/2019

● Package Building: How DESCRIPTION, NAMESPACE, roxygen, and devtools::document work together⁵⁹

Personal Blog

- Package Building: How DESCRIPTION, NAMESPACE, roxygen, and devtools::document work together⁶⁰
- So You've Accidentally Checked a Large File Into Git⁶¹

1/2019

● RStudioConf 2019: Education and Organizations⁶²

Personal Blog

- Story about presenting our poster about interactive data science education and educational resources/talks at RStudioConf 2019

10/2018

● Things we learned teaching clinical data wrangling⁶³

Personal Blog

- My notes on teaching the clinical data wrangling short course, and intro course introducing students to the critical thinking data process with the Sleep Heart Health Study dataset

1/2018

● What we learned teaching Python to Neuroscience Students⁶⁴

Personal Blog

- Notes on organizing an intro Python course for Neuroscience Students
- 1394 views.

1/2018

● So You've Accidentally Checked a Large File Into Git⁶⁵

Personal Blog

- Notes on fixing your Git history using the BFG. 1684 views.

6/2017

● Some Lessons we Learned Running Cascadia R⁶⁶

Personal Blog

- Notes on organizing and running the first NW regional R Conference, Cascadia R
- 531 views.



SERVICE

Service Statement

I am a strong supporter of service at OHSU and beyond. I currently participate in the DMICE BCB (Bioinformatics and Computational Biology) Faculty Division meeting, the DMICE Mentoring committee, and have participated in the BCB Curriculum Retreat in order to plan upcoming coursework at DMICE. As a Pacific Islander, I have a unique viewpoint about diversity and have dedicated myself to making classes and workshops psychologically safe.

Beyond OHSU, I believe that we need to increase public engagement of science and increase outreach and mentoring of next-generation science students, especially from disadvantaged populations will enable these students to succeed in STEM-based careers.

As a former student of Saturday Academy's scientific mentoring program, I want to contribute back to this community and engage potential STEM students through student outreach and mentoring. I am also involved in outreach through the development of course material for the Biocatalyst training program through Oregon Bioscience Association, which provides bioscience training for unemployed or under-employed professionals.



SERVICE HISTORY AND ACCOMPLISHMENTS

Current
|
2017

DMICE Assessment and Planning Committee

Current
|
2017

DMICE BCB Division Committee

Current
|
2017

Biomedical Informatics Curriculum Committee

Current
|
2017

DMICE BCB Admissions Committee Oregon Health & Science University

Current
|
2019

OHSU Computational Forum

📍 OHSU

• Co-organizer



POSITIONS AND WORK EXPERIENCE

Current
|
2021

Bioinformatics Trainer DNAexus

📍 Mountain View, CA

2021
|
2017

● **Assistant Professor, Division of Bioinformatics and Computational Biomedicine**

Medical Informatics and Clinical Epidemiology, Oregon Health & Science University

📍 Portland, OR

- Developed R/Rstudio based materials and assignments for analytics course⁶⁷. Analytics course won a Sakai award for innovation.
- Developed and taught exploratory data analysis with the {burro}⁶⁸ package. Over 150 students have used this software to discuss data with each other.
- Developed and taught Ready for R⁶⁹ course. Course has been taken by 1200 external students.

2017
|
2015

● **Postdoctoral Researcher, OHSU Knight Cancer Institute**

Oregon Health & Science University

📍 Portland, OR

2017
|
2014

● **Faculty Instructor**

Medical Informatics and Clinical Epidemiology, Oregon Health & Science University

📍 Portland, OR

- HPC tutorial⁷⁰ has been used by over 40 students and to train computational staff to learn the basics of high performance computing
- R-Bootcamp⁷¹ course has been used internally at OHSU and for training for T-Mobile for 3 years with over 2000 users.
- Administered RStudio/Shiny Server at OHSU, along with MySQL/PostGRES Database, and Genome Analysis Toolkit

2015
|
2014

● **NLM Postdoctoral Fellow, Division of Bioinformatics and Computational Biology**

Medical Informatics and Clinical Epidemiology, Oregon Health & Science University

📍 Portland, OR

2015
|
2014

● **Visiting Scientist**

Sage Bionetworks

📍 Seattle, WA

2014
|
2009

● **NLM Predoctoral Fellow, Division of Bioinformatics and Computational Biology**

Medical Informatics and Clinical Epidemiology, Oregon Health & Science University

📍 Portland, OR

2009
|
2003

● **Bioinformatics Developer/Project Manager, OHSU Knight Cancer Institute**

Oregon Health & Science University

📍 Portland, OR

2002
|
2001

● **Teaching Assistant/Computer Programmer/Server Admin, Medical Informatics and Clinical Epidemiology**

Oregon Health & Science University

📍 Portland, OR

2001
|
1999

● **Research Assistant/Computer Programmer, Department of Molecular Medicine**

Oregon Health & Science University

📍 Portland, OR

- Developed and extended real time image processing pipeline using LabView. Conducted surface tension experiments using lung surfactant components

1998
|
1996

● **Research Assistant/Teaching Assistant**

Gerrity Lab

📍 Reed College

- TA in Instrumentation Lab
- Conducted research using resonance raman spectroscopy/
- Programmed in LabView/Igor

📖 **COMPLETED SUPPORT**

10/01/2022
|
10/01/2017

● **Tumor intrinsic and microenvironmental mechanisms driving drug combination efficacy and resistance in AML (Current)**

Tyner (PI) U54CA224019

📍 National Cancer Institute

- Most patients with acute myeloid leukemia (AML) eventually die when their disease becomes resistant to conventional or even newer treatments. Our proposed studies will shed light on the mechanisms of drug resistance, both within the tumor and in the surrounding environment. This knowledge will help identify more effective therapies — involving combinations of two drugs — that will avoid drug resistance and provide better outcomes for patients with AML.
- Role: Computational Biologist

5/31/2022
|
09/01/2018

● **The Gut Microbiome and HLA B27-associated Acute Anterior Uveitis (Current)**

Rosenbaum (PI) 5R01EY029266-02

📍 National Eye Institute

- Uveitis is a leading cause of blindness and acute anterior uveitis is the most common form of uveitis. Although a cell surface molecule known as HLA B27 markedly increases the risk to develop acute anterior uveitis, the mechanism is unknown. We have made novel observations about the effect of HLA B27 on the microbiome in the gut and in the joint in rats, and propose to extrapolate these studies to patients with acute anterior uveitis.
- Role: Coinvestigator

06/01/2019
|
07/01/2017

● **Biomedical Informatics Research Training at Oregon Health & Science University**

Hersh (PI) 3T15LM007088026S1

📍 National Library of Medicine

- Supplement to develop data science materials for T15 training grant.
- Role: Educational Developer and Instructor

6/30/2022
|
09/01/2017

● **A National Center for Digital Health Informatics Innovation (Completed)**

Haendel (PI) U24TR002306

📍 National Center for Advancing Translational Sciences

- To create a national network for enabling digital health research, innovation, and continuous improvement. The goal is to use information science to impact the way that health care functions and the lives of those it serves.
- Role: education, software development, and data management advocate (2017-2019)

- 10/31/2018 | 10/26/2015 ● **Targeting MAIT cells for TB vaccines (completed)**
 Lewinsohn (PI) OPP1131709 📍 Bill and Melinda Gates Foundation

 - This proposal is designed to establish whether or not a vaccine targeting Mucosal Associated Invariant (MAIT) can be used to prevent tuberculosis (TB).
 - Role: Computational Biologist

- 6/30/2022 | 07/01/1992 ● **Biomedical Informatics Research Training at Oregon Health & Science University**
 Hersh (PI) T15LM007088 📍 National Library of Medicine

 - Predoctoral and postdoctoral training in biomedical informatics
 - Role: Predoctoral Fellow (2019-2014), Postdoctoral Fellow (2014-2015)

- 5/31/2017 | 5/1/2013 ● **Beat AML: Precision Medicine for AML Based on Functional Genomics**
 Druker (PI) (No # Assigned) 📍 Leukemia and Lymphoma Society

 - The major goals of this project is to transform our approach to AML treatment through a deeper understanding of the diversity of the underlying molecular causes of disease and to bring targeted therapies to AML patients through 1) understanding the spectrum of genetic lesions and molecular drivers, 2) functionally annotating drug sensitivity, and 3) Initiating clinical trials with combinations of drugs in refractory patients.
 - Role: Computational Biologist

 LINKS

- 1: <https://scholararchive.ohsu.edu/concern/etds/kk91fk708?locale=en>
- 2: <https://scholararchive.ohsu.edu/concern/etds/76537133j?locale=en>
- 3: <https://sph-r-programming.netlify.app>
- 4: <https://laderast.github.io/AnalyticsCourse>
- 5: <https://ready4r.netlify.app>
- 6: <https://stats4neuro.netlify.app>
- 7: <https://laderast.github.io/PHE427/>
- 8: https://github.com/dasaderi/python_neurobootcamp
- 9: <https://r-bootcamp.netlify.app>
- 10: <https://laderast.github.io/burro>
- 11: <https://biodata-club.github.io>
- 12: https://laderast.github.io/gradual_shiny
- 13: https://laderast.github.io/psych_safety/#1
- 14: https://laderast.github.io/rmed_2020_talk
- 15: <https://docs.google.com/presentation/d/1XnVmuUlcdQc5VPfFTKcWVMWMRuh33g7lShPa7cQE70I/edit?usp=sharing>
- 16: https://biodata-club.github.io/talks/repro_paper.pdf
- 17: <https://education.rstudio.com/blog/2019/11/my-experience-with-rstudio-instructor-training/>
- 18: https://laderast.github.io/data_storytelling_bdc/#1
- 19: <https://www.youtube.com/watch?v=7mbmZP2KegA>
- 20: <https://doi.org/10.6084/m9.figshare.12654152.v1>
- 21: https://laderast.github.io/nhanes_explore
- 22: https://laderast.github.io/clinical_data_wrangling
- 23: <http://laderast.github.io/igraphTutorial/>
- 24: <https://github.com/BioDataClubKit/BioDataClubKit.github.io/>

25: http://bit.ly/equal_vis
26: [https://laderast.github.io/data-sci-resources/#\(1](https://laderast.github.io/data-sci-resources/#(1)
27: <https://github.com/laderast/cvdRiskData>
28: <https://tladeras.shinyapps.io/dataLiteracyTutorial/>
29: https://github.com/laderast/academic_site_workshop
30: https://pdxscholar.library.pdx.edu/systems_science_seminar_series/81/
31: <https://github.com/laderast/DSIExplore>
32: <https://doi.org/10.6084/m9.figshare.12654158.v1>
33: <https://github.com/laderast/flowDashboard>
34: <https://github.com/laderast/surrogateMutation>
35: <http://dx.doi.org/10.5281/zenodo.17303>
36: <https://github.com/laderast/ExonModelStrain>
37: <https://github.com/laderast/consense>
38: <https://doi.org/10.1073/pnas.1916206117>
39: <https://doi.org/10.1371/journal.pone.0223639>
40: <https://doi.org/10.1182/blood-2018-03-838946>
41: <https://doi.org/10.1182/blood-2018-99-118424>
42: <https://doi.org/10.1016/j.jim.2017.11.010>
43: <https://www.biorxiv.org/content/early/2017/12/12/232611>
44: https://doi.org/10.1200/JCO.2016.34.15_suppl.e14546
45: <https://doi.org/10.1038/nm.3967>
46: <https://doi.org/10.3184/003685015x14368898634462>
47: <https://dx.doi.org/10.3389%2Ffgene.2015.00341>
48: <https://doi.org/10.3389/fnins.2011.00069>
49: <https://doi.org/10.1186/1471-2164-10-379>
50: <https://doi.org/10.1089/omi.2006.0008>
51: <https://doi.org/10.1093/bioinformatics/btm467>
52: <https://laderast.github.io/blog/>
53: <http://laderast.github.io/2019/02/12/package-building-description-namespace/>
54: <http://laderast.github.io/2018/01/05/so-you-ve-accidentally-checked-in-a-large-file-into-git/>
55: <http://laderast.github.io/2020/09/15/getting-learnr-tutorials-to-run-on-mybinder-org/>
56: <http://laderast.github.io/2020/09/15/getting-learnr-tutorials-to-run-on-mybinder-org/>
57: <https://mybinder.org>
58: <https://education.rstudio.com/blog/2020/03/r-bootcamp/>
59: <http://laderast.github.io/2019/02/12/package-building-description-namespace/>
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61: <http://laderast.github.io/2018/01/05/so-you-ve-accidentally-checked-in-a-large-file-into-git/>
62: <http://laderast.github.io/2019/01/24/rstudio-conf-2019-education-and-organizations/>
63: <http://laderast.github.io/2018/10/15/clinical-data-wrangling/>
64: <http://laderast.github.io/2018/01/17/what-we-learned-teaching-python-to-neuroscience-students/>
65: <http://laderast.github.io/2018/01/05/so-you-ve-accidentally-checked-in-a-large-file-into-git/>
66: <http://laderast.github.io/2017/06/07/cascadiarnotes/>
67: <https://github.com/laderast/AnalyticsCourse>
68: <https://github.com/laderast/burro>
69: <https://ready4r.netlify.app>
70: https://laderast.github.io/exacloud_tutorial/
71: <https://r-bootcamp.netlify.app>