



Alternative Research Duties for Graduate Students and PIs

Finding Funding

NIH

[Apply for a Grant | NIH](#)

USDA NIFA

[Grant Training | National Institute of Food and Agriculture](#)

Bioinformatics

[Bioinformatics Training/Groups Online](#)

National Center for Biotechnology

[NCBI Tools](#)

Finds regions of similarity between biological sequences.

[BLAST](#)

Functional annotation tools for investigators to understand biological meaning behind large lists of genes.

[DAVID via NIH](#)

Protein sequence and functional information sponsored by EBI, Georgetown U, and SIB.

[UniProt](#)

From the European Institute of Bioinformatics (EBI).

Provides a comprehensive range of tools.

[Toolbox at the EBI](#)

From University of Washington, tools on biomolecules, cells & tissues, organisms & populations as well as computer & laboratory tools.

[BioResearcher Toolkit](#)

Genomic analysis platform that provides access to more than 150 tools for gene expression analysis, proteomics, SNP analysis, flow cytometry, RNA-seq analysis, and common data processing tasks.

[GenePattern](#)

Provided by University of Pittsburgh Health Sciences Library.

[OBRC: Online Bioinformatics Resources Collection](#)

Software system which produces and maintains automatic annotation on selected eukaryotic genomes.

[Ensembl](#)

Learn GitHub

[Git & GitHub Crash Course: Create a Repository From Scratch!](#)

Communicating Science

Improve your writing, free course on Udemy

[Make Your Writing Stand Out in Eight Easy Steps](#)

Write a scientific review paper. If you are a graduate student this paper could also serve as part (or all) of your literature review for your thesis.

[Ten Simple Rules for Writing a Literature Review](#)

[How to Write a Paper in Weekend \(by Prof. Peter Carr\)](#)

[How to Read a Paper Efficiently \(by Prof. Peter Carr\)](#)

[How to write a first-class paper](#)

Write a scientific manuscript.

[Six things to do before writing your manuscript](#)

[10 things you need to know about the publishing process](#)

[11 steps to structuring a science paper editors will take seriously](#)

[A Brief Guide To Writing Your First Scientific Manuscript](#)

[How to Write a Research Manuscript](#)

[Writing a journal manuscript](#)

[5 ways you can ensure your manuscript avoids the desk reject pile](#)

[The complete guide to writing a brilliant research paper](#)

Consider a micropublication.

[Science Matters](#), [BMC Research Notes](#) and [microPublication Biology](#)

will accept negative data or publish brief, novel findings. Most micropublications contain one figure.

Publish a dataset or data note.

Publish a dataset with curated, structured descriptions (metadata) of data to facilitate data-sharing and, reuse in a journal such as [Scientific Data](#) or [Data in Brief](#).

Deposit data in a searchable repository such as [Mendeley Data](#).

Visualizing scientific data

[Visualization of Biomedical Data](#)

[How To Present Research Data?](#)

[Points of view: Points of review \(part 1\)](#)

[Points of view: Points of review \(part 2\)](#)

[Points of view: Typography](#)

[Points of view: The overview figure](#)

[Points of view: Color blindness](#)

Scientific Abstracts

[How to write a good scientific Abstract - NIH-NCBI](#)

Increasing research impact through knowledge translation

[It is time to replace publish or perish with get visible or vanish: opportunities where digital and social media can reshape knowledge translation](#)

[Get the impact you deserve: harness the power of sharing](#)

Communications

[American Association for the Advancement of Science Communications Toolkit](#)

[Communicating Science Online](#)

[Working with Journalists](#)

[In-Person Engagement](#)

[Using Multimedia and Visuals](#)

[Mini Workshops](#)

Writing for non-scientific audiences

[Writing in Plain English from LinkedIn learning](#)

[Ninja Writing: The Four Levels of Writing Mastery](#) from LinkedIn learning

[New media landscapes and the science information consumer](#)

Create an online presence for you and your lab

[5 Methods to Develop Your Online Presence \(for Researchers\)](#)

[Learning to Write for the Web from LinkedIn learning](#)

[Editing Mastery: How to Edit Writing to Perfection from LinkedIn learning](#)

[Creating a simple and effective academic personal website](#)

[Research Lab Website Design Template](#)

Social media

[Twitter for Academics](#)

[Using Twitter™ to drive research impact: A discussion of strategies, opportunities and challenge](#)

[Nature Collection on Social Media for scientists](#)

[Early Career Researcher Toolbox: Social Media for Scientists](#)

[Social Media for Scientists: Extending Your Digital Footprint](#)

[How to... use social software tools for research Part: 1](#)

[Writing a Compelling Blog Post](#)

[Start A Blog from Scratch](#)

Maximize media coverage around your research

[Five ways media training helped me to boost the impact of my research](#)

[How to work with your institution's press office to maximize the reach of your work](#)

[You've Got Media Hits! Now What?](#)

[How Academics and Researchers Can Get More Out of Social Media](#)

Apply your research to current news!

Document Your Research Impact

Learn to increase research impact through open science

[Open Science: Sharing your research with the world](#)

Article-level measures of research impact

[How to improve the impact of your paper](#)

[7 Simple SEO Tips to Increase Research Paper Visibility](#)

Author-level measures of research impact

[Google scholar citations](#)

[Measuring scholarly impact](#)

Alternative metrics

[Altmetrics: an analysis of the state-of-the-art in measuring research impact on social media](#)

General Lab Management

Good resources including templates and articles and videos covering a wide range of topics.

[Lab Manager](#)

[Leading Lab Safety in the COVID-19 Era](#)

[Working with Remote Laboratory Teams](#)

[5 Tips for Managing Remotely During COVID-19](#)

[OSHA Laboratory Safety Guidance](#)

[Laboratory safety rules](#)

Create a knowledge management plan for your laboratory

[Knowledge Management - In 5 minutes or less](#)

[Organizational Knowledge Sharing Practices](#)

[What Is Knowledge Management, and Why Is It Important?](#)

[Knowledge Management APQC](#)

[Becoming a Knowledge-Sharing Organization](#)

[Knowledge Management - Concepts, Tools and Practice](#)

Data Management

[Introduction to Data Management](#)

[Inventory, Store, and Organize Your Data](#)

[Data Access and Ownership](#)

[Sharing Your Data](#)

[Creating a Data Management Plan](#)

[Keeping Up With... Research Data Management | Association of College & Research Libraries \(ACRL\)](#)

[DMPTool](#). The DMPTool is a free, open-source, online application that helps researchers create data management plans.

[Data Management Short Course for Scientists](#)

[Searchable database of data and repositories](#)

[Cloud Computing for the Laboratory](#)

Quality Assurance and Lab Processes

Understand quality assurance

[NIH](#)

[Excellent lab quality stepwise implementation tool](#)

[Reproducibility in Research](#)

[Clearinghouse for Training Modules to Enhance Data Reproducibility](#)

[Avoiding Common Pitfalls in Preclinical Animal Research Design](#)

[Scientific Rigor & Reproducibility Tool Box](#)

[Rigor and Reproducibility](#)

Scientific Techniques

[Cell Signaling Pathways](#)

[Videos and Webinars](#)

Immunohistochemistry

[Visualize Protein in Tissue](#)

[When to Use IHC](#)

[What is IHC Staining?](#)

[IHC Antibody Validation](#)

[Analysis of IHC Results](#)

[Analyze Multiple Markers](#)

[Mouse Model Testing](#)

[IHC Troubleshooting](#)

[Tools for Consistent IHC](#)

[IHC Protocols](#)

[Immunofluorescence](#)

NCBI

Helpful videos and guides to learn about many topics: Gene Expression, Genome Remapping Tools.

[Tutorials](#)

[Courses and Webinars](#)

Proteomics

[Proteomics Videos](#)

[Exploring PTMs using Mass Spectrometry | CST](#)

[Cell signaling technology protocols](#)

Western Blotting & Immunoprecipitation

Immunohistochemistry

Immunofluorescence

Flow Cytometry

Chromatin Immunoprecipitation

Chromatin Immunoprecipitation Troubleshooting

CUT&RUN Sandwich Immunoassays (ELISA)

In-Cell Western

[Western Blotting & Immunoprecipitation](#)

[Western Blotting Videos](#)

[Western Blotting Troubleshooting Guide Video | CST](#)

[Western Blotting Guide](#)

Statistics

[R Course Video](#)

[How to... choose the right statistical technique Part: 1](#)

[Statistical Information](#)

[Data Science Methodology Course](#)

[Learn Big Data](#)

[Datawrapper \(great data maps, tables, charts-free\)](#)

[RAWGraphs](#)

[Tutorials](#)

Continuing Education

Free training links from the CDC

[Continuing Education | CDC Learning Connection](#)

[Lab Training](#)

[Competency Guidelines for Public Health Laboratory Professionals: CDC and the Association of Public Health Laboratories](#)

Series of Videos for Postdocs hosted by Duke

[Duke Postdoc Services Videos](#)

[Negotiating the academic job offer](#)

[You're Hired Now What? Starting Your New Academic Position Right](#)

[New Professor Sets Up Lab: The Good, the bad and the ugly](#)

Improve your Diversity Equity and, Inclusion Knowledge

[Office of Equity, Diversity and Inclusion](#)

Technology

[Google Hangouts](#)

Online meeting tools

[Slack Tutorials](#)

[Using Search Engines Effectively](#)

[Linkedin Learning Trello](#)

[Git and Github](#)

[Feedly](#)

Feedly is an RSS feed reader and news aggregator that allows you to organize, read, and share content from your favorite sites.

[RSS: What is RSS? How do I subscribe to RSS feeds?](#)

[RSS Tutorial](#)