



Research Resources in Physics and Astronomy

Laura Palumbo, Chemistry & Physics Librarian/
Science Data Specialist

February 12, 2019

<https://www.libraries.rutgers.edu/>

Rutgers Home | Search Rutgers

 **RUTGERS** University Libraries

 Hours  My Account  Ask Us

Find Services & Tools Get Help Places & Spaces Info for... About

QuickSEARCH

Search library resources 

HELP **ADVANCED SEARCH**

Resources

- [Databases](#)
- [Journals](#)
- [Course Reserves](#)
- [Research Help](#)
- [Health Sciences Libraries](#)

Services

- [Reserve a Room](#)
- [Request Books & Articles](#)
- [Services for Students](#)
- [Services for Faculty](#)

Today's Hours | [All Hours and Locations](#)

- Alexander 7:45 am–11 pm
- Art 9 am–6 pm
- Carr 8 am–6 pm
- Chang 9 am–5 pm
- Dana 8 am–10 pm
- Douglass 8 am–6 pm
- LSM 8 am–11 pm

Advanced search for known items

The screenshot shows the Rutgers University Libraries search interface. At the top, there is a navigation bar with options: New Search, Browse, Journals, Citation Lookup, a help icon, a refresh icon, a pin icon, an 'Ask Us' button, and a 'Sign i' button. The main search area is titled 'BASIC SEARCH' and includes a 'Search for:' section with radio buttons for 'Rutgers Libraries' (selected) and 'Course Reserves'. Below this, there are three search criteria: 'Title is (exact) Current trends of surface science and catalysis', 'AND Any field contains', and 'Resource Type Books'. There are also filters for 'Language Any language', 'Start Date: Day Month', and 'End Date: Day Month'. At the bottom, there is a summary of the search query: 'Title is (exact) Current trends of surface science and catalysis' and a green 'SEARCH' button. Red arrows point to the search criteria and the 'SEARCH' button.

Search for: Rutgers Libraries Course Reserves

Title Resource Type

AND Language

+ ADD A NEW LINE CLEAR

Start Date:

End Date:

→ Title *is (exact)* Current trends of surface science and catalysis **SEARCH**

Use limiters

The screenshot displays the Rutgers University Libraries search interface. At the top, the Rutgers logo and 'University Libraries' are on the left. Navigation links include 'New Search', 'Browse', 'Journals', and 'Citation Lookup'. On the right, there are icons for help, refresh, and a 'Sign in' button. Below the navigation is a search bar containing 'quantum field theory' and a search icon. To the right of the search bar is an 'ADVANCED SEARCH' link. A yellow banner below the search bar contains the text 'Sign in to view full results from off campus' with a 'Sign in' link and a 'DISMISS' button.

The main content area shows search results for 'quantum field theory'. The left sidebar is titled 'Filter my results' and includes the following options:

- Expand My Search ?
- Sort by Relevance ▾
- Limit to** ▲ (circled in red)
- Available online
- Peer-reviewed journals

At the bottom of the sidebar are 'CLEAR' and 'APPLY FILTERS' buttons. The search results list shows two items:

1. **Quantum field theory** by Sadovskii, M. V. (Mikhail Vissarionovich), 1948-2013. Includes a 'View Online >' link.
2. **Quantum field theory** by Srednicki, Mark Allen, 2007. Includes a 'Not Available >' link.

At the bottom right, there is a 'PAGE 1' indicator with a downward arrow.

<http://libguides.rutgers.edu/physics>

Library » Research Guides » Physics and Astronomy » Indexes & Databases

Physics and Astronomy: Indexes & Databases

[Home](#)[Find Books](#)[Find Journals](#)[Indexes & Databases](#)[Web Resources](#)[Mobile Apps](#)

Rutgers Restricted Indexes & Databases

See a full list of Indexes and Databases available at Rutgers, click [here](#).

- [IEEE Xplore](#)

The *IEEE/IEE Electronic Library (IEL)* is a collaboration between the Institute of Electrical and Electronics Engineers (IEEE) in the US and the Institution of Engineering and Technology (IET) in the UK. It covers more than 30% of the world's literature in electrical engineering, electronics, computer science, information science, materials science, physical sciences and biomedical engineering. The database allows for full text access to over 140 journals, over 800 conference proceedings and 800 standards from more than 36 not-for-profit IEEE societies and IEEE.

- [INSPEC](#)

INSPEC provides the leading English-language bibliographic access to the world's scientific and technical literature in physics, electrical engineering, electronics, communications, control engineering, computers, computing, and information technology. In addition, there is significant coverage in materials science, oceanography, nuclear engineering, geophysics, biomedical engineering and

Freely Accessible Indexes & Databases

- [arXiv](#)

arXiv is a pre-print repository that provides open access to over 1 million e-prints in Physics, Mathematics, Computer Science, Quantitative Biology, Quantitative Finance and Statistics.

- [Astrophysics Data System](#)

ADS is a Digital Library portal for researchers in Astronomy and Physics. It maintains three bibliographic databases containing more than 8.5 million records: Astronomy and Astrophysics, Physics, and arXiv e-prints.

- [HEPDATA: Reaction Data Database](#)

HEPDATA is a database containing numerical reaction data such as cross sections (differential and total), polarization measurements, structure functions, fragmentation functions etc.

- [INSPIRE \(formerly SPIRES\): High-Energy Physics Literature Database](#)

SPIRES HEP is a joint project of SLAC, DESY & FNAL as well as the worldwide HEP community. Besides HEP search, it also offers search for HEPName,

Ask A Librarian



Please Take Our Survey

Databases to consider:

Rutgers restricted- log in through the Libraries website if not on campus

IEEE Xplore <http://www.libraries.rutgers.edu/indexes/ieee>

Quantum computing, semiconductors, nanomaterials,
biological physics

MathSciNet

<http://www.libraries.rutgers.edu/indexes/mathscinet>

Mathematical physics

SPIE Digital Library

<https://www.libraries.rutgers.edu/indexes/spie>

Optics and photonics

Databases

Web of Science

http://www.libraries.rutgers.edu/indexes/web_of_science

Useful for cited reference searches

Scopus

<https://www.libraries.rutgers.edu/indexes/scopus>

Similar to Web of Science

- Uses different metrics (ex: SNIP Source Normalized Impact per Paper vs. JIF Journal Impact Factor)
- Indexes different sources

Databases

SciFinder

http://www.libraries.rutgers.edu/indexes/scifinder_scholar

Chemistry- use for condensed matter physics

- Need to create account- must be on campus, use Rutgers e-mail to register (**See [instructions for creating an account](#)**)
- After initial registration, can use off campus

Reaxys

<https://www.libraries.rutgers.edu/indexes/reaxys>

Another option for chemistry/condensed matter physics

- No account needed
- Simplified search



Welcome to [INSPIRE](#), the High Energy Physics information system. Please direct questions, comments or concerns to feedback@inspirehep.net.

[HEP](#) :: [HEPNAMES](#) :: [INSTITUTIONS](#) :: [CONFERENCES](#) :: [JOBS](#) :: [EXPERIMENTS](#) :: [JOURNALS](#) :: [HELP](#)

HEP Search

High-Energy Physics Literature Database

Use "find" for SPIRES-style search ([other tips](#))

Brief format Search [Easy Search](#) [Advanced Search](#)

[find j "Phys.Rev.Lett..105"](#) :: [more](#)

HOW TO SEARCH

SPIRES syntax is (mostly) supported (requires "find")

`find a richter, b and t quark and date > 1984`

`find j phys.rev.,D50,1140 or j jhep,0903,112`

`find eprint arxiv:1007.5048` (Note the plots available on the detailed record)

`find fulltext "quark-gluon plasma"` (Note new "fulltext" operator)

`find a ellis and refersto a witten` (Note "refersto")

`find a kane and citedby title SUSY and topcite 200+` (Note "citedby")

New techniques:

`4005 citestoprank multiplicity`

HEP

[Additions](#)

[Corrections](#)

[Search Tips](#)

[FAQ](#)

[Topcites: annual | recent](#)

[Reviews](#)

[HEP Citesummary](#)

[Tools](#)

INSPIRE

[About INSPIRE](#)

[INSPIRE Help Central](#)

[Blog](#)

[Twitter](#)

feedback@inspirehep.net

RESOURCES

[ADS](#)

Easy Search Interface



Welcome to [INSPIRE](#), the High Energy Physics information system. Please direct questions, comments or concerns to feedback@inspirehep.net.

HEP :: HEPNAMES :: INSTITUTIONS :: CONFERENCES :: JOBS :: EXPERIMENTS :: JOURNALS :: **HELP**

Easy Search

Welcome to Easy Search of HEP.

Author:

Title:

Report Number:

Affiliation:

Collaboration:

Keywords:

Eprint: Any Type Number

Topcite: Don't care

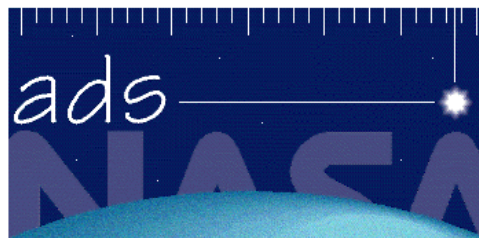
Journal: Any Journal vol: pg:

Date: until:

Search

ADS- Astrophysics Data System

<http://adswww.harvard.edu/>



The SAO/NASA Astrophysics Data System

[Search](#) [Browse](#) [Help](#)

Welcome to the Digital Library for Physics and Astronomy



This site is hosted by the
[High Energy Astrophysics Division](#) at the
[Harvard-Smithsonian Center for Astrophysics](#)



The SAO/NASA Astrophysics Data System (ADS) is a Digital Library portal for researchers in Astronomy and Physics, operated by the Smithsonian Astrophysical Observatory (SAO) under a NASA grant. The ADS maintains three bibliographic databases containing more than 11.6 million records covering publications in Astronomy and Astrophysics, Physics, and the [arXiv e-prints](#). Abstracts and full-text of major astronomy and physics publications are indexed and searchable through the new [ADS "Bumblebee" interface](#) as well as the traditional "[Classic](#)" [search forms](#). A set of [browsable interfaces](#) are also available.

In addition to maintaining its bibliographic corpus, the ADS tracks citations and usage of its records to provide advanced discovery and evaluation capabilities. Integrated in its databases, the ADS provides access and pointers to a wealth of external resources, including electronic articles available from publisher's websites, astronomical object information, data catalogs and data sets hosted by external archives. We currently have links to over 11.2 million records maintained by our collaborators.

ADS Services

[Search](#)
[Browse](#)
[myADS](#)
[Mirrors](#)
[Feedback](#)
[FAQ](#)
[What's new](#)
[Site Map](#)
[Help](#)

Other NASA Centers

[CXC](#)
[HEASARC](#)
[IRSA](#)
[MAST](#)
[NED](#)
[NSSDC](#)
[PDS](#)
[SPITZER](#)

Related Sites

[AAJ](#)
[ADEC](#)
[arXiv](#)
[CDS](#)
[IAU](#)

ADS Astrophysics Data System

<https://ui.adsabs.harvard.edu/>

QUICK FIELD: [Author](#) [First Author](#) [Abstract](#) [Year](#) [Fulltext](#) [All Search Terms](#) ▼

- | | | | |
|------------------|----------------------------|------------|----------------------------------|
| author | author:"huchra, john" | citations | citations(author:"huchra, j") ? |
| first author | author:"^huchra, john" | references | references(author:"huchra, j") ? |
| abstract + title | abs:"dark energy" | reviews | reviews("gamma-ray bursts") ? |
| year | year:2000 | | |
| year range | year:2000-2005 | refereed | property:refereed ? |
| full text | full:"gravitational waves" | astronomy | database:astronomy ? |
| publication | bibstem:ApJ ? | OR | abs:(planet OR star) ? |

Preventing Plagiarism

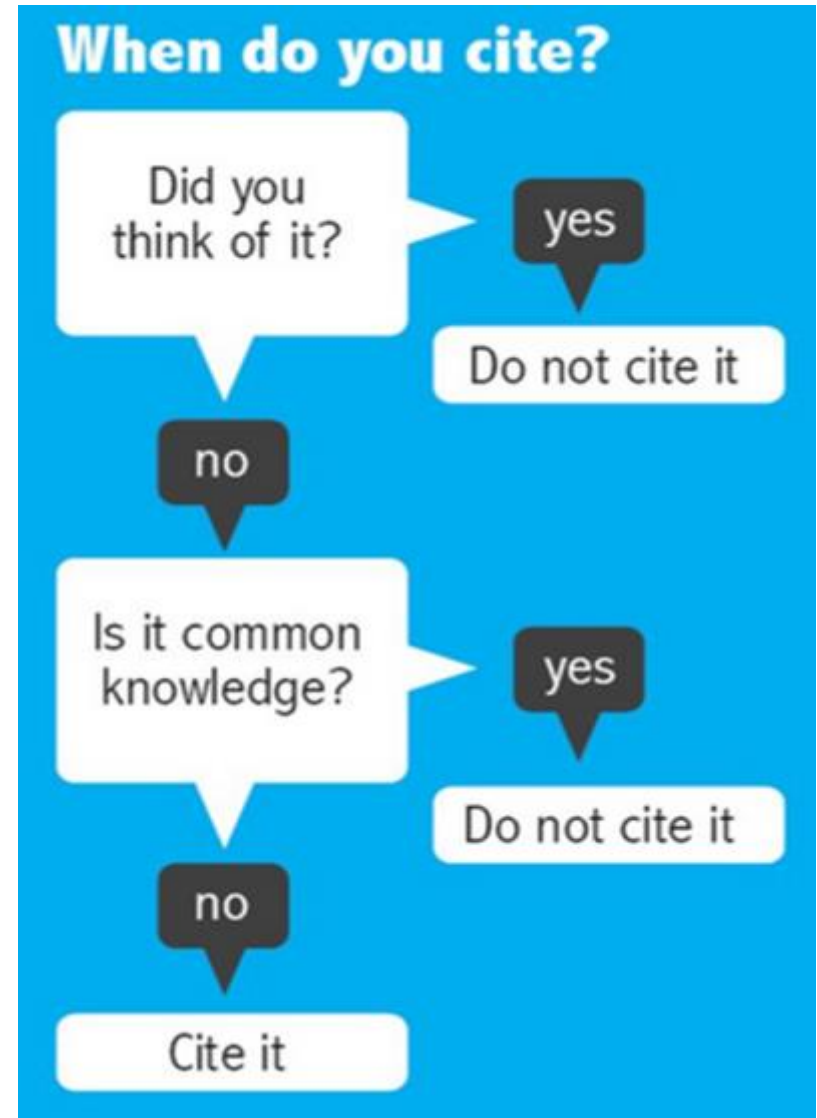
[Physics Education Research Guide](#) may be helpful for TAs

[Harvard Guide to Avoiding Plagiarism](#)

[Rutgers Plagiarism Policy](#)

[Avoiding Plagiarism handout](#)
UNC Chapel Hill

[Resources for Preventing Plagiarism](#) University of Washington Libraries



Harris, Robert A. *The Plagiarism Handbook: Strategies for Preventing, Detecting, and Dealing with Plagiarism*. Los Angeles: Pyczak Publishing, 2001.

Citation Managers

[Comparing Zotero, Mendeley, and Endnote Web](#)

[Citation Management Tools available through Rutgers Libraries](#)

[LaTeX Basics for Students](#)



LATEX

Did you know...

Rutgers University Libraries have data experts ready to help you with:

- **Data Management Plans**
- **Guidance on Access and Preservation of Research Data**
- **Data Management Best Practices**

We can help you

Keep up with Federal requirements for public access to research data

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

October 31, 2016

Dear Senate and House Appropriations Committees:

This letter is submitted in fulfillment of report language incorporated by reference in Division B of the Explanatory Statement for the Consolidated Appropriations Act, 2016, Public Law No. 114-113. That statement directs the Office of Science and Technology Policy (OSTP) to report on progress at each Federal department and agency in developing, finalizing, and implementing a plan to increase public access to the results of Federally-funded scientific research. This letter provides an update since my July 2016 report to you on the progress that Federal departments and agencies have made in response to an OSTP policy memorandum issued in February 2013 on *Increasing Access to the Results of Federally Funded Scientific Research*.¹

The February 2013 OSTP memorandum directed each Federal agency with more than \$100 million in annual expenditures for conduct of research and development to develop a plan to support increased public access to the results of Federally-funded research, specifically to scholarly publications and digital data resulting from such research. Since my last report to you


Federal Requirements Timeline

 **2003** NIH Data Management Statement

 **2005** NIH public access to research data

 **2011** NSF two page Data Management Plan

 **2013** OSTP public access to data for agencies with R&D > \$100 M

 **2016** 19 Federal Departments and Agencies have completed public access plans

We can help you

Create or advise on Data Management Plans for Federal Agencies

The screenshot shows the NSF website interface. At the top left is the NSF logo with the tagline "WHERE DISCOVERIES BEGIN". To the right are "Contact" and "Help" links and a search bar. Below this is a navigation menu with categories: Research Areas, Funding, Awards, Document Library, News, and About NSF. A left sidebar lists various offices and divisions under the "Office of Budget Finance and Award Management (BFA)". The main content area is titled "Dissemination and Sharing of Research Results" and contains two sections: "NSF DATA SHARING POLICY" and "NSF DATA MANAGEMENT PLAN REQUIREMENTS".

NSF National Science Foundation WHERE DISCOVERIES BEGIN

Contact Help

Search

Research Areas Funding Awards Document Library News About NSF

Office of Budget Finance and Award Management (BFA)

Office of Budget, Finance, & Award Management >

Budget Division >

Division of Acquisition and Cooperative Support >

Division of Financial Management >

Division of Grants & Agreements

Division of Institution & Award Support

Policy Office

CAP Branch

RAM Branch

Home > Budget Finance & Award Managem... > Institution and Award Support

Email Print Share

Dissemination and Sharing of Research Results

NSF DATA SHARING POLICY

Investigators are expected to share with other researchers, at no more than incremental cost and within a reasonable time, the primary data, samples, physical collections and other supporting materials created or gathered in the course of work under NSF grants. Grantees are expected to encourage and facilitate such sharing. See [Proposal & Award Policies & Procedures Guide \(PAPPG\) Chapter XI.D.4](#).

NSF DATA MANAGEMENT PLAN REQUIREMENTS

Proposals submitted or due on or after January 18, 2011, must include a supplementary document of no more than two pages labeled "Data Management Plan". This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results. See [PAPPG Chapter II.C.2.j](#) for full policy implementation.

NSF Data Management Plans

An **NSF DMP consists of 5 components**, which describe:

- **Products of research:** spectra, diffraction patterns, physical properties, computational strategies, software, numerical results, etc.
- **Data Format:** instrument output, html, file types- .jpg, .tif... Conversions may be necessary. File names and versions should be standard. Metadata is required.
- **Access to Data and Data Sharing Practices and Policies:** how your data will be made freely accessible. Websites, HEP Data, SIMBAD Astronomical Database...

DMP components

- **Policies for Re-Use, Re-Distribution, and Production of Derivatives:** Who will be able to use your data? Will there be disclaimers on your website? Conditions concerning publication?
- **Archiving of Data:** How will it be preserved? Will hardcopies be transferred to digital format? Will digital media be migrated? Software? How long will the data be retained?

This is a simplified list from NSF - see your directorate
<https://www.nsf.gov/staff/orglist.jsp>

We can help

Provide resources for data management preservation and access

MENU ▾

SCIENTIFIC DATA



Search



E-alert



Submit



Login

Recommended Data Repositories

Scientific Data mandates the release of datasets accompanying our Data Descriptors, but we do not ourselves host data. Instead, we ask authors to submit datasets to an appropriate public data repository. Data should be submitted to discipline-specific, community-recognized repositories where possible, or to [generalist repositories](#) if no suitable community resource is available.

Repositories included on this page have been evaluated to ensure that they meet our requirements for data access, preservation and stability. Please be aware, however, that some repositories on this page may only accept data from those funded by specific sources, or may charge for hosting data. Please ensure you are aware of any deposition policies for your chosen repository. If your repository of choice is not listed please see our [guidelines for suggesting additional repositories](#).

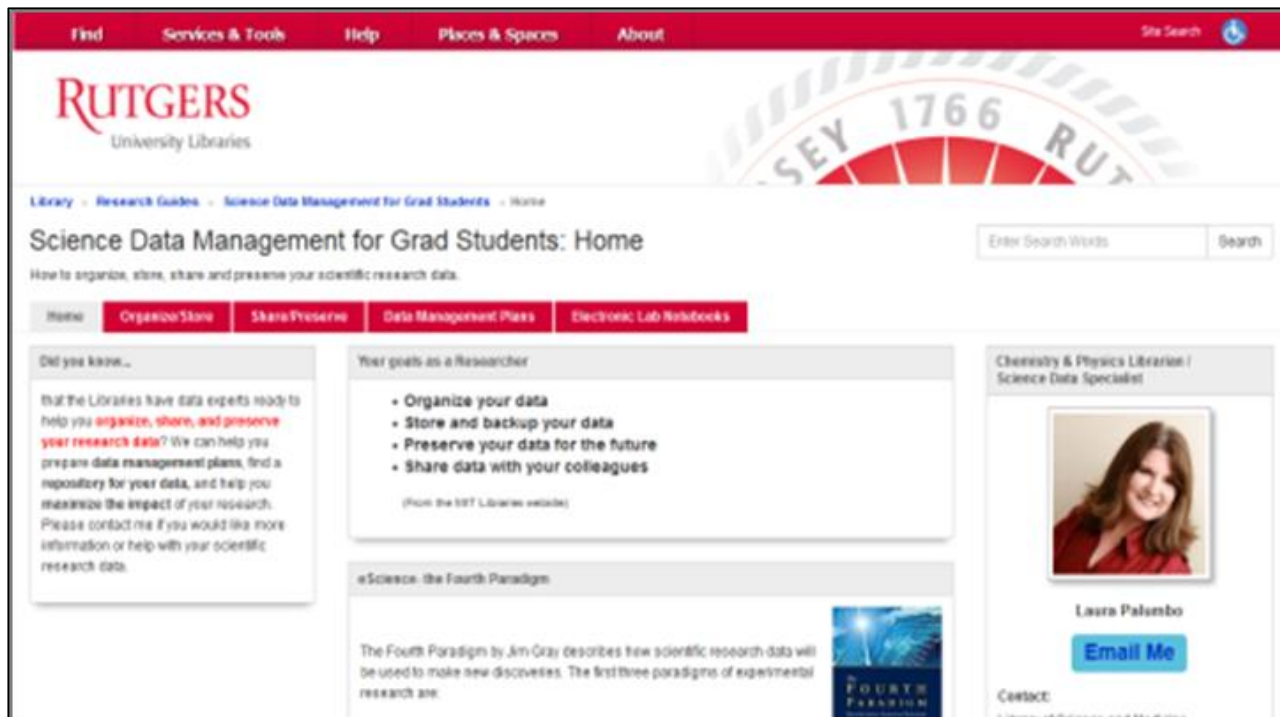
Authors must deposit their data to a recommended data repository as part of the manuscript submission process; manuscripts will not otherwise be sent for review. If data have not been deposited to a repository prior to manuscript submission, authors can upload their data to figshare or the Dryad Digital Repository during the submission process. Data may also be deposited to these resources temporarily, if the main host repository

Resources – Rutgers University Libraries

Research Guides- Science Data for Grad Students,
Data Management

http://libguides.rutgers.edu/grad_sciencedata

<https://libguides.rutgers.edu/datamanagement>



The screenshot shows the 'Science Data Management for Grad Students: Home' page. At the top, there is a navigation bar with links for 'Find', 'Services & Tools', 'Help', 'Places & Spaces', and 'About', along with a 'Site Search' button. The Rutgers University Libraries logo is prominently displayed. Below the logo, a breadcrumb trail reads 'Library > Research Guides > Science Data Management for Grad Students > Home'. The main heading is 'Science Data Management for Grad Students: Home', followed by the sub-heading 'How to organize, store, share and preserve your scientific research data.' A navigation menu includes 'Home', 'Organize/Store', 'Share/Preserve', 'Data Management Plans', and 'Electronic Lab Notebooks'. The page content is divided into several sections: 'Did you know...' with text about data experts, 'Your goals as a Researcher' with a bulleted list of actions (Organize, Store, Preserve, Share), 'eScience: the Fourth Paradigm' with a book cover, and a 'Chemistry & Physics Librarian / Science Data Specialist' profile for Laura Palumbo, featuring a photo and an 'Email Me' button.

We can help you with

Good Data Management practices



Site DataONE Search

Search phrase

Go

[About](#) [News](#) [Participate](#) [Resources](#) [Education](#) [Data](#)

[Home](#) » [Resources](#) » [Best Practices](#)

Resources

Tools

[Investigator Toolkit](#)
[Data Management Planning](#)
[Software Tools Catalog](#)

Materials

[Publications](#)
[Best Practices](#)
[Data Life Cycle](#)
[Librarian Outreach Kit](#)
[Developer Resources](#)
[Research Notebooks](#)

Best Practices

The DataONE Best Practices database provides individuals with recommendations on how to effectively work with their data through all stages of the data lifecycle. Users can access best practices within the database by either clicking on a stage of the lifecycle or selecting keywords under [search](#).

[Best Practices Primer](#)

For students and others new to data management, we provide a [Best Practices Primer](#) as an introduction to the DataONE Best Practices database and data management in general.

[Public Participation in Science Research Data Management Guide](#)

We also provide a [Data Management Guide](#) written specifically for the Citizen Science community that takes the users through the steps of the data lifecycle and links to various DataONE Best Practices online.

Would someone else be able to find your work?

- Cite your data: Digital Object Identifiers
- Register for an ORCID id:

Open **R**esearcher and **C**ontributor **ID**

[What is ORCID?](#)

[Register for an ORCID id](#)

<http://orcid.org>



Image from orcid.org



Thank you!

laura.palumbo@rutgers.edu

@LauraBPalumbo