



# Generalist repository “coopetition” to enhance data sharing and discovery

*October 26, 2023*

*9:30-11:00 UTC*

*11:30-13:00 Local*



Join us on Slido!  
Slido.com  
# 4600 019

## SciDataCon 2023

organized by



as part of

23-26 OCT

2023

SALZBURG



**International  
Data Week**

A FESTIVAL OF DATA



# GREI

Generalist Repository Ecosystem Initiative

## SciDataCon 2023

organized by



as part of

23-26 OCT  
**2023**  
SALZBURG



**International  
Data Week**  
A FESTIVAL OF DATA

---

## Generalist repository “coopetition” to enhance data sharing and discovery

Join us on Slido!  
Slido.com  
# 4600 019

*October 26, 2023*  
*9:30-11:00 UTC*  
*11:30-13:00 Local*



Join at  
**slido.com**  
**#4600 019**

---



# Meet the panelists



**Ana Van Gulick**

Government and  
Funder Lead,  
Figshare,  
United States

GREI Coopetition  
Year 2 Co-chair



**John Chodacki**

Director, University  
of California  
Curation Center,  
United States

GREI Coopetition  
Year 2 Co-chair



**Lisa Federer**

Acting Director,  
Office of Strategic  
Initiatives, National  
Library of Medicine,  
United States

GREI Program Team



**Luca Belletti**

Senior Product  
Manager, Digital  
Commons Data,  
Mendeley Data,  
United Kingdom



**Sara Gonzales**

Senior Data  
Librarian, Feinberg  
School of Medicine,  
Northwestern  
University,  
United States



**Matt Buys**

Executive Director,  
DataCite,  
Netherlands

GREI Metrics  
Co-Chair





## Panel Session Agenda

- The GREI “coopetition” model of collaboration
- The NIH perspective
- Generalist repository use cases
- GREI common metadata schema
- GREI common metrics for data reuse
- Panel Q&A, Audience discussion



*Please post panelist  
questions and audience  
discussion points in Slido*

Slido.com

# 446 0019



# The “Coopetition” Model of Collaboration


*Ana Van Gulick, Figshare &*




*John Chodacki, University of California Curation Center*





# GREI

 National Institutes of Health  
Office of Data Science Strategy

ODSS Intranet (NIH Staff)   

Home Strategic Plan Resources Research Funding News & Events About

Office of Data Science Strategy » News & Events » NIH Office of Data Science Strategy Announces New Initiative to Improve Access to NIH-funded Data

Wednesday, January 26, 2022

## NIH Office of Data Science Strategy Announces New Initiative to Improve Access to NIH-funded Data


*Generalist Repository Ecosystem Initiative will make it easier to find and reuse NIH-funded data*

GREI is intended to supplement the [domain-specific data repositories](#) that are critical components of the NIH biomedical data ecosystem for data sharing.

The GREI builds on the findings from the 2019-2020 [NIH Figshare pilot](#) and the [NIH Workshop on the Role of Generalist Repositories to Enhance Data Discoverability and Reuse](#). ODSS anticipates that this initiative will further enhance the biomedical data ecosystem and help researchers find and share data from NIH-funded studies in generalist repositories.

The GREI includes six established generalist repositories that will work together to establish consistent metadata, develop use cases for data sharing, train and educate researchers on FAIR data and the importance of data sharing, and more.

This initiative will also aim to improve discoverability of data within and across participating generalist repositories and lead to greater reproducibility and reuse of data.



### NIH Awards:

3OT2DB000001-01S1  
3OT2DB000002-01S1  
3OT2DB000003-01S1  
3OT2DB000004-01S1  
3OT2DB000005-01S1  
3OT2DB000006-01S1  
3OT2DB000013-01S1



# NIH Generalist Repository Ecosystem Initiative

The mission of GREI is to establish a common set of capabilities, services, metrics, and social infrastructure; raise general awareness and facilitate researchers to adopt FAIR principles to better share and reuse data.

This initiative will further enhance the biomedical data ecosystem and help researchers find and share data from NIH-funded studies in generalist repositories.

## Goals of the Generalist Repository Ecosystem Initiative



<https://doi.org/10.6084/m9.figshare.21318270>

<https://datascience.nih.gov/data-ecosystem/generalist-repository-ecosystem-initiative>



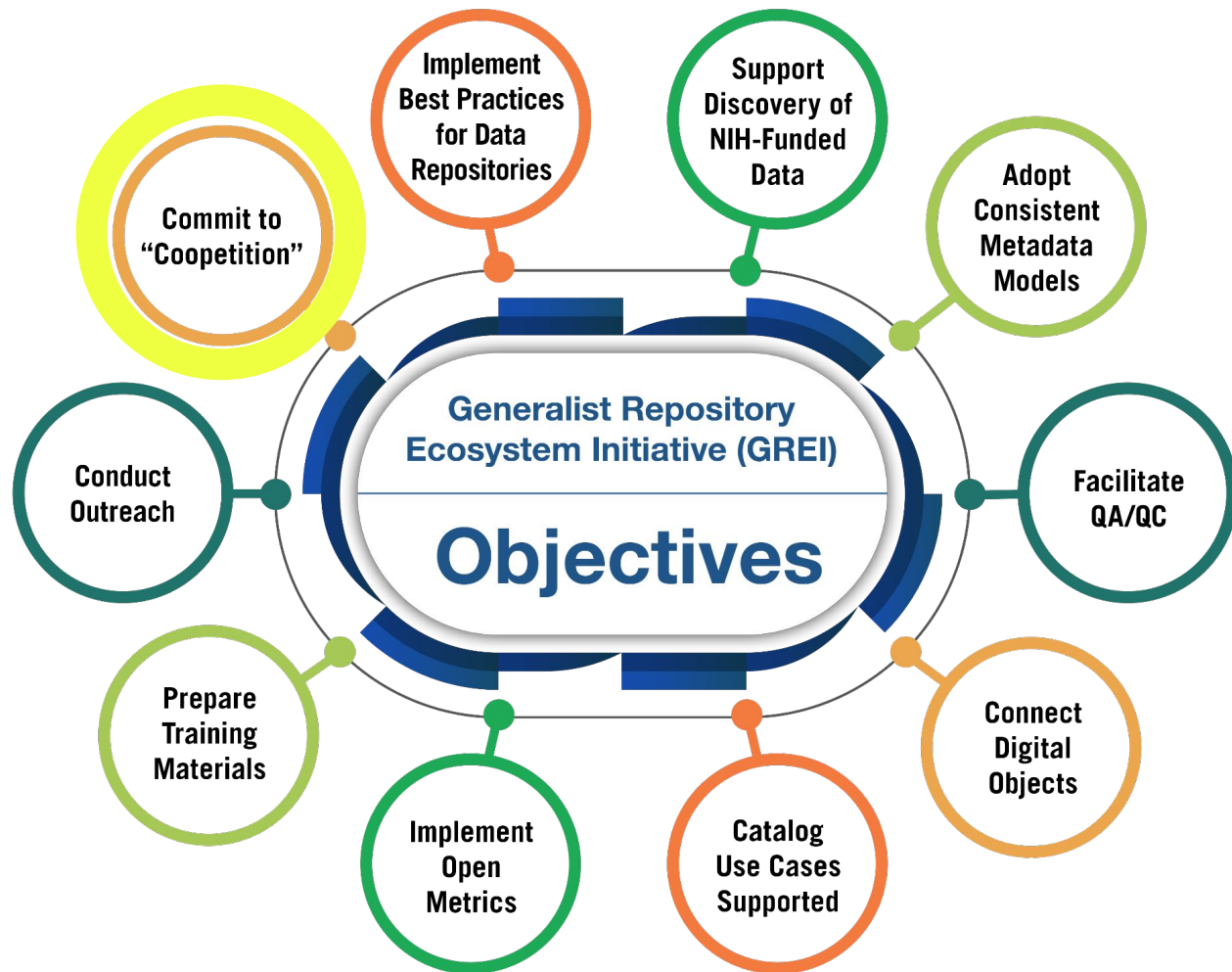
# GREI Repositories



Join at  
**slido.com**  
**#4600 019**

---







# Coopetition = Cooperation + Competition

## Coopetition

- Originally coined by Brandenburger & Nalebuff, 1996
- Sayeed Choudhury keynote at February 2020 NIH Workshop on the Role of Generalist and Institutional Repositories to Enhance Data Discoverability and Reuse

Coopetition



*Compete on Unique Features*

— **VALUE LINE** —

*Cooperate on common features  
and standards*

*(metadata, PIDs, metrics, discovery, privacy)*



# GREI Commitment to “Coopetition”

GREI Repositories are similar. They all support:

- FAIR data sharing across disciplines
- Strive to adhere to repository best practices
- Leverage community standards such as DataCite metadata and persistent identifiers like ORCID and ROR

They also differ:

- Nonprofit organizations and for-profit companies
- Repositories built with open source and proprietary infrastructures
- Offer varying features such as data visualization, file types and sizes, curation, and controlled access



**GREI coopetition** = *collaboration among the generalist repositories to jointly advance repository functionality to support NIH data sharing, discovery, and reuse*



Coopetition allows for:

- Development of a **cohesive and interoperable** generalist repository landscape
- Regular **communication** across repositories
- Implementation of **common best practices and standards**
- Leveraging existing **community standards** (e.g. DataCite, ORCID, ROR)
- Enhanced **flexible data sharing** for NIH funded researchers
- Shared **training and outreach** for generalist repository use cases
- Improved **data discovery and impact** tracking across repositories
- Unified **partnerships** with community stakeholders including institutions and funders
- *But still* allows repositories to offer **varying features** such as visualization and analysis, tool integrations, custom metadata, and advanced functionality for specific use cases
- *Challenges* of working across different business models, infrastructures and product road maps with globally distributed teams



# Generalist Repository Comparison Chart

doi:10.5281/zenodo.3946720

This chart is designed to assist researchers in finding a generalist repository should no domain repository be available to preserve their research data. Generalist repositories accept data regardless of data type, format, content, or disciplinary focus. For this chart, we included a repository available to all researchers specific to clinical trials (Vivli) to bring awareness to those in this field.

<https://fairsharing.org/collection/GeneralRepositoryComparison>

TOPIC	HARVARD DATAVERSE	DRYAD	FIGSHARE	MENDELEY DATA	OSF	VIVLI	ZENODO
<b>Brief Description</b>	Harvard Dataverse is a free data repository open to all researchers from any discipline, both inside and outside of the Harvard community, where you can share, archive, cite, access, and explore research data.	Open-source, community-led data curation, publishing, and preservation platform for CC0 publicly available research data  Dryad is an independent non-profit that works directly with: <ul style="list-style-type: none"> <li>researchers to publish datasets utilizing best practices for discovery and reuse</li> <li>publishers to support the integration of data availability statements and data citations into their workflows</li> <li>institutions to enable scalable campus support for research data management best practices at low cost</li> </ul>	A free, open access, data repository where users can make all outputs of their research available in a discoverable, reusable, and citable manner. Users can upload files of any type and are able to share diverse research products including datasets, code, multimedia files, workflows, posters, presentations, and more. With discoverable metadata supporting FAIR principles, file visualizations, and integrations, researchers can make their work more impactful and move research further faster.	Mendeley Data is a free repository specialized for research data. Search more than 20+ million datasets indexed from 1000s of data repositories and collect and share datasets with the research community following the FAIR data principles.	OSF is a free and open source project management tool that supports researchers throughout their entire project lifecycle in open science best practices.	Vivli is an independent, non-profit organization that has developed a global data-sharing and analytics platform. Our focus is on sharing individual participant-level data from completed clinical trials to serve the international research community.	Powering Open Science, built on Open Source. Built by researchers for researchers. Run from the CERN data centre, whose purpose is long term preservation for the High Energy Physics discipline, one of the largest scientific datasets in the world
<b>Size limits</b>	No byte size limit per dataset. Harvard Dataverse currently sets a file size limit of 2.5GB.	300GB/dataset	Soft limit of 20GB/file for free accounts. System limit of 5000GB/file. Unlimited storage of public data but 20GB storage for private data for free accounts. Email <a href="mailto:info@figshare.com">info@figshare.com</a> to have upload and storage limits raised.	10GB per dataset	Projects currently have no storage limit. There is a 5GB/file upload limit for native OSF Storage. There is no limit imposed by OSF for the amount of storage used across add-ons connected to a given project.	If more than 10GB per study data, reach out to us	50GB per dataset, contact us via <a href="https://zenodo.org/support">https://zenodo.org/support</a> for higher limits
<b>Storage space per researcher</b>	1 TB per researcher	No limit	No limit	No limit	No limit	No limit	No limit
<b>Persistent, Unique Identifier Support</b>	DOI, Handle	DOI	DOI	DOI	DOI	DOI	DOI

<https://doi.org/10.5281/zenodo.3946719>

## Repository Features:

Description  
 Size Limits  
 Storage Limits  
 PIDs  
 Licenses  
 Costs  
 Access Levels  
 Versioning  
 Metadata Schemas  
 Export Formats  
 Taxonomies  
 Author Affiliations  
 Publication Linking  
 Derived Product Linking  
 Grant IDs  
 Software Linking  
 Data Usage Metrics  
 Data Citation  
 Embargo  
 Peer Review  
 Managed Access  
 Preservation Policy  
 Human Subjects Data  
 Business Model



Join at  
**slido.com**  
**#4600 019**

---



# Adopt Consistent Metadata Models



DataCite

## Consistent and Clear Metadata for all Generalist Repositories

- Connect digital objects
- Utilize common vocabularies
- Focus on similar Use Cases
- Act as exemplar for other repos

### GREI Metadata and Search Subcommittee: Recommendations from DataCite schema version 4.4

Version 01: Last updated 2023-05-25

#### Overview

One goal of [GREI](#) is to establish common metadata standards for the generalist repositories that support interoperability and discovery of datasets across repositories. Having focused on an agreed standard, the [DataCite Metadata Schema 4.4](#), the GREI Metadata and Search subcommittee has set its Year 2 goal for repositories to build on their existing work on metadata for research datasets. Focusing on a few high-level use cases for data sharing and searching allowed the group to move forward to identify specific metadata beyond the DataCite required properties metadata that would meet the needs of those use cases.

With the inclusion of DataCite as a GREI stakeholder, more opportunities have been reviewed to now provide a recommendation to the GREI repositories to add additional metadata fields and enhance the quality of the metadata being provided. The subcommittee has continued having detailed discussions ensuring that GREI repositories collect and provide metadata in a



# Catalog Use Cases Supported

## Support Discovery for NIH-funded Data

- Focus on similar Use Cases
- Act as exemplar for other repos
- Spark conversations with other stakeholders

Use Case documents can be found on Zenodo:

<https://zenodo.org/communities/grei/search?page=1&size=20&keywords=Use%20Cases>

The screenshot shows a Zenodo repository page for a dataset titled "Use Cases\_Vivli" by Julie Wood, dated May 23, 2023. The page is part of the GREI (Generalist Repository Ecosystem Initiative) community. The main content area displays a preview of a document titled "GREI Generalist Repository Ecosystem Initiative Vivli Use Cases". The document features the GREI logo and the Vivli logo. The page includes a search bar, a "Search" button, and a "Download" button. The right sidebar shows the community name "GREI", the number of views (70) and downloads (47), and the publication date (May 23, 2023). The DOI is 10.5281/zenodo.7975606. The keywords are "clinical trial data sharing" and "Use Cases". The communities listed are "Generalist Repository Ecosystem Initiative (GREI)". The license for the files is also displayed.





# Implement Open Metrics

Support Common Approaches to data metrics:

- Focus on rationalizing and normalizing
- Rely on existing best practices
- Spark conversations with other stakeholders
- Build context from:
  - Data Usage (views, downloads)
  - Data Citations



More information can be found at:

<https://makedatacount.org/>



# Conduct Outreach

Define Priority Audiences. Starting with NIH researchers and looking outward from there: data librarians, other researchers, etc.

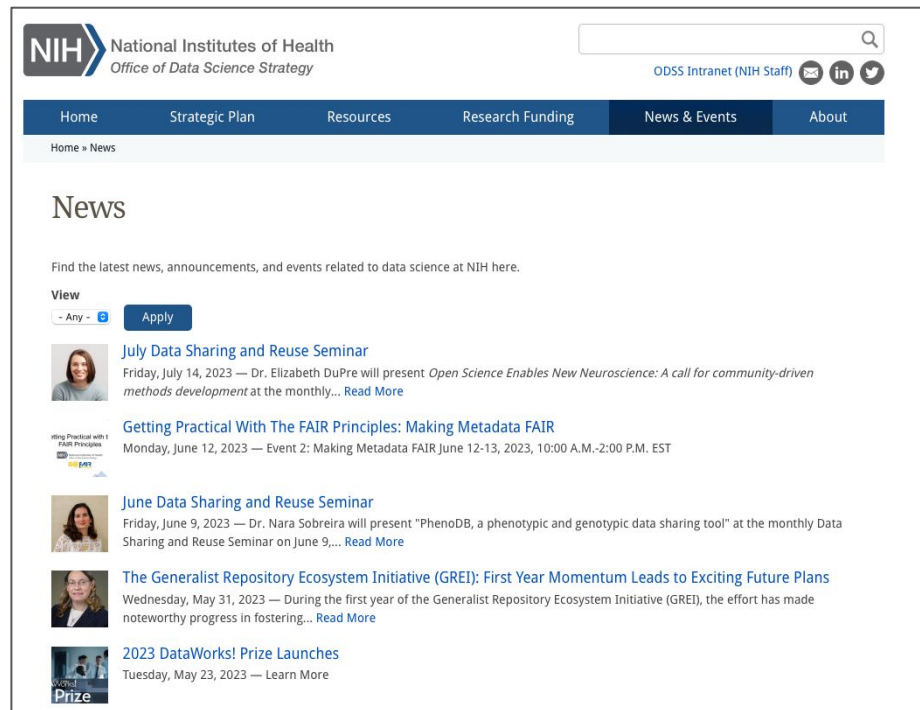
Partnerships with community groups (FASEB, DCN, etc.)

Key tactics for outreach:

- Webinars
- Conferences
- Provide Training Materials

More information can be found at:

<https://datascience.nih.gov/news>



# Implications for the Larger Data Landscape

As the NIH data repository landscape grows with the adoption of the new NIH Data Management and Sharing Policy, there are **benefits and opportunities to global repositories working together** in this way to **meet the needs of research communities, funders, and institutions.**

In the future, discipline-specific data repositories and other research infrastructure providers may also wish to **adopt some of the common GREI capabilities** to **reduce the barriers to data sharing** and **support greater interoperability** across the repository landscape.



# The NIH Perspective

*Lisa Federer, National Library of Medicine, U.S. National Institutes of Health*



# A Year of Open Science

Activities include:

- Updating or developing plans for increasing public access to federally funded research
- Funding opportunities
- Infrastructure enhancements
- Training and capacity building
- Broadening participation in open science
- Community engagement



## Open Science Announcements from Federal Agencies

Open Science is the principle and practice of making research products and processes available to all, while respecting diverse cultures, maintaining security and privacy, and fostering collaborations, reproducibility, and equity.

Federal agencies are celebrating 2023 as a Year of Open Science, a multi-agency initiative across the federal government to spark change and inspire open science engagement through events and activities that will advance adoption of open, equitable, and secure science.

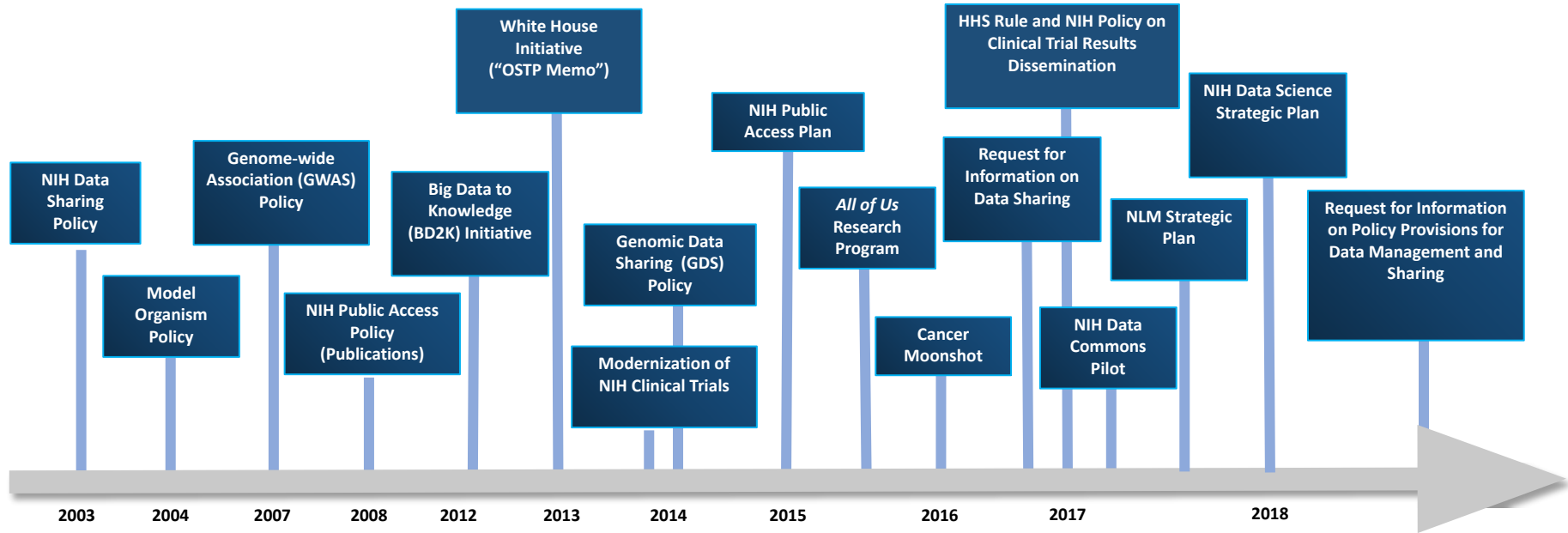
Help spotlight the value of open science by checking out this [toolkit](#): choose and use images for social media, presentations, posters and virtual backgrounds—agency partners may even co-brand. #YearofOpenScience.

Centers for Disease Control and Prevention  
Department of Agriculture  
Department of Commerce  
Department of Energy  
Department of State  
Department of Transportation  
Environmental Protection Agency  
National Aeronautics and Space Administration  
National Endowment for the Humanities

National Institutes of Health  
National Institute of Standards and Technology  
National Oceanic and Atmospheric Administration  
National Science Foundation  
Smithsonian Institution  
U.S. Geological Survey  
U.S. General Services Administration  
White House Office of Science and Technology Policy



# NIH's Culture of Data Sharing





## NIH Policy for Data Management and Sharing (DMS)

- **Submission of Data Management & Sharing Plan for all NIH-funded research**
- **Compliance with the ICO-approved Plan** *(may affect future funding)*
- **Effective January 25, 2023** *(replaces 2003 Data Sharing Policy)*



# Selecting a repository: the NIH data sharing landscape

NIH strongly encourages  
**subject-specific, open access Data Sharing Repositories**  
as a first choice.

[https://www.nlm.nih.gov/NIHbmic/nih\\_data\\_sharing\\_repositories.html](https://www.nlm.nih.gov/NIHbmic/nih_data_sharing_repositories.html)

Datasets up to **2 gigabytes**

## PubMed Central

Stores publication-related supplemental materials and datasets directly associated publications.



Datasets up to **20 gigabytes**

## Generalist Repositories

Datasets associated with publications or otherwise and links to PubMed.



High priority datasets, **petabyte-scale**

## Cloud Partners (STRIDES Program)

Store and manage large scale, high priority NIH datasets.



# Desirable Characteristics for Data Repositories

<b>Persistent Unique Identifiers</b>	Assigns datasets to a citable PUID to support data discovery and reporting
<b>Long-term sustainability</b>	Long-term plan for managing data; builds on stable technical infrastructure & funding; contingency plans for unforeseen events
<b>Metadata</b>	Ensures datasets are accompanied by metadata sufficient to enable discovery, reuse, and citation
<b>Curation &amp; Quality Assurance</b>	Provides expertise to improve the accuracy and integrity of datasets and metadata
<b>Access</b>	Provides maximally open access, consistent with legal and ethical limits
<b>Free &amp; Easy</b>	Datasets and metadata accessible free of charge and with broadest possible terms of reuse
<b>Reuse</b>	Enables tracking of data reuse
<b>Secure</b>	Documentation of meeting accepted criteria for security to prevent unauthorized access or release of data
<b>Privacy</b>	Documentation of safeguards in compliance with applicable privacy, risk management & continuous monitoring requirements
<b>Common Format</b>	Datasets and metadata can be downloaded, accessed, or exported in a standards-compliant format
<b>Provenance</b>	Maintains a detailed logfile of changes to datasets and metadata to ensure integrity

<https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-016.html>

# Additional Considerations for Human Data

<b>Fidelity to Consent</b>	Restricts dataset access to appropriate uses consistent with original consent
<b>Restricted Use Compliant</b>	Enforces submitters' data use restrictions
<b>Privacy</b>	Documentation & implementation of security techniques for human subjects' data to protect from inappropriate access
<b>Plan for Breach</b>	Has security measures that include data breach response plan
<b>Download Control</b>	Controls and audits access to and download of datasets
<b>Clear Use Guidance</b>	Provides documentation describing restrictions on dataset access and use
<b>Retention Guidelines</b>	Provides documentation on guidelines for data retention
<b>Violations</b>	Has plans for addressing violations of terms-of-use and data mismanagement by the repository
<b>Request Review</b>	Established data access review or oversight group responsible for reviewing data use requests

<https://grants.nih.gov/grants/guide/notice-files/NOT-OD-21-016.html>

Join at  
**slido.com**  
**#4600 019**

---






# Generalist Repository Use Cases


*Sara Gonzales, Northwestern University & Zenodo*



# The GREI Zenodo community: <https://zenodo.org/communities/grei/>

[Upload](#)[Communities](#)


 Log in

 Sign up

Zenodo.org will be unavailable for 2 hours on September 29th from 06:00-08:00 UTC. See [announcement](#).

## Generalist Repository Ecosystem Initiative (GREI)

### Recent uploads











September 19, 2023 (v1)

Presentation

Open Access

View

#### Data Sharing in Generalist Repositories

 Ana Van Gulick;  Sonia Barbosa;  Traci Snowden;  Jessica Herzog;  Lisa Curtin;  Kristi Holmes; Rebecca Li;  Julie Wood;  Ishwar Chandramouliswaran;

Workshop presented at NIH Research Festival 2023 by the repositories of the NIH Generalist Repository Ecosystem Initiative, Generalist repositories offer NIH researchers a flexible, trusted resource to share data for which there is no appropriate discipline specific repository as well as to share m

Uploaded on September 18, 2023

September 18, 2023 (v1)

Presentation

Open Access

View

New upload

Community



Generalist Repository Ecosystem Initiative

#### Generalist Repository Ecosystem Initiative (GREI)

GREI is an initiative funded by NIH Office of Data Science Strategy to further enhance the biomedical data ecosystem and help researchers find and share data from NIH-funded studies in generalist repositories.

The long-term vision for GREI is to develop collaborative approaches for data management and sharing through inclusion of the generalist



As an NIH-funded researcher, I want to USE Mendeley Data to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.

As an NIH-funded researcher, I want to USE Zenodo to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.

*This use case highlights ways research teams can leverage generalist repositories to share project data.*

### Share project data:

1. Log in via GitHub or ORCID, or create a new Zenodo user account.

Log in with GitHub

Log in with ORCID

— OR —

Email Address

Password

Log In

New to Zenodo? Sign Up

Privacy notice

Navigate across to top menu bar to "Upload". Click and select "New Upload" on the top of the next page.

zenodo

Search

Upload

Communities

New Upload

your files > Add required metadata > Save  
or other additional metadata.  
DOI with your research community and fur

As a researcher, I want to FIND research data of interest in Figshare so that I can validate findings, reuse data, and build on work within my discipline.

As an institution, I want to REPORT on all datasets from my institution in the Harvard Dataverse Repository, so that I can ensure compliance of research data sharing and management plan commitments by our researchers.

As a funder from a specific NIH institute or in general, I want to find datasets we have funded in Vivli, so that I can REPORT on compliance with policies, and TRACK impact of research funding and usage of data.





# What are 4 key use cases identified by GREI?



As an **NIH-funded researcher**, I want to select a repository to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.



As a **researcher**, I want to find research data of interest so that I can validate findings, reuse data, and build on work within my discipline. *(Example use case from: figshare)*



As an **institution**, I want to report on all datasets from my institution, so that I can ensure compliance of research data sharing and management plan commitments by our researchers. *(Example use case from: OSF)*



As a **funder** from a specific NIH institute or in general, I want to find datasets we have funded, so that I can report on compliance with policies, and track impact of research funding and usage of data. *(Example use case from: Dataverse)*



## Use Case 1:

As an **NIH-funded researcher**, I want to **select a repository** to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.

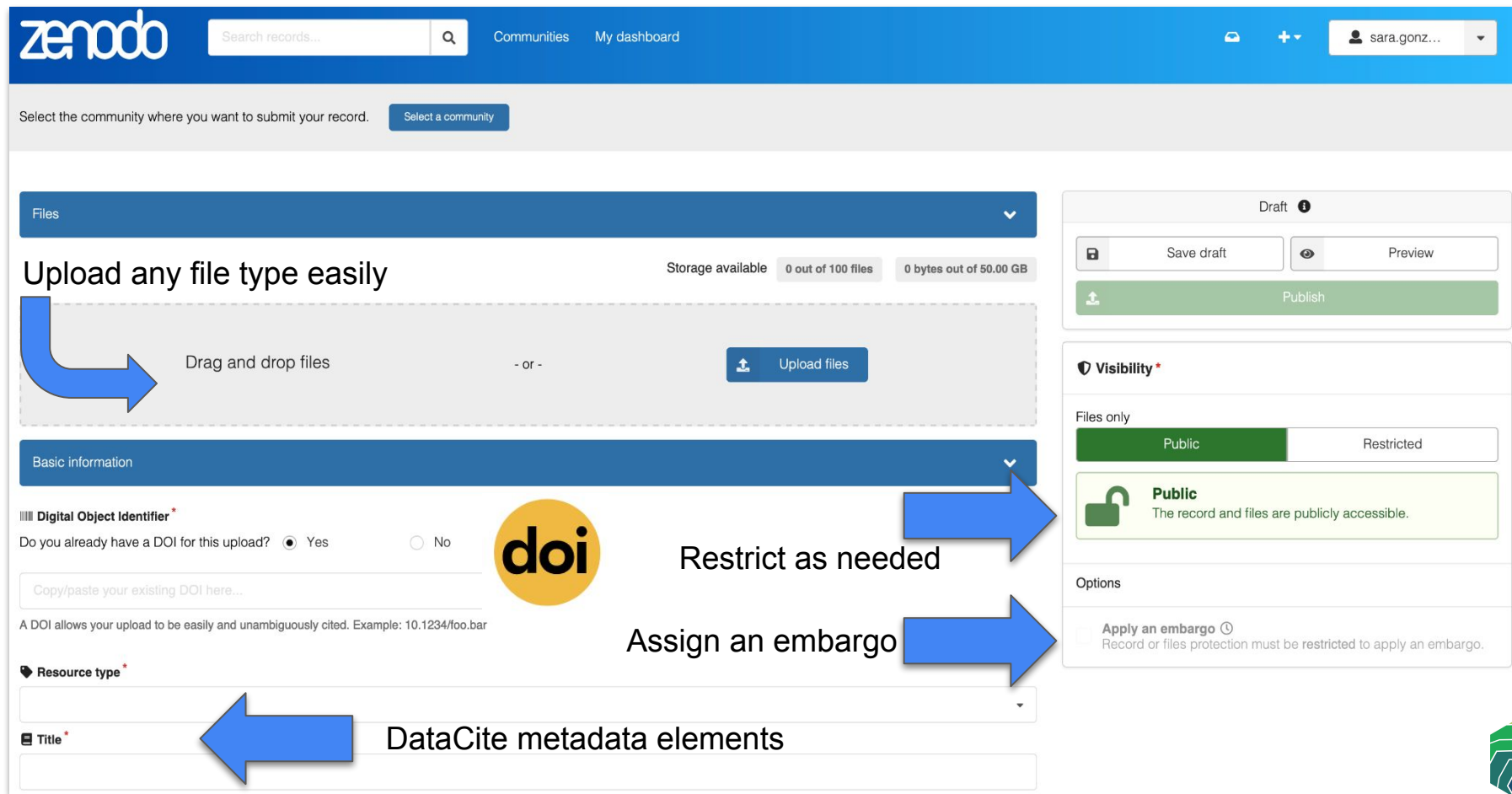
### Aspects of the GREI repositories compliant with data sharing mandates:

- ☐ Mint DOIs for data deposits, supporting discoverability, citeability, and allowing resource linking
- ☐ User-friendly deposit forms with metadata enhancing findability
- ☐ Supports upload and/or linking of software/code, supporting reproducibility
- ☐ Allow users to assign licenses outlining appropriate data reuse
- ☐ Robust metrics to track impact
- ☐ Incorporation of PIDs and ontologies, such as ORCID for sign-in, ROR, and CRediT roles
- ☐ Support upload of files in any format
- ☐ Support controls over public/private aspects of a project or deposit; support embargo
- ☐ Dedicated long-term preservation mechanism and/or policy



# Use Case 1:

As an **NIH-funded researcher**, I want to **select a repository** to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.



The screenshot shows the Zenodo upload page. A blue header bar contains the Zenodo logo, a search bar, and links to 'Communities' and 'My dashboard'. Below the header, a grey bar prompts the user to 'Select the community where you want to submit your record.' with a 'Select a community' button. The main content area is divided into two columns. The left column has a blue header 'Files' and a large dashed box for file upload. A blue arrow points to this box with the text 'Upload any file type easily'. Inside the box, it says 'Drag and drop files' and 'Upload files'. To the right of the box, storage availability is shown: '0 out of 100 files' and '0 bytes out of 50.00 GB'. Below the upload area is a blue header 'Basic information'. Under this, there is a section for 'Digital Object Identifier' with a 'doi' logo. A blue arrow points to this section with the text 'Restrict as needed'. Below the DOI section is a section for 'Resource type' with a dropdown menu. A blue arrow points to this section with the text 'DataCite metadata elements'. The right column contains a 'Draft' section with 'Save draft', 'Preview', and 'Publish' buttons. Below this is a 'Visibility' section with 'Public' and 'Restricted' tabs. The 'Public' tab is selected, showing a green lock icon and the text 'Public The record and files are publicly accessible.' Below the visibility section is an 'Options' section with a checkbox for 'Apply an embargo'.

zenodo Search records... Communities My dashboard sara.gonz...

Select the community where you want to submit your record. Select a community

Files

Upload any file type easily

Storage available 0 out of 100 files 0 bytes out of 50.00 GB

Drag and drop files - or - Upload files

Basic information

**Digital Object Identifier**

Do you already have a DOI for this upload? ☒ Yes ☐ No

Copy/paste your existing DOI here...

A DOI allows your upload to be easily and unambiguously cited. Example: 10.1234/foo.bar

**Resource type**

**Title**

**Restrict as needed**

**Assign an embargo**

**DataCite metadata elements**

Draft

Save draft Preview Publish

**Visibility**

Files only

Public Restricted

**Public**

The record and files are publicly accessible.

Options

☐ **Apply an embargo**

Record or files protection must be restricted to apply an embargo.

## Use Case 2:



As a **researcher**, I want to **find research data of interest** so that I can validate findings, reuse data, and build on work within my discipline.

### The GREI repositories' robust search features include:

- ☐ Keyword search, advanced search, and state-of-the-art built-in search engines
- ☐ Sorting/filtering features: subject, affiliation, resource type, funders, date
- ☐ Browse feature: by place name, subject, journal, institution
- ☐ Preview of file on record landing page
- ☐ Open APIs for downloading record metadata
- ☐ Make data findable in search aggregators like Google Dataset Search, DataCite Commons, etc.
- ☐ Enable relations between digital objects (e.g., link deposited datasets and publications)
- ☐ Enable export of record citations to EndNote and other ref. mgmt tools, and in variety of formats (e.g. JSON)
- ☐ PID-enhanced search
- ☐ Clear licenses to define what secondary users can do with the data

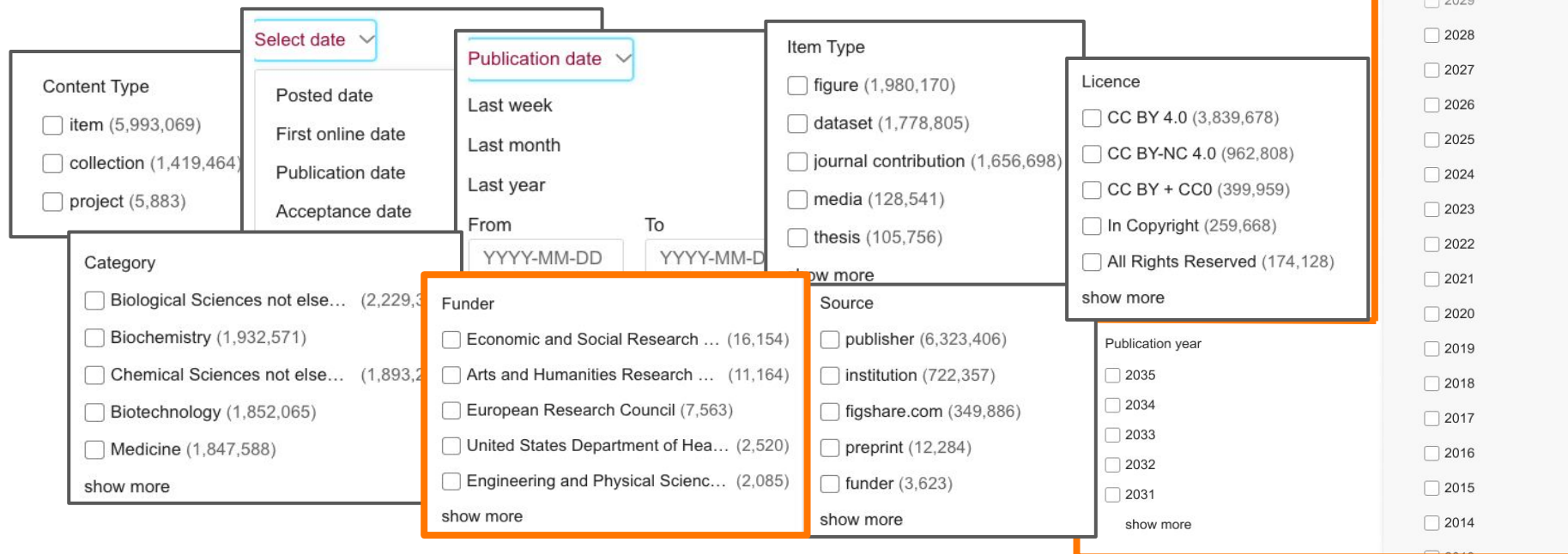


## Use Case 2:

As a researcher, I want to find research data of interest so that I can validate findings, reuse data, and build on work within my discipline.

On figshare.com, users can also search using specific terms and then filter the search results using facets.

The GREI use cases have and will continue to inform the development of Fighsare's search and browse capabilities.



The image shows a screenshot of the Figshare search filters interface. Several facets are highlighted with orange boxes:

- Content Type**: Includes filters for item (5,993,069), collection (1,419,464), and project (5,883).
- Category**: Includes filters for Biological Sciences not else... (2,229,3), Biochemistry (1,932,571), Chemical Sciences not else... (1,893,2), Biotechnology (1,852,065), and Medicine (1,847,588).
- Publication date**: Includes filters for Last week, Last month, and Last year.
- Item Type**: Includes filters for figure (1,980,170), dataset (1,778,805), journal contribution (1,656,698), media (128,541), and thesis (105,756).
- Licence**: Includes filters for CC BY 4.0 (3,839,678), CC BY-NC 4.0 (962,808), CC BY + CC0 (399,959), In Copyright (259,668), and All Rights Reserved (174,128).
- Funder**: Includes filters for Economic and Social Research ... (16,154), Arts and Humanities Research ... (11,164), European Research Council (7,563), United States Department of Hea... (2,520), and Engineering and Physical Scienc... (2,085).
- Source**: Includes filters for publisher (6,323,406), institution (722,357), figshare.com (349,886), preprint (12,284), and funder (3,623).
- Publication year**: Includes filters for 2029, 2028, 2027, 2026, 2025, 2024, 2023, 2022, 2021, 2020, 2019, 2018, 2017, 2016, 2015, and 2014.

Search Figshare content at <https://figshare.com/search/new>

## Use Case 3:

As an **institution**, I want to **report on all datasets from my institution**, so that I can ensure compliance of research data sharing and management plan commitments by our researchers.

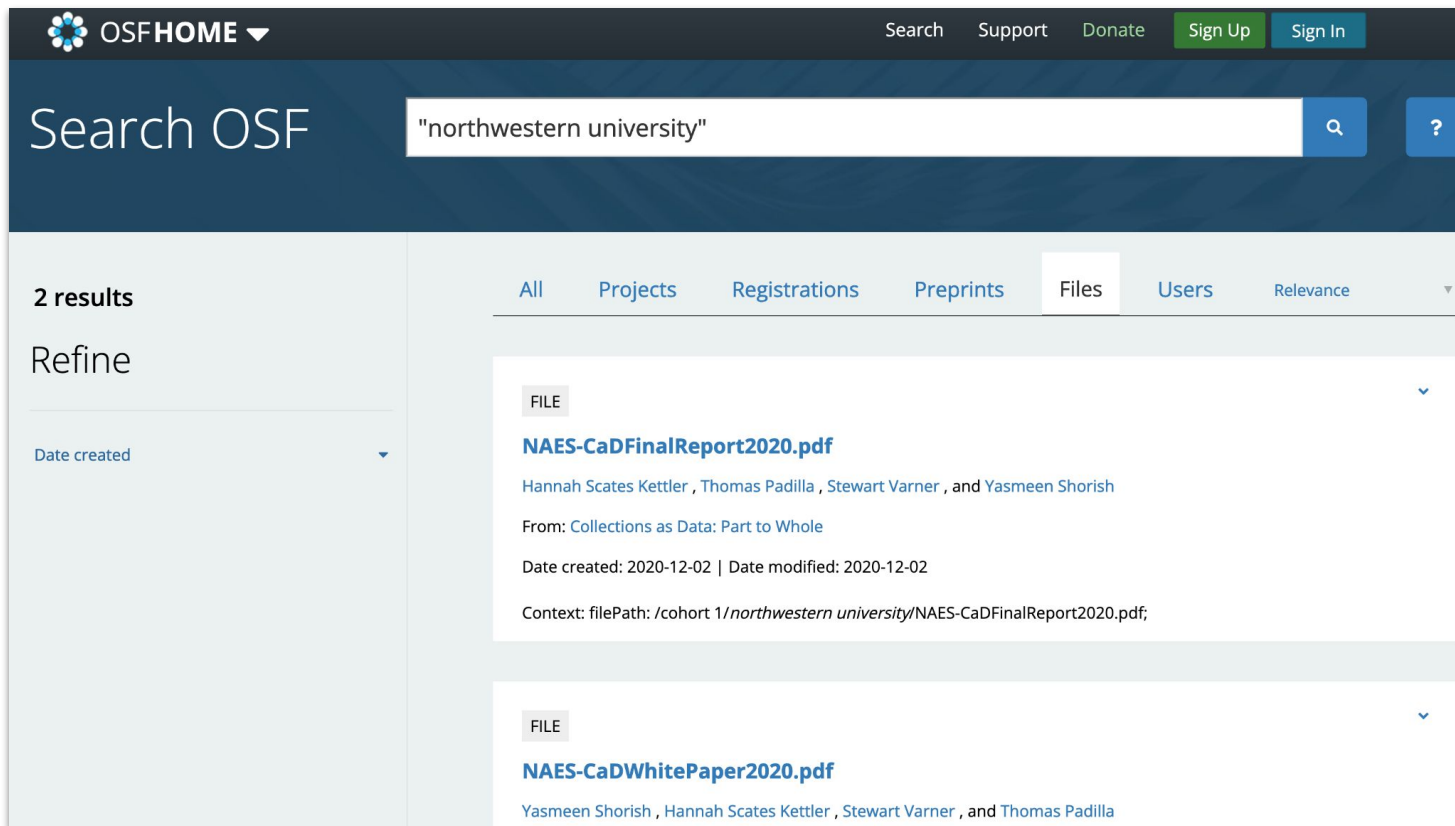
### The GREI repositories' features to find data by institution include:

- ☐ Advanced search by institution name, in many cases enhanced by ROR-tagging of institutions
- ☐ Facet/filter searches by institution, and by particular funders
- ☐ Frequent incorporation of popular protocols to pull record metadata such as OAI-PMH, open APIs
- ☐ Administrative dashboards with usage metrics, enabling download of info about shared data as CSV
- ☐ Record metadata shared with DataCite and other aggregators; and available via APIs like CrossRef's



## Use Case 3:

As an **institution**, I want to **report on all datasets from my institution**, so that I can ensure compliance of research data sharing and management plan commitments by our researchers.




The screenshot shows the OSFHOME search interface. The top navigation bar includes the OSFHOME logo, a search bar with the query "northwestern university", and links for Search, Support, Donate, Sign Up, and Sign In. The search results are displayed under the "Files" tab, showing two results:

- NAES-CaDFinalReport2020.pdf**  
Hannah Scates Kettler , Thomas Padilla , Stewart Varner , and Yasmeen Shorish  
From: [Collections as Data: Part to Whole](#)  
Date created: 2020-12-02 | Date modified: 2020-12-02  
Context: filePath: /cohort 1/northwestern university/NAES-CaDFinalReport2020.pdf;
- NAES-CaDWhitePaper2020.pdf**  
Yasmeen Shorish , Hannah Scates Kettler , Stewart Varner , and Thomas Padilla

The left sidebar shows "2 results" and a "Refine" section with a "Date created" filter.



**Use Case 4:**  As a **funder** from a specific NIH institute or in general, I want to **find datasets we have funded**, so that I can report on compliance with policies, and track impact of research funding and usage of data.

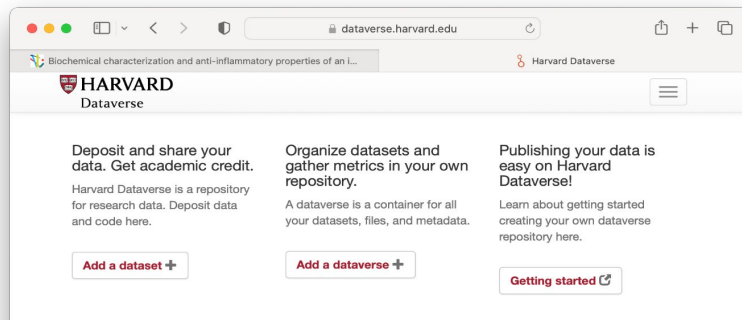
## The GREI repositories' features to find data by funder include:

- ❑ Integration with CrossRef Funder Registry for machine readable data; plus the Funder API lookup
- ❑ Dashboards to see dataset metadata and usage metrics (views, downloads, public disclosures)
- ❑ Altmetric Attention Data and Citation Data of deposited datasets
- ❑ Metadata Fields for funder, grant identifier, award title, award URL; Funder ID included in DOI - and thereby advanced search and filter searches by each of these
- ❑ Sort search results by Grant number
- ❑ PI name and ORCID contained in records confirms data is connected with a particular grant
- ❑ Grant tracking software can track deposited data from the publication, using related identifiers
- ❑ Reach out to the repository's support contact for a report customized by NIH institute





# Use Case 4: As a **funder** from a specific NIH institute or in general, I want to **find datasets we have funded**, so that I can report on compliance with policies, and track impact of research funding and usage of data.



The screenshot shows the Harvard Dataverse homepage. At the top, there's a navigation bar with the Harvard Dataverse logo and a search bar. Below the navigation bar, there are three main sections: "Deposit and share your data. Get academic credit.", "Organize datasets and gather metrics in your own repository.", and "Publishing your data is easy on Harvard Dataverse!". Each section has a brief description and a button: "Add a dataset +", "Add a dataverse +", and "Getting started" respectively.

Find data across research fields, preview metadata, and download files

P41 GM068944



Browse by subject

Agricultural Sciences 5,290	Computer and Information Science 2,924	Mathematical Sciences 615
Arts and Humanities 36,068	Medicine, Health and Life Sciences 8,829	
Astronomy and Astrophysics 1,248	Earth and Environmental Sciences 9,105	Physics 2,003
Business and Management 1,624	Engineering 1,881	Social Sciences 60,260
Chemistry 800	Law 5,747	

ALL SUBJECTS >

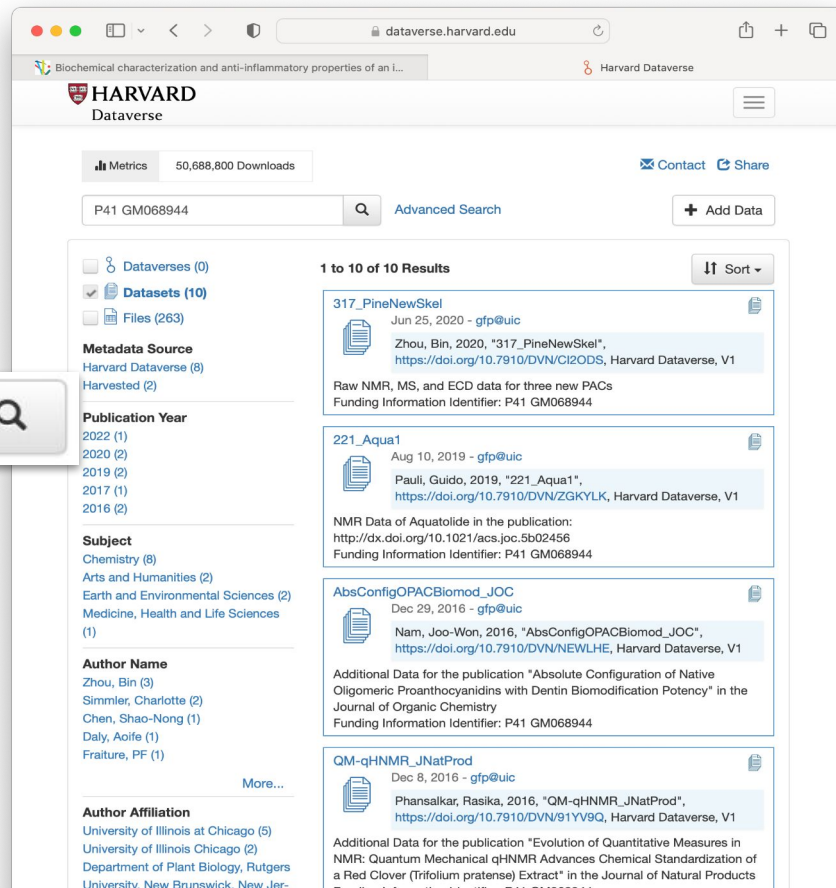
Recent datasets

From journal dataverses

Replication Data for: Private Participation: How Populists Engage with International Organizations

The Journal of Politics Dataverse Jul 25, 2023

Replication Data for: "Omnicchannel as a consumer-based marketing strategy" published by RAC-Revista de Administração Contemporânea



The screenshot shows the search results page for the dataset P41 GM068944. The page has a header with the Harvard Dataverse logo and a search bar. Below the header, there's a section for "Metrics" showing 50,688,800 Downloads. The search results are displayed in a list format, showing the dataset title, date, author, and a link to the dataset. The results are sorted by relevance, and there are 10 results in total. The first result is "317\_PineNewSkel" by Zhou, Bin, 2020. The second result is "221\_Aqua1" by Pauli, Guido, 2019. The third result is "AbsConfigOPACBiomed\_JOC" by Nam, Joo-Won, 2016. The fourth result is "QM-qHNMR\_JNatProd" by Phansalkar, Rasika, 2016. Each result includes a brief description and a link to the dataset.

Metrics 50,688,800 Downloads

Contact Share

P41 GM068944

Advanced Search

Add Data

1 to 10 of 10 Results

Sort

**317\_PineNewSkel**  
Jun 25, 2020 - gfp@uic  
Zhou, Bin, 2020, "317\_PineNewSkel", <https://doi.org/10.7910/DVN/Ci2ODS>, Harvard Dataverse, V1  
Raw NMR, MS, and ECD data for three new PACs  
Funding Information Identifier: P41 GM068944

**221\_Aqua1**  
Aug 10, 2019 - gfp@uic  
Pauli, Guido, 2019, "221\_Aqua1", <https://doi.org/10.7910/DVN/ZGKYLK>, Harvard Dataverse, V1  
NMR Data of Aquatolide in the publication: <http://dx.doi.org/10.1021/acs.jpc.5b02456>  
Funding Information Identifier: P41 GM068944

**AbsConfigOPACBiomed\_JOC**  
Dec 29, 2016 - gfp@uic  
Nam, Joo-Won, 2016, "AbsConfigOPACBiomed\_JOC", <https://doi.org/10.7910/DVN/NEWLHE>, Harvard Dataverse, V1  
Additional Data for the publication "Absolute Configuration of Native Oligomeric Proanthocyanidins with Dentin Biomodification Potency" in the Journal of Organic Chemistry  
Funding Information Identifier: P41 GM068944

**QM-qHNMR\_JNatProd**  
Dec 8, 2016 - gfp@uic  
Phansalkar, Rasika, 2016, "QM-qHNMR\_JNatProd", <https://doi.org/10.7910/DVN/91YV9Q>, Harvard Dataverse, V1  
Additional Data for the publication "Evolution of Quantitative Measures in NMR: Quantum Mechanical qHNMR Advances Chemical Standardization of a Red Clover (Trifolium pratense) Extract" in the Journal of Natural Products

Join at  
**slido.com**  
**#4600 019**

---



# GREI Common Metadata Schema

*Luca Belletti, Mendeley Data*



# Overview of Metadata Recommendations and Relation to Use Cases

## GREI Metadata and Search Subcommittee: Recommendations from DataCite schema version 4.4

Version 01: Last updated 2023-06-29

### Overview

One goal of [GREI](#) is to support interoperability and discovery of datasets across repositories by establishing common metadata standards for the generalist repositories. Having focused on an agreed standard, the [DataCite Metadata Schema 4.4](#), the GREI Metadata and Search subcommittee has set its Year 2 goal for repositories to build on their existing work on metadata for research datasets. Focusing on a few high-level use cases for data sharing and searching allowed the group to move forward to identify specific metadata beyond the DataCite required properties metadata that would meet the needs of those use cases.

With the inclusion of DataCite as a GREI stakeholder, more opportunities have been reviewed to now provide a recommendation to the GREI repositories to add additional metadata fields and enhance the quality of the metadata being provided. The subcommittee has continued having detailed discussions ensuring that GREI repositories collect and provide metadata in a way that is useful to all stakeholders.

With this in mind, the GREI Metadata and Search subcommittee has created this recommendation to strongly encourage that each repository member collect the following metadata to support the generalist repository use cases for sharing, discovering and tracking the impact of data.

We also hope this common metadata schema will be useful for data repositories beyond GREI to improve interoperability across data repositories and across the NIH data landscape.

### Recommendation

The document lists strongly encouraged metadata to be collected by each GREI repository in alignment with the metadata collected by DataCite's optional metadata properties. Where applicable, the values and vocabularies that repositories are encouraged to use have also been reviewed by the subcommittee and included in the recommendations.

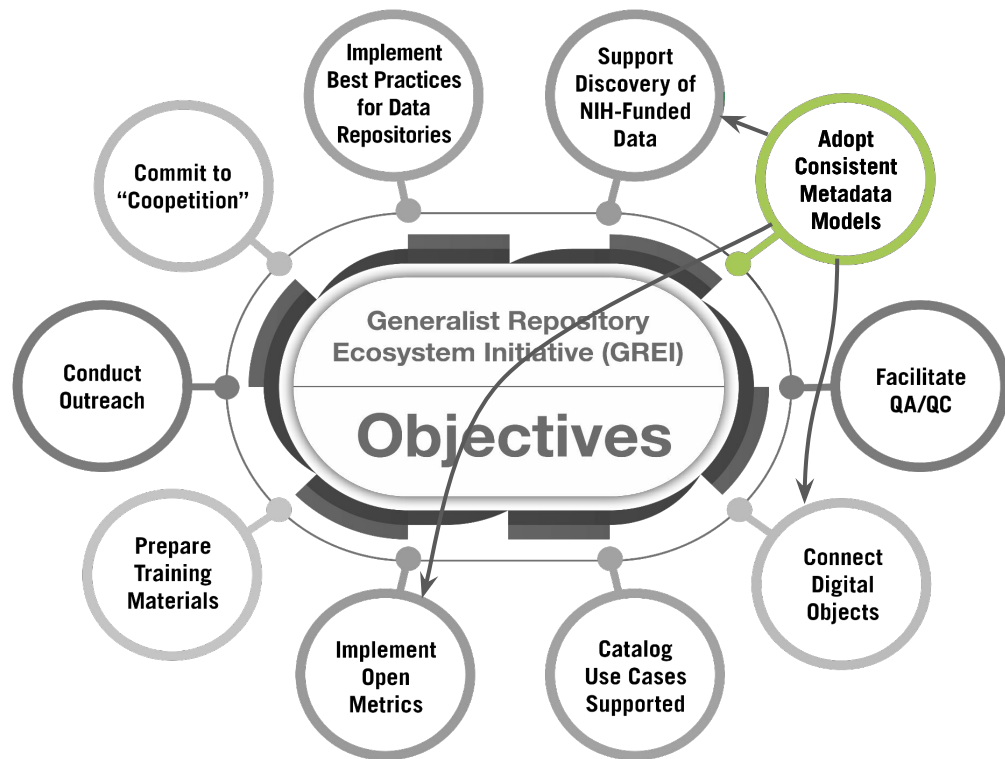
Curtin, Lisa; Feri, Lorenzo; Gautier, Julian; Gonzales, Sara; Gueguen, Gretchen; Scherer, David; Scherle, Ryan; Stathis, Kelly; Van Gulick, Ana, & Wood, Julie. (2023).

GREI Metadata and Search Subcommittee  
Recommendations\_V01\_2023-06-29. Zenodo.  
<https://doi.org/10.5281/zenodo.8101957>

DOI [10.5281/zenodo.8101957](https://doi.org/10.5281/zenodo.8101957)



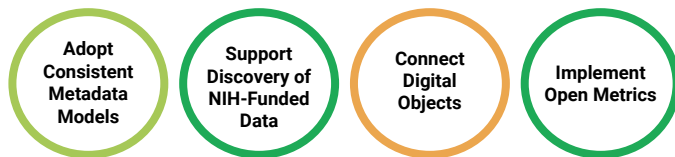
# Overview of Metadata Recommendations and Relation to Use Cases



# Overview of Metadata Recommendations and Relation to Use Cases

We discussed what kind of information each repository should collect and distribute in order to support:

- The GREI objectives and goals of the Metrics subcommittee



- The following four use cases from the Use Cases subcommittee



# Overview of Metadata Recommendations and Relation to Use Cases



As an **NIH-funded researcher**, I want to select a repository to share my data, so that I can comply with my data management and sharing plan and the conditions of my grant.



As a **researcher**, I want to find research data of interest so that I can validate findings, reuse data, and build on work within my discipline.



As an **institution**, I want to report on all datasets from my institution, so that I can ensure compliance of research data sharing and management plan commitments by our researchers.



As a **funder** from a specific NIH institute or in general, I want to find datasets we have funded, so that I can report on compliance with policies, and track impact of research funding and usage of data.



# Overview of Metadata Recommendations and Relation to Use Cases



As a funder from a specific NIH institute or in general, I want to find **datasets we have funded**, so that I can report on compliance with policies, and track impact of research funding and usage of data.



So repositories need to collect information about who funded the research that produced the dataset





# Overview of Metadata Recommendations and Relation to Use Cases



As a funder from a specific NIH institute or in general, I want to find datasets we have funded, so that I can report on compliance with policies, and **track impact of research funding and usage of data**.



So repositories need to collect information about other research objects that cited and used the data



# How Recommendations Align to DataCite Metadata

We chose the DataCite metadata schema because:

- All GREI repositories already use it to register DOIs
- It's domain agnostic
- DataCite already collaborates closely with GREI
- Other services rely on metadata expressed in DataCite's schema, including metadata aggregators and DataCite's own Event Data service



# How Recommendations Align to DataCite Metadata

- The GREI Metadata Recommendations highlight specific properties from the DataCite Metadata Schema (v4.4), beyond the minimum required fields.
- Repositories are encouraged to incorporate these properties in their metadata or identify a local equivalent field.
  - For example, an “Author Identifier” field may be mapped to the DataCite “nameIdentifier” sub-property of “Creator”.
- When registering a DOI with DataCite, recommended properties should be included in the DataCite DOI metadata.



# How Recommendations Align to DataCite Metadata



As a funder from a specific NIH institute or in general, I want to find **datasets we have funded**, so that I can report on compliance with policies, and track impact of research funding and usage of data.



So repositories need to collect information about who funded the research that produced the dataset

19	FundingReference	
19.1	funderName	
19.2	funderIdentifier	Use IDs from the <a href="#">CrossRef's Funder Registry</a> or from ROR.
19.2.a	funderIdentifierType	Select "Crossref Funder ID" or "ROR" from DataCite's controlled list.
19.2.b	schemeURI	Use <a href="https://www.crossref.org/services/funder-registry/">https://www.crossref.org/services/funder-registry/</a> or <a href="https://ror.org/">https://ror.org/</a>
19.3	awardNumber	
19.3.a	awardURI	



# How Recommendations Align to DataCite Metadata



As a funder from a specific NIH institute or in general, I want to find datasets we have funded, so that I can report on compliance with policies, and **track impact of research funding and usage of data.**



So repositories need to collect information about other research that cited and used the data



12	RelatedIdentifier	
12.a	relatedIdentifierType	Use controlled list values from DataCite.
12.b	relationType	Use controlled list values from DataCite.
12.f	resourceTypeGeneral	Use controlled list values from DataCite.



**Implementations and Use Cases:**  
**Mendeley Data – Funding Metadata**  
**Mendeley Data – ROR IDs for Affiliation**



# Capturing Funding Information in a Dataset using Mendeley Data

Funding

+ Add funder

## Add funder

Funder \*

Search funders

Other (please specify)

Grant ID

## Add funder

Funder \*

National Institutes

National Institutes for Water Resources

National Health Research Institutes

Okazaki National Research Institutes

National Institutes of Health

National Institutes of Health, Pakistan

National Institutes of Biotechnology Malaysia

European Association of National Metrology Ins

Office of Extramural Research, National Institut

## Add funder

Funder \*

National Institutes of Health

Other (please specify)

Grant ID

1234-ABCD

Cancel

Add

Funding

National Institutes of Health

1234-ABCD

Delete

+ Add funder



# Funder Information Displayed on Published Dataset and DataCite XML

## Funding

National Institutes of Health  
1234-ABCD

Directorate for Geosciences

## Funding

National Institute of Environmental Health Sciences  
P30ES019776

U.S. Environmental Protection Agency  
84019801

<https://doi.org/10.17632/wm7p38cnwf>

```
<fundingReferences>
  <fundingReference>
    <funderName>U.S. Environmental Protection Agency</funderName>
    <funderIdentifier funderIdentifierType="Crossref Funder ID">http://dx.doi.org/10.13039/100000139</funderIdentifier>
  </fundingReference>
  <fundingReference>
    <funderName>National Institute of Environmental Health Sciences</funderName>
    <funderIdentifier funderIdentifierType="Crossref Funder ID">http://dx.doi.org/10.13039/100000066</funderIdentifier>
  </fundingReference>
</fundingReferences>
```





# Filter Results by Funder

**FUNDERS** ^

Type to find funder 🔍

☐ Agencia Estatal de Investigación (1850)

☐ National Natural Science Foundation of China (414)

☐ National Institutes of Health (154)

☐ Japan Society for the Promotion of Science (121)

☐ National Science Foundation (119)

☐ Fundação para a Ciência e a Tecnologia (117)

☐ Fundação de Amparo à Pesquisa do Estado de São Paulo (115)

☐ Conselho Nacional de Desenvolvimento Científico e Tecnológico (110)

☐ Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (78)

☐ Narodowe Centrum Nauki (75)

**SOURCE TYPES** ^

☐ Data Repositories (16316367)

ex|

Ri:

Jar

Pu

Tei

bu

of

▼

T:

Ex|

Ri:

Jar

Pu

Tei

bu

of

▼

T:

Ex|

**FUNDERS** ^

Eu| ✕

☐ European Commission (5)

☐ Euro funders (1)

☐ Eurovision (1)

**SOURCE TYPES** ^



# Capturing Affiliation in a Dataset using Mendeley Data

Institutions

Salzburg

Universität Salzburg Universitätsbibliothek Salzburg

Unfallkrankenhaus Salzburg

Erzdiözese Salzburg

inlingua Salzburg

Wirtschaftskammer Salzburg

Tourismusschulen Salzburg

Universität Salzburg Fachbereich Geschichte

Universität Mozarteum Salzburg Universitätsbibliothek

Link your dataset to one or more institutions, if the contributors or the data files were associated with any academic institutions. Your dataset will then be associated to your institution in indexes such as DataCite and OpenAIRE.

Institutions

The name of a University

Unfallkrankenhaus Salzburg x

Universität Wien Universitätsbibliothek Wien x



# Institution Affiliation Displayed on Published Dataset and DataCite XML

## Institutions

Unfallkrankenhaus Salzburg, Universitat Wien Universitätsbibliothek Wien

## Institutions

Stanford University

<https://doi.org/10.17632/btchxktzyw>

```
<contributor contributorType="Other">  
  <contributorName nameType="Organizational">Stanford University</contributorName>  
  <nameIdentifier xsi:type="nameIdentifier" nameIdentifierScheme="ROR" schemeURI="https://ror.org/">https://ror.org/00f54p054</nameIdentifier>  
</contributor>
```



# **Lessons Learnt by Implementing Metadata within the GREI Coopetition Working Group**

**Clear Recommendations  
Comprehensive Documentation  
Support Availability**



Join at  
**slido.com**  
**#4600 019**

---



# Common Metrics for Reuse

*Matt Buys, DataCite*



# Data sharing is valuable, but do we understand the value of data sharing?

To nurture and incentivize data sharing we need to assign value to it

We need to understand how data are found, accessed, analyzed and utilized as part of policy development and research activities

- Who uses data & for what purposes?
- What is the impact of open data, for policy making, scientific discovery and societal benefit?
- What is the return on investment on open data?

**Understanding the impact of open data requires  
transparent and responsible data metrics**



# GREI and Make Data Count

GREI repositories are aligning with Make Data Count is an initiative that **promotes open data metrics** to enable **evaluation and reward of research data** usage and impact.

Community effort to ensure that data are used and cited in open, transparent, and responsible ways.

- **Build** open infrastructure and community-based standards.
- **Advocate** through outreach and adoption campaigns.
- **Contextualize** with evidence-based bibliometric studies.

[makedatacount.org/about-us/](https://makedatacount.org/about-us/)

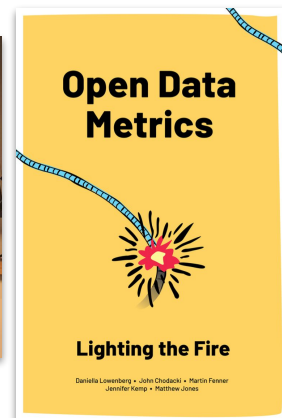


## The COUNTER Code of Practice for Research Data

The Code of Practice for Research Data Usage Metrics standardizes the generation and distribution of usage metrics for research data, enabling for the first time the consistent and credible reporting of research data usage.

COUNTER welcomes input and feedback from the community on this first iteration, so that it can be further developed and refined.

A downloadable PDF is now available in the download section below.






## GREI Data Metrics

GREI repositories are implementing meaningful metrics and contextualized quantitative or qualitative measures of how open datasets are accessed or utilized. The repositories collect information on data usage via:

- Views e.g. metadata, 3D models, images displayed on the landing page
- Downloads, file level or dataset level
- Citations, references to data, in the same way researchers provide a bibliographic reference to other scholarly resources

The above does not capture all possible uses of data, but they are measures that a researcher found the dataset relevant to their work in some way (views & downloads) or that the dataset has been used or reused in research (citations).

id	name	location	country	continent	area	population	index
15	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	1
14	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	2
13	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	3
12	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	4
11	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	5
10	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	6
9	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	7
8	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	8
7	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	9
6	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	10
5	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	11
4	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	12
3	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	13
2	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	14
1	Algeria	Algeria	Algeria	AFRICA	2,381,741	3,470,000	15






# DRYAD

## Longitudinal proteomic profiling of high-risk patients with COVID-19 reveals markers of severity and predictors of fatal disease

Gisby, Jack, Imperial College London, <https://orcid.org/0000-0001-5325-2445>  
 Clarke, Candice, Imperial College London  
 Medjeral-Thomas, Nicholas, Imperial College London  
 Malik, Talat, Imperial College London  
 Papadaki, Artemis, Imperial College London  
 Mortimer, Paige, Imperial College London

Metrics

 306 views  
 93 downloads  
 1 citations



# Data Usage: where are we?

The COUNTER Code of Practice has not yet been implemented as broadly as we would like

- Processes for normalizing data usage can be time consuming for repositories
- Requires developer understanding of the Code of Practice
- Code to maintain: log processing and SUSHI report generation

**GREI repositories are implementing usage trackers and log processing (where applicable)**

## DataCite usage tracker

Facilitates implementation of data usage

Currently in beta

Collects repository usage stats using a Javascript tracker—not log file processing

DataCite generates monthly reports for repositories

HTML

```
<!-- Track View -->
<script defer data-doi="10.5072/1234"
  data-repo="example.com"
  data-metric="view"
  src="https://cdn.jsdelivr.net/npm/@datacite/datacite-tracker"></script>

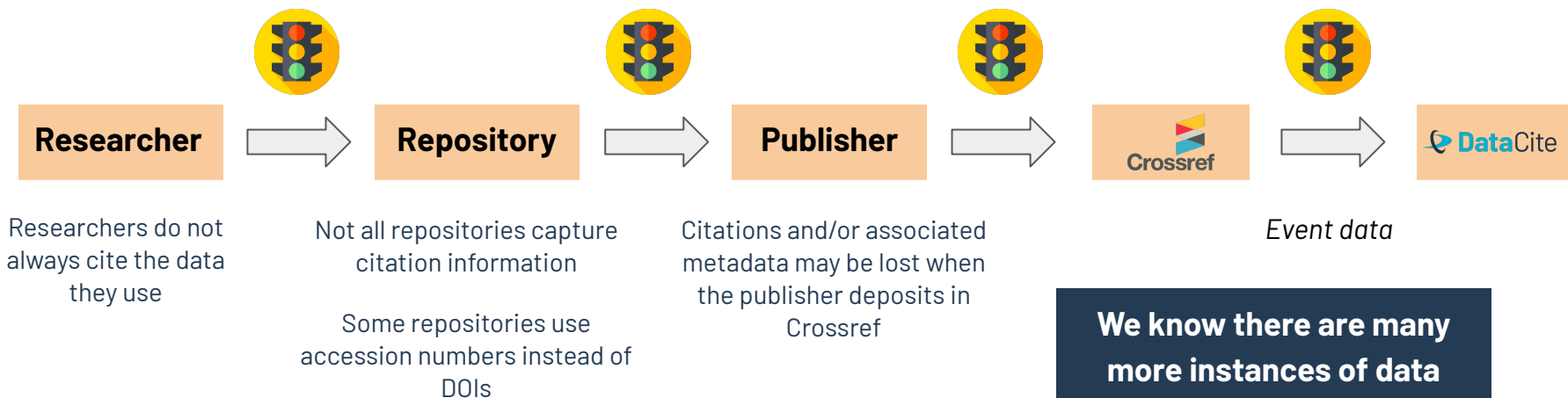
<!-- Track Download -->
<script defer data-doi="10.5072/1234"
  data-repo="example.com"
  data-metric="download"
  src="https://cdn.jsdelivr.net/npm/@datacite/datacite-tracker"></script>
```

[support.datacite.org/docs/datacite-usage-tracker](https://support.datacite.org/docs/datacite-usage-tracker)



# Data Citations: where are we?

Data citation workflow requires several steps involving different stakeholders in order for the information to propagate. **GREI repositories are focussing on enhancing relational metadata (citations) and consuming citations downstream.**



Workflow adapted from Susan Borda [\*'If Data is Used in the Forest and No-one is Around to Hear it, Did it Happen? a Citation Count Investigation'\*](#).

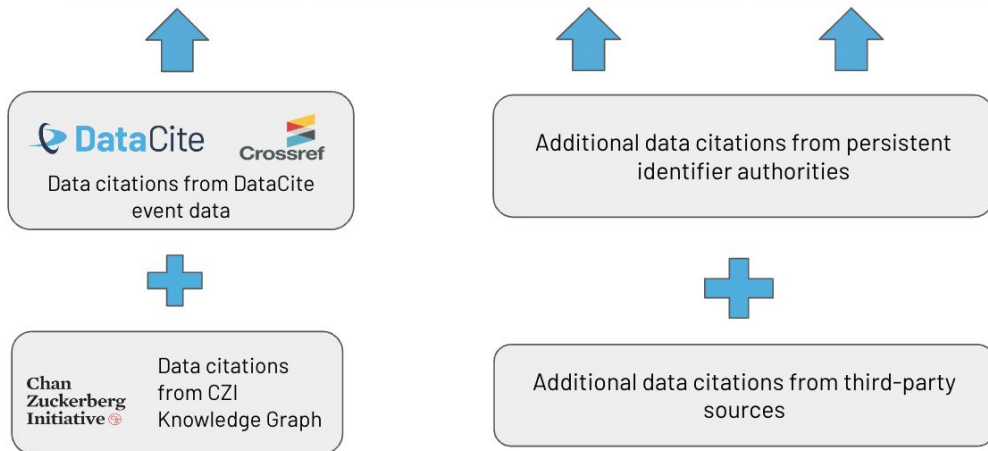
Traffic light icon by Freepik via Flaticon

**We know there are many more instances of data usage than we are currently capturing**



# Global Data Citation Corpus

**Goal: Develop a comprehensive corpus that incorporates data citations from different sources into a centralized, publicly accessible community resource**



Incorporate data citations from diverse sources:

- Persistent Identifier (PID) authorities (e.g. Crossref, DataCite) that collect citations as part of their metadata deposit workflow.
- Additional sources that aggregate or discover citations through various techniques, such as machine learning and curation of full-text in articles.



# The time is now: Make Data Count Summit

Meeting in Washington DC, September 2023 – Brought together representatives from research institutions, funders and government, researchers, publishers, and infrastructure providers for focused discussions on data evaluation & data metrics

## Takeaways:

- Standards and infrastructure are available to enable adoption, we need to support those and **SCALE** the data usage information available to the community
- **Assessment frameworks** at institutions need to incorporate evaluations of data reuse, this needs engagement at all institutional levels and incremental approaches
- Data metrics must align to the principles for open data and be **complete, transparent, auditable, and contextualized.**



# GREI Metrics: looking ahead

## Future Initiatives:

- Repositories are committed to key milestones, including adopting MDC as a standardized practice, developing a reliable usage tracker, submitting comprehensive relational metadata to DataCite, establishing real-time repository metrics, and generating monthly metrics reports for NIH-funded research.
- Open, responsible and meaningful metrics are key to advancing our global efforts.
- Collective commitment of repositories to advance data metrics, emphasizing comprehensive and contextualized data evaluation practices.

## Next Steps:

- Continue collaboration and coordination among repositories
- Implementation of usage tracker, relational metadata, real-time metrics
- Adapt strategies as needed for successful implementation
- Utilize task groups to address citations and drive standardization



Join at  
**slido.com**  
**#4600 019**

---



## Connect with GREI

- Join the **GREI Google Group** to receive updates on GREI outputs and events  
<https://groups.google.com/u/1/g/contactgrei>
- Read the latest posts on the **GREI Community blog**  
<https://medium.com/@blog-grei>
- Browse the resources and published outputs in the **GREI Community** on Zenodo <https://zenodo.org/communities/grei/>
- Share your feedback To share questions or feedback, please get in touch via the **GREI Community Feedback Form** <https://forms.gle/n8uYdh4nB1LaLt497>





# GREI Coopetition In Action

## GREI Annual Meeting

September 2023

Oakland, CA

At the University of California Office of the President



# GREI Coopetition Work - New Tasks in Progress

## ROR for Authors & Funding

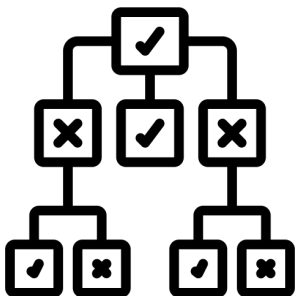


## Data Citation



Data Citation Corpus

## Flowchart for Generalist Repository Selection



## Documentation for Carpentries Trainings



THE  
CARPENTRIES



Figshare API Resources



Join at  
**slido.com**  
**#4600 019**

---



# SciDataCon 2023

organized by



as part of

23-26 OCT

**2023**

SALZBURG



**International  
Data Week**

A FESTIVAL OF DATA

## Audience Questions & Discussion



Join us on Slido!

Slido.com

# 4600 019