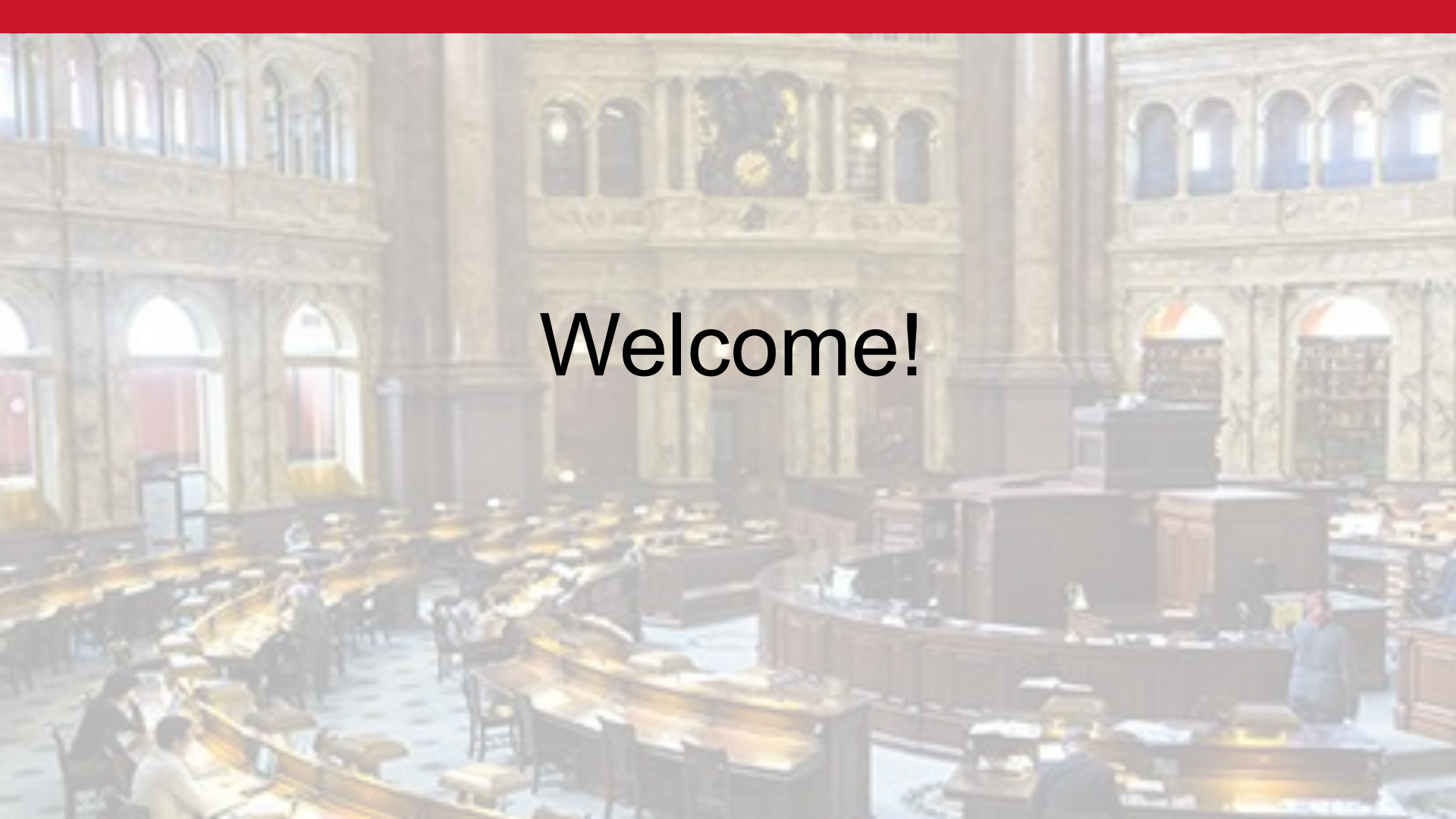
Repository Ready Metadata Under the OSTP 2022 Public Access Memo

Jennifer Beamer USRN | SPARC
Carly Robinson SPARC

SPARC

USRN

CC BY


Welcome!

Presentation Slides



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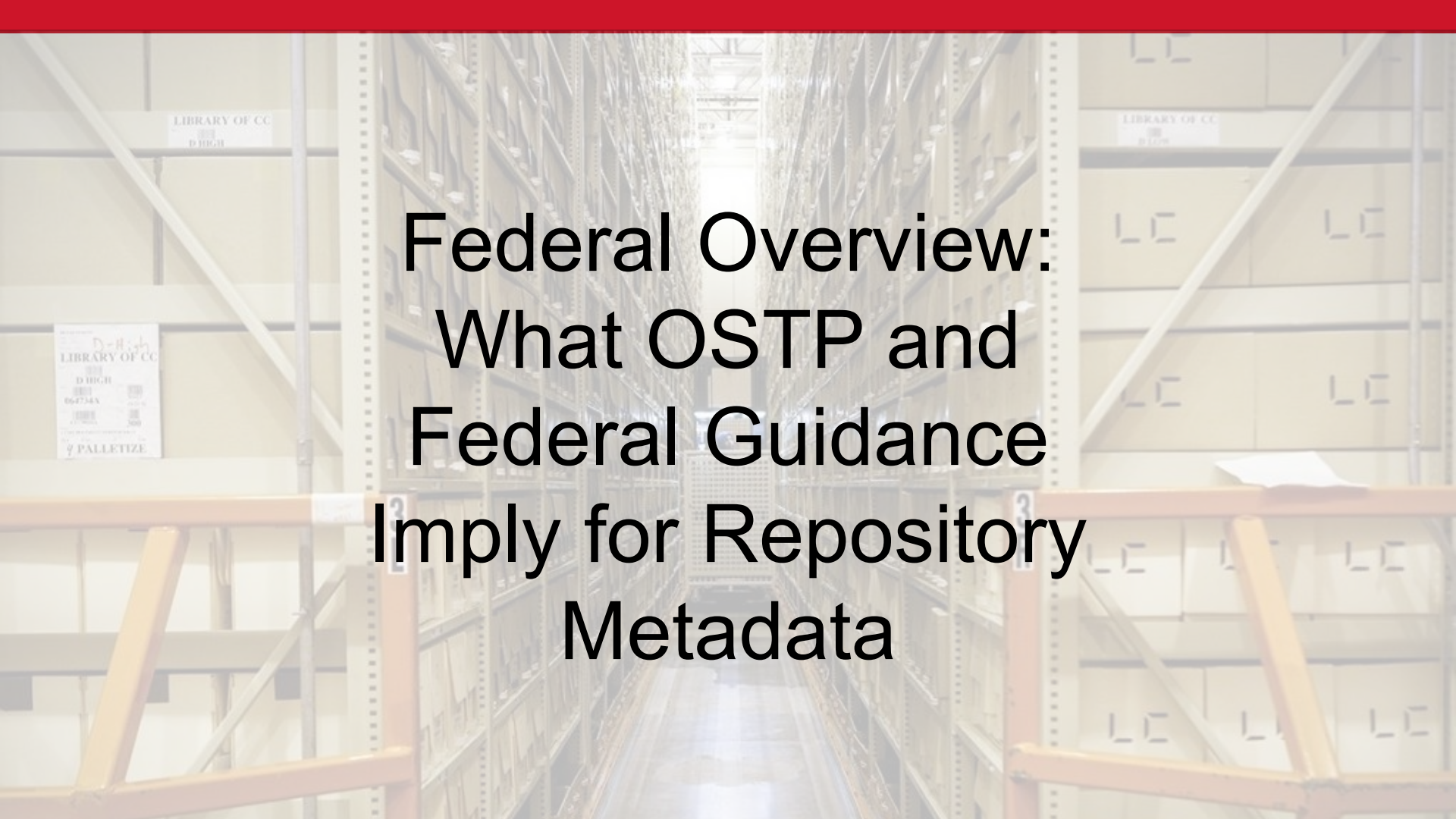
Shared Notes



https://bit.ly/4tWOCq3

Workshop Outline

- 2:15-2:20pm: **Introduction**
- 2:20-2:40pm: **Federal Overview**
- 2:40-3:00pm: **Metadata Exercise:** OSTP Metadata Expectations
- 3:00-3:10pm: **Break**
- 3:10-3:30pm: **USRN and Community Practices**
- 3:30-3:50pm: **Metadata Exercise:** Funding Metadata
- 3:50-4:00pm: **Wrap Up and Next Steps**



Federal Overview: What OSTP and Federal Guidance Imply for Repository Metadata

2025 Gold Standard Science EO



PRESIDENTIAL ACTIONS

Restoring Gold Standard Science

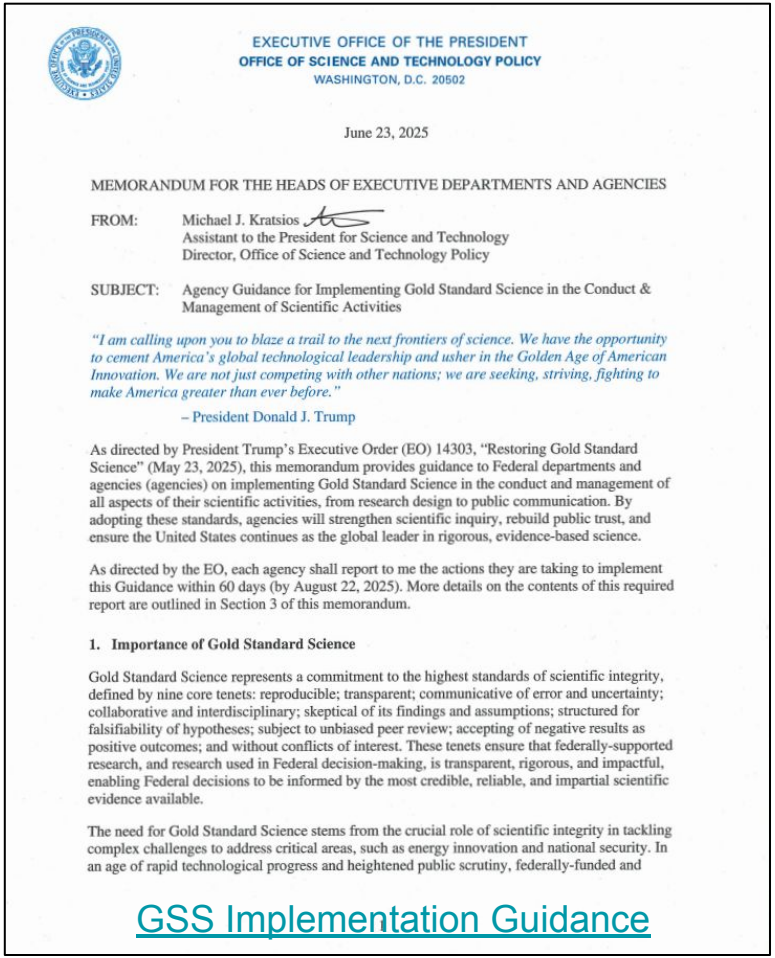
Executive Orders | May 23, 2025

GSS EO

By the authority vested in me as President by the Constitution and the laws of the United States of America, including section 7301 of title 5, United States Code, it is hereby ordered:

Section 1. Policy and Purpose. Over the last 5 years, confidence that scientists act in the best interests of the public has fallen significantly. A majority of researchers in science, technology, engineering, and mathematics believe science is facing a reproducibility crisis. The falsification of data by leading researchers has led to high-profile retractions of federally funded research.

Unfortunately, the Federal Government has contributed to this loss of trust. In several notable cases, executive departments and agencies (agencies) have used or promoted scientific information in a highly misleading manner. For example, under the prior Administration, the Centers for Disease Control and Prevention issued COVID-19 guidance on reopening schools that incorporated edits by the American Federation of Teachers and was understood to discourage in-person learning. This guidance's restrictive and burdensome reopening conditions led many schools to remain at least partially closed, resulting in substantial



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

June 23, 2025

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Michael J. Kratsios
Assistant to the President for Science and Technology
Director, Office of Science and Technology Policy

SUBJECT: Agency Guidance for Implementing Gold Standard Science in the Conduct & Management of Scientific Activities

"I am calling upon you to blaze a trail to the next frontiers of science. We have the opportunity to cement America's global technological leadership and usher in the Golden Age of American Innovation. We are not just competing with other nations; we are seeking, striving, fighting to make America greater than ever before."

– President Donald J. Trump

As directed by President Trump's Executive Order (EO) 14303, "Restoring Gold Standard Science" (May 23, 2025), this memorandum provides guidance to Federal departments and agencies (agencies) on implementing Gold Standard Science in the conduct and management of all aspects of their scientific activities, from research design to public communication. By adopting these standards, agencies will strengthen scientific inquiry, rebuild public trust, and ensure the United States continues as the global leader in rigorous, evidence-based science.

As directed by the EO, each agency shall report to me the actions they are taking to implement this Guidance within 60 days (by August 22, 2025). More details on the contents of this required report are outlined in Section 3 of this memorandum.

1. Importance of Gold Standard Science

Gold Standard Science represents a commitment to the highest standards of scientific integrity, defined by nine core tenets: reproducible; transparent; communicative of error and uncertainty; collaborative and interdisciplinary; skeptical of its findings and assumptions; structured for falsifiability of hypotheses; subject to unbiased peer review; accepting of negative results as positive outcomes; and without conflicts of interest. These tenets ensure that federally-supported research, and research used in Federal decision-making, is transparent, rigorous, and impactful, enabling Federal decisions to be informed by the most credible, reliable, and impartial scientific evidence available.

The need for Gold Standard Science stems from the crucial role of scientific integrity in tackling complex challenges to address critical areas, such as energy innovation and national security. In an age of rapid technological progress and heightened public scrutiny, federally-funded and

GSS Implementation Guidance

2022 OSTP Public Access Memo

USGS
science for a changing world

Public Access to Results o
Research at the U.S. Geolo
Scholarly Publications and

Policies and Procedures

Policy Notice: Implementation of Policy Changes to Proposal and Award Policies and Procedures Guide (PAPPG) 24-1, Supplement 2

U.S. Department of Energy
Washington, DC

SUBJECT: SCIENTIFIC AND TECHNICAL INFORMA

2024 NIH Public Access Policy

Notice Number:
NOT-OD-25-047

Key Dates

Release Date: December

EPA ORDER

POLICY FOR INCREASING ACCESS TO RESULTS OF EPA-FUNDED EXTRAMURAL SCIENTIFIC RESEARCH

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

2022 Memo

August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

This memorandum provides policy guidance to federal agencies with research and development expenditures on updating their public access policies. In accordance with this memorandum, OSTP recommends that federal agencies, to the extent consistent with applicable law:

1. Update their public access policies as soon as possible, and no later than December 31st, 2025, to make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release;
2. Establish transparent procedures that ensure scientific and research integrity is maintained in public access policies; and,
3. Coordinate with OSTP to ensure equitable delivery of federally funded research results and data.

1. Background and Policy Principles

Since February 2013, federal public access policy has been guided by the *Memorandum on Increasing Access to the Results of Federally Funded Research* (2013 Memorandum).[1] Issued by the White House Office of Science and Technology Policy (OSTP), the 2013 Memorandum directed all federal departments and agencies (agencies) with more than $100 million in annual research and development expenditures to develop a plan to support increased public access to the results of federally funded research, with specific focus on access to scholarly publications and digital data resulting from such research.

Nearly ten years later, every federal agency subject to the 2013 Memorandum has developed and implemented a public access policy in accordance with its guidance.[2] As a result, the American public has experienced great benefits: more than 8 million scholarly publications have become accessible to the public. Over 3 million people read these articles for free every day. The 2013 federal public access policy set the stage for a paradigm shift away from research silos and

[1] See the 2013 Memorandum: https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf
[2] See the 2021 OSTP Public Access Congressional Report: https://www.whitehouse.gov/wp-content/uploads/2022/02/2021-Public-Access-Congressional-Report_OSTP.pdf

Repositories Hosting Data

Organizational Infrastructure

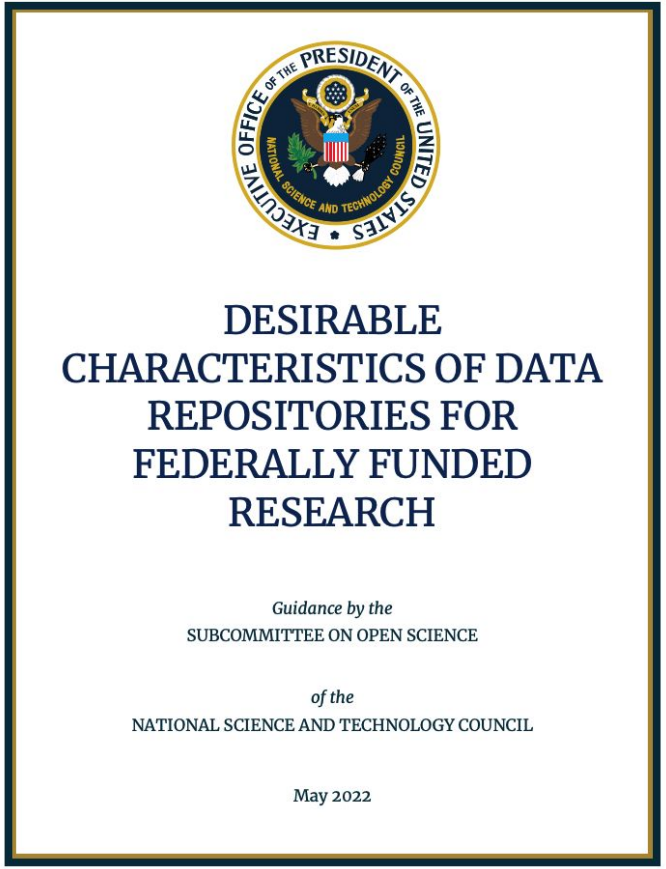
- Free and Easy Access, Clear Use Guidance, Risk Management, Retention Policy, Long-term Organizational Sustainabiliy

Digital Object Management

- Unique Persistent Identifiers, Metadata, Curation and Quality Assurance, Broad and Measured Reuse, Common Format, Provenance

Technology

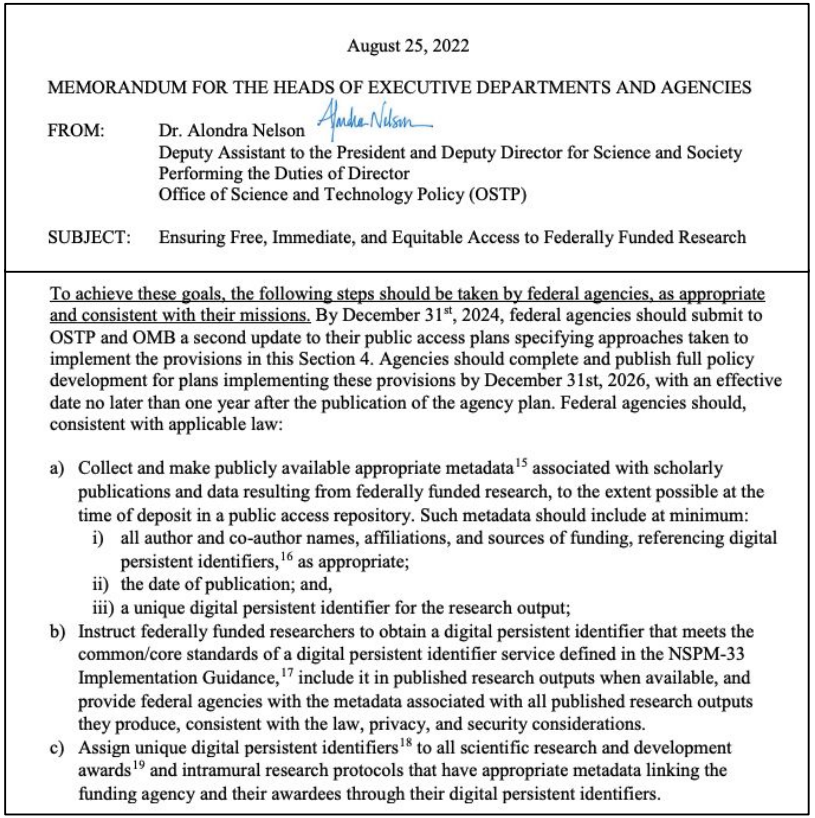
- Authentication, Long-term Technical Sustainability, Security and Integrity



Desirable Characteristics

Metadata Describing Outputs

- **Authors and PIDs**
  (e.g., ORCID iDs)
- **Author Affilations and PIDs**
  (e.g., ROR IDs)
- **Funding Sources and PIDs**
  (e.g., award numbers, DOIs, ROR IDs)
- **Publication/Availability Date**
- **PID for output**
  (e.g., DOI, ARK, Handle)



August 25, 2022

MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: Dr. Alondra Nelson
Deputy Assistant to the President and Deputy Director for Science and Society
Performing the Duties of Director
Office of Science and Technology Policy (OSTP)

SUBJECT: Ensuring Free, Immediate, and Equitable Access to Federally Funded Research

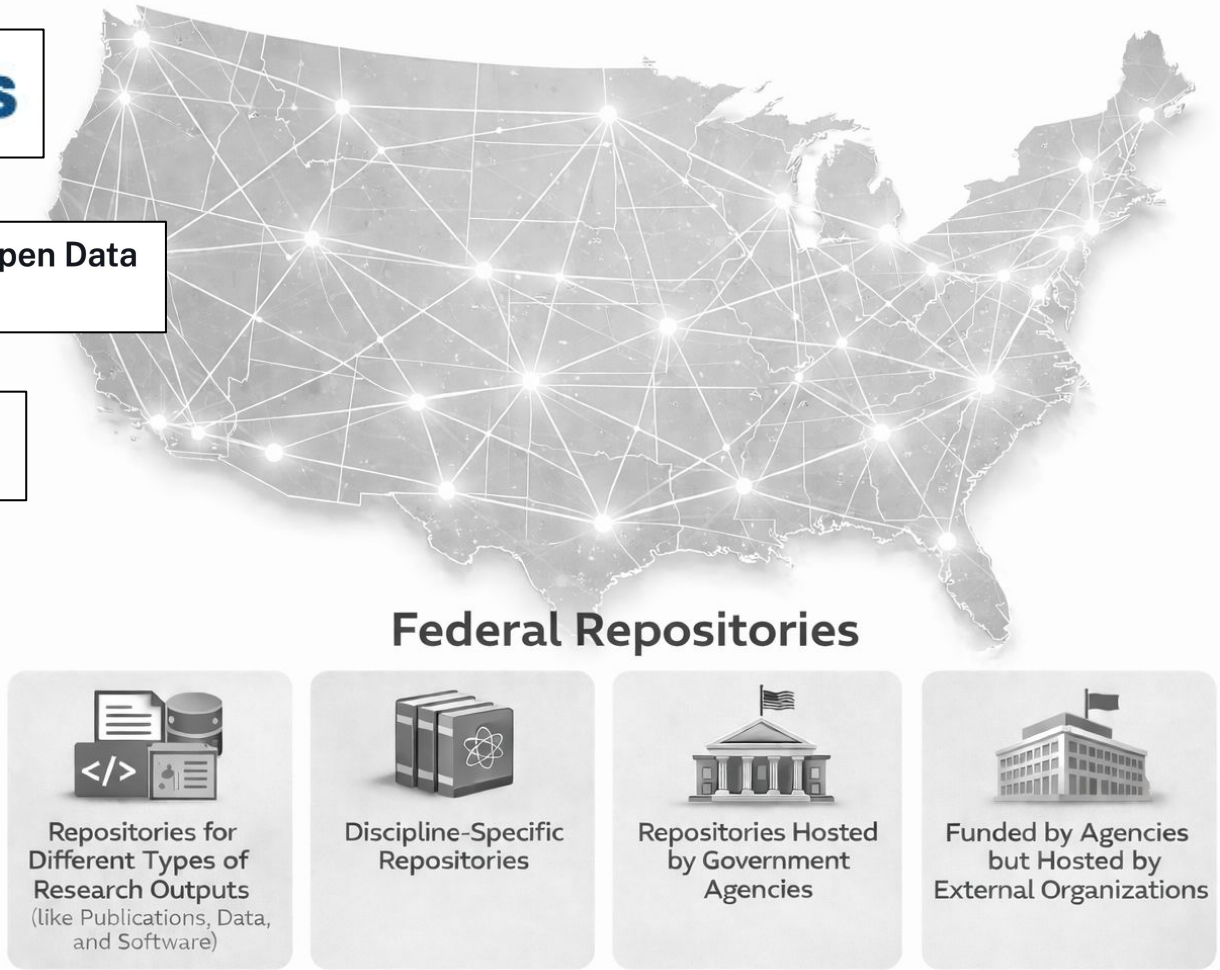
To achieve these goals, the following steps should be taken by federal agencies, as appropriate and consistent with their missions. By December 31st, 2024, federal agencies should submit to OSTP and OMB a second update to their public access plans specifying approaches taken to implement the provisions in this Section 4. Agencies should complete and publish full policy development for plans implementing these provisions by December 31st, 2026, with an effective date no later than one year after the publication of the agency plan. Federal agencies should, consistent with applicable law:

a) Collect and make publicly available appropriate metadata[15] associated with scholarly publications and data resulting from federally funded research, to the extent possible at the time of deposit in a public access repository. Such metadata should include at minimum:
   i) all author and co-author names, affiliations, and sources of funding, referencing digital persistent identifiers,[16] as appropriate;
   ii) the date of publication; and,
   iii) a unique digital persistent identifier for the research output;
b) Instruct federally funded researchers to obtain a digital persistent identifier that meets the common/core standards of a digital persistent identifier service defined in the NSPM-33 Implementation Guidance,[17] include it in published research outputs when available, and provide federal agencies with the metadata associated with all published research outputs they produce, consistent with the law, privacy, and security considerations.
c) Assign unique digital persistent identifiers[18] to all scientific research and development awards[19] and intramural research protocols that have appropriate metadata linking the funding agency and their awardees through their digital persistent identifiers.

FAIR Principles

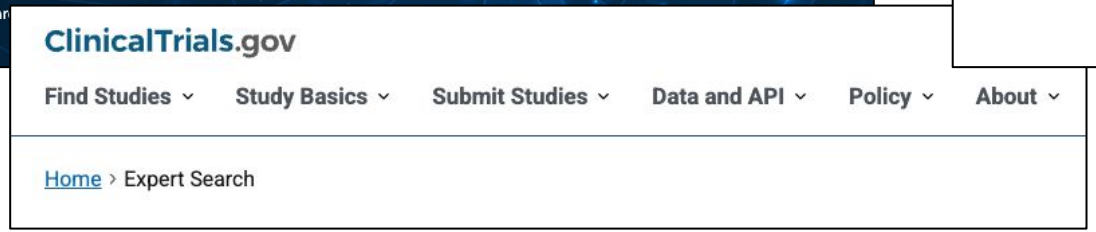
DCAT-US Schema v1.1 (Project Open Data Metadata Schema)

PID Metadata Schemas

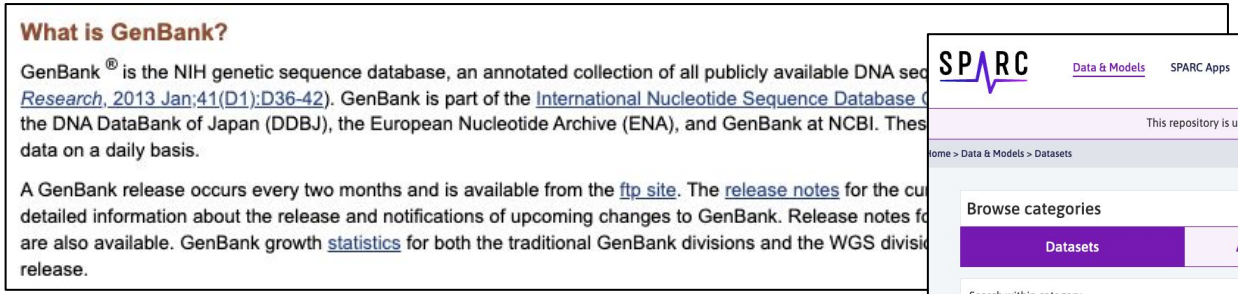


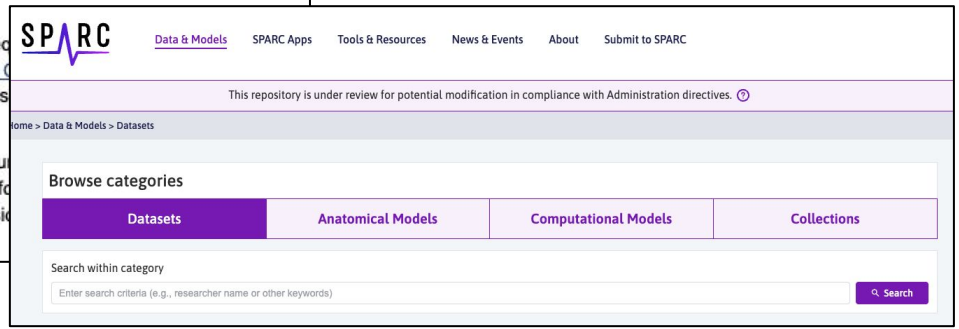
Agency Repositories: HHS



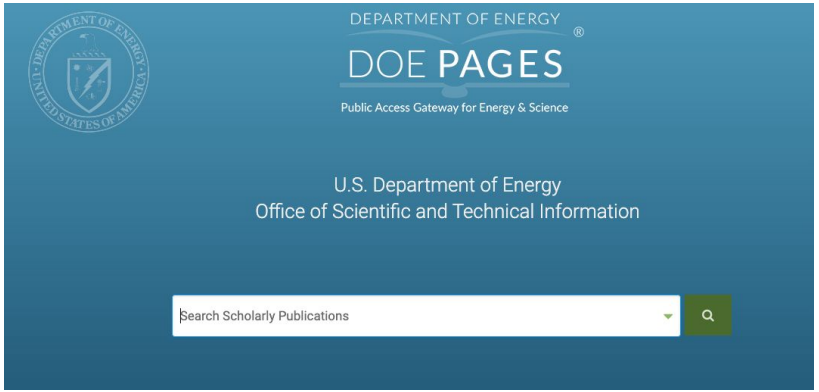


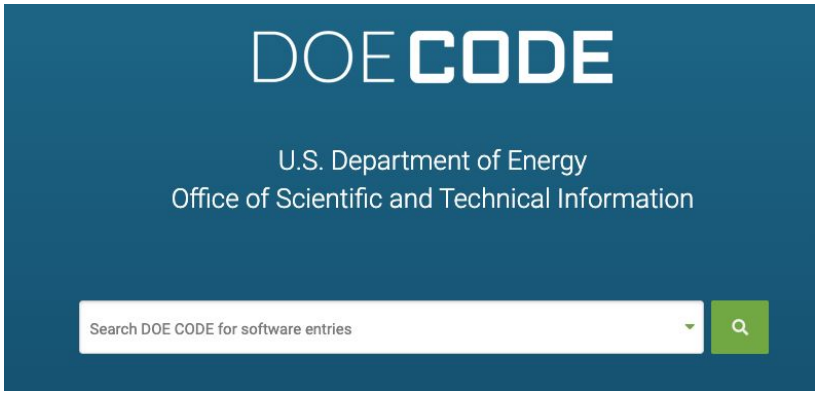


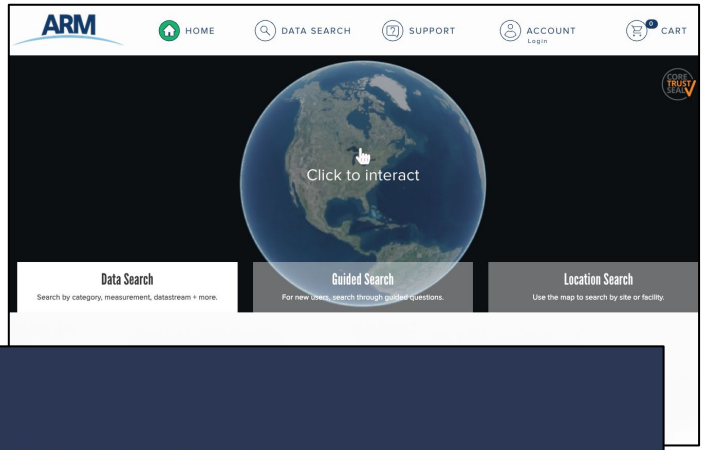


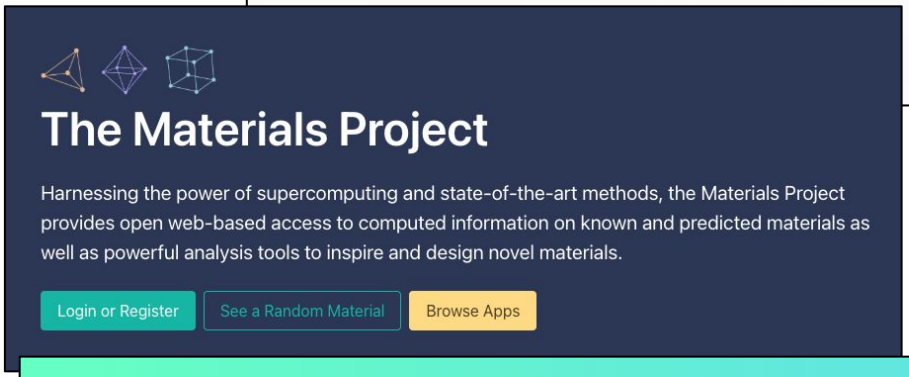


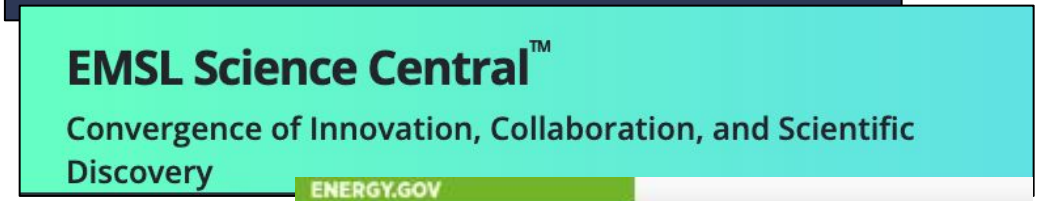
Agency Repositories: DOE













Discussion Breakout #1
OSTP Metadata Expectations

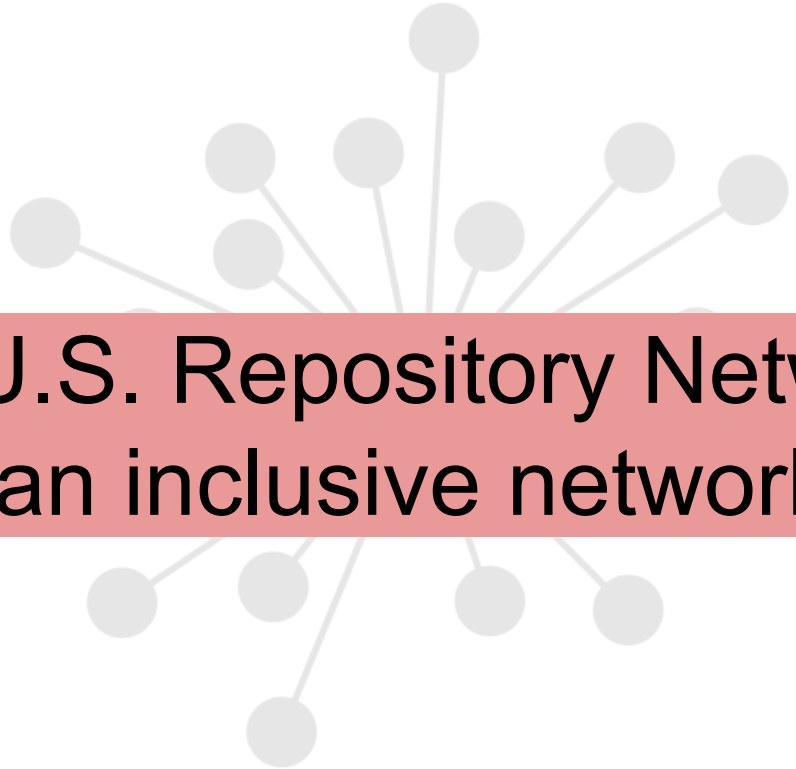
2:40-3:00pm

Discussion Breakout Sections

- If you're in the room, please gather with 5-7 people near
- If you're on Webex, in just a minute you'll be pushed to a breakout room for you to discuss with that group.
- Please pick someone in the group to lead the discussion and walk through the discussion questions
- Pick someone else to be the notetaker to put discussion notes into the shared notes doc
- The groups will have ~15 mins to go through the questions
- We'll come back together for ~ 5 mins of discussion before moving to the next section

Discussion Questions

- Are there any parts of the memo expectations that are unclear?
- What impact do these metadata expectations have on your repository?
- From the metadata expectations included in the memo, are there metadata fields you feel like you have well covered in your repository?
- What are those fields and how have you been successful in that collection/coverage?
- Are there metadata fields that you aren't currently collecting or aren't confident in the quality or consistency of the metadata?
- Of those, which present the biggest challenge?
- Are there metadata enhancements that could be made over the next 6-12 months to address these areas?



The U.S. Repository Network is an inclusive network.

https://thenounproject.com/icon/network-363874/

Action Plan: Areas of Action

- 2021 Engaged with OSTP and federal funding agencies on implementation of public access guidance
- Developed network governance model
- Build community and external relationships

https://thenounproject.com/icon/agenda-1082781/

Action Plan: Engage Actions

1. Sent a letter to OSTP on behalf of the U.S. Repository Network [Co-Chairs]
2. **Drafted Desirable characteristics and best practices to support OSTP requirements for repositories providing public access to federally funded research [Program Officer & Working Group]**
3. Shared USRN's desirable characteristics of publication repositories with OSTP, the NSTC Subcommittee on Open Science, and federal funding agencies [Co-Chairs & Support Team]
4. Advocated for adoption of the desirable characteristics and the inclusion of the distributed repository network in the implementation of public access guidance [ALL]

U.S. Repository Network

Desirable Characteristics of Digital Publication Repositories (Desirable characteristics and best practices)

A set of desirable characteristics alongside good practices is necessary to:

- increase interoperability across the national and global repository network and
- establish suitability of a digital publication repository to be an “agency-designated” repository for federally funded research.

These desirable characteristics are intended to align with / work in parallel with the already issued Desirable Characteristics of Data Repositories for Federally Funded Research and are modeled on three existing frameworks.

1. NSTC Desirable Characteristics of Data Repositories for Federally Funded Research
2. COAR Community Framework for Good Practices in Repositories, Version 2, Essential Characteristics
3. Plan S Requirements for Open Access Repositories, Mandatory Criteria

USRN Discovery Pilot: 2024 - 2025

Working with CORE (UK) and using the CORE Dashboard, Key Findings:

- 50% misconfigured OAI-PMH initially, now all but one harvestable
- Inconsistent PIDs & licenses across repositories
- Limited machine-readable metadata for discovery



USRN Toolkit

Wiki - Toolkit designed to help repositories to adopt some of the "desirable characteristics" already identified by USRN - Paul Walk Antleaf, CORE and USRN Pilot members

https://github.com/antleaf/USRN-Discovery/wiki/Toolkit

Toolkit

paulwalk edited this page on Sep 23, 2024 · 18 revisions

This "toolkit" is designed to help repositories to adopt some of the "desirable characteristics" already identified by URSN (see source documents).

Desirable characteristics

The "desirable characteristics" for repositories taken from the USRN document *Desirable Characteristics of Digital Publication Repositories* are listed below. Each links to an information page which describes the characteristic and links to corresponding characteristics from the COAR Community Framework for Good Practices in Repositories .

A subset of the desirable characteristics are the focus of this toolkit - these are listed first. The USRN Discovery project team have developed some adoption strategies for each of these.

Characteristics in focus for USRN Discovery

(these have adoption strategies developed by the USRN Discovery project team)

- Free and Easy Discoverability and Access

Pages 21

- Home
- Toolkit
  - Toolkit start page
  - Free and Easy Discoverability and Access
  - Clear Use Guidance
  - Unique Persistent Identifiers
  - Metadata
  - Broad and Measured Reuse
  - Common Format
- Resources supporting the Toolkit
  - Rioxx metadata format
  - Controlled Vocabularies
- Providing feedback on the Toolkit

Discussion Breakout #2
Funding Metadata

3:30 - 4:00 pm

Discussion Questions

- Does your repository platform allow for the collection of funding information - both funding organization names and award/grant numbers
  - Does it support collecting these as separate fields?
- Does your repository platform allow for the collecting of PIDs associated with funding information (e.g., ROR IDs for funding organizations and/or DOIs for funding awards)?
  - Are those structured or free-text? Is there a ROR ID API integration?
- Is your repository currently collecting metadata describing the funding?
  - What details are you collecting (e.g., funding organization and award/grant numbers)?
  - Are these fields optional or required?
- If you're not currently collecting funding metadata, do you have plans to do this in future?
  - Are there any barriers to collecting funding metadata?
- Are there other funding related metadata fields you collect or think would be helpful to collect that go beyond the 2022 OSTP Public Access Memo expectations (e.g., funding acknowledgements)?

Wrap Up and Next Steps

Based on today's discussions, is there something the USRN community could create, convene, or share in the next year that could best support your repository?

Thank you!!





jennifer@sparcopen.org

carly@sparcopen.org