Today’s Data, Tomorrow’s Discovery: Perspectives from the U.S. National Science Foundation

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Overview

- NSF public access
  - a brief history
  - Publications
  - aata
- summary and future perspective
clear and open communication of research results is central to the progress of science
• publications
• data

[NSF] “continues its commitment to expand public access to the results of its funded research. Public access is intended to accelerate the dissemination of fundamental research results that will advance the frontiers of knowledge and help ensure the nation’s future prosperity”

F. Cordova, Director, NSF, 3/18/15
NSF Public Access: a brief history

US Office of Science and Technology Policy:
directs federal agencies to develop plans to make *publicly available* to the “greatest extent and with the fewest constraints possible and consistent with law” the “*direct results of federally funded scientific research*.”
NSF Public Access: a brief history

2012
NSF Public Access Working Group

2013
OSTP memo

2014
NSF Public Access Plan published

2015
NSF’s Public Access Plan: Today’s Data, Tomorrow’s Discoveries

Increasing Access to the Results of Research Funded by the National Science Foundation

National Science Foundation

March 18, 2015
NSF Public Access

- **Publications:** “Investigators are expected to promptly prepare and submit for publication … all significant findings from work conducted under NSF grants.”

- **Data:** “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.”
NSF Public Access Repository

- Provide public access to journal, juried conference papers
- Leverage existing systems, workflows:
  - Integrated with NSF-internal proposal, award management
  - Leverage DOE/OSTI infrastructure for publications; publisher/library services (e.g., CrossRef)
  - Extensible: other research products, federation
- PI’s must deposit publications in PAR, awards made FY 2016 onwards
PI, PO, and Public: access to publications

PI
- Log-in, NSF credentials
- Input manuscript into research.gov
- Create, edit, submit annual report; auto-populate publications

Program Director
- Log-in, NSF credentials
- eJacket jog-in
- View project reports, manuscripts

Public
- Web
- par.nsf.gov research.gov
- Search, retrieve publications using keywords, metadata

Publisher data
- CrossRef
- DOI metadata

NSF-Link (DoE)
- Input DOI (optional) link NSF award, upload manuscript
- Ingest manuscript into PAR Web

Best Available Version (DoE)
NSF Public Access Plan: data

Data Management Plans:

- “data management is dynamic and practices vary substantially across the broad range of scientific disciplines supported by NSF” [NSF 15-52]

- “What constitutes reasonable data management and access will be determined by the community of interest through the process of peer review and program management.” [Data Management & Sharing Frequently Asked Questions (FAQs)]

- bottom-up implementation in context of top-down guiding principles
  - “one size” does not fit all of science and engineering
NSF Public Access Plan: data

- Individual directorates providing updated DMP guidance
- DMP pilot projects funded (BIO, GEO, SBE)
- R&D funding for heterogeneous architectures, technologies for data-centric systems (DIBBS)

Longer term:
  - continued consultation with multiple agencies
  - evolving DMPs as experience is gained, technology changes
  - roles, responsibilities, business models
Summary and Future Perspective

Advancing Global Science by Public Access Policies

- NSF continues its deep commitment to expand public access to results of its funded research
  - NSF Public Access Plan: publications, data
- Realizing the enormous potential of Data requires a long-term, bold, sustainable, and comprehensive approach, by NSF and by our partners across the globe
  - Advancing science is truly a borderless enterprise
THANKS!