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American Chemical Society

Open Science and Funder Policies

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Tuesday August 20, 2024

Speakers



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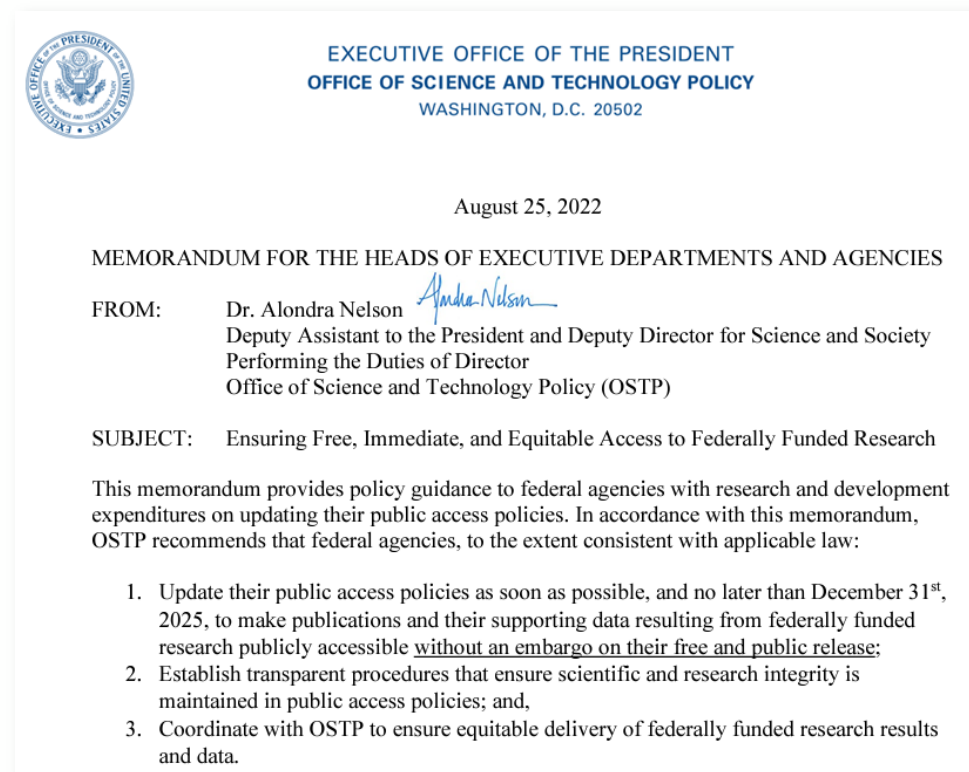
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Context

The OSTP 'Nelson Memo'

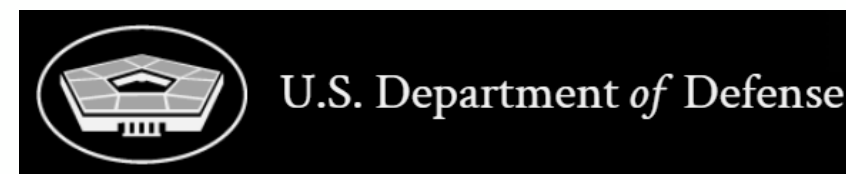
- Issued August 25, 2022
- Sets out guidance for all federal funding agencies to make all funded research publicly available
- Agency policies must be in place for all new grants no later than **December 31, 2025**
- Political challenges to OSTP's financial analyses (and election outcome) may delay / prevent implementation



Who's affected?

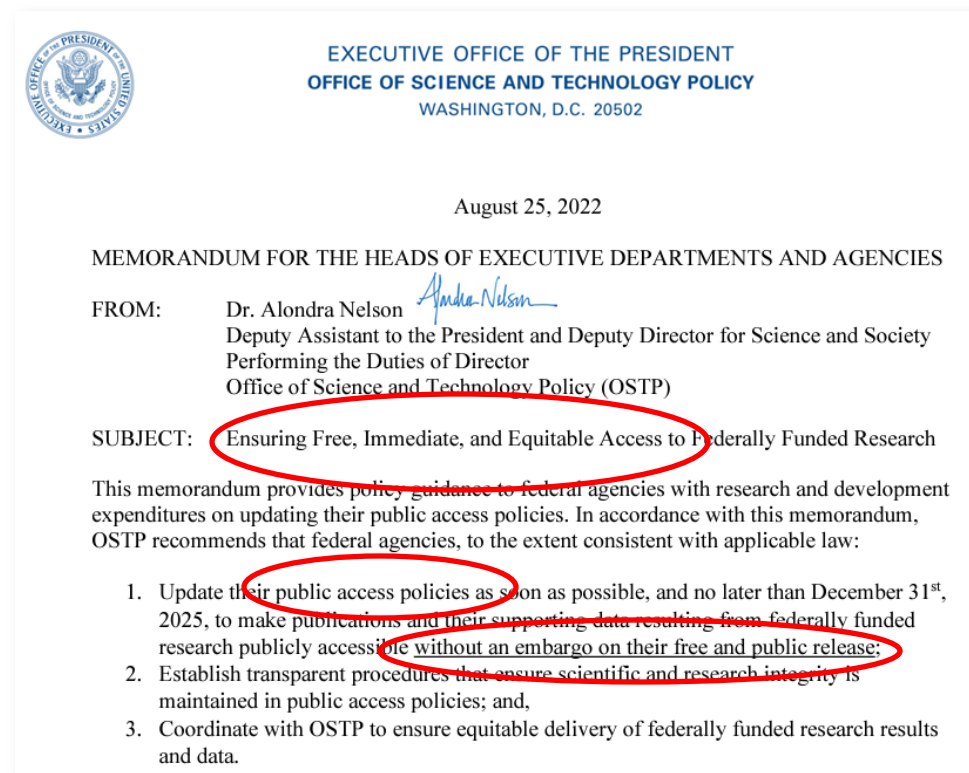
In short: Anyone who receives any kind of Federal funding

- Includes all contributors to a research project
- If Federal funder is acknowledged in a manuscript, the funder's policy applies to the project
- This affects most US-based researchers publishing in ACS journals
- ACS publishes over 14,500 articles from US-based authors each year

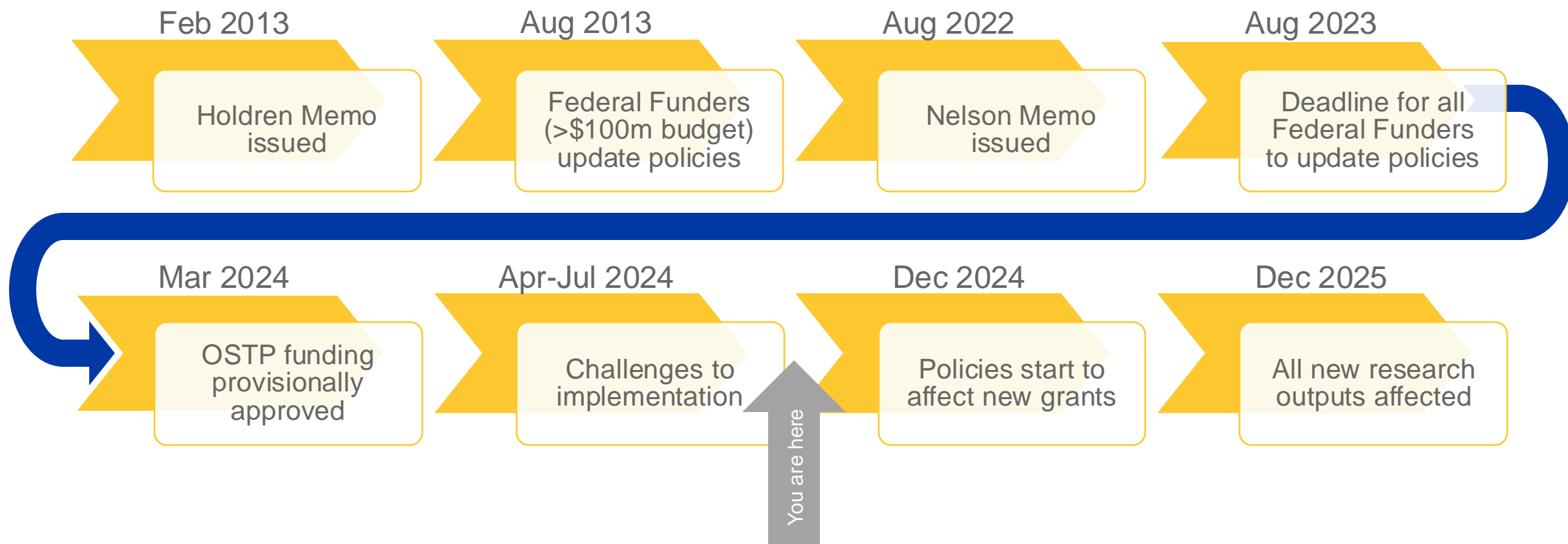


What makes the Nelson Memo unique?

- Primary focus: zero-embargo access to **peer reviewed publications** via repositories
- Public access is not the same as open access
 - OA includes reuse licenses – public access does not
- Strong focus on making underlying research data publicly available
- Outputs must be formatted for machine-readability
- Does not explicitly offer any mechanism to fund its requirements



OSTP Nelson Memo: a timeline



Likely impact for US researchers

(Assuming implementation proceeds)

- **Requirement for zero-embargo public access to peer reviewed manuscripts**
- Most publishers only support this if authors publish version of record as immediate ('gold') open access
- Publishing under an institutional open access agreement is compliant
- ACS has a dedicated zero-embargo green open access option

Likely impact for US researchers - continued

(Assuming implementation proceeds)

- **Requirement for free and immediate access to research data**
- Data must be freely available and publicly accessible in a designated repository
- Includes data not associated with scholarly publications
- Allows exceptions to the mandate for legal, ethical, IP, and security reasons – As open as possible, as closed as necessary

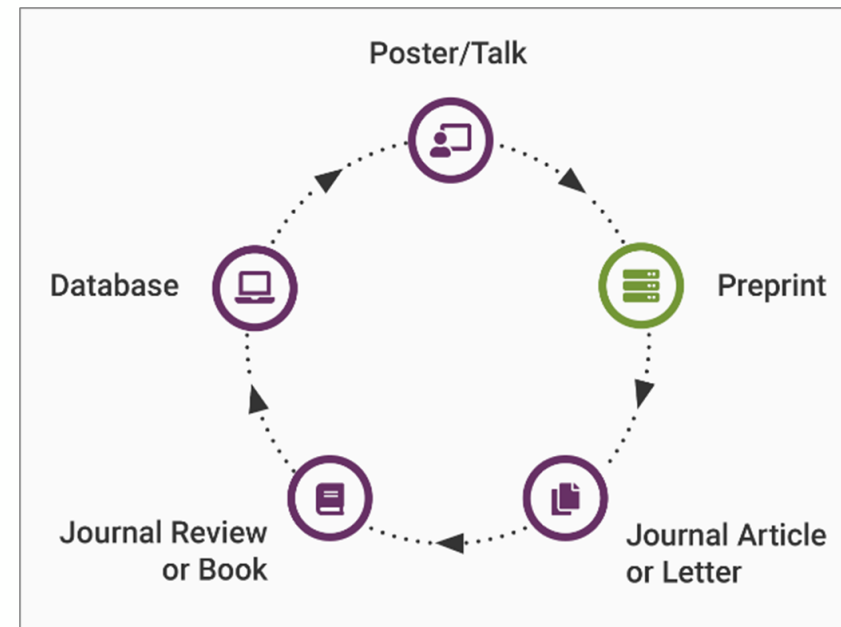
Non-Federal funder initiatives

- Gates Foundation has recently updated their open access policy
- Significant departure from Plan S, which they were previously aligned with
- Requires authors to post work in preprint format
- **Will not pay open access APCs for any journal**
- Accepted manuscript needs to be in a repository with zero embargo

BILL &
MELINDA
GATES
foundation

What are preprints?

- A preprint is a draft manuscript that has **not yet been accepted for formal publication** following peer review
- Preprints are **not** author's accepted manuscripts or final published articles
- Preprints are intended to **complement** — not substitute for — properly validated, peer-reviewed journal articles
- Some funders (e.g., Gates Foundation) are **requiring** that researchers post preprints



"Chemistry Preprints"
ACS Guide to Scholarly Communication
10.1021/acsguide.10605

An introduction to ChemRxiv

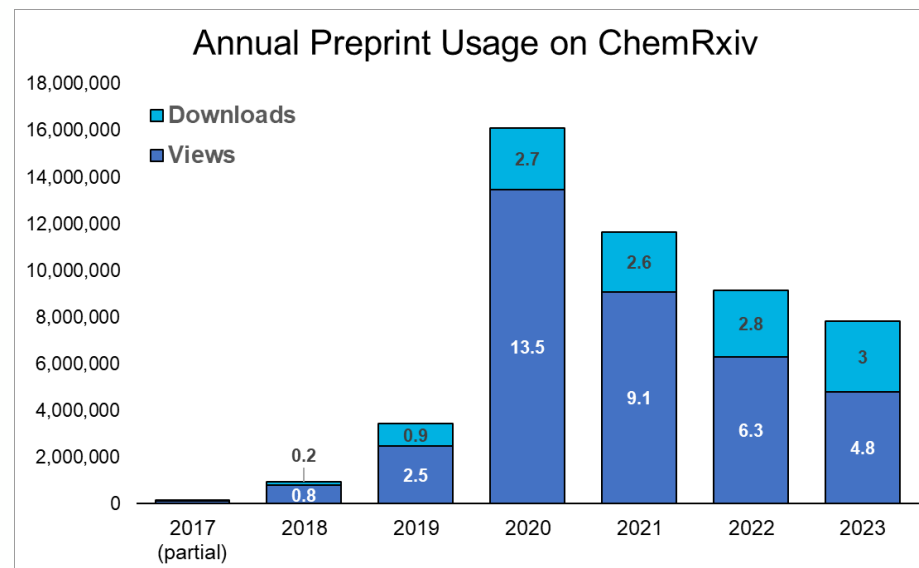
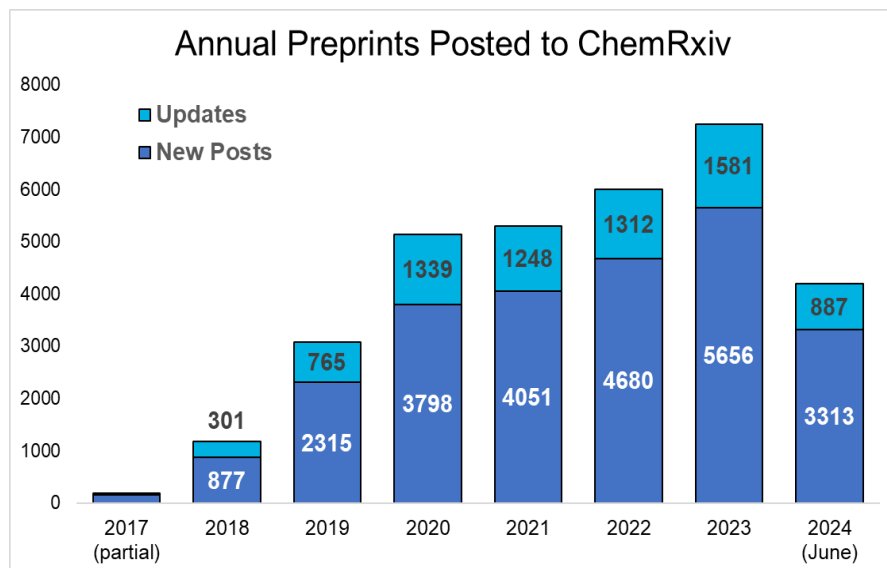
The preprint server for chemistry

- Launched in 2017
- Over 25,000 preprints from authors in 100+ countries
- More than 41.3m views and 14.2m downloads
- Almost 7,000 citations

ChemRxiv[®]



ChemRxiv by the numbers



- ChemRxiv now posts approximately 700 preprints each month
- Last year, ChemRxiv averaged 700,000 views and downloads per month
 - Large spike in usage early in the COVID pandemic

Some of the benefits of preprints

(In addition to funder compliance)

- Establishing priority and precedence of a discovery
- Rapid dissemination of early findings
- Preprints can be replaced with subsequent versions as the paper develops
- Preprints receive a DOI so they can be cited
- Some preprint servers (including ChemRxiv) allow authors to submit to journals directly

Rank	ALL	Posted preprints	No preprints	% ranked highly
1	Staking first claim	Staking first claim	Staking first claim	74%
2	Rapid sharing	Rapid sharing	Rapid sharing	71%
3	Public record	Public record	Feedback	59%
4	Feedback	Feedback	Public record	54%
5	Transparency	Transparency	Transparency	49%

Data from ChemRxiv Community Survey 2023. n = 974

ChemRxiv goals and approach

- Serve as a free submission, distribution, and archive service for unpublished preprints in chemistry and related areas
 - Content is screened before posting
- Allow new research to be shared more rapidly
- Facilitate community feedback, new collaborations, and documentation of research output

ChemRxiv's guiding principles are to remain **open** and **free** for users. We will be watching these policy changes to see how we can continue to adapt to support researchers.

How can you ensure compliance?

(Details vary from one funder to the next)

- Your workflows will likely be affected
- Corresponding authors need to know details of all applicable funder policies
- Publication process must meet all funders' requirements
 - Fulfilling most stringent requirements should also fulfill more liberal policies' requirements
- Be aware of conflicts
- Financial and reputational risks for non-compliance
 - Withholding grant instalments
 - Blacklisting from future grants

Some questions still to be answered...

- Not all funders have the ability to operate a dedicated repository
 - Risks of smaller repositories going offline
- Data hosting / availability presents a significant challenge for some fields
- Broader issues around research integrity
 - Where do author, reviewer, publisher, and institutions' responsibilities lie?

Questions



Thank you!