



AAAS Response to RFI on NSF Public Access Plan 2.0

The American Association for the Advancement of Science (AAAS) welcomes the National Science Foundation's efforts to enhance public access, in line with the 2022 White House Office of Science and Technology Policy (OSTP) guidance aimed at making federally funded research publications and supporting data publicly available. Open and accessible data are essential to scientific integrity and reproducibility.

AAAS, the world's largest general scientific society with more than 100,000 member scientists at all levels and across all disciplines of the scientific enterprise, publishes the *Science* family of journals. Our mission is to advance science, engineering, and innovation throughout the world for the benefit of all.

The *Science* family of journals makes our research open to the public without embargo using green open access models for five of our journals and a gold open access model for one. Our journals require published authors to make their data immediately accessible in approved repositories and authors may share their author accepted manuscripts immediately upon publication.

AAAS applauds the NSF for emphasizing equity in its approach to public access policy development and for considering how to balance access to published work with the ability to publish. AAAS is committed to collaborating with NSF, other federal research agencies, and OSTP to develop public access policies and supportive publishing models that achieve this balance.

AAAS further applauds NSF for emphasizing that procedures that ensure scientific integrity should be maintained and prioritized in public access policies. Now more than ever, upholding the accuracy of the scientific record is critical for the scientific enterprise, including in response to an increasingly skeptical public.

In this document, we are pleased to offer feedback to NSF's RFI in response to item #7 from the enumerated RFI list. Our response elevates implications of a "common licensing scheme" around the integrity and accuracy of the downstream communication of research. The complexity of this subject merits a conversation and we would welcome an opportunity to meet with the appropriate NSF staff to further discuss this important topic.

Question 7. If you have any additional comments about NSF's Public Access Plan, please share them here. (Please limit response to 2,000 characters.)

AAAS Response:

AAAS commends the NSF for its leadership in emphasizing scientific integrity as a key consideration in public access policy development. Now more than ever, upholding the accuracy of the scientific record is critical for the scientific enterprise.

To strengthen its policy as relates to scientific integrity, AAAS recommends that NSF evaluate the implications of a common copyright licensing scheme, such as Creative Commons Attribution License (CC BY), to allow for reuse of original work.

CC BY or other liberal use licenses are not necessary to achieve public access to read research, nor are they required to test the reproducibility of research. What's more, certain open license types such as CC BY facilitate and incentivize reuse that adversely impacts the integrity and accuracy of the downstream communication of research. If scientific studies with a CC BY license are altered in ways that misrepresent the original work, it is difficult to stop continued distribution of that altered work. Its inaccurate presentation can thus persist, be broadly distributed, and even be used to support and give credence to problematic perspectives.

Where publishers can help prevent the continued distribution of altered works under other license types – work AAAS actively takes on – publishers lose this ability when a CC BY license or other liberal use license has been applied. This is more concerning given that many researchers only learn that the publisher cannot help them after discovering a problematic reuse of their work.

This discussion highlights the distinction between public access and reuse. AAAS would be interested in further discussing with NSF what reuses the agency seeks to facilitate.

AAAS supports open-research initiatives. However, appropriate limitations are important to ensure such offerings do not lead to unintended consequences, particularly in spaces where authors have less insight into the stakes. This issue is particularly urgent given the fast pace of artificial intelligence development, including around tools that can be trained on full text journal articles for the purposes of replicating scholarly journal content.

To facilitate public access to research while also prioritizing scientific accuracy and integrity, AAAS would recommend encouraging broad use of a CC BY-NC-ND license, for example, among other alternatives we would be happy to discuss with NSF. The CC BY-NC-ND license allows others to reuse and distribute the work in an unadapted form for non-commercial purposes; neither commercial use nor, critically, adaptation is allowed.

We encourage NSF — with its focus on scientific integrity — to study how the breadth of open license types available has led to reuses that adversely impacted the integrity of work published by NSF-funded researchers. AAAS is currently hearing publishers around the world indicate eagerness to talk to funders about this issue; we encourage the agency to proactively engage with publishers about their concerns.

A careful approach to licenses is essential to ensuring that, regardless of where a scientist publishes — regardless of geographic location, institutional affiliation, academic rank, or identity — the integrity of their research can be maintained, prioritized, and fought for.