Planning for Open Grants: Fostering a Transparent and Accessible National Research Proposal Infrastructure

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Acknowledgments

Overview

Navigating the process to secure funding and fellowships—from project ideation to submission to award— requires copious amounts of time and energy from an interconnected group of co-authors, reviewers, and grant professionals. However, most of the resulting materials are not accessible or even visible to those outside the grants-making process, much less the general public. Consequently, this important piece of the research process remains opaque, hiding these materials from analysis and acknowledgement.

This inaccessibility is an obstacle for the beneficial uses of such materials, whether as examples to help guide proposal writing, or as scholarly objects documenting the questions, methods, sources, and labor that shape a research agenda or program development over time. Although some funders and applicants post full proposals to websites or scholarly repositories, this practice is haphazard and varies depending on individual and institutional norms. Grant documents are also shared through informal networks, but this may end up reinforcing inequities through differences in awareness of and access to these networks.

An open repository of funding proposals–or clearly defined subcollections within a variety of existing repositories–will elevate their recognition as scholarly products, improve access for the public and other grant seekers, and bring transparency to this facet of the research process. Included here are a number of deliverables from the IMLS-supported *Planning for Open Grants* initiative, which over the course of nearly three years captured perspectives from those in different fields, regions, institutional types, and stages in their careers. Librarians and information professionals are well-represented throughout, speaking both to the infrastructure we support for open scholarship as well as our positionality as grant seekers. In general, this work also sidesteps medical fields and specific issues of health-related information, though we certainly believe much of this work applies to those fields.

Rather than defining a strictly technical blueprint for moving forward, the project team and our collaborators approached this issue from multiple perspectives, and the results emphasize relationships, trust, and community in accessing–and often enhancing–the billions of words we might find in the pages of grant and fellowship applications.

Field Report

Environmental Scan & Advisory Committee Meeting

Below is the accepted manuscript for an article published in the January 2024 issue of College & Research Libraries*, authored by the project's former graduate fellow, Dr. Hannah Toombs, and co-PIs Ye and Collins, with additional feedback and review by members of the project advisory committee.*

Abstract: This environmental scan argues for the value in making grant proposals open access. Applying for and receiving grant funding is an important facet of research. However, accessing information on grant application, review, and award processes remains a particular challenge for early career scholars, researchers from smaller or under-resourced institutions, and traditionally marginalized scholars. While the open access movement has made research publications resulting from funded grants publicly available, grant proposals are rarely included. When proposals are shared, they are difficult to find due to variability in metadata implementation and quality. This work asks: What are central challenges in making grant proposals open access? How can increased access to grant proposals contribute to equity and transparency in funding distribution? What existing repositories contain grant materials? What standards and incentives can be established among grant-seeking and funding stakeholders to improve grant proposal accessibility? This work concludes with perspectives shared during a May 2022 advisory group meeting of stakeholders involved in the Institute of Museum and Library Services-funded project Planning for Open Grants, which focuses on potential solutions in grant seeking and funding processes for working towards an open grants standard across research communities.

Key Words: open access, grant proposals, repositories, funding accessibility, representation, publishing, research dissemination

Introduction

Over the last two decades, academia has shifted towards making scholarly materials open access. Recent public access mandates passed in the U.S. and Europe now require researchers who have received funding support from public sources or federal agencies to make their work openly available through published research results, data sets, and other relevant scholarly materials (White House Office of Science and Technology Policy [OSTP], 2022; Science Europe, 2021). Scholars are encouraged to make their work accessible through adherence to FAIR principles (findable, accessible, interoperable, and re-usable). Today, these open access resources can be found through many online repositories and databases (Féret et al., 2020). This open access shift is believed to produce benefits like increased public involvement and understanding of scientific research, research that is more reproducible, and reduced barriers related to diversity and access in academia (OSTP, 2022; National Academies of Sciences, Engineering, and Medicine, 2018). Nevertheless, there are gaps in the current open access system, particularly in the types of materials that are made available and how they are organized and published through online repositories.

While grant proposals are central to the work of scholars in nearly all areas of academic and public research communities, they are rarely included in the shift towards open access. Published results from grant-funded projects may be available through online repositories, but successful and unsuccessful grant proposals themselves are not commonly published. Opponents of making these resources open access cite concerns like stolen research and competition from others in their discipline (Brennan, 2012). However, lacking open access to grant proposals has implications for early career researchers, under-resourced institutions, and traditionally marginalized scholars, and may contribute to barriers in funding, research accessibility, and reproducibility; transparency of the funding process; and representation among grant recipients (Hu, 2019; Hunt et al., 2012; Bosman et al., 2020; Freedman et al., 2017; Hawkes, 2012; Lang, 2021).

Even when grant proposals or proposal components (data sets, data management plans, research questions) are made publicly available, they can be difficult to find. Variable and incomplete metadata decreases proposal findability; often, there are no designated search categories to selectively identify grant proposals among other materials. Many repositories lack standards for what information should be included when publishing this type of resource (e.g., funding source, indication of the grant being successful or unsuccessful, which proposal components are included).

These challenges reflect the need to address issues of inaccessibility for grant proposals specifically. As this paper will argue, making successful and unsuccessful grant proposals publicly available benefits researchers and the general public as one step towards addressing inequality in who receives grant funding, creating transparency about the grant review and funding process among diverse stakeholders, and helping the general public understand and find value in scholarly research.

This work supports the goals of the ACRL *Open and Equitable Scholarly Communications* report, particularly in addressing equity issues and solutions in funding distribution, advocating for a broader scope in the type of scholarly content made open access, and creating more effective systems in making grant proposals discoverable. The authors hope to push forward a key goal expressed throughout "Open and Equitable Scholarly Communications": to broaden participation in the access, evaluation, creation, and acknowledgment of academic work (Association of College and Research Libraries, 2019).

Research Questions

This work investigated the current state of open access publishing as it relates to grant proposals, the challenges and benefits to making grant proposal content open access, and gaps in existing repositories that make such resources difficult to find. This paper synthesizes results from one study that functions as a component of a larger Institute of Museum and Library Services (IMLS)-funded project, "Planning for Open Grants," at the University of Florida George A. Smathers Libraries (Ye et al., 2021). This environmental scan includes a comprehensive

literature review and an analysis of selected online repositories containing grant proposals or proposal components.

The authors note this work is necessarily influenced by their respective identities and experiences at the time of writing. Hannah Toombs and Perry Collins are white female librarians. Hannah holds a PhD in the social sciences, with experience in applying for research funding and grants (Fulbright-Hays, NSF). Perry holds a M.L.I.S. and M.A. in the humanities, with experience as both a grant recipient and reviewer, and as a former program officer for a federal funding agency. Hao Ye is a Chinese-American male librarian with a PhD in STEM, with experiences applying for and receiving grants (NSF, NIH, IMLS), and reviewing grants as a selection committee member for the Code for Science & Society Event Fund (2020-2022). Having participated in the grant proposal process from multiple perspectives (as graduate students, independent researchers, reviewers, funders, and now librarians), the authors recognize, and have experienced firsthand, the challenges many applicants face when seeking research funding. Drawing on this experience, a central goal of the broader planning project is to create greater clarity in the grant seeking, review, and funding process by making proposal resources accessible, and working toward a new standard in sharing open grants.

Specific questions pursued in this study and explored in this article include: What is the current state of open access? What are the central challenges in making grant proposals open access? How can increased access to grant proposals contribute to equity and transparency in funding distribution? Which existing repositories contain grant materials? What standards and incentives can be established among grant-seeking and funding stakeholders to improve grant proposal accessibility? This work concludes with perspectives on these questions from various stakeholders in the grant seeking, review, and funding process who participated in a May 2022 in-person convening   on this topic, and suggestions for working towards new standards in grant proposal sharing which contribute to open science.

Methodology
Data for the environmental scan was collected in two phases: (1) a literature review and (2) a repository analysis of existing online databases or resources containing grant proposals and proposal components.

For the literature review, project team members created an initial shared library of relevant sources on open access and grant funding processes through Zotero, followed by a thematic analysis to code and annotate selected sources (Grant & Booth, 2009). Using an inductive approach, each article selected in the study was coded to identify overarching points or significant topics related to open grants (e.g., open scholarship policy and movements, challenges in seeking funding, inequality among funding recipients, etc.), and broad themes were determined based on these codes. The final product was an annotated bibliography, organized into four key topics: the current state of open access publishing, making scholarly materials open access, examples of open access grant proposals, and information on existing repositories.

Phase two of the environmental scan involved analysis of selected online repositories containing grant proposals and proposal components (data sets, statement of the problem, etc.). The researchers intentionally chose repositories representing a wide range of subject areas and scope to determine representation of grant proposal materials across institution-specific repositories, general use repositories, and field-specific repositories. The scan's preliminary scope and potential repositories for review were identified with support from the Planning for Open Grants UF-based project team (https://www.ogrants.org/about.html). Repositories reviewed included Zenodo, Dryad, Figshare, Octopus, Open Science Framework, University of Florida Digital Collections (UFDC), Institute of Museum and Library Services (IMLS), MSU (Montana State University) Dataset Search, Data Management Training (DMT) Clearinghouse, and Europe PubMed Central (PMC). Eight dimensions for analysis were chosen based on overarching project goals (Table 1). These selected measures considered not only the usability of online repositories and discoverability of grant proposals on these platforms, but also their potential to set a standard for proposal sharing and create an accessible, sustainable community for sharing scholarly work.

Table 1. Metrics used in Repository Analysis

Dimension	Definition
Workflows for data ingest	Manual upload, Application Programming Interface (or API, a type of software interface allowing for two or more computer programs to communicate with one another) (Lane 2019), Data sharing
Descriptive and technical metadata standards	Rights and licensing, specific metadata standards
Efforts to engage and sustain user communities	Professional organizations, meetings, events and conferences, communication standards
Roles and responsibilities of the project team	Staff roles and function
Institutional support and financial sustainability	Board members, funding agencies and donors, membership system
Challenges or reasons for obsolescence	Accessibility of site and findability of grant proposals based on search options, under resourced or small project team, limited funding, infrequent data ingest, etc.
Sustainability and archival duration	How long are materials guaranteed to be available for through the online repository?
Public access requirements	Who can use the site to post or access materials, and are there different levels of usership? (i.e. institutional affiliated users, independent researchers, students, etc.?)

Environmental scan results were further explored during a two-day, in-person advisory group meeting in May 2022 at the University of Florida George A. Smathers Libraries. The over 20 participants included members of the "Planning for Open Grants" project team, as well as a group of external advisors, some of whom agreed to participate prior to initiation of the project, and others who applied through an open call (https://www.ogrants.org/call-for-advisors) that was shared across social media and email listservs. Among the group were advisors invited because of their experience or affiliation with specific repositories included in the scan.

The participants included faculty and staff from higher education institutions (R1, R2, and SLACs), librarians, representatives from major funding institutions (US Federal agencies and private foundations), and researchers and educators making use of openly shared grants data. Attendees brought expertise in grant proposal writing, seeking and review, and existing efforts to share grants data, as well as diverse disciplinary perspectives in humanities, social science, and STEM fields. These participants committed to participate in the broader planning project, including subsequent virtual conversations to be held in 2023; however, this meeting was their most substantive contribution and investment of time as they came together in person to document opportunities and challenges across disciplines, professional roles, and institutional types.

The meeting was primarily discussion-based, with topics determined ahead of time by the authors of this article, centering on shared challenges or friction points in dealing with grants (social and technical barriers for individual researchers and organizations), potential solutions to making proposals available (incentives for individual researchers, how funders can facilitate proposal-sharing, shareable components of proposals), useful metadata for making grant proposals more discoverable, and creating research communities and partnerships to facilitate grant proposal writing and sharing. Prior to the meeting, attendees were instructed to bring a laptop computer or other suitable device to participate in collective note-taking. During the meeting, attendees collaborated on scaffolded pages in the Google Docs online application. Participants were separated into groups and instructed to brainstorm and document answers to a pre-posed question assigned to their group. After a specified amount of time, groups "rotated" and were instructed to answer the next question and/or provide elaborating comments to pre-existing answers. After all groups had a chance to answer all questions, the authors facilitated a short sharing and discussion session with all groups combined. As a result of these discussion portions, the authors synthesized several summary themes.

Results: Literature Review

Through a comprehensive literature review of scholarly materials related to open access, repositories, and open grant proposal examples, the authors annotated and coded these materials into four overarching categories through thematic analysis: current state of open access publishing, making scholarly materials (particularly grant proposals) open access, examples of open access grant proposals, and information on existing repositories. Major takeaways are summarized below.

Past & Current Trends in Open Access

In the last few decades, the academic community has shifted towards *open science*. In this article, open science is defined as the free circulation of scientific knowledge through making publications, research data and results open access (Féret et al., 2020). In the early to mid 2000s, online platforms that enabled open science, like institutional repositories, were just beginning to become more commonly used and recognized in the scholarly community. Making scholarly materials open access through these mediums was recognized as a way to break down barriers in scholarly communication, reduce power monopolies held by scholarly journals (Féret et al., 2020), and empower universities and research institutions to showcase the span and quality of their research outputs (Crow, 2002) This recognition of open science value expanded to the public sphere, leading to more widespread standards and legislative mandates for sharing results of publicly funded research.

In the U.S. and Europe, legislation has called for publicly funded research to become open access; in 2012, the UK government accepted recommendations from the Finch report to push for a gold open access approach to publicly funded research (Lynch, 2003; Bosman et al., 2021; Elsevier, 2022; Hawkes, 2012). In the same year, Congress passed the similar Federal Research Public Access Act (FRPAA) in the U.S. (Freedman et al., 2017) Proponents of these changes argue making scholarly publications open access results in greater transparency in use of taxpayer funds for research, improves connections between researchers and businesses, facilitates reproducibility and advancement in research, and increases public awareness and understanding of research (Lang, 2021). However, the shift towards widespread open access has not been as pronounced for other types of scholarly materials, including grant proposals.

Making Scholarly Materials Open Access

It has become common practice, and is now often required by grant funders, that research findings or published research results be made open access, either immediately or after a set embargo period (Bosman et al., 2020). Open access publications can promote transparency in public funding use and increase reproducibility of data and research methodology. While there has been progress in making research outputs publicly available, concerns remain about "quantity vs. quality" and use of open access resources, particularly when it comes to the types of materials made openly available. While the amount of published open research outputs has increased, these outputs are typically limited to formal scholarly publications. In contrast, other materials that do not readily fit the mold of a scholarly publication are infrequently shared but could be useful to researchers building on existing work, designing their methodology, creating a grant budget, or completing another step in their research design process.

The grant proposal itself encapsulates many valuable research components. Sharing data sets, research questions, methodology, and more can contribute to transparency, reproducibility, and rapid dissemination of ideas. Lang (2021) argues:

> grant proposals that meet basic requirements for scientific merit and rigor should be posted online, ideally in a standardized format, in a centralized (or several) database or clearinghouse (p. 1).

Making grant proposals available in this format could result in making research project-centric rather than funding-centric, placing greater emphasis on the value of a research project and its impact rather than just its potential to receive funding. Additionally, open grant proposals can promote more accurate budgets, increase collaboration across the sciences and humanities, and improve citation metrics (Lang, 2021).

Successful and unsuccessful open grant applications also illustrate a more complete picture of research initiatives, showing the life cycle of the project beyond what is found in individual peer-reviewed publications. Grant proposals can also use more accessible language; while formal publications frequently use discipline-specific jargon, grant proposals ideally use clear, concise writing to explain methodology, research questions, and other project dimensions. This can be especially beneficial for increasing transparency in use of public funding and making scholarly research accessible to a broader audience (Brennan, 2012).

Despite these benefits, dissemination of grant proposals and related scholarly materials through open access outlets remains somewhat limited. While platforms like institutional repositories have become more common, this does not necessarily mean all researchers take advantage of them. As Neylon (2008) notes, institutional repositories have not always adapted "onto the social networks of the academic users" and can be "more closely aligned to discipline and possibly geographic boundaries," potentially deterring academics from using them (p. 1). Further, institutional repositories may require users to enter a great deal of descriptive metadata for materials uploaded, requiring additional effort on the part of scholars sharing their work (Neylon, 2008).

These common concerns around open research are amplified where grants are concerned: researchers fear ideas will be stolen or otherwise used without permission by researchers in their field. Horbach et al. (2022) notes that like other forms of scholarship, grant proposals offer a foundation for others' research and should be cited accordingly. Sharing proposals ensures that "due credit is given to initiators of project ideas." Later sections consider how some of these ongoing repository challenges might be addressed through institution-specific open grants resources and databases.

Increasing Diversity and Representation in Grant Funding
A large majority of respondents to the ACRL survey informing the *Open & Equitable* report indicated grant funding "is needed to create compelling research projects and outputs," with 83% ranking "availability of grant or institutional funding for scholars and researchers from a wide range of backgrounds" in their top five ways to meet this need (Association of College and Research Libraries, 2019, p. 61). Of course, availability of funding does not guarantee equitable access to funding for those with limited institutional support such as sponsored research staff, mentorship programs, etc. While providing access to proposals cannot overcome these systemic issues, it can offer grant seekers an opportunity to review examples of successful work as well as a deeper understanding of disparities in who and what are funded. Making grant proposals open access has the potential to create greater representation in who receives

funding, particularly among traditionally marginalized scholars, smaller institutions, and early career researchers.

For students, many opportunities hinge on receiving grant funding, such as access to higher education, education outcomes, and research feasibility (Hu, 2019). Undergraduate and graduate students comprise a large proportion of federal and institutional grant aid received each year: from 2020-2021, the total grant aid received by undergraduate and graduate students in the U.S. amounted to $138.6 billion (College Board, 2021). However, student grants are competitive, and not all students have equal opportunity or institutional support when it comes to grant writing.

Hu (2019) delves into inequities of student grant funding depending on institutional type. Among students who receive highly regarded grants (like the NSF graduate research fellowship), a disproportionate number come from top-ranked universities, which generally are highly resourced and have existing programs and scaffolding in place to support students seeking such research awards. This could include courses focused on grant writing and development, available examples of previously awarded grants in institutional repositories, staff within departments and campus resource centers to offer grant writing support, and the general expectation and encouragement that students should apply for these prestigious awards. This stands in contrast to the far smaller fraction of recipients at community colleges, students in the early years of their graduate program, or scholars at smaller institutions who do not have this same level of access and support; in 2017, 86% of NSF awards went to recipients at R1 universities while only 0.3% went to HBCUs, and none to Indigenous or tribal colleges. Reasons behind this recipient inequality can be difficult to track because grant institutions like NSF do not always release data on applicants and their institutional affiliations, though common explanations include reviewer bias and overall ambiguity of the funding process.

Even when institutions (and university libraries) have available resources related to seeking funding, it is unclear how often students take advantage of these resources, or if they are well-advertised to the university community. In a 2020 study on online guides for educational funding opportunities for students, Lundy and Curran found that in a sample of 38 university library research guides on funding, 17 guides included information on educational funding for students (mixed resources such as scholarship information, university-affiliated grants, etc.), and only one guide contained two distinct funding resources for students (grant-specific resources and guidelines). This lack of grant-specific resources serves as evidence of how ambiguity in the funding process and limited examples of open access grant proposals are a challenge not only for grant-seekers, but also for library faculty and staff trying to create useful resources for the university community (Lundy & Curran, 2020).

Ambiguity in the proposal review process, particularly how recipients are reviewed and selected for funding, is also a major issue, and often results in a lack of diversity among grant recipients. Hunt et al. (2012) argue that while major institutional funders have tried to implement programs addressing these issues, success has been mixed. For instance, the NSF ADVANCE program (Organizational Change for Gender Equity in STEM Academic Professionals) introduced in

2001 focused on increasing gender, racial, and ethnic diversity among NSF award recipients. Yet, since its inception, award recipients of this initiative continue to be primarily white women, demonstrating a lack of consideration for intersectionality. Here, intersectionality is defined as a theoretical framework for understanding how different aspects of an individual's identity, including race, social status, gender, political affiliation, and other dimensions, collectively contribute to experiences of discrimination and privilege; consideration of these intersectional factors among grant applicants is essential to transforming exclusionary practices in seeking research funding within the academic and public spheres (Hunt et al., 2012).

Issues highlighted here point to several key informational and access gaps among grant stakeholders. Individual funding institutions (as seen in the NSF case study) may implement programs and revised proposal review processes to increase representation among recipients, yet when those measures ignore systemic, intersectional inequalities among applicants, the problem persists. Additionally, when "diversity and inclusion" measures are applied at the funding institution level, they do not necessarily translate to improved funding resource access at the university or community level. Applicants may come from under-resourced institutions or non-academic organizations with no existing grant-writing resources or resources to train faculty in teaching these skills. It is important to note that a majority of these historically under-resourced academic institutions in the U.S. include HBCUs and community colleges; limited grant resources at these institutions could perpetuate existing inequalities among funding recipients (Rascoe, 2023; Harris, 2021; Inside Higher Ed, 2019). Further, different funding institutions have variable application requirements, components, and discipline-specific writing styles. This lack of standardization can further complicate the proposal writing and review process.

The literature on inequality among grant recipients indicates that while making successful and unsuccessful proposals open access may not automatically impact equitability in funding distribution, it has the potential to reveal issues more explicitly in inequitable funding access which could in turn be directly addressed by stakeholders involved with the grant funding process.

Summary of Key Findings
These literature review findings reveal two overall gaps in grant seeking, review, and funding processes: First, there is currently no standard for making grant proposals available through existing online repositories. Additionally, not all academic institutions have resources to train faculty and students in grant writing or familiarize them with the application and review process. This creates challenges for small or under-resourced institutions, scholars with traditionally marginalized identities, and early career researchers who begin the grant-seeking process at a disadvantage. Second, ambiguity and lack of standardization in the proposal review and funding process reveals communication and collaboration issues among the many stakeholders involved in grant seeking and funding. This complexity also makes it difficult for librarians and other university personnel to create grant-specific guides and resources to support students and faculty. These challenges became clearer through conversation with stakeholders involved in the grant seeking, review, and funding process.

Results: Stakeholder Perspectives on Shared Challenges in Open Grants

In May 2022, the University of Florida George A. Smathers Libraries hosted an in-person stakeholder meeting of the planning project advisory group. Over 20 participants collaboratively generated notes on topics related to barriers for dealing with grants, sharing grants, incentives, metadata, and more. In discussing shared challenges within their respective positions and institutions, participants' collective work emphasized four overarching issues listed below. Advisory group and project team members were consulted throughout the editing process for this article and encouraged to provide feedback; no participants expressed disagreement with identified themes:

- Fear of sharing grant proposals
- Lack of standardization for proposal sharing
- Variability in legal restrictions or institutional regulations for grant sharing
- Inaccessible open grant repositories or repositories which are not user-friendly

Frequently cited challenges were consistent with ideas discovered in the literature review, particularly social barriers like the ***fear of sharing grant proposals****.* Concerns over "scooping" or stealing of work, vulnerability in making unfunded proposals open access, and fear of competition were mentioned as barriers affecting both individual researchers and funding organizations. Participants also recognized this issue as a potential barrier to diversity and inclusion among grant recipients: when traditionally marginalized scholars, researchers and students from under-resourced institutions, and others are already underrepresented in receiving grant funding, they may be further discouraged from applying for grants or sharing their work if there is a perceived danger of having that work stolen or appropriated. Additionally, as available open grant proposals are already limited, potential applicants may see a lack of representation among grant recipients sharing their work, leading to greater fear of competition (see Appendix 1).

Stakeholders also pointed out a ***lack of clarity and standardization*** in funding agency policies for sharing grant proposals, ***variability in legal restrictions***, and internal variable funding institution structure that create uncertainty among grant recipients and applicants who want to share their proposals online. For instance, institution-specific regulations related to copyright, Freedom of Information Act (FOIA) policy, or concerns over potential IRB and HIPAA violations could discourage researchers from sharing unfunded and funded proposals online (see Appendix 1). Participating stakeholders from funding institutions acknowledged that there is often no consistent or standardized process for top-down decision-making regarding grant sharing at their respective agencies; when there is no standard or norm for making grant materials openly available at individual funding institutions, it is difficult for staff to know best practices or guidelines for sharing proposals.

Participants also commented on the general ***inaccessibility of existing open grants repositories*** that makes it difficult to find proposals even where they are available. Variability in descriptive metadata and citation metrics for proposals can make them difficult to find through

online repositories, particularly if different components of the proposal (i.e., project summaries, budget, etc.) are separated. Further, among funding institutions which publish proposal examples on their own websites, there may be limited support for improvements (e.g. UX/UI research, site updates) to facilitate proposal discoverability.

These common challenges cited by stakeholders became clearer through analysis of existing online repositories where grant proposals or proposal components are published.

Results: Repository Analysis

Repositories analyzed included Figshare, Zenodo, Octopus, Dryad, Open Science Framework, the University of Florida Digital Collections, the IMLS, MSU Data Set Search (Montana State University), the Data Management Training (DMT) Clearinghouse, and Europe PubMed Central. While this list of online repositories is far from exhaustive, it spans a variety of repository types, including institution-specific resources, publicly accessible repositories, government repositories, and newly emerging repository platforms.

Repositories were evaluated based on eight dimensions (Table 1):

- Workflows for data ingest
- Descriptive and technical metadata standards
- Efforts to engage and sustain user communities
- Roles and responsibilities of the project team
- Institutional support and financial sustainability
- Challenges or reasons for obsolescence
- Sustainability and archival duration
- Public access requirements

In this section, results from two examples (Figshare, a general use repository, and MSU Dataset Search, an institution-specific repository) are shared to demonstrate strengths and shortcomings related to grant proposal accessibility and findability within existing repositories. Results from all ten analyzed repositories are available.

Figshare

Figshare is a general use repository where users can upload and share research results, data sets, and other research outputs in open, citable, and shareable formats. It is free to join and use by any interested researchers. Each metric for analysis of this repository is described below, followed by a description of overall accessibility.

Table 2. Repository Analysis for Figshare

Dimension	Analysis

Workflows for data ingest	● The first version of Figshare's Application Programming Interface (API) included a basic implementation allowing users to manage accounts and build applications on top of the Figshare platform ● Later developments included resumable downloads of scholarly materials on the site, advanced search features, and other add-ons ● The current Figshare API has capability for sending parameters, resource representations, authentication, errors, searching, filtering and pagination, rate limiting, conditional requests, Cross-origin resource sharing (CORS) policy, endpoints, collections, items, and projects.
Descriptive and technical metadata standards	● 20GB of storage to upload individual files ● Required descriptive metadata includes title, authors (including optional ORCID ID), category of file type or resource type (users can select more than one option), keywords, item type, description, funding information ● For institutional users, resource title and Digital Object Identifier (DOI) can be selected ● License type can be selected to determine reuse permissions ● Users choose how much or how little descriptive metadata to share

Efforts to engage and sustain user communities	● Blog with relevant opinion pieces, updates on issues related to open access, API, etc. ● Social media (Facebook, Twitter, Vimeo) ● In-person events like "Figshare fest," an annual conference for institutional clients, with presentations and discussions about Figshare functions, open access, and related research ● "Ambassador" program: Figshare Ambassadors organize Figshare demos and presentations, lead training sessions at their own institutions, blog, host AMAs, participate in case study interviews, collect institution-specific data to be used by Figshare to develop new features, and receive user benefits (extra storage, slack channel, training course certificate, profile badge designating ambassador status)
Roles and responsibilities of the project team	● Coders, product designers and managers, engineers, several librarians with open access experience, outreach staff
Institutional support and financial sustainability	● Operated by Figshare LLP, part of Digital Science (a UK tech company) ● Funded by US Dept. Of Homeland Security, Wellcome, National Heart Lung and Blood Institute, National Institutes of Health.

Challenges or reasons for obsolescence	● Effective for research sharing ● Keep users informed on best practices in open access ● Shortcomings in grant proposal access: Users control what information about their upload is shared ● Findability varies based on metadata added by users; inconsistency could make grant proposals more difficult to find ● No specific category or item type within Figshare settings for "grants", "proposals", etc.
Sustainability and archival duration	● Figshare public research data enter Amazon Web Services S3 storage ● Also deposited into Chronopolis (digital preservation service run through UC San Diego)
Public access requirements	● Free to use through online account, but caters to the academic community ● Works with publishers, institutions, corporations, labs, and governments ● Users can choose to make data "private" based in their settings ● Works with other organizations to allow them to harvest content from Figshare for their own sites (ORCID, GitHub, GitLab, Bitbucket, RSpace, Binder, and OSF) ● Mark all uploaded content to be identifiable by Google, Google Scholar, and Google Dataset Search

Figshare Accessibility Summary

Figshare allows users to browse content based on subject matter, which can then be filtered based on category, content type, date, license, item type and source. Among the filter criteria for item type, there is no option for grants or grant proposals. However, entering specific keywords based on funding agency will produce results that list which institution funded the published research or related data set (for instance, published theses including information on the research grant which funded the work). These results generally do not include the grant proposal itself.

Funded grant proposals are available on Figshare, but can be difficult to find: for instance, several NSF grant proposals (including student proposals) can be found when searching "NSF" under the "online resource" category. Searching "funded grant" as a keyword under this category also brings up both funded and unfunded grant proposal examples from a variety of institutions and topical areas. Figshare also has a site guide discussing the importance of publishing funded and unfunded grant proposals on the repository (Gawne et al., 2021).

MSU Dataset Search

In contrast to Figshare, MSU Dataset Search is an institution-specific repository hosted by Montana State University. MSU Dataset Search is an index for academic research data, intended to increase discovery, reuse, and citation of open research data. It is an open source, library-built system. Dataset Search is part of the Data Discovery Collaboration Project. Data sets deposited in the repository can be searched by keyword, creator and title, and individual uploads can include topical categories and DOI.

Table 3. Repository Analysis for MSU Dataset Search

Dimension	Definition
Workflows for data ingest	● API: MSU Dataset Search adds unique descriptive metadata for individual datasets, determined through topic mining of scholarly profile sources (ORCID, Google Scholar profiles, etc.)
Descriptive and technical metadata standards	● Descriptive metadata for materials uploaded include: DOI, keywords, categories, title, creators. Metadata varies based on data set location (some materials hosted by third party repositories, uploaded in different formats)

Efforts to engage and sustain user communities	● Primary user community are MSU library users. ● Database users communicate with librarians through the site and social media channels (Facebook, Twitter, Instagram)
Roles and responsibilities of the project team	● MSU faculty and staff, data librarians, research informatics specialists, metadata specialists, research assistants
Institutional support and financial sustainability	● Receives funding through IMLS, NIH, and MSU
Challenges or reasons for obsolescence	● Scholarly materials limited to MSU researchers or MSU affiliated research, meaning results are limited. Access to some materials is limited to MSU faculty and students. ● Finding grant materials specifically is based on descriptive metadata, which does not always include funding information. Quantity of material is limited (less than 200 contributors and less than 50 datasets currently available on database)
Sustainability and archival duration	● Data sets shared on the site are also part of third-party repositories, stored in multiple settings,
Public access requirements	● Users able to share datasets are creators affiliated with Montana State University, though the general public can access open datasets uploaded to the site without university affiliation

MSU Dataset Search Accessibility Summary
As an institution-specific repository, scholarly materials on the site are limited to research outputs affiliated with MSU researchers or projects. In the context of the "Planning for Open Grants" project, institution-specific repositories such as this serve as a useful test case to illuminate benefits and challenges that come with developing an open grants repository. For instance, a major benefit of an institution-specific repository is its potential for supporting students and early career faculty at MSU, particularly as a library resource. With samples for data sets, problem statements, hypotheses, and other components available through the repository, users have a model to support their understanding of the grant writing process. MSU Dataset search contains datasets contributed by researchers at the institution and indexes data from MSU researchers housed in third-party repositories (Mannheimer et al. 2018). This

indexing strategy could serve as a strategy for overcoming researcher reluctance for contributing to institutional repositories.

However, there are some limitations to this resource. As an institution-specific repository, available materials are primarily research outputs from projects conducted by MSU researchers, which may limit the scope of content housed in this repository. As of April 2023, MSU Dataset Search houses 197 datasets, and has slightly over 300 contributors at MSU. For context, MSU is the largest research university in the state, with over 14,000 undergraduate students and nearly 900 faculty members (MSU Dataset Search, 2023). While a number of different departments have materials housed in the repository, some fields are underrepresented. Currently, Ecology, Land Resource and Environmental Sciences, and MSU research centers comprise a majority of datasets in the repository. Impact is often a key motivation for researchers to widely share materials, and so a more limited repository may be less appealing as a sharing platform compared to a well-known, general-use repository. Variability in descriptive metadata may also be a limiting factor in discovering grant proposals on the site. While there is a complete list of keywords (an alphabetized list of broad subject terms like "land use," "wikidata," "forests," etc.) available to search, information on specific funding agencies and other grant-specific metadata is not present for some materials.

Additional Repository Observations

While specific results from Figshare and MSU Dataset Search are outlined here, it is worth noting several general observations across other repositories analyzed in this study. Among general use repositories analyzed (Figshare, Zenodo, Dryad, Open Science Framework), Figshare appeared to have the most grant-specific materials uploaded, and this content was most discoverable through this platform. While the other general-use repositories did house some proposal materials (most notably datasets), these materials were often difficult to find, as no specific, descriptive metadata existed for these resources, and it was rare that complete proposals or multiple proposal components were present. Across all repositories analyzed, keyword searches and existing categories to filter search results did not include a "grants" or "grant proposal" option; Dryad allows users to filter by "funder," but current content on the site appears to be limited to primarily STEM fields when using this search strategy.

Among institution and discipline-specific repositories (IMLS, UFDC, Europe PMC, DMT Clearinghouse, MSU Dataset Search, Octopus), the primary limitation is that contributors to these platforms represent projects or grants funded through these individual institutions (e.g., MSU and UF researchers, for their respective institutional repositories). Other smaller repositories are intended for sharing specifically smaller proposal or publication components, or specific pieces of broader research outputs. For example, Octopus is meant to be an alternative to journals or papers as a primary research record, namely, to remove high prices for academic publications and the time it takes to publish and share work (Octopus, 2022). While this certainly contributes to greater accessibility of research outputs, it again indicates the broader limitations in how larger funding institutions and academic spaces make grant proposals and scholarly materials available to researchers outside their institutions and to the general public.

Summary of Key Findings

The repository analysis results revealed several shortcomings in grant proposal availability and accessibility. First, there appears to be an overall lack of standard or consistency when it comes to sharing funded and unfunded grant proposals through these online platforms, and inconsistent metadata for these materials which make them difficult to find even where they are available. While several larger repositories like Figshare, Dryad and Zenodo did feature some proposals or components of proposals, availability of this content varied widely across these repositories. When components of proposals were available (e.g., data sets, data management plans, project abstracts, etc.), they were not linked to other components of the proposal or labeled under a "grant" or "proposal" category within the descriptive metadata. These results support key challenges identified by stakeholders during the in-person meeting, particularly the lack of standard or precedent for proposal sharing, and variability in metadata.

Analysis of Stakeholder Perspectives: Solutions

Given the many challenges in making grant proposals open access, what are some actionable next steps in working towards a new standard in open grants? How can grant proposal examples become more accessible to those seeking funding, and how might traditionally underrepresented applicants access such funding opportunities? How can stakeholders involved in the funding process, including applicants, universities, repository personnel, and funding institutions better collaborate to address these disparities? During the May 2022 stakeholder meeting, participants sought to answer these questions. Participants discussed potential solutions to the shared challenges they had identified, particularly how they might work towards building community and contributing to greater representation and mutual benefits among funders, grant applicants, and recipients through their respective roles in working towards open grants.

When reflecting on potential benefits of having all grant proposals openly available, common ideas emerged among stakeholders in relation to ***creating communities of grant resource-sharing***, or establishing collaborative, open strategies for setting social norms or standards of grant proposal-sharing. Stakeholders discussed how individual researchers, funders, repositories, and other institutions might individually support such initiatives.

Stakeholders suggested funders might contribute by ***publishing previously funded or unfunded proposal examples on their websites***, communicating with other funding institutions to ***create proposal templates*** or common outlines for proposals, and creating ***incentives*** or requirements for students and other researchers to make their proposals open access. To more directly address disparities in who receives funding, funders can collaborate with universities or other research institutions to analyze common issues found in unfunded vs. funded proposals to offer more specific guidelines in proposal design that can be shared on funder websites, incorporated into LibGuides or other institutional resources, and shared with potential applicants. Individual funders can also conduct research to determine which applicants may be at a disadvantage or underrepresented in receiving particular grants. Such analyses might also allow funders to ***compile potential projects to redirect towards funding opportunities at other organizations*** or donors that may better fit the project scope and goals.

Among universities or research institutions where students and others are applying for grants, individual academic departments can offer incentives to students for sharing their proposals, such as including proposals as publications on CVs, fulfilling a department-specific **professional development requirement**, or **contributing to citation metrics** for researchers' work. Additionally, universities and libraries can work towards the creation of **grant-writing resources or courses for proposal design** which also incorporate these incentives. Courses might also involve **using proposal examples in "best practice" workshops** through teaching and outreach opportunities with potential grant applicants.

Repository and database personnel can also play a role by **creating knowledge graphs and running analytics to better understand grant proposal trends over time**, and ultimately demonstrating the value of particular grants or types of publicly funded research on a larger scale. In line with creating a common template or standard for particular grants, repositories could collaborate in establishing common metadata. Where possible, repositories might consider hiring specific staff members to focus on implementing these new standards to facilitate discoverability of grant resources. Additional stakeholder perspectives related to these themes can be found in Appendix 2.

Conclusions and Next Steps

This paper has made a case for the potential value of making successful and unsuccessful grant proposals open access through online repositories. Environmental scan results suggest that making proposals more widely available has the potential to increase funding access and transparency at smaller, under-resourced research institutions and communities, while also bringing attention to persisting gaps in representation among grant recipients. These results, combined with perspectives brought forward during the advisory group meeting, offer a clearer picture of current issues in funding accessibility and several concrete ideas or next steps in terms of how diverse stakeholders can directly address these challenges by creating communities of grant-resource sharing within and beyond their respective institutions.

Both the environmental scan and perspectives expressed during the advisory group meeting revealed that while existing repositories (both general-use and institution-specific) may feature grant proposals or materials from grant proposals, these resources are limited and lack standardization. Issues like variability in metadata across repositories (e.g., categorical search terms, user accessibility), variable technical and legal standards across funding institutions, and overall lack of precedent in terms of making grant proposals available on repositories as a resource, limit findability of this scholarly material. Further, social barriers to proposal sharing, such as fear of "scooping," and privacy and copyright concerns related to sharing grant proposals, complicate existing challenges in open grants.

To address these issues, the researchers propose stakeholders involved in the grant seeking, review, and funding process work towards the creation of grant-resource communities aimed at facilitating more open, accessible, standardized resources for those seeking grant proposal access and support within and beyond the academic space. Diverse stakeholders can

collaborate in an effort to establish incentives for making proposals open access at their respective institutions, establish consistent proposal writing and sharing standards, create more consistent or organized descriptive metadata for accessing grants through online repositories, and offer educational resources for grant applicants to work towards a new standard of grant proposal sharing across the open science community. Moving towards this new precedent in open grants has the potential to break down barriers between the academic and public spheres, and ultimately push for greater equality and accessibility within the scholarly publishing world.

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Appendices

Appendix 1. Shared challenges and concerns in making grant proposals open access among stakeholders

Discussion Question	Common Challenges
What are social barriers preventing individual researchers from sharing grant proposals?	● ***Time and effort:*** Time lost in grant writing that could be used for research ● ***Competition:*** R1s receiving disproportionate funding awards, self-preservation and in-discipline "rivals"; lack of equity and accountability, fear of getting "scooped" ● ***Fear of sharing:*** Lack of experience or resources (fear of judgement / embarrassment, reputation damage, lack of clarity on research ownership, fear of project failure or "not keeping promises" made in proposals) ● ***Diversity and inclusion:*** Lacking representation among funding recipients and reviewers, hesitance among marginalized scholars to share work beyond their community

What are legal and technical barriers preventing individual researchers from sharing grant proposals?	● ***Lack of Clarity or Precedent for sharing policies across funding institutions:*** Institutional and geographic variability in legal restrictions for funders and grant sharing, copyright and intellectual property restrictions, variability in FOIA policy among funded vs. unfunded proposals, potential compliance violations (IRB, HIPAA, etc.) ● ***Uncertainty on where to share proposals***: Lack of existing platforms to share research/proposals, subject-based repositories vs. general-use repositories vs. institutional repositories ● ***Frequently changing funder policy and internal structure:*** Power dynamics related to proposal-sharing (students and PI or advisors, difficult to navigate sharing process), lack of top-down decision making on sharing guidelines at funding institutions
What are social barriers preventing organizations from sharing grant proposals?	● ***Security & Privacy Issues:*** Fear of plagiarism or "scooping", perception of proposals as "intellectual property" with market value, loss of "exclusivity" or ability to share "insider knowledge" with peer funders, fear of sharing proposals which demonstrate "weaknesses" of funding institutions; fear of sharing budgetary information ● ***Lack of Standard for Grant Proposal Sharing:*** Message of open access not coming from top tiers of leadership; not knowing what is important or relevant to share

	● **_Legal & Copyright Issues_:** Fear of lawsuits or legal action after sharing unfunded proposals, differences in state laws related to privacy, legal barriers to sharing budgetary information
What are the legal and technical barriers preventing organizations from sharing grant proposals?	● **_User Accessibility & Website Organization:_** Funder institution or repository website requires personnel to update and organize site or work on UX/UI research, Proposal components need to be linked on site, Standardization of metadata and citation metrics

Appendix 2. Stakeholder Perspectives on Potential Solutions & Benefits in making Grant Proposals Open Access

Discussion Question	Shared Perspectives
What incentives would encourage individual researchers to share grant proposals?	● **_Professional Development:_** Making proposals open access can contribute to service and publication components of tenure package, openly available proposals may be cited as publications on CV or resume, students or co-PIs can list open grants as publications
	● **_Citation Metrics:_** Having a record of who has viewed a proposal or number of views, DOI for published grant proposals, Incentives for sharing proposals on particular repositories
	● **_Collaboration and Research Sustainability:_** Potential to reach future project collaborators by sharing proposals on repositories, Potential to reach students interested in research area or future collaboration, Opportunity to receive public comment on proposals or work

What might funders do to facilitate wider access to grant proposals, and what structure already exists to build upon?	● ***Standardization:*** Funding institutions can agree on common or shared metadata for grant proposal sharing (i.e. search function to identify grant field, geographic location, etc.), Centralized structure for data use and sharing policies to prevent issues in "scooping", Create common template or format for proposals, Incorporate grant proposals into existing result-sharing requirements, Create Beta test for several agencies to test common metadata and sharing standards, Specific role or position within institutions for organizing these repositories and resources ● ***Education & Grant Writing Skills:*** Make discipline-specific proposals available on organization sites for potential applicants to search, Incentives or requirements for students to share grant proposals funded by particular institutions, ORCID ID shared with proposals to create potential for collaboration and research discoverability
What might disciplinary or subject-based communities do to facilitate access to proposals, and what infrastructure exists to build upon?	● ***Incentives and Encouragement for Sharing:*** Making it a community "norm" to share proposals, Seek institutional funding and support around grant proposal sharing, Encourage professional societies and listservs to circulate interesting or successful proposals, Awards for exemplary proposals ● ***Education & Grant Writing Skills:*** Creation of discipline-specific repositories or sharing networks, Creating knowledge or education resources on privacy, copyright and "scooping," Development of grant writing courses and programming within departments or fields of study

When it is not possible to share all components of a grant proposal, what individual components should we prioritize and how should they be shared?	● ***Most commonly suggested components to share:*** Data management plans, Broader impacts or "lessons learned", Anonymized budget plans, Peer review samples, All sections possible which are linked to each other on repositories

Annotated Bibliography

Brennan (2012): [“Let the Grant Do the Talking”](#)
Brennan argues for the value of sharing grant proposals in terms of providing other scholars and the general public with a more complete explanation of particular research projects. As she argues, funded grant proposals are technically “peer-reviewed publications” and are as important to make accessible as more formal articles. Brennan identifies several benefits of grant proposals that make them particularly accessible materials: they often do not use as much jargon as formal publications, they explicitly describe research methodologies, and they situate specific projects within the broader literature on a topic, providing some degree of background information. Overall, grants can also add to an overall picture or “the life” of a specific project, providing information on deliverables and future research that can then be used to evaluate the efficacy of a research initiative, or build on that initiative, in the future. In relation to the current project, this piece provides a strong argument for the value of making grant proposals open and accessible in a way that can benefit the entire research community and open opportunities for project advancement.

Herbert et al. (2013): [“On the time spent preparing grant proposals: An observational study of Australian researchers”](#)
Herbert et al. Investigate the average time researchers spend preparing grant proposals and whether or not more time spent in preparing has an effect on those proposals being funded. Study participants included researchers who submitted one or more National Health and Medical Research Council (NHMRC) grants in March of 2012. The study team reached out to principal investigators of 3,727 proposals to participate in an online survey asking researchers to consider the amount of time they spent preparing proposals. Through a logistic regression of collected data, it was found that researchers spent an estimated 550 working years preparing proposals, and this significant time commitment did not increase the likelihood those proposals would be funded. A majority of research participants understood the peer review process to be unrealistic, and generally felt that they would prefer to spend far more time on research than preparing the proposals themselves. Given these findings, the study team argues that grant proposals could be shortened to request less information from applicants, changing eligibility rules, and including information only relevant to peer review. In relation to the current project, making grant proposals open access could also be an effective strategy for minimizing time spent writing proposals, and it could lead to stronger proposals submitted overall which build on existing research.

Lang (2021): [“For Open Grant Proposals”](#)
In this blog post, Lang argues for the value of making research grants open access, a process which he argues benefits both individual scientists and the broader scientific community. Lang describes the general desire in the scientific community for research to move more quickly, yet there is a disconnect between formal progress in science and the emergence of informal tools (such as repositories) developed outside the realm of academia. Lang argues that the academic community should be taking advantage of such tools to make materials, in particular grants, open access to facilitate the more rapid sharing of data. Lang discusses his involvement with

Experiment, a program helping scientists launch crowdfunding campaigns for their research; all grant proposals funded through the program are openly available on the site. Based on the platform's success, Lang proposes a series of benefits in making other grant proposals open access through online repositories: open grants make research funding project-centric rather than funder-centric, open proposals promote accurate budgets and reflect greater transparency in use of funds, open proposals facilitate collaboration by allowing scientists to find potential collaborators, they improve citation metrics, and they overall provide a more full view of the scientific process by including unsuccessful grant proposals and null results.

Lundy and Curran (2020): ["Desperately seeking funding: library guides to student funding"](#)
While academic libraries are frequently sources of support for university students seeking funding resources from education costs to financial literacy, the authors argue that these services are not particularly evident in existing library literature. Through a literature review focused specifically on online library research guides, Lundy and Curran evaluate the prevalence of library guides to educational funding opportunities, the size and type of institutions at which library funding guides exist, and the content of library funding guides. In a sample of 38 online funding guides hosted by members of the Orbis Cascade Alliance, the authors found 17 guides specifically related to funding for educational opportunities, with only one of them maintaining two distinct funding-related guides for students. The funding sources included information concerning scholarships and fellowships, grants, funded internships and sponsored opportunities. While some type of funding resource existed at all of the institutions in the sample, the authors state it's unclear if and how often students find and use the guides, in part because they are difficult to find on the online guides. Issues like inconsistent titling and labeling make these resources more inaccessible. The authors often acknowledge that library personnel may not always have faculty or staff that are familiar with the specific funding sources or grants that students most often use. To conclude, the authors argue that more careful consideration of online library funding guides is necessary to contribute to students' success in accessing research funding. As the authors argue, better guide design has the potential to "demystify a complex topic that directly impacts students' ability to participate in higher education."

Stenglin and Cléirigh (2020): ["Scientific grant application writing: Re/packaging text to enhance its impact"](#)
The authors take a linguistic analytical approach to understanding how the types of language used in high-stakes grant proposals affect the probability of being funded. Stenglin and Cléirigh propose a "Theme+Rheme and Give+New" textual pattern analysis. Theme refers to the point of departure for a clause, a foundation for what is to be set a particular statement; the remaining message is the Rheme. Given refers to information in the proposal that is 'recoverable' (such as background or existing information), while New refers to what is 'newsworthy,' or literally the core pieces of a grant proposal that are proposing a new or important area of study to be undertaken. Through interviews with grant writers and senior management at grant institutions and a 3-year text analysis of 18 grants, the researchers found that the "Give+New" dimension, or the intentional phrasing of grant sections, had a significant impact on the strength of the proposal. Intentional language allowed factors like study feasibility, project team credentials, and the innovation of the proposed study to stand out. The authors present this analysis as

evidence of an existing "typology" for grant proposals and how scholars or students could be trained to write such grants more effectively.

Woolston (2015): ["What would happen if grant reviews were made public?"](#)
Woolston discusses the emerging conversation of making grant proposals open access. According to his report, a PLoS Biology piece published by Daniel Mietchen sparked a debate on social media regarding the positives and negatives to a more open sciences approach. Mietchen argued that successful proposals and their reviews should always be released to the public. Proponents believe this open access measure could help researchers build on one another's work and discover potential collaborators. Opponents argue that while they enjoy the idea of open access, past experience has shown that their research has been used by others without permission or they have otherwise been taken advantage of by other researchers within their field. These opposing sides provide important insight into the central arguments surrounding advantages and disadvantages of making grant proposals open access.

Funder Analysis

Funders have broad latitude to circulate information about their awards, often extending to requirements regarding open access to publications and other grant deliverables. An analysis of seven funders—the Institute of Museum and Library Services, United States Department of Agriculture, National Endowment for the Humanities, National Science Foundation, Wellcome Trust, Sloan Foundation, and Council on Library and Information Resources—offered a starting point for understanding if and how proposals are currently made available.

Award databases and data

Of the funders reviewed, all had a database representing at least a portion of their awards. Where a database was in place, all included at minimum basic metadata (e.g., award amount, timespan, PI, awardee institution, etc.) and a short abstract. The only funder in this analysis that included full proposals for any awards directly through their awards database was IMLS, for select programs in the Division of Library Services (excluding components with potential IP or privacy issues such as budgets and appendices). However, some funders make available more substantive information; USDA's CRIS database includes much longer project overviews as well as progress reports, while NEH shares project white papers for some programs.

Availability of structured data varies. Of this small sample, the federal funders were somewhat more likely to make available data for download (e.g., CSV-formatted metadata) directly through the database interface. Agencies also frequently contributed datasets with relevant award metadata to Data.gov (see, for instance, results for the National Science Foundation) or provided API access. However, foundations are certainly engaged in developing and sharing datasets; of these funders, the Wellcome Trust made data most readily available, relying on the 360Giving standard. Future work on Planning for Open Grants should identify in more detail current access points for grants metadata that might also facilitate sharing of additional proposal materials.

Sample proposals

Nearly all the funders evaluated made available at least a small number of proposals outside of a database, typically linked as lists on various web pages. While many of these samples have been online for multiple years, it is clear funders' primary goal is not to provide persistent long-term access, but rather to offer materials relevant to current funding opportunities.

This is demonstrated, for instance, by CLIR's Hidden Collections program. In a version of the program website archived in 2019, a number of full proposals are available. However, in a version of the site archived in September 2023, these proposals are no longer available and have been replaced by samples of specific components required by the program guidelines. This doesn't indicate anything nefarious or CLIR's unwillingness to remain transparent; in fact, the 2023 page takes pains to explain that the samples made available were extracted from previously available proposals and shared because they aligned with a more recent version of the program guidelines. Given that the use case for a "sample proposal" is typically to

demonstrate high-quality work useful to potential applicants, it may be useful to differentiate between such examples and broader databases of full proposals that may serve numerous other use cases.

There is some evidence that sharing proposals is sometimes at the discretion of specific programs or program staff within funding organizations. For instance, for just [two grant programs](#) the Wellcome Trust has made available both successful and unsuccessful proposals, as well as program officer notes on funding rationale.

FOIA and policy issues

Funder policies and in some cases legislation may facilitate wider access to grant proposals, though the extent to which these have made an impact so far, or offer potential to scale up sharing, remains unclear. Two topics of particular importance are the role of grant or fellowship terms and conditions as well as—for the federal U.S. agencies—the Freedom of Information Act (FOIA).

As noted above, IMLS systematically shares proposals for some programs. This aligns with the [terms and conditions grantees are bound to follow](#), which include the following text:

IMLS may share grant applications, grant products, and performance and other reports with grantees, potential grantees, and the general public to further the mission of the agency and the development of museum and library services. These materials may be disseminated in a variety of ways and formats, including online.

Of other funders reviewed, where terms and conditions reference scholarly sharing, they typically focus on access to deliverables and publications, or the funder's ability to circulate copyrighted material developed during the grant. This doesn't necessarily exclude the application itself, but more explicit information in award documents might help facilitate sharing at scale, without communicating further with individual grantees.

Relatedly, FOIA is a mechanism for federal funders to make available proposals, though evidence suggests that it has not resulted in large numbers of proposals being made publicly available beyond the requestor. Some agencies have included sample proposals in their FOIA libraries, while others do not; however, [annual FOIA logs](#) suggest that agencies such as NSF frequently manage requests for applications. NSF explicitly notes how such requests are handled:

> Requests for copies of funded grants, other award documents, contracts, etc. require the FOIA Officer to notify the submitter institution and/or the Principal Investigator (PI) to allow for review for any confidential/proprietary business information which may be contained in the record. When this procedure is required the response for records may take longer than 20 working days.

Overall, it is clear that a varied group of funders—at least funders working at a national or international level—have taken major steps toward sharing award data. In general, steps toward sharing full proposals have been more haphazard, possibly constrained by technical resources, concern about legal and ethical issues such as privacy and copyright, and other issues.

Stakeholder Interviews & Analysis

Below is a preprint manuscript based on a series of qualitative interviews completed with stakeholders in Fall 2022 and authored by the project's former graduate fellow, Natalia Uribe Castañeda, and co-PIs Ye and Collins.

Introduction

The White House Office of Science and Technology Policy recently announced 2023 as the Year of Open Science, a milestone in efforts to retool research to be more open and transparent (The White House, 2023). A key component of this initiative is new policy guidance to "make publications and their supporting data resulting from federally funded research publicly accessible without an embargo on their free and public release (White House Office of Science and Technology Policy, 2022). Such a policy has long been advocated by US researchers (SPARC, 2022), expands on the existing NIH Public Access Policy [REF], and is in line with concurrent policy in the European Union (cOAlition S, 2020).

However, one area where open practice and transparency is not yet the norm is in the sharing of research proposals, in the form of grant or fellowship applications. There have been calls for broader support for sharing grant proposals openly (Lang, 2021; Horbach et al., 2022), and some funders (e.g., the Institute of Museum and Library Services (IMLS), a federal agency) regularly engage in sharing the full proposals for many of their funded projects. However, in general sharing of research proposals typically occurs on an ad hoc basis, especially for unfunded proposals.

Why is this the case? Research proposals are unique in many ways relative to other research outputs, such as datasets, code, or publications. For example, the language used in research proposals to describe the proposed work is different in several ways from that of publications that describe the completed work: often proposals contain more accessible language (perhaps inherent to the goal of communicating to a more general audience rather than sharing results with a specific disciplinary field or subfield). Alongside the narrative, research proposals usually contain detailed ancillary components such as project work plans, budgets, data management plans, and more.

These unique qualities of the contents of research proposals also extend to the benefits and barriers for sharing them openly. As part of an advisory group meeting led by several of the co-authors here, stakeholders from across the research ecosystem discussed some of these issues (Toombs et al., 2024). These include concerns about scooping and exclusivity, especially for research proposals that are unfunded, and which may be revised for submission to subsequent calls; a lack of precedent in sharing research proposals; and anxiety over the potential for sharing sensitive or private information.

This paper expands on this dialogue across actors in the research ecosystem and continues the work of the IMLS-funded project "Planning for Open Grants" at the University of Florida George A. Smathers Libraries. This grant award includes multiple deliverables, including a report on the

state of the field and ongoing work, technical documentation, and recommendations for ethically developing infrastructure and communities of practice around open access to proposals.

Here, we present the results of one component of this work, an overview and analysis of 15 interviews with individuals working across the research and funding landscape in the United States. Stakeholders shared their perspectives on the value of sharing research proposals, as well as their perceptions of the challenges. Our goal was to better understand experts' perceptions of sharing, how grant repositories may establish proposals as scholarly documents, and how corpora of proposals may be used as both reference examples and research objects in and of themselves.

Methods

We developed a semi-structured interview instrument to identify a series of core issues. These included the role of grants and proposals across academic institutions, current mechanisms for sharing and accessing grants, incentives and disincentives for sharing proposals openly, and the potential uses of an open grants repository. Together, these questions were developed to gather information on a range of relevant areas, covering the technical ways in which proposals are described and discovered, as well as social and logistical considerations that may encourage or hamper sharing:

- Possible uses for grant proposals
- Key metadata information
- Grant proposal components to share or restrict sharing
- Ethical considerations in sharing grant proposals
- Current practices in sharing grant proposals
- Current practices in finding grant proposals
- Mechanisms for acknowledging effort on grant proposals

The interview consisted of eight core questions:

1. How would you articulate your role in the grants process, including specific activities that you undertake?
2. When accessing a sample proposal or reviewing a submitted proposal for potential funding, what kinds of information do you consider most useful or key to understanding the project plan?
3. What uses can you envision for a grants repository, including access to hundreds or thousands of proposals from multiple sources?
4. Do you or your organization (e.g., university, funding agency) currently share funded or unfunded proposals? If so, how do you make these available?
5. Are there any components of a typical proposal that you do not share or would not share? Does the ability to share depend on permission from grantees or co-authors?
6. For grant seekers, do you access sample proposals? How do you go about locating or accessing these documents?

7. For grant seekers, how do you or your organization value grant proposals as documents/outputs independent of the associated proposed research or success of funding? How and to what extent do you receive individual professional recognition for writing or receiving grant awards?
8. How do proposals compare with other professional or research outputs such as articles, books, datasets, digital projects, or websites, etc.? What information might proposals contain that would not be available in other materials, and vice versa?

Some interviewees deviated from these questions, which opened the opportunity for follow-up questions and elicited information beyond the scope of the predetermined core issues.

Data collection
The data for this study was collected through interviews conducted via videoconference with 15 stakeholders involved in grant-seeking endeavors from various fields. The selected stakeholders represented different roles within the grant-seeking process, including grants analysts, grants facilitators, postdoctoral fellows, program officers, research administrators, and researchers in disciplines in STEM, the humanities, and social sciences including biology, literature, sociology, and ecology. Interviewees were invited based on their known interest in the topic and were likely to have deeper knowledge of the grant application and management process, as well as more enthusiasm for sharing proposals, than these groups overall.

While each interviewee is referenced according to a single role for purposes of attribution, these labels do not fully encapsulate the multiple roles individuals currently hold or have held over time. By including stakeholders from diverse backgrounds and roles, the study aimed to gather comprehensive insights into grant-seeking experiences and perspectives across multiple disciplines. The major personnel roles covered in the interviews included those:

1. Applying for grants or fellowships directly.
2. Identifying funding opportunities and working with researchers and faculty in applying for grant proposals.
3. Advising graduate students on fellowship or grant submissions.
4. Playing leadership and mentorship roles in communicating about the grants process within defined research areas.

All interviewees were based in the US, and all interviews were conducted in English. Funding norms and policies vary dramatically across geographies, and a US focus was determined as one starting point for understanding the funding landscape in a particular context. This focus also supported feasibility, given the extent of research ethics review to gain approval for international participation and the already broad scope of the Planning for Open Grants project.

The interviews were conducted with the necessary ethical considerations and approval from the Institutional Review Board (IRB). The specific approval for this study was obtained under the IRB approval number IRB202201494 from the University of Florida. The interviews were

conducted remotely via Zoom, ensuring participant convenience and safety. The interview sessions took place over a period spanning from September 20th to December 9th, 2022.

Data analysis

The interviews were de-identified, transcribed, and coded using MAXQDA 2022 software. The coding process entailed organizing and interpreting qualitative data by assigning labels or codes to specific segments of the interviews that reflect meaningful and categorical themes (Saldana et al., 2016). We conducted three rounds of coding: an initial round of open coding, a subsequent round of thematic coding that yielded four themes ("mechanisms for access and sharing", "grants as a unique form of scholarship", "uses for shared grants", "disincentives and challenges for sharing"), and a final round of coding to map the previously coded interview segments to the main categories created through thematic coding. Available data demonstrates the code system's development through different stages (Uribe Castañeda et al., 2023).

Results

The data from the interviews were analyzed into a code system, with the final round of coding consisting of 405 coded interview segments. These segments are represented in Table 1, in which they are grouped into different categories based on the codes assigned to them.

Table 1. Code groups and their respective number of interview segments coded

Code group	Interview segments
Mechanisms for access and sharing	178
Grants as a unique form of scholarship	119
Use cases for shared grants	62
Professional recognition for grant submissions	41
Disincentives and challenges for sharing	5

Mechanisms for Access and Sharing

Accessing Proposals

This proved to be an overarching area that spanned academic norms for sharing, practical workflows, and technical methods for describing proposals. The volume of responses in this area aligns with the core questions, many of which directly ask about or allude to availability and discoverability of proposals.

In terms of accessing grant proposals, the interviewees employed various strategies, largely geared toward locating small numbers of examples during the process of writing and applying to grants and fellowships. One of the primary approaches identified was reaching out directly to past grantees, a process one postdoctoral researcher described as "cumbersome" (Postdoc 4). This included (1) colleagues and peers at their respective home institutions; (2) known colleagues or collaborators at other institutions; and (3) what one interviewee termed a "secondary network," meaning friend-of-a-friend, or colleague-of-a-colleague (Postdoc 3). This interviewee also explicitly mentioned "cold calling," or sending emails to unknown researchers to

ask for proposal samples, but noted that in some of these interactions, the researchers requested the proposals not be shared elsewhere.

Another common way interviewees located samples was through funder websites or, less commonly, by making a direct request to a program officer. One funder confirmed their organization made such samples available, while other interviewees mentioned funder databases with metadata and abstracts. Some commonly mentioned sources that were sought out for proposal access included federal funding agencies: National Science Foundation, National Aeronautics and Space Administration, Research.gov, National Institutes of Health, National Endowment for the Humanities, and IMLS. Interviewees also mentioned foundations– including small foundations that might award individual fellowships as well as large organizations such as the Andrew W. Mellon Foundation. In some cases, interviewees noted that it was more difficult to find samples from foundations, which may not always have standardized guidelines.

Unsurprisingly, interviewees also reported searching for publicly available proposals using Google as an entry point. One described this process:

> I'm usually starting on Google and just trying to find the keywords that might allow me to see proposals that are out there. Sometimes university libraries have these things on LibGuides, especially for the NSF or big, major funders. Sometimes you can find a grant proposal here and there that somebody's made available on a personal website or something, but as of right now it's a very dispersed discovery environment where you have to do all the hunting on your own without really any help. (Grants analyst 1)

Interviewees who acted in research administrator, facilitator, or program officer roles reported using all of these methods to obtain proposal samples on behalf of researcher applicants, undertaking a mediated process to circulate materials.

Notably, five interviewees mentioned using the Open Grants repository as a resource for accessing grant proposals. Open Grants is a freely accessible online database for funding proposals, enhancing their acknowledgment as scholarly contributions, broadening public and grant seeker access, and fostering transparency in the research process. Two of the co-authors have been involved with the project, which serves as a relatively small-scale prototype of a potential repository for a larger corpus of open proposals.

Sharing Proposals

Regarding the sharing of proposals, 52% of the interviewees reported currently sharing their proposals, while the remaining 48% did not. Among those who were currently sharing, they predominantly did so privately upon request, though some uploaded their proposals to grants repositories such as university repositories, Zenodo, NSF GRFP, and Open Grants.

Almost all interviewees agreed on the importance of sharing grant proposals, whether open access or not, but with varying degrees of comfort and some caveats. Most interviewees

acknowledged that there might be some proposal components that they or their collaborators might object to sharing or do not currently share, even in the case of proposals circulating in closed networks. These included:

- Personal or sensitive information, including not only salary information found in budgets but also contact details, disability status, and citizenship status. However, one interviewee questioned hesitancy around sharing salary information in particular, noting that in some cases it may already be available elsewhere.
- Information that might undermine–or be perceived as undermining–intellectual property or business interests. One research administrator noted that if applicants "don't quite have the necessary protections in place–the patent hasn't been awarded or something yet–they might not want to put out what they're doing until they have that protection in place" (Research administrator 2, Pos. 13). Another interviewee who provides services on some grant-funded projects acknowledged that the budget may reveal pricing information they would prefer to remain private.

Of all the interviewees, 12, or 80%, discussed permission as a part of sharing proposals. This arose in two key contexts. First, those involved in funding proposals or responsible for advising or supporting applicants emphasized obtaining permission as part of the sharing workflow. Beyond simply agreeing or not, this might be an opportunity for a PI or fellow to communicate whether or not any portions should be redacted. Second, researchers applying for awards discussed their responsibilities to co-authors or partners, framed broadly in the language of research ethics. Using reference letters as an example, one interviewee mentioned removing these materials from a major grant proposal: "Potentially, if there were components written by other people in whatever I submitted, I would either want to get their permission first or or not include that in what I shared." Another interviewee working with community archives invoked permission as one way to maintain ethical partnerships, mindful that "community groups are tired of [others] extracting information from them and not receiving benefits" (Grants facilitator 3).

Grants as a unique form of scholarship
According to the interviewees, grants stand apart from other forms of scholarly work due to their distinct characteristics. One key reason highlighted by the interviewees is that grants encompass proposed, aspirational, and expected work. While grant proposals provide researchers with a roadmap for their research, they also allow for a certain degree of flexibility, enabling scientists to refine their ideas over time. Interviewees wrestled with this potential disparity between the initial plan and eventual outcomes. Noted one:

> If you're looking for the newest, hottest ideas, a grant proposal would be the place to find that. Or I guess it's similar to a preprint; it's like getting the ideas out there as quickly as possible if you publish your grant proposal. But on the other hand, I think sometimes it's possible that grant proposals are a little half-baked. It's like you have really great ideas that you think are going to work, but you don't yet know whether what you've proposed is actually going to all come to fruition as you proposed it. (Researcher 1, Pos. 22)

Other interviewees similarly framed proposals as documentation of work to be completed in the future, with the potential to compare and contrast with later outputs. Said one, "Proposals are really useful as a way of reminding yourself over the course of the grant about what you said you would do on the 2, 3, and 4-year project. It's pretty easy to lose track of little grant deliverables, and the grant proposal is a really good way to have an official record of what you're committing to doing" (Grants analyst 1, Pos. 14).

When asked about the key components they review in a grant proposal, the interviewees emphasized the importance of cohesion among the various proposal elements. These elements include the problem statement, research questions, goals, rationality, implications, methods, permits, data management plan, activities, contingencies, and budget. Furthermore, the interviewees highlighted other aspects of grant proposals that should be considered when writing a proposal. These aspects include the language and tone used, the level of detail provided for funders while ensuring the proposal remains accessible to non-experts, and the feasibility of the proposed research. One interview explained, "Usually, we know very clearly what we want to do, and not so clearly how we get there. So when I look for a proposal, I basically look for how people divide the project into micro activities so you can have different outcomes at different stages of the project" (Grants facilitator 3, Pos. 4).

Uses for shared grants

One of the key questions of the *Planning for Open Grants* project is how multiple stakeholders might take advantage of publicly available grants in practice. In these interviews, participants identified several important uses. While interviewees remarked on the value of accessing a range of both funded and unfunded proposals, in some cases they employed a much more limited definition of "shared" that referred to sharing with only a small group beyond the awardee.

Grant writing training

Early career researchers, as well as those advising them in the grants process, emphasized the benefits of sharing to their own professional development and training. Sharing grants allows graduate students to access examples that enable them to learn and enhance their grant writing skills. By examining proposals, they can learn how to align their proposals with funder priorities, structure their own proposals, articulate research goals effectively, and develop persuasive arguments for funding. As one interviewee mentioned, "The first thing would be just to see examples. . . I feel like there's a writing skill set that experienced grant writers have developed, and novices like me might be able to learn from them by reading previously submitted proposals" (Postdoc 2, Pos. 6). This highlights the importance of creating platforms for sharing grant proposals to potentially improve the quality or competitiveness of grant and fellowship applications. Two grants experts who work directly with students spoke to their roles as mediators of available content; one interviewee even described relaying samples at particular moments in the writing process to avoid overwhelming potential applicants.

Understanding the field

Shared grants provide researchers with a sense of the field and the current trends in a specific research area. Grant proposals often represent new or emerging ideas in the field, helping scientists identify knowledge gaps and stay updated on what one interview referred to as "active threads of research" (Postdoc 1). This interviewee added that some research in a grant proposal demonstrates a point where the "story hadn't been completed yet, and may never be completed. . . Some research will never make its way to a published paper but will make it to a grant proposal." Another interviewee echoed this articulation of the "temporal" nature of proposals and the potential for a larger collection of proposals to facilitate an understanding of trends over time (Program officer 1).

Promoting equity and transparency

Multiple interviewees touched on inequities built into the current funding environment and the potential for sharing proposals to support aspects of equity and transparency. One participant reflected, "I'm constantly thinking about those who don't have that social capital, didn't happen to run into whatever person, . . . didn't go to the same school as someone who's at a major foundation, . . . having a way to add some transparency to this" (Grants analyst 2, Pos. 6). Making grant proposals accessible allows researchers from diverse backgrounds, with varying levels of institutional support, to view the components of proposals deemed so valuable among interviewees. One interviewee also noted the value of scale, in that "having access to the proposals allows you to understand the structure and the system that funds all of this work in new ways to look for kinds of inequities that you wouldn't otherwise be able to see" (Grants analyst 1).

Other mentioned uses for shared grants include:
- Understanding funding processes: shared grants provide insights into how science is funded, including information on who receives funding and the reasons behind funding decisions. This knowledge can help researchers navigate the funding landscape more effectively.
- Promoting collaboration: shared grants facilitate collaboration among researchers working in similar topics. By accessing shared grant proposals, researchers can identify potential collaborators and explore synergies for joint research projects. Grants repositories foster a sense of community by bringing together researchers from diverse backgrounds and disciplines. Through grants repositories, researchers can find potential collaborators and exchange ideas. This collaborative potential extends beyond individual projects, leading to the formation of interdisciplinary teams and the development of innovative solutions to complex research challenges. Grants repositories serve as catalysts for cross-pollination of ideas and the creation of research networks, promoting synergy and advancement in the scientific community.
- Recognizing non-research paper contributions: grant proposals often represent valuable work that doesn't end in a research paper. Sharing grants allows researchers to showcase their efforts, achievements, and innovative ideas beyond traditional publications.

These various uses highlight the importance of sharing grants in supporting professional development, fostering collaboration, and promoting transparency within the research community.

Disincentives and challenges for sharing grants

"Concern about potential scooping," remarked one interviewee, "can discourage scientists from openly sharing their grant proposals." As in other components completed as part of the authors' broader research project, it is clear that one disincentive for sharing grants identified by the interviewees is the fear of others having access to details of a research agenda or a commercializable idea.

However, another significant factor emerged both directly and indirectly as a deterrent: the labor and human resources required to contribute to, establish, or maintain a repository. As has been discussed, even interviewees who were enthusiastic about sharing noted components or information that, for a variety or reasons, they would hesitate to share; the processes they described to redact or obtain permission could require considerable time, effort, and resources. One interviewee offered an example demonstrating these concrete challenges:

> Historically, we retained in my office a repository of successful proposals. We no longer do. . . and the advice that I give to our graduate programs is that developing a repository of funded–or if they decide they also want unfunded proposals too–is best situated inside of the graduate program, and there's a number of key reasons for that. When we used to build our own repository of funded proposals, it was all paper based, and this was, you know, many, many years ago, before it was so easy to digitize everything, and we could really control who had this, where was it going? It got much more complicated once everything could be easily digitized. And it took a lot of staff time to basically just manage that process and make sure everybody was comfortable, everybody understood what the parameters were. When the pandemic hit, we had a staffing cut. . . At that moment I had to assess. What are we doing? And what do we no longer do because of our reduced staffing? And holding onto that repository was one of the first things to go. (Grants facilitator 4, Pos. 16)

Professional recognition for grant submissions

The incentives for submitting grants are associated with various forms of recognition. While the majority of recognition reported is informal, some universities engage in formal recognition practices such as press releases and celebrations to acknowledge those who have successfully submitted grants. Interviewees mentioned that they often give themselves, or students and colleagues, self-recognition and consider the act of submitting a grant as a success in itself.

Although many interviewees stated that they do not receive institutional recognition specifically for submitting grants, they consider it an essential part of their job responsibilities. Additionally, the grant funding received plays a crucial role in supporting their jobs. Grants also contribute to researchers' curriculum vitae, demonstrating their track record of securing funding for institutional reporting and promotion requirements. Several interviewees spoke to the potential

for a grants repository to enhance recognition and job prospects by making proposals "more tangible" (Postdoc 1). "It's kind of an invisible thing," one interviewee pointed out. "Not all awards are publicized, so you may receive a fellowship from a sponsor, but it's not necessarily publicly available information, whereas publications generally are" (Research administrator 1).

Overall, while there may be disincentives associated with sharing grants, the incentives for submitting grants include self-recognition, the potential for funding, the inclusion of grant submissions in researchers' professional records, and the potential to lead to professional recognition. An interviewee noted a perk of sharing grants, "A lot of people are just doing library projects without announcing them to the community, so I feel like a way that I would use a [grant proposal] repository is [to see] what types of projects people are thinking about and what kinds of work are they doing" (Researcher 1, Pos. 6). These factors motivated researchers to engage in the grant submission process, despite the challenges and potential lack of institutional recognition for this specific aspect of their work.

Discussion

Grants repository opportunities

The interviewees in this study demonstrated a keen interest in accessing grant proposals for a diverse range of purposes. While most gravitated toward the idea of proposal samples as references, they also touched on complex analytical questions around racial and institutional equity, evolution of particular fields, and the costs involved in research. By mining grant repositories, researchers can gain access to a wealth of resources and insights that foster their professional development and drive. Collections of grant proposals present valuable opportunities to explore innovative ideas, successful strategies, and potential collaborations.

Sharing proposals contributes to the transparency and openness of the research community by facilitating dissemination of knowledge and best practices in grant seeking. One of the significant opportunities offered by grants repositories is the enhancement of grant-writing skills. Early-career scientists can access grants to gain hands-on experience, learn the language used in grant writing, understand factors that contribute to success or failure in grant writing (possibly including those that have little to do with the proposals themselves), and overall improve their own grant-writing abilities. We were especially struck by the care with which those advising graduate students spoke about this process of using proposals as a tool to inculcate students with a sense of the building blocks of the funding landscape. This gets at the role proposals– whether a few samples or a vast repository–can play in developing a community of practice. Collections of online PDFs are insufficient to forge the kind of academic peer network many of our interviewees mentioned; however, they may constitute one component of a community of practice seeded early in a research career.

Proposals as scholarly documents

Grants are a unique form of scholarship, primarily due to their inclusion of proposed, aspirational, and expected work. Unlike other scholarly outputs, grants provide researchers with the flexibility to refine their ideas and guide their research while also offering a framework or roadmap for their work. Proposals serve as a means for researchers to showcase their

expertise, intellectual background, and ability to contribute to scholarly conversation within their respective disciplines. In this way, proposals as scholarly documents contribute to the growth and advancement of knowledge within the academic landscape.

A grant repository can play a vital role in lending legitimacy to proposals as gray literature that ought to be recognized as part of the progress toward tenure, promotion, and other professional aims. While our interviewees raised an important point that some funding processes are opaque, and proposals themselves not always polished, they also noted the many components that make them valuable. At their best, proposals are peer-reviewed documents that embody principles of academic integrity and intellectual rigor, requiring an understanding of existing literature, appropriate methodologies, and data management. By providing a centralized platform for researchers to share and access grant proposals, repositories can elevate the visibility and recognition of proposals as scholarly outputs.

Grant submissions currently receive varying degrees of explicit credit within the academic community. While the act of submitting grants is essential for securing funding and advancing research careers, formal recognition specifically for grant submissions is limited. Institutions and funding agencies tend to prioritize acknowledging the successful acquisition of grants rather than the process of submitting proposals. However, researchers implicitly recognize the significance of grant submissions and include them in their curriculum vitae and institutional reports. Despite the lack of formal credit, grant submissions play a crucial role in supporting research, accessing resources, and driving progress in various fields. For these reasons, a grant repository can serve as a catalyst for establishing grant proposals as important scholarly documents that are recognized, shared, and valued within the academic community.

Challenges of sharing grants

Though few interviewees spoke of cases they or known grantees might be completely unwilling to share proposals, the range of different concerns or caveats they expressed reveals the potential complexity of sharing at scale. Caution was a pervasive theme; interviewees stressed permissions, ensuring comfort levels of prior awardees asked to share materials, and a broad queasiness with sharing budget materials. This last issue, in particular, is an obstacle worthy of additional research and review. Even as interviewees mostly stressed their discomfort with sharing budget materials, many also emphasized how important those materials are to truly understanding how to turn an idea into a structured, funded project.

This fear is particularly prevalent in competitive research fields where novel and impactful ideas are highly sought after. The risk of being scooped can discourage researchers from openly sharing their grant proposals, as they may feel the need to safeguard their intellectual property and maintain a competitive advantage. The possibility of being scooped has often been cited as a counterpoint against open science, particularly open data (Laine, 2017). Balancing the desire for collaboration and knowledge sharing with the need to protect one's research ideas poses a significant challenge.

Another challenge of sharing grants is the need for substantial resources and infrastructure to establish and maintain repositories. Navigating these challenges requires careful consideration of intellectual property concerns, the development of appropriate policies and guidelines for sharing grants, and the allocation of resources to support the creation and maintenance of repositories. Ultimately, it seems that funders are best positioned to undertake these challenges directly, as they not only have access to all proposals for their programs, but also are able to work within the context of their respective policy and approval frameworks to move sharing initiatives forward.

Further steps

Further research and efforts should be directed towards addressing the identified disincentives and ensuring appropriate recognition for the significant role played by researchers in the grant-seeking endeavor. Further investigation should consider the mechanisms and platforms for sharing grant proposals, exploring how technological advancements and digital repositories can facilitate more efficient and accessible sharing. Additionally, future studies could explore the impact of sharing grant proposals on collaboration, knowledge exchange, and the overall quality of grant applications. It would be valuable to investigate the barriers and incentives for researchers to actively participate in sharing their proposals, as well as the potential risks and benefits associated with widespread sharing in terms of intellectual property and competitive advantage.

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Community Case Studies

The following overviews offer a snapshot of how groups within particular institutional and disciplinary communities perceive the challenges and opportunities of sharing grant and fellowship proposals. While common themes emerge–fear of competition, in particular–each group of co-authors emphasizes different topics. These range from

Community 1: Academic Libraries & Archives

Bess de Farber, Chelsee Dickson, Dessislava Kirilova, Linda Musumeci, Mikala Narlock, Perry Collins, Valrie Minson

The *Planning for Open Grants* project offers a useful lens onto the variety of ways those working in and around libraries and archives engage with the funding landscape. As stewards of scholarship and data, these institutions may sustain digital libraries where the results of grant-funded efforts live. They may apply for grants across many different disciplines and areas of expertise, or they may advise others applying for such awards. Indeed, they may even be funders themselves, granting fellowships or stipends to those using special collections or collaborating on new projects.

Over two conversations held in November 2023, a group of seven individuals, six of whom work or have worked directly within libraries, met to consider the obstacles and opportunities of proposal sharing. Notably, the diverse expertise of this group led us to couch our thoughts in the broader context of the open access movement, and we moved fluidly from discussion of our own scholarly sharing practices to the practices of those working outside libraries.

Because the topics discussed were so wide-ranging, we occasionally wrestled with concepts or terms; most significantly, we discussed the extent to which "research" applies to most grant proposals submitted by libraries and archives. The PFOG proposal to IMLS framed this broadly as "grants and fellowships in an academic context, [including] work rooted in program or service development and evaluation alongside empirical or interpretive scholarship" (Hao et al., 2021).

While most members of the group work in an allied area of scholarly communication or data curation, the conversation also included two experts in grants management within libraries and archives, as well as one person in a more traditional library leadership role. Briefly, the group included:

- Bess de Farber, President of Ask Associates, and former grants manager for the George A. Smathers Libraries at the University of Florida (2008-2023) and the University of Arizona Libraries (2005-2008). She has provided grantsmanship instruction to hundreds of library staff members, nonprofit and academic professionals, artists, and university students over the past 30 years and has led efforts to secure millions in grant funding for individual artists and scholars, nonprofits, and academic libraries. She is the author of Collaborative Grant-Seeking: A Practical Guide for Librarians (2016) and Creating

Fundable Grant Proposals: Profiles of Innovative Partnerships (2021), and the coauthor of Collaborating with Strangers: Facilitating Workshops in Libraries, Classes, and Nonprofits (2017).
- Chelsee Dickson, M.L.I.S., M.S.I.T, is the Scholarly Communications Librarian at Kennesaw State University.
- Dessislava Kirilova, M.S., B.S., is the IRB Curation Specialist and Senior Research Associate for the Center for Qualitative and Multi-Method Inquiry at Syracuse University.
- Linda Musumeci, M.A., B.A., is Director of Grants and Fellowships at American Philosophical Society.
- Mikala Narlock, M.L.S., B.A., serves as Director of the Data Curation Network (DCN).
- Perry Collins, M.L.I.S., M.A., is at the time of writing Chair, Digital Partnerships and Strategies, within the University of Florida George A. Smathers Libraries. She has worked as a program officer within a federal funding agency and has served as PI and co-PI on several awards at UF. She identifies as a white woman.
- Valrie Minson, M.L.S., is Chair, Marston Science Librarian and Associate Dean of Academic Support Services, within the University of Florida George A. Smathers Libraries. Minson has served on multi-institutional or interdepartmental grant-funded projects.

Common fears and counterarguments

Like many other conversations throughout this planning grant process regarding a diverse array of research areas and institutions, the group spent time discussing potential fears that come up around sharing grant and fellowship proposals. Such fears were generally not claimed by our group; rather, this is what we as individuals have observed. Three areas were explicitly mentioned, which interestingly align with phases of the funding process:

- **Applying for Grants**. One of the group members observed that even the prospect of applying for a grant could be a barrier for those working in libraries. Based on her informal discussions with librarians, this fear was connected to factors such as potential investment of time and lack of support.
- **Scooping or Competition**. The most common fear mentioned was the potential for scooping or competition given the relative scarcity of funding.
- **Disparity Between Proposal and Deliverables**. A third fear involved perceptions that later or following the grant award period, there might be a disparity between what was originally proposed and the more polished final deliverables.

While it was beyond the scope of our work to undertake research into the extent to which each of these fears is supported by evidence, it's nevertheless clear that as experts in our fields, we perceive these as potential factors that make stakeholders in this area disinclined to share.

To the concern that libraries and archives applying for awards might lose a competitive advantage, we would argue there is no hidden magic formula that can be copied from a grant proposal by other applicants that would create an unfair competitive scenario or that could jeopardize the awarded project team's chances of acquiring future grant funds to support their

next steps resulting from their already funded work. Unless an individual or team seeks to deliberately plagiarize others' work, which has occurred during grant review processes or through other unintended action, there are more positive benefits to sharing proposals than not. In fact, plagiarizing an awarded proposal that remains hidden from view leaves the original authors more vulnerable than had they made it broadly available.

The content of an awarded application has the potential to generate new partnerships and projects. Assets that were once hidden can be brought to light and repurposed for new collaborations. The personnel engaged in an awarded application can be seen as experts and recruited to advise or participate in related grant-funded projects through new partnerships.

Extending from the potential for fruitful collaboration, we pondered whether scooping–or, perhaps more accurately here, borrowing and building upon peers' work and ideas–is necessarily unethical or negative. Innovation stems from the ability to replicate best practices, or to solve problems that others are also experiencing. Proposals can be used as references in future proposals submitted by other applicants to build or expand on the work shared in the original proposal. This frames proposal sharing not as a threat that might undermine our ability to win funding, but rather as a strategy to incorporate new sources among those we routinely cite. One person in the group even suggested developing some way of communicating that others should feel free to make full use of ideas in a proposal that was unsuccessful and didn't move forward.

Comparison to other OA genres

An argument emerged throughout our informal conversations: If we are committed to sharing other kinds of materials within an open access culture, we should also commit to sharing funding proposals. Aside from explicit concerns discussed above, a major reason might simply be that with a couple of notable exceptions, this simply has not become a norm of academic culture. As one reference point, we looked to a "strategy for culture change" proposed by the Center for Open Science. This model considers such changes as a product of not only technology, but also design, community adoption, incentivization, and ultimately required policy.

Open access and other open movements allow for the sharing of scholarship, creative activity, and research—typically for the betterment of society. Open educational practices, like open pedagogy and the utilization of open educational resources (OER) aid students both through textbook affordability and amplifying student voices. Additionally, open educational practices can be shared, reused, and remixed by instructors and education professionals around the world. While we have embraced the open sharing of science, data, source code, and journal access, we have yet to include grant proposals in the list of open scholarship outputs. Just as educational knowledge is shared through OER and other open educational practices, so too can grant proposals benefit from wide dissemination. Unlike OER, grant proposals alone are not enough to convert a course from traditional materials used in faculty coursework to innovative open textbooks; however, with an investment in time and human capital, OER creators may use grant proposals as a starting point to finance their open educational projects.

Since many grants are funded by taxpayer dollars, it makes sense to open grant proposals to the public. For example, in the state of Georgia, an organization known as Affordable Learning Georgia (ALG) strives to lower the cost of college for students through low and no cost course materials. ALG accomplishes this in part by awarding grants to University System of Georgia faculty to transform their courses through the creation or adoption of OER; faculty who have already adopted open educational practices may also receive grant funding to continue the transformation. Furthermore, ALG maintains a digital storehouse of all grant proposals so prospective applicants may have examples to read and follow. Applying the 5 Rs of OER, these grant proposals can be retained through downloads and redistributed to downstream users. With permission, the proposals may also be reused, revised, and potentially remixed, thus building upon the knowledge of the original creator—a tenet of the Open Education and Open Access Movements.

Aside from grant proposals themselves, what else do we or could we share to shine light on grant-funded research? Given the climate of fear that surrounds the grant proposal process, the reluctance to share proposals for competitive reasons, and the fact that it has sometimes never occurred to individuals and institutions to share proposals, the question arises of what material could be shared to highlight research based on grant funding.

As one example provided by Linda Musumeci, for a period of forty years or so in the middle of the twentieth century, the American Philosophical Society (APS) published in its annual *YearBook* project reports by grantees. These reports ran about 400 words and were paired with the name and institution of the grantee, the title of the project, and the amount of the award. As the *YearBooks* were considered APS publications and cataloged as such, scholars then and now were able to infer the basic budget as well as the work plan submitted in the grant proposal. Then, scholars were able to reach out to each other to ask questions about their projects and proposals. Now, provided that the original grantee is no longer living, scholars may view the entire proposal, which, incredible but true, is not substantially different from the APS's current application forms. Beginning in 2024, the APS Press, as part of its *Proceedings* journal, the APS will publish expanded reports by grantees that will gain them further scholarly exposure.

A number of other types of sharing exist for scholars to highlight their grant-supported research. Some grant-making organizations require applicants to list their ORCID number on the application. This move is particularly important as more researchers in the humanities and social scientists are joining scientists in using the platform. Most, if not all, grantees are required to list all sources of funding in the acknowledgments section of their books and articles. The rise of open-access publications has given scholars immediate access to the authors of articles in subjects that interest them as well as information on who funded the work. It is extremely easy for scholars to quickly send an email to other scholars. Websites like ResearchGate, Google Scholar, and Academia facilitate the same type of contact as does the World Wide Web in general.

Evolving norms and incentives

Role of authority figures (unit chairs, PIs, etc.)

Grant applications submitted by faculty or staff in institutions of higher education are, after all, the intellectual property of its authors, project team members, and project leader or principal investigator. In the nonprofit sector, however, they are the property of the applicant organization. As such, it is up to these individuals and organization leaders to decide whether or their application materials should be freely shared. Frequently and unfortunately, the decision is not to share unless required to do so by the sponsor (e.g., when the sponsor is a governmental entity, and the funding source is tax dollars).

When grant proposals are not shared, the loss of learning, potential for increased awareness, and possible replication cannot be remedied, unless a personal request is made (to gain access) by an interested party who has discovered the grant application's existence and contacts the principal investigator or project leader directly.

Building closed but supportive collaborative networks

One possible path forward, albeit one that largely complies with current norms rather than aiming for a dramatic shift, is to embrace forms of "restricted open access" that can calm some of scholars' fears regarding scooping, the theft of ideas, and other concerns related to competitiveness in academia. This might mean relying on closed or private networks or making only specific components of proposals accessible.

As one example, APS had created an alumni forum for past grant and fellowship recipients. This forum is a community in which awardees can post their achievements and ask questions of and converse with their fellow scholars, regardless of the disciplines in which they primarily work. It is possible to branch off into private discussions and enter into mentoring relationships. In community-wide and private messages it is possible to discuss and share applications to both APS programs and those of other institutions. Collaborations have also resulted in which successful individual applications might be shared as the pair or group work on a joint application to support a collaborative project.

Not all private networks need to exist online or solely online. In addition to hosting the online community, the APS supports in-person events that always provide both a presentation and a social/networking component. Past grantees and fellows have reported collaborations that have resulted from making the initial contact at such an event. The sharing of applications in such a relationship may not become public knowledge.

Similarly, the APS, as well as many institutions hosting scholars who work principally in the humanities and social sciences, bring fellows and awardees in specific programs onto the institution's campus or to a specific locale to allow for presentations and to foster fellowship. The Ford Foundation, the Newberry Library, and the National Humanities Center are but a few of the research libraries and institutions that offer this advantage.

Given that the APS and other research libraries and institutions receive applications from scholars at all stages of their careers, it is possible to offer anecdotal evidence of other avenues of potential application sharing. Although applications or research grants and fellowships are accepted only from individuals and not institutions, it is clear that Offices of Sponsored Programs play a large role in assisting the scholar to prepare the various sections of the application. It is also clear that Offices of Sponsored Programs keep a careful record of the success of their faculty with respect to funding sources and so have easy access to past applications that they can potentially share with future applicants.

Money as incentive

Finally, and perhaps most obviously, grant or fellowship dollars are an incentive to comply with funders' terms and conditions. Grant makers may determine that benefits of proposal sharing—transparency, potential for collaboration, etc.—outweigh fears or concerns, or that there are ways of minimizing such concerns (e.g., redacting portions with potential sensitive information). For libraries and archives, having a major funder such as IMLS model such a requirement is a major step toward normalizing this practice.

Use cases

Success stories

One case study was raised that illustrates these benefits. The first One Button Studio was created through technology fee funding at Penn State in 2013, to enable DIY video and audio production in an empty room within the library. The library staff who submitted the proposal shared it online and included automation specifications for how the studio would be constructed along with ways to simplify use by all students regardless of their self-recording and production knowledge or physical abilities. Because the proposal and specifications were shared broadly online, there are now hundreds of One Button Studios in academic libraries across the US.

Replicability of a good idea can only happen through this level of full disclosure. Each library employee that learned about the Studio's existence through the proposal and specifications shared online was able to repurpose these documents to submit their own grant applications to a variety of sponsors that now have supported One Button Studios. These include internal library grants programs, statewide LSTA (Library Service & Technology Act) funds, or other technology public and private funders. Having access to awarded grant applications at one's fingertips reduces the barriers that might cause a reinventing-the-wheel scenario. One major benefit is knowing the budget requirements typically involved in creating these studios, thus reducing the time involved in developing a fundable proposal. Sharing these types of prototype proposals demonstrates the generosity of Penn State's library staff, while reinforcing the role of libraries as trusted stewards and purveyors of information as a means of growing new knowledge.

Grants as data

Recommendations

1. Libraries and archives, particularly those funded by public money, should model best practices by routinely sharing proposals they and their employees submit for funding, whether successful or unsuccessful.

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Community 2: Caribbean Studies in Humanities/Social Sciences

M. Stephanie Chancy, Jennifer Isasi, Hannah Toombs, Perry Collins

During two, one-hour conversations in November 2023, this group considered the potential for sharing grant proposals and related materials within the context of Caribbean studies. This field focuses not only on the Greater Caribbean, extending to portions of Mexico and Central and South America, but also on the myriad Diasporas and communities worldwide with familial and cultural ties to the Caribbean.

Aside from geographic and linguistic diversity, Caribbean studies also represents multiple disciplines. This conversation focused primarily on the field as a lens onto the humanities and humanistic social sciences, including challenges and opportunities for mutual support when pursuing fellowships and grants. We also found that the conversation represented a kernel of a much larger challenge, that of effective international collaboration. One promise of the open access movement has always been its potential to further access to knowledge across international boundaries; how might transparency in the grants process help further this goal?

In part, the rationale for including Caribbean studies among the three areas considered as part of *Planning for Open Grants* is the University of Florida's role as operations hub for the Digital Library of the Caribbean (dLOC), a 90-partner network of libraries, archives, and cultural heritage organizations large and small. Therefore, the conversation emphasized grant seeking that bridges academic researchers and educators with information professionals and primary source collections.

As a small group, we represent a narrow perspective on a rich field, informed by our personal backgrounds, our common experiences working at the intersection of Caribbean studies and digital libraries, and our relative privilege within US-based, well-resourced universities:

- Jennifer Isasi, Ph.D., is the Director of the Digital Liberal Arts Research Initiative at The Pennsylvania State University. She identifies as a white Hispanic woman (per US terminology). A scholar in (digital) Hispanic studies and of Peninsular literatures, she does not claim subject expertise in Caribbean studies, but actively supports and/or participates in grant writing proposals, reviews, and capacity building programs for digital scholarship and cultural heritage digital preservation in the area in multiple languages.
- Hannah Toombs, Ph.D., is the Engaged Learning Librarian and Co-Liaison to Latin American Studies and Latina/o Studies at Olin Library, Cornell University. She identifies as a white woman. Her background is in cultural anthropology and Latin American Studies, and her fieldwork experience in collaborating with Indigenous artisans in rural Honduras provides insight to access challenges explored in this case study. Additionally, her previous experience working with dLOC, completing the environmental scan portion of *Planning for Open Grants*, and her personal experience with seeking grant funding as a student and now as a librarian, provide background knowledge for this work.

- M. Stephanie Chancy, Ph.D., is the Caribbean Partnerships Librarian, and Operational Lead for the Digital Library of the Caribbean (dLOC) at the University of Florida George A. Smathers Libraries. She identifies as a U.S. American-Caribbean woman of multiple ancestries. A historian and art historian she claims expertise in Atlantic history particularly the cultural and artistic exchanges between the Caribbean, U.S., and Europe. She worked with dLOC as a graduate fellow from 2019-2021, taught at the university-level for over a decade, and prior to her academic career worked in non-profit arts management where she often authored and co-authored grant proposals.
- Perry Collins, M.L.I.S., M.A., is Chair, Digital Partnerships and Strategies, within the University of Florida George A. Smathers Libraries. She identifies as a white woman; she does not have specific subject expertise in Caribbean studies but supports the dLOC community through knowledge of copyright and digital publishing.

Challenges and Barriers

For scholars from Latin America and the Caribbean, access to research and educational opportunities can sometimes depend on securing grant funding. Yet, accessing grants can be difficult when institutional support is limited, and when there is no existing precedent for sharing grant proposals. This group's conversations sought to identify common challenges and concerns surrounding proposal sharing, resource inequities, and institutional barriers that may magnify these challenges for Caribbean-based scholars, and potential solutions for addressing these issues while forming resource-sharing communities.

Scholars seeking grant funding are often faced with challenges related to planning, writing and sharing their proposals. Concerns of "scooping" or having one's work stolen, limited guidance or examples when it comes to grant writing, and lack of transparency in the grant review and funding process are frequently cited challenges for researchers, and were common themes that emerged during the Planning for Open Grants environmental scan and stakeholder meeting in May 2022 (Toombs,Ye, and Collins, 2024). These issues can be magnified for international scholars, historically underrepresented researchers, and smaller or under-resourced institutions.

Highly regarded grants (such as NSF research fellowships) are disproportionately awarded to students and faculty at R1 institutions that have existing grant resources and support services for those seeking funding (like research design courses, faculty advisors who hold grants). Often, these grants have unique formatting requirements, involve discipline-specific jargon that may be opaque to Latin American and Caribbean scholars (and may require applicants to use only English in their proposals), and involve multiple components for submission (data management plans, research questions, budgets, etc.) (Hu, 2019; Hunt et al., 2012; Bosman et al., 2020; Brennan, 2012; Freedman et al., 2017; Hawkes, 2012; Lang, 2021). Successful and unsuccessful proposal examples are not always shared on funder websites or online repositories, meaning potential applicants may have few existing grant examples for reference when preparing their own proposals (Toombs, Ye, and Collins, 2024). This can pose a particular challenge for institutions in the Caribbean and Latin America, where financial resources may not be available to purchase or subscribe to particular journals, databases, repositories, or other sources where grant materials might be found. Further, independent scholars without

institutional affiliation or grant applicants from the public sphere may rely on open access materials to seek out funding or research support; when there is no standard for grant sharing, or when access to such material is limited by financial and institutional barriers, it perpetuates a culture of inequity among researchers and grant recipients.

Information and technology access also create barriers for international applicants. In a series of follow-up interviews with dLOC partners after the May 2019 "Migration, Mobility, Sustainability: Caribbean Studies & Digital Humanities" Institute at the University of Florida, multiple faculty and staff members from Caribbean-based institutions shared that technology and Internet access can limit them from using online research materials or communicating with collaborators at other institutions (Collins et al., 2022).

These access barriers can heighten existing concerns and challenges related to grant seeking and contribute to continued inequities in grant funding distribution. Specifically, within the Caribbean Studies field, institutional and infrastructural access issues may derail critical work in cultural heritage preservation.

How might these issues be addressed through institutional collaboration? What new precedents could be set among funding institutions, universities, or other spaces to encourage grant proposal sharing?

Including Caribbean-based and/or less-resourced partners

From post-custodial, postcolonial and decolonial positions, for some time now, academics and funding agencies from the Global North have sought to create projects with a balanced participation between their hosting or sponsoring institutions and the communities with which they collaborate to carry out research and/or to seek social, economic, or environmental justice. However, as found by St. Hubert et al. (2021), despite scholars' best effort to provide that balance, partners in the Caribbean and the Diaspora continue to identify at least three main areas that pose challenges to seeking grant funding to carry out projects either in partnership with Global North colleagues or individually: trust building and communication, administrative requirements, and language barriers.

Firstly, scholars and custodians of Caribbean heritage may rightly distrust institutions of the Global North. Therefore, creating bonds of trust between each other must be a priority, and this can be attained via regular meetings and yearly in-person meetings for capacity building and check-ins (Sharpe, 2022). Opening grant proposals for a larger audience can promote learning in areas of expertise that are hard to attain otherwise. We could think of those examples as learning materials. At the same time, this would show willingness to lend a hand and demystify access to resources that, for the majority, seem impossible to obtain without an adequate support system.

A very high level of administrative requirements is another barrier that many outside centers of power face when applying for grants. Institutions in the Caribbean might lack both assistance from experts in grant applications as well as administrative records required by funding

agencies (think, for example, of a completed catalog for a digitization project, or a detailed budget of expenses for equipment and labor). Finding balance between the overly prescriptive structures of, say, R1 institutions and a lack of (colonial) structures of some interested community, would require communication between stakeholders and communities. Funding agencies could, however, start by providing useful templates for applicants. And having grant proposals as examples at hand will also aid in understanding how a grant has to be structured in order to be successful.

Lastly, although of equal importance, language barriers continue to be an obstacle when applying for scholarships. Although there are already a few funding agencies as well as programs that provide information about their funds in several languages, most still require application materials only in (academic) English. As in previous engagements (CLIR Symposium, 2020), we suggest funding agencies be more flexible in this respect and consider options such as: allowing applicants to submit in their languages, allocating money for translating the proposals, and/or diversifying the pool of reviewers who can review and advise in multiple languages.

Pulling together

If funding entities have a role to play in demystifying and simplifying the grant process, so do the organizations and individuals who receive funding. Sharing completed grant and fellowship proposals is a significant way of contributing to the demystification endeavor. Whether successful or not, a completed application provides a model for others to follow, which is particularly important for institutions that are less well-funded, smaller staffed, and have less experience with grant and proposal writing. Having examples of completed grant proposals gives these under-resourced institutions access to expected jargon, phrasing, and framing for their proposed project, a previously mentioned barrier.

Currently, numerous proposals relevant to Caribbean studies and to dLOC are available in the Grants@UF collection, part of an initiative to routinely share all proposals submitted by UF's library where the PI has granted permission. Inconsistent metadata makes it difficult to isolate those relevant to Caribbean studies, and not all of these are available directly through dLOC. Moreover, those applying for grants who may be willing to share their applications are not necessarily aware that this is an option. Collecting a wider range of proposals and other materials from dLOC partners interested in sharing documentation of funding they may have received is an untapped potential. Access to these applications is much needed since few Caribbean institutions in the dLOC community match UF in size, nor do they have a grant team to guide them through the application process. Thus, examples of applications completed by institutions that match them in size and locality, who are proposing projects of similar scope utilizing comparable resources is imperative to the production of more successful applications.

The group also discussed ways to augment the value of proposals themselves by engaging and connecting those working in the field. One recommendation was to encourage peer mentorship, or even informal draft review, by using available proposals and proposal metadata to compile a list or directory of people and institutions that had successfully applied to specific programs or

funders. By identifying those in this group who are actually willing to share or advise, it might be possible to lower the barriers for those who do not have easy access to experts in the funding arena. dLOC administrative staff, within their own limited capacity, have engaged in this peer mentorship on a small scale. When asked, they review grant applications for partners and offer suggestions for tighter, more concise, and focused language that make an application stronger. This type of support and cooperation is important for those engaged in Caribbean Studies, the humanities, and social sciences. In these times, when the funding pendulum swings in favor of colleagues working in STEM disciplines, it is important for Caribbean Studies, humanities, and social science professionals to come together and present a united front to demonstrate that their endeavors have as much value and significance as those undertaken by their brethren in STEM.

Additional Resources

The Caribbean Digital Scholarship Collective https://cdscollective.org/
Caribbean Digital: https://thecaribbeandigital.org/2023/
Migration, Mobility, Sustainability: Caribbean Studies & Digital Humanities Institute
    Grant proposal: https://dloc.com/IR00010262/00001
    Website: http://nehcaribbean.domains.uflib.ufl.edu
    Book chapter: https://www.alastore.ala.org/content/using-open-educational-resources-promote-social-justice
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Community 3: Early Career STEM

Fred Boehm, Dr. Jessica Burnett, Valrie I. Minson, Paulette Vincent-Ruz

In the competitive world of STEM research, securing funding is a crucial aspect of advancing scientific inquiry and career development. Early career researchers (ECRs) face unique challenges when applying for grants, from navigating complex funding landscapes to establishing fruitful collaborations. This case study delves into the experiences and perspectives of ECRs in STEM fields, shedding light on their strategies, obstacles, and aspirations in securing research funding.

During a one-hour conversation in February of 2024, a small group considered the possibility of sharing grant proposals and related materials within the context of STEM research. The participants have very specialized research areas that span a variety of STEM fields.

- Fred Boehm, is an Assistant Researcher at the University of Wisconsin-Madison and is in the process of applying for longer term positions. He holds a Ph.D.in Statistics and a M.D. in Medicine, as well as a M.S. in Population Health Sciences and B.S. in Chemistry, all from the University of Wisconsin-Madison.
- Paulette Vincent-Ruz, is Assistant Professor of Chemistry Education Research in the Department of Chemistry & Biochemistry at New Mexico State University. Throughout her career, Dr. Vincent-Ruz has been committed to bridging the gap between scientific research and real-world applications. She has actively contributed to various projects aimed at improving education, mental health, and overall well-being through insights gained from neuroscience. In addition to her research endeavors, Dr. Vincent-Ruz is also deeply involved in mentorship and education.
- Valrie Minson, M.L.S., is Chair, Marston Science Librarian and Associate Dean of Academic Support Services, within the University of Florida George A. Smathers Libraries. She does not have a STEM degree, but formerly served as an Agricultural Sciences Librarian and leads a team of STEM liaison librarians who regularly serve as investigators, Co-PIs, and PIs on grants and research projects with the academic units they serve. Additionally, Minson has served on multi-institutional or interdepartmental grant-funded projects.
- Dr. Jessica Burnett is the Program Coordinator at NASA Headquarters in Washington, D.C, where she supports the Ecological Conservation Program Manager in program management, outreach, and strategy. In this role, she helps in solicitation development and proposal review. She plays a key role in curating relationships among NASA and conservation partners in North America and serves on various interagency committees. She holds a Ph.D. in Natural

Resource Sciences from the University of Nebraska-Lincoln and a M.Sc. and B.Sc. in Wildlife Ecology and Conservation from the University of Florida.

Challenges and Barriers

Lack of time emerged as a significant challenge for ECRs, with the demanding process of grant writing competing with their research responsibilities. Furthermore, disparities in resources pose significant obstacles for proposers at underprivileged institutions, impacting the quality of grant submissions. Institutions burdened with higher teaching responsibilities face added obstacles in allocating time and resources to grant writing endeavors. Additionally, tenure requirements vary across institutions and disciplines, affecting the incentives for collaborative partnerships. Departments that prioritize (incentivize) single Principal Investigator (PI) grants may discourage collaboration with other academic units or institutions.

Participants emphasized the importance of networking and collaboration in overcoming funding barriers. However, issues such as overhead costs and institutional expectations posed challenges for cross-institutional collaborations. Overhead distribution presents another barrier to collaboration, as departments and institutions vie for maximum financial benefit. The perception of leadership in grant applications can also influence professional standing and tenure prospects. Moreover, the lack of infrastructure in many institutions impedes their ability to submit competitive grant applications, perpetuating funding disparities.

This cycle of privileged institutions receiving repeated funding exacerbates existing inequalities in the grant ecosystem. Furthermore, concerns about intellectual property theft inhibit transparency efforts, necessitating redaction of sensitive information in grant disclosures. Safeguarding intellectual property and ensuring equitable credit allocation are crucial for navigating tenure evaluations and gaining recognition in the field.

Addressing these multifaceted challenges is imperative for cultivating an inclusive and collaborative environment conducive to advancement in STEM research.

Maximizing Impact Beyond Proposals:

Beyond the proposals themselves, ECRs emphasized the importance of accessing panel summary reviews and written critiques to improve their grant writing skills. Webinars, peer mentorship, and resources on becoming reviewers were identified as valuable avenues for professional development. Looking ahead, participants stressed the importance of fostering a culture of openness and collaboration to maximize the impact of grant-funded research.

Future Considerations:

As the conversation concluded, participants raised important questions about the cultural and political implications of open grant submissions. Concerns over potential backlash and politicization underscored the need for thoughtful considerations in sharing research findings. Addressing these concerns will require collective efforts to promote transparency while safeguarding researchers' work from undue scrutiny.

Conclusion:

The experiences and insights shared by ECRs in STEM offer valuable lessons for navigating the complex landscape of grant writing. By addressing barriers, promoting collaboration, and fostering a culture of inclusivity, the STEM community can empower the next generation of researchers to realize their full potential and drive innovation forward.

This community case study serves as a testament to the resilience and determination of early career STEM professionals in overcoming challenges and shaping the future of scientific inquiry.

Additional Resources

Smith, J.L., Stoop, C., Young, M., Belou, R., Held, S., (June 2017). Grant-Writing Bootcamp: An Intervention to Enhance the Research Capacity of Academic Women in STEM, *BioScience*, Volume 67, Issue 7, Pages 638–645, https://doi.org/10.1093/biosci/bix050

Metadata Schema

Overview

This environmental grant aims to explore the idea of creating a central place for funding proposals. The provided Metadata Scheme is an all-inclusive list of possible fields/elements. It is not a strict blueprint; it's more like a mix of ideas from different viewpoints to provide flexibility and increase accessibility.

The Method

This schema centers around the grant-specific elements/fields and consolidated elements/fields used by studied online resources. The project team reviewed the online resources of six major prominent U.S. funding agencies, three grant-related projects, and an existing grant data model. The focus was on identifying the underlying framework evident in the grant search interfaces, explanatory texts, downloadable datasets, and data models of these sites. Additionally, the project team formulated new fields based on feedback received during Advisory Committee meetings. For instance, the mentors' names were usually not captured anywhere in the shared resources, so the project team noted that "Mentor" could be a role applied in the "Roles (in Projects)" field to encourage the gathering of the mentors' information to fill in "Contributors Full Name" field. The project team also dedicated a field to capture the career status of Principal Investigator and a field for the proposal status. Participants in the Advisory Committee meetings expressed interest in knowing the career status of Principal Investigators at the time of proposal submission and potentially tracking their professional growth by observing changes in status over the years. Participants desired access to proposals that failed to secure the grant funding or were not submitted. To meet this requirement, the project team recognized that the Proposal Status field should include two status labels: "Submitted Unfunded" and "Not Submitted". This ensures that the scope of an Open Repository is not restricted solely to successful grant proposals.

Here is a list of the reviewed resources:

Abbreviations/Short Names	Resources Type	Full Name	Links to studied web resources
IMLS	Funding Agency	Institute of Museum and Library Services	ttps://www.imls.gov/grants/awarded-rants
Mellon Foundation	Funding Agency	The Andrew W. Mellon Foundation	ttps://mellon.org/grants/grants-database/
NEA	Funding Agency	National Education Association	ttps://apps.nea.gov/grantsearch/
NEH	Funding Agency	National Endowment for the Humanities	ttps://www.neh.gov/grants/listing
NIH	Funding Agency	National Institutes of Health	ttps://reporter.nih.gov/advanced-search
NSF	Funding Agency	National Science Foundation	ttps://www.nsf.gov/awards/award-search-uide.jsp
philanthrobotics	Grants-related Project	Philanthrodex - The Grants Data Index	ttps://philanthrobotics.netlify.app/entries
Global Development Innovation Database	Grants-related Project	Global Development Innovation DAtabase by Glaboral Innovation Exchanges	https://docs.google.com/spreadsheets/ /1Krpro1m4EXR5TYTPMIfPuIKSfIXn QSd/edit#gid=1450703001
Wikimedia Research Fund	Grants-related Project	Grants:Programs/Wikimedia Research & Technology Fund/Wikimedia Research Fund	https://meta.wikimedia.org/wiki/Grants: Programs/Wikimedia_Research_%26_ Technology_Fund/Wikimedia_Researc n_Fund
RDF Grant Data Model	Grant Data Model	SHEX - SHAPE EXPRESSIONS (https://shex.io/)	https://github.com/shexSpec/schemas/ lob/master/Wikidata/research_funding doc/GrantModel_RDFGraph.pdf

The Schema

The schema (which you can find in the Supplemental Materials) covers nine main areas, with 77 fields in total. Additionally, the schema defines the field type through the "Field Type" columns and guides data value standards via two columns labeled "Controlled Values (Y/N)" and "If values controlled, accept New Terms (Y/N)". These columns indicate whether the field utilizes controlled data values and whether these controlled value lists can be expanded. Furthermore, the schema specifies the occurrence of fields, particularly indicating whether a field can be used

multiple times. Finally, the columns "GrantModelMapping01" and "GrantModelMapping02" provide mappings to the basic RDF Grant Data Model.

The schema encompasses nine conceptual areas, including Awardee (Organization), Community, Funding Agency, Individual, Project, Proposal, Record, Text Analysis, and Influence/Result. The objective is to comprehensively capture all grant activities, from writing proposals to executing funded projects. Acknowledging minor overlaps between different areas, the schema assigns conceptual areas to multiple fields. For example, the Data Management Plan field could belong to project management or to record maintenance activities; thus, it is assigned to both "Project" and "Record".

As the product of an environmental scan, this schema compiles and consolidates the fields covered by all studied sites and models with minor expansion to reflect ideas gathered from advisory meetings. It is an all-inclusive collection of fields, and it serves as the guide to developing application profiles that usually require a much smaller set of fields with refined development needs and functional requirements.

The Future Work

As the foundation for an open repository of funding proposals begins to take shape, the focus of future work will revolve around field selection, the development of associated definitions for each field, and the refinement of guidance through focus group testing.

Field Selection and Definition Development

The initial step in this process involves the deliberate selection of fields from the comprehensive Metadata Scheme. While the scheme presents an exhaustive list of possible elements, not all may be necessary for the repository's functionality. Thus, future work entails a meticulous review to determine which fields are essential for capturing key information related to grant activities. Simultaneously, associated definitions for each selected field must be developed. These definitions serve as the cornerstone for ensuring clarity and consistency in data interpretation across users. By providing clear definitions, potential ambiguities can be minimized, enhancing the usability and reliability of the repository.

Focus Group Testing for User Understanding

Once the selected fields and their definitions are established, focus group testing becomes paramount to ensure user comprehension and usability. Focus groups comprising diverse stakeholders, including grant applicants, reviewers, and administrators, will be convened to evaluate the effectiveness of the chosen fields and definitions. Through interactive sessions and feedback mechanisms, participants will have the opportunity to express their understanding of each field and suggest improvements where necessary. This iterative process fosters collaboration and empowers users to contribute to the refinement of the repository's structure.

Iterative Refinement

The insights gained from focus group testing will inform iterative refinement cycles aimed at optimizing the repository's design and functionality. Adjustments to field selection, definitions,

and guidance will be made based on the feedback received, ensuring alignment with user needs and preferences. Additionally, ongoing engagement with stakeholders, including Advisory Committee members and end-users, will facilitate continuous improvement and adaptation to evolving requirements and best practices.

Conclusion

In summary, future work on the development of the open repository of funding proposals will prioritize field selection, the development of associated definitions, and focus group testing to ensure user understanding and usability. By iteratively refining the repository based on stakeholder feedback, we can create a robust platform that effectively supports grant-related activities and fosters collaboration within the research community.

Functional Requirements

Based on the environmental scan and subsequent activities informing the field report, it was clear early in the project that a monolithic repository for all grant and fellowship proposals was neither likely to be feasible nor likely to be desirable across communities and institutions with disparate norms and tolerance for risk.

However, far from being an obstacle to success, this reality helped the project team consider possibilities across existing infrastructure. To what extent do the repositories we already use accommodate funding proposals? Which features might be required or especially helpful, and what might we share with repository hosts to augment technical and policy infrastructure?

A few key lessons arose repeatedly throughout the project, and they inform the more granular list of functional requirements below:

1. Citation and persistent identifiers (preferably DOIs) support awareness of proposals as part of the scholarly record.
2. Recognition that something is better than nothing should encourage systems that allow (through both technology and policy) shared proposal components, not only full proposals.
3. Most basic metadata–whether or not an item contains a grant proposal–is missing key to discovery in many existing repository environments.
4. Grant seekers rely on peer networks; an effective system should include sustainable mechanisms for social connection.

Thanks to the National Gallery of Art for providing a model of a functional requirements document, included in the Getty Foundation's final report of the Online Scholarly Catalogue Initiative (2017).

ID	Functional Requirement	Category	Notes & Examples	Priority
1	System shall automatically generate OCR text files from files associated with item records.	access		High
2	System shall make files available in multiple digital formats to facilitate access across applications.	access		Medium
3	System shall make all files available in at least one uniform digital format.	access	Ensuring there is a TXT or PDF copy of all files.	High

ID	Functional Requirement	Category	Notes & Examples	Priority
4	System shall accommodate but shall not require file formats that most easily facilitate reuse and adaptation.	access	Allowing (but not requiring) formats like TXT, CSV, DOCX, etc. that can be most easily analyzed or edited.	Medium
5	System shall facilitate automatic population of external repositories with metadata and digital object(s).	access	Sharing data with subject or funder repositories	Medium
6	System shall generate bibliographic citation in multiple formats, based on available metadata.	attribution		High
7	System shall facilitate automatic population of external profiling systems with bibliographic data associated with each author.	attribution	Pushing data to ORCID or LinkedIn	Medium
8	System shall support user annotation of files where submitter has granted permission.	community	E.g., Hypothesis plugin	Medium
9	System shall allow individual users to publicly indicate willingness to advise peers in pre- or post-award activities.	community	Support peer mentorship in applying for or managing grants and fellowships. This was major discussion point in field report of ways to add value to proposals.	High
10	System shall allow active links to external resources within item metadata.	discovery	Accommodating metadata-only records will help overcome logistical and legal issues.	High
11	System shall allow user to perform faceted search or browse in order to access all grant proposals according to, at minimum, funder, subject, and applicant.	discovery		High
12	System shall expose all publicly available data to search engines.	discovery		High
13	System shall apply machine-aided methods to extract relevant subject terms.	discovery	See Stapleton et al., 2021 (https://doi.org/10.5860/crl.82.6.792)	Medium

ID	Functional Requirement	Category	Notes & Examples	Priority
14	System shall allow individual users to indicate in their profiles interest in proposals where metadata includes specified values.	discovery	E.g., all proposals submitted to specific funder, only successful proposals, proposals from given disciplines, etc.; could also be achieved via facets	Medium
15	System shall send email notifications to users when proposals are submitted with metadata that matches specified values of interest.	discovery		Medium
16	System shall provide additional metadata fields based on type of material or proposal component.	discovery	E.g., some elements for submitting a budget may differ from those for submitting a data management plan	Medium
17	System shall require identification of which proposal components are included in an item record.	discovery	Narrative, budget, DMP, personal statement, etc. Very clear from field report that people are looking for specific components.	High
18	System shall provide site content, including tutorials, submission interface, and metadata fields, in multiple languages.	equity		High
19	System shall adhere to standards for web accessibility to greatest extent possible.	equity	Difficult to fully commit to all files submitted by users being accessible (e.g., may not appropriately use headers or alt text)	High
20	System shall facilitate bulk upload of item-level metadata.	ingest	Allow funder/institutional sharing	High
21	System shall facilitate bulk upload of item-level digital objects.	ingest	Allow funder/institutional sharing	High
22	System shall allow ingest of multiple files per item record.	ingest	Proposals often stored in multi-file packages.	High
23	System shall create metadata records with descriptive elements specific to grant proposals and related materials.	metadata	See [Xiaoli's final metadata deliverable]	High

ID	Functional Requirement	Category	Notes & Examples	Priority
24	System shall present user with recommendations for ethical and legal reuse prior to download of project data.	policy	Colored Conventions and Trove do something similar to acknowledge sensitive data.	High
25	System shall present submitter with agreement that affirms any necessary permissions have been obtained to share digital objects, including reliance on fair use.	policy	Offers some legal protection for hosts. Acknowledging fair use/fair dealing may support upload of legacy proposal collections with no possibility of obtaining permissions.	High
26	System shall make available plain language terms of use, privacy policy, and community guidelines clarifying appropriate interactions with other users.	policy	See Humanities Commons: https://sustaining.hcommons.org/policies/guidelines/	High
27	System shall generate an appendix to every downloaded file, retaining descriptive metadata.	policy	Overcoming concerns about separation of files from citation and licensing information.	Medium
28	System shall communicate with external system to mint digital object identifiers corresponding to each item-level record.	preservation	Facilitate attribution	High
29	System shall communicate with external system to mint digital object identifiers corresponding to each file.	preservation	Facilitate more granular attribution and file-level preservation	Medium
30	System shall facilitate harvesting of metadata and digital objects by external systems for bit-level preservation.	preservation	E.g., CLOCKSS; see https://www.loc.gov/programs/digital-collections-management/digital-formats/bit-level-preservation-and-long-term-usability/	High
31	System shall allow but not require assignment of open license.	reuse	E.g., Creative Commons, Open Data License	High
32	System shall facilitate bulk download of item-level metadata based on user query.	reuse		High
33	System shall facilitate bulk access to all OCR text files.	reuse	Should clearly specify this in terms agreed to by submitter	High

ID	Functional Requirement	Category	Notes & Examples	Priority
34	System shall employ natural language techniques to extract named entities from proposals.	reuse	Identifying grant contributors and social network analysis	Medium
35	System shall allow organizational accounts with multiple credentialed users.	users		High
36	System shall facilitate login via a range of external credentials.	users	Logging in with credentials for ORCID, Google, etc.	High
37	System shall support user profiles for individuals that minimally include a required name and optional title, affiliation, email, ORCiD.	users	Primarily for disambiguation; should leverage external profiles such as ORCID as possible.	Medium
38	System shall support user profiles for organizations that minimally include required name and optional contact.	users		Medium
39	System shall allow submitter to designate one or more administrators with privileges to update metadata, upload new digital objects, and define sharing parameters for the item.	users	OSF may be a useful example as a repository that emphasizes collaboration and granular permissions.	Medium
40	System shall allow users to update their names in existing metadata according to a name change policy.	users		High

Ethical Engagement Plan

Principles

Openness

Grant and fellowship proposals should be open by default, through a variety of methods undertaken by funders, grantees, and research institutions. This does not mean all proposals, or every component of every proposal, ought to be shared publicly; however, there should be compelling reasons when these materials are restricted.

Fears of scooping and competition

Rather than aiming to prove or disprove that researchers may engage in academic theft, plagiarism, or appropriation from open proposals, we should acknowledge this is a common point of concern and take reasonable steps to encourage research integrity.

Institutional and personal privacy

As with research data and other forms of information, steps should be taken to protect highly sensitive information, including culturally sensitive information. When privacy considerations are the primary rationale for restricting access to proposals, it should be clear that access would cause actual harm or legal risk.

Attribution and credit

Grant proposals are the products of intellectual labor and specialized expertise, and those involved in developing these materials should be cited or otherwise receive credit in ways that align with their professional contexts.

Equity and community

Access to grant proposals is only one step toward a more just, transparent funding landscape and will not overcome systemic inequities that advantage some well-resourced applicants over others. Efforts to share proposals should move forward in tandem with other efforts to reduce bias and to strengthen peer networks available to a broader swath of researchers.

Recommendations

For repository managers

- Consider enabling granular permissions that would allow users to share along a spectrum of openness, including open access to full proposals, open access to partial proposals, and semi-closed access to specific communities.
- Prioritize strategies to promote citation, attribution, and research integrity. This might range from bibliographic and rights metadata to community guidelines to DOI registration.

For funders

- Strongly consider sharing all successful proposals for all or most programs, including language within the terms and conditions of the award that specifies this as institutional practice.
- Allow exceptions to sharing policies in cases where applicants make a compelling case based on research ethics, privacy, legal, or cultural concerns.
- When sharing sample proposals, make them available in a repository system where they may be easily discovered, accessed, and cited. If you want to highlight especially relevant or strong proposals, link to a persistent identifier within a repository rather than simply posting to a website.
- Undertake or commission research reports that analyze proposals in order to better understand issues that may contribute to inequity or inadequate support for grant-funded staff.

For grantees

- Recognize the privilege and influence you have as an institution, research team, or individual who has been awarded funding, often through very competitive processes, by proactively supporting peers navigating this process.
- Share your full grant or fellowship proposal if at all feasible, ideally within a repository system (e.g., Zenodo, Humanities Commons, etc.) where it might be easily located and cited by others. If you feel that ethically you need to ask permission from others or redact private information, consider taking the time to do that in order to benefit colleagues and the broader community.
- Take advantage of sharing your proposal to further your own goals, such as including a link on your CV, using it as an outline for your project's promotional website, or publicizing on networking sites to "stake your turf" even before you have drafted resulting data or papers.

Supplemental Materials

- Project datasets, presentations, reports, and the original funding proposal can be found on our OSF site: https://osf.io/n6svj/
- Our Zotero library (https://www.zotero.org/groups/2775151/open_grants/library) includes a collection of proposal examples and relevant literature.
- The project website (housed alongside the pilot Open Grants database) has been archived as it appeared during the grant period: https://web.archive.org/web/20231216115405/https://www.ogrants.org/
- Metadata schema: https://osf.io/kjae5