

Exploring data management support needs of bioengineering and biomedical research faculty

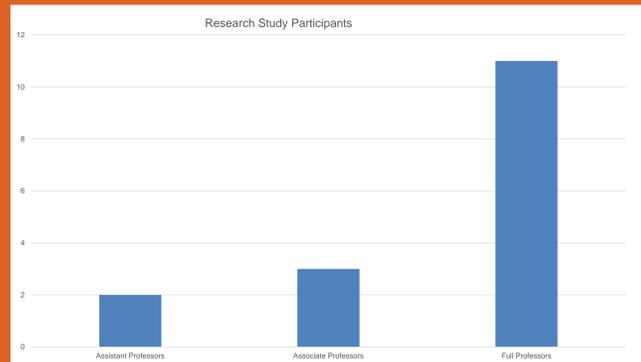
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Introduction

At the University of Illinois at Urbana-Champaign librarians are actively engaged in efforts to assess opportunities for data management support for researchers across disciplines.

This study explores attitudes, practices and perspectives bioengineering and biomedical researchers in the context of NIH funded projects.



Goals

- Gain insights into common challenges and frustrations related to data sharing mandates and data management overall
- Assess bioengineering and biomedical researchers' familiarity with, and use of data repositories
- Better understand researchers' awareness of campus data management and library preservation services, and library repositories for research output
- Gauge primary investigators' interests in data literacy instruction



"...actually students have their own naming conventions and then, once you see the logic they are quite good, but it would be good to have something systematic - but we don't."

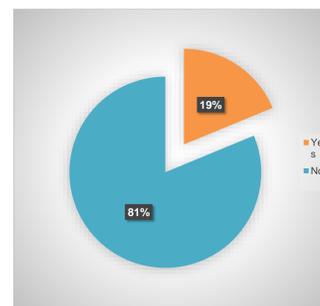
Methods

- In-person semi-structured interviews consisted of 18 questions with follow-up questions as needed.
- Interviews were recorded and transcribed.
- Broad areas of inquiry included:
 - Description of research projects
 - Research collaborations
 - Scope of data collected
 - Data management plans
 - Data documentation
 - Data storage
 - Data sharing activity and intentions
 - Knowledge of library research services and support
- Preliminary text analysis revealed some common themes regarding data management practices and attitudes towards data sharing.

Data Management Planning

- Required to submit DMP?
- NIH 6
 - NSF 3
 - No 7

Familiar with DMPTool?



"It is in our best interests to publish but we did not have any obligation to put our data anywhere else."

"I view PubMed as data and I can't get by without that"

Insights and Challenges

- Some researchers reported uploading raw data as supplemental files of publications but nowhere else
- In general, basic science researchers are willing to share data but don't see that it would be of interest outside of their narrow field
- Clinical researchers are more proactive about disseminating research findings
- Often PIs leave it to individual researchers in their lab to manage data output
- The *print* lab notebook continues to be the major vehicle for documenting research methods, observations and findings
- Many researchers said that data can be difficult to track down after students leave or graduate
- Some researchers were aware of data management and preservation services offered through the university library, but had not used them
- Several researchers stated they might contact librarians in the future for assistance with data management, storage, or archiving
- The term "repository" is not clearly understood
- Researchers consider the publication as the main data "repository"
- Post interview, some researchers explicitly stated that they saw the need to improve management of their data
- Most researchers said that data can be difficult to track down after students leave or graduate

"I just feel every time a student leaves the lab I don't have a complete grasp of exactly where everything is."

Data Characteristics

- Generate All Original Data - 12
- Use Existing Data & Generate Original Data - 4



"So to be fair, if this building were to burn down there would be data lost."

"We generate oceans of data."

"It is difficult to know where everything is. Have one server, multiple projects. We do our best to organize it by project name, by room, by date. Every user has their own folder. So it's hard to keep all that organized."

Next steps

- Develop data literacy instruction for biomedical and bioengineering research groups
 - File organization
 - Project workflow
 - Data documentation
 - Data storage & deposit
- Continue to explore ways librarians can support researchers' management of research data

"the data is really literally the paper"

