

# Follow the money

Getting chemists to share their data



UNIVERSITY OF MINNESOTA

Driven to Discover<sup>SM</sup>

# Who was involved?

- Center for Sustainable Polymers (CSP)
  - Multi-institutional, interdisciplinary Center for Chemical Innovation
  - 13 senior investigators, plus grad students, postdocs, & staff
- University of Minnesota Libraries
  - Chemistry liaison (Meghan Lafferty), two liaisons/members of Research Data Services team (Carolyn Bishoff & Shannon Farrell)
  - Science data curator (Lisa Johnson) for Data Repository for University of Minnesota (DRUM)
- American Chemical Society (ACS)
  - Journal editors
  - Publication staff
- National Science Foundation (NSF)

# Cast of characters

NSF (\$)

CSP Director

CSP Managing Director

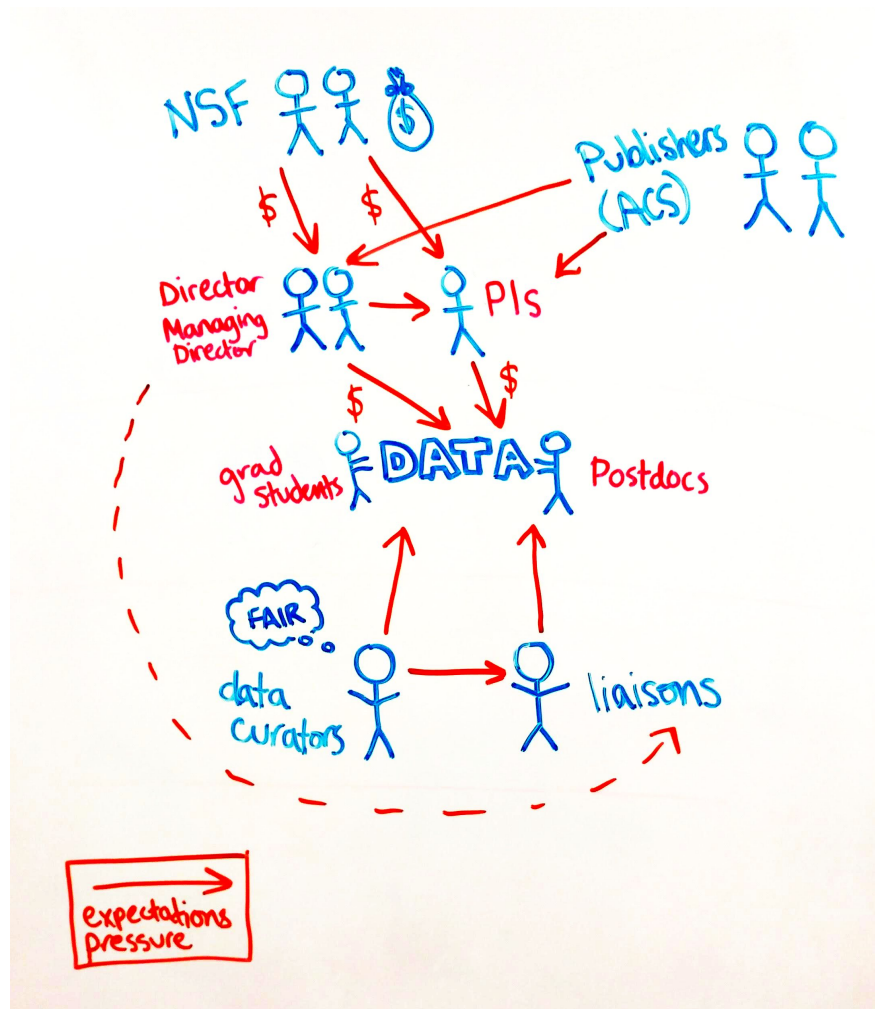
Faculty (PIs)

Grad students & postdocs

ACS editors

DRUM Curator

Liaisons



# What did we do?

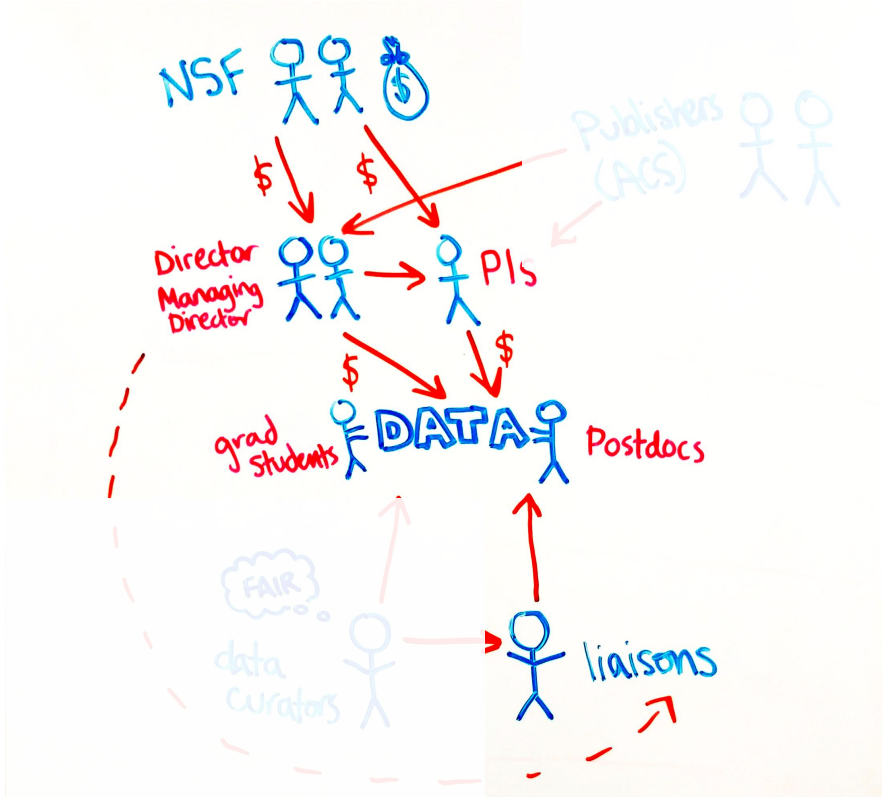
- Advised CSP on choosing feasible data project to meet NSF requirements
- Created preliminary workflow for authors to share their data in DRUM post-publication
- (In progress) Working on process for authors to include DOI or link to data in manuscript at point of submission for review

# Why did we do this?

- NSF asked CSP & other Centers for Chemical Innovation to implement data-related pilot project to benefit center & field of chemistry
- CSP wanted to continue their mission
- Libraries were asked for advice
- For Libraries, opportunity to work on large-scale project with researchers in culture where data sharing is not the norm

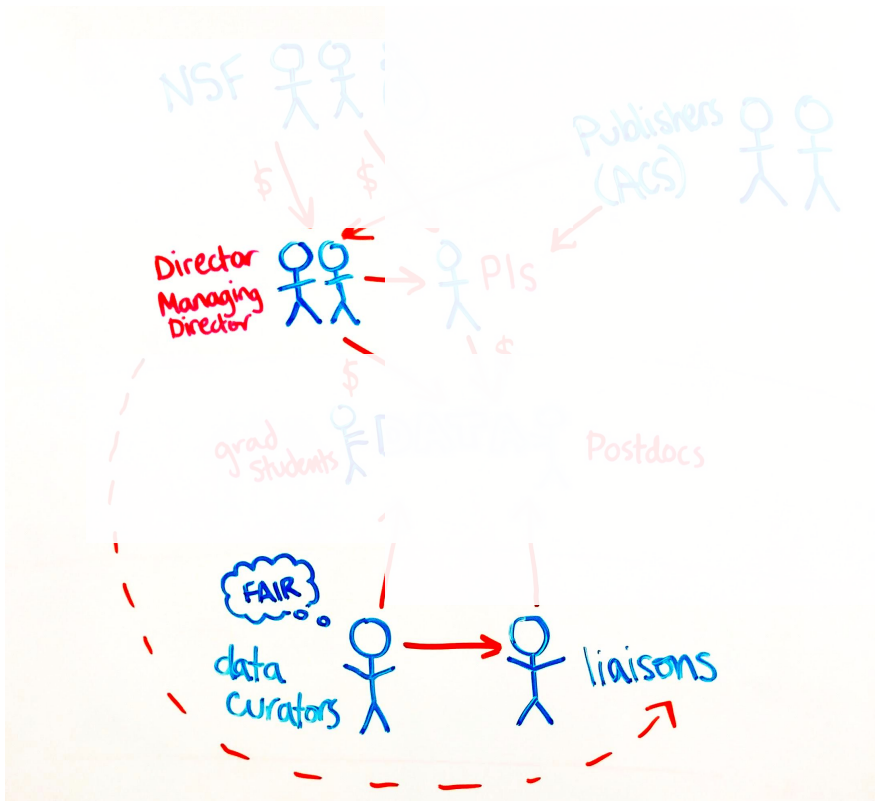
# Story 1: Liaisons & Managing Director vs. Grad students, Postdocs

- Keep existing file organization
- Sacrifice uniformity
- Avoid resentment
- Preserve relationships
- Rely on intermediary with power
- Sacrifice control



## Story 2: Data curator vs. liaisons

- Curator not involved in “pre-curation” interviews
- Sacrificed preferred level of detail for what someone in the field could understand
- Complexity is relative. “Complex” chemistry data is common & easy to use!
- Every file could not be described individually



# Story 3: Faculty/ACS Editors vs. directors and liaisons

- Sacrifice speed to reassure PIs with answers from ACS
- Lots of miscommunication
- Found limitations of our repository\*
- Might need to sacrifice goal of submitting data & manuscript simultaneously





# What did we learn?

- Only DRUM staff motivated by FAIR
- Main motivator: money & how to keep getting it
- Publisher directly involved in discussions probably uncommon, but makes sense in chemistry & with this project.
- Researchers not intrinsically motivated to share data (unlike early adopters) so getting responses to DRUM more difficult.
- Challenge: getting people onboard with idea that data should be shared.
- Intermediary with power both important & challenging. No progress without it, but she wasn't the researcher.

# What did we learn?

- Curators had to adapt to complexity of data sets & devise strategies for handling volume of files included in raw data from instruments.
- Best curators & liaisons could do was find big glaring errors & better organize files. Few “wins” on curation side (e.g., detecting someone was missing information). Just having README file was the win.
- Curators typically track process in detail. In-person interviews were difficult to systematically track but necessary to understand organization of data & catch missing pieces.
- Get comfortable asking ignorant questions of people with great expertise not known to suffer fools.

# Thank you!

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