

1. Summary

Goal

Find a discrete campus population in need of research data management (RDM) guidance, and find an effective way to deliver that guidance.

Dissertations and Data

UC Santa Cruz began Electronic Theses and Dissertations (ETD) in Winter, 2012. Dissertations and supplemental files are added into eScholarship, our institutional repository. This provided our group with a good sample size of supplemental data files to examine, as well as an important population to support.

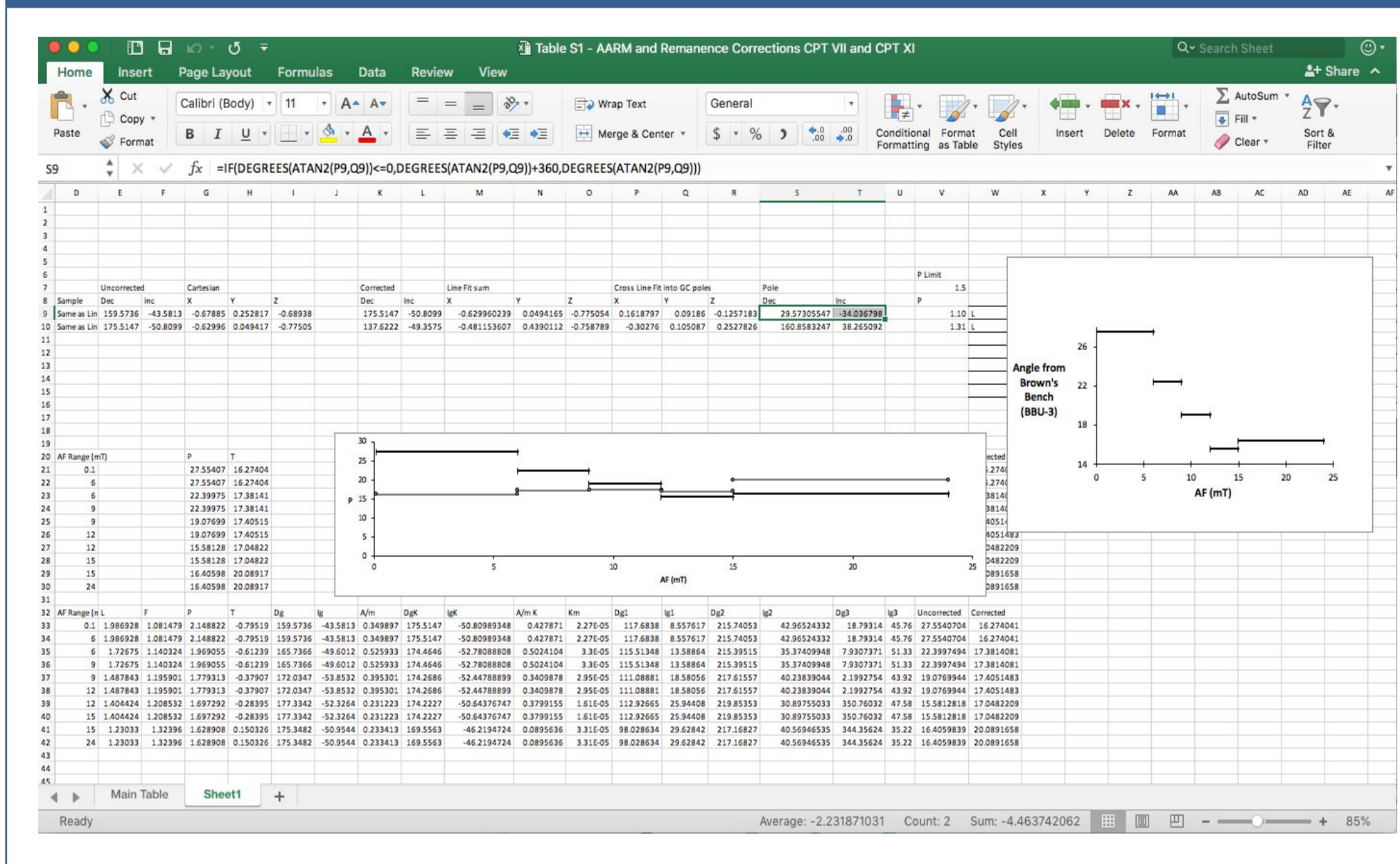
Unmet Need Identified

Despite excellent work from Educopia Institute's ETD+ Toolkit (<https://educopia.org/etdplustoolkit/>), we found that most university dissertation guidance, whether from the graduate divisions or the libraries, did not connect supplemental files with RDM best practices.

Project Focus

As a result of this investigation, our project is focused on connecting RDM best practices guidance to graduate students as part of their dissertation writing support.

Fig 1 . Mix of Raw Data & Charts



2. Process

- Exported thesis & dissertation metadata from our institutional repository (eScholarship) into a spreadsheet.
- Explored the files in eScholarship and noted future reusability issues.
- Met to discuss which RDM best practices were most in need of communicating, and how/where to communicate this guidance.
- Revised our main RDM best practices page, and reused these portions on the ETD library website.
- Requested our Graduate Division link to the ETD library website.
- Added guidance link to departmental library research guides

Fig 2. Nondescript file naming

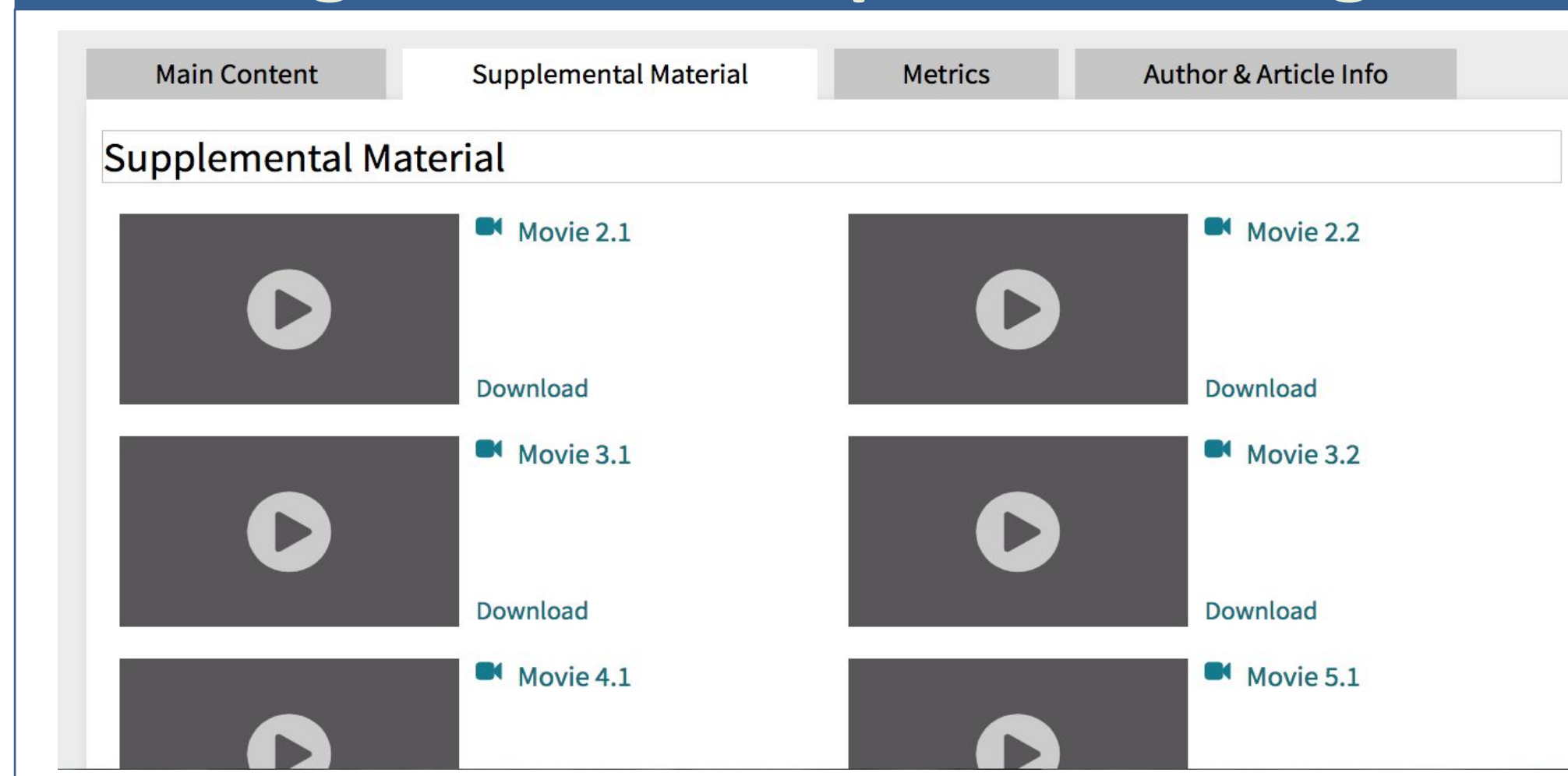


Fig 3. Trapped Data

Supplemental Online Material

Table S1. BLAST analysis of 16S rRNA sequence from the National Center of Biological Information database with six strains isolated from bats (*M. lucifugus* and *E. fuscus*).

Bacterial Isolate	Bases	Query cover (%)	Max Id (%)	GenBank accession number	Bat Species Isolated From
PS_KL12VA650C	1497	97	98	AB334768.1	<i>M. lucifugus</i>
PS_MYL1c	1490	89	99	AB680974.1	<i>M. lucifugus</i>
PS_MP022A	1453	596/603	98	CP000075.1	<i>E. fuscus</i>
SPH_MP0022B	1464	1448/1463	98	AY253921.1	<i>E. fuscus</i>
PS_MP0022D	1493	547/547	100	AY850196	<i>E. fuscus</i>
PS_MP0050A	1471	619/619	100	CP000075.1	<i>E. fuscus</i>
PS_MP0014B	1457	564/564	100	D86357	<i>E. fuscus</i>
CHR_NYWWO1C	1497	97	98		<i>M. lucifugus</i>

All e-values were 0.0 (1x10⁻¹⁷)

Table S2: Coefficients for linear models of the influence of nine bacterial treatments and a control on the radius of the zones of inhibition of *P. destructans* produced by bacteria at four different concentrations of *P. destructans* on day 37 for the data shown in Figure 3.

	<i>Pseudogymnoascus destructans</i> concentration 10 ⁴ cfu/ml			
	Estimate	Std. Error	t-Value	Pr(> t)
Control	0.00	0.45	0.0000	1.0000
CHR	0.00	0.75	0.0000	1.0000
SPH	0.00	0.71	0.0000	1.0000

3. Findings

The vast majority of supplemental files did not reflect RDM best practices. We noted the following commonalities with ETD supplemental files:

- Lack of ReadMe files
- Proprietary file types
- Spreadsheet practices
 - Excel files common, not many .csv
 - Mix of notes and formatting together with raw data
- PDFs or MSWord docs with trapped data instead of recombitorial options
- Images and videos common, but often not archival file types
- Code and scripts common, but software best practices not followed
- File naming best practices rarely followed
- Zip files with no explanation of contents

4. Looking Forward

- Current campus dissertation guidelines need revisions. The process for approving revisions is multifactorial and will take time.
- Partner with Graduate Division and graduate advisors for dissertation workshops.
- Review supplemental files of future dissertations to assess if there is better preservation of research outputs and awareness of RDM best practices.

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