Informationist: Informationist Breakout Session

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Informationist Breakout Session
eScience Symposium
April 6, 2016
Hello!
I am Leah Honor

Informationist Liaison to the Child and Adolescent NeuroDevelopment Initiative (CANDI)

LSL Library Fellow
In this Session:

1. What we did, and why we did it
2. What I learned along the way
3. What we plan to do next
1. NIH Informationist Supplement Grant

Data Citation in Neuroimaging: Proposed Best Practices for Data Attribution and Citation
Data Sharing and Citation in Neuroimaging

Sharing and reusing data (images) is already accepted and common, but no standards exist on how to properly cite reused data, and how to maintain attribution to data creators.

Citations are often:
- Indirect - Cite the paper where the data was presented, but not the data itself
- Unofficial - Citations in acknowledgements or contribution sections
- Indefinite - descriptions of sources and datasets in methods sections are not machine readable
What ARE Citations?

At their most basic level, citations are just a way to identify your sources.

Citing data, which has no specific format or structure, led us to ask: how can data be identified in a way that is direct, official, and definitive (and hopefully machine readable)?

What granularity of identification will be needed to accurately cite reused data? What about new datasets that draw from many sources?
Data DOIs In NITRC

NITRC - Neuroimaging Informatics Tools and Resources Clearinghouse

Realized we needed nested levels of identifiers:

- **Project level** - assigned when new data is uploaded
- **Image level** - each image carries its own identifier, as well as a parent project ID
- **Functional level** - assigned to image sets created from existing data
To Create a New Functional Level DOI for an Image Set:

**Query**
Using the standard repository search functions, a new image set is defined using standard criteria such as age, gender, handedness, diagnosis, etc.

**Result/Selection**
Results can be reviewed and excluded, or additional images included, until the final collection of images has been resolved.

**Tag Preparation**
Basic metadata fields, such as authors, associated publication ID’s, funders, and project description fields must be completed in order to create an identifier for the newly defined image collection.
UMass/CANDI DOI Project

Use this form to start a search for data in the CANDI/UMMS DOI database, which can then be refined and tagged with a DOI.

**Gender**
- Female
- Male
- Either

**Age**
- Min
- Max

**Handedness**
- Left
- Right
- Either

Search

Functional DOI Process: Query
UMass/CANDI DOI Project

Home  Image database  Search

This page shows a collection of images starting with female, 5 <= age <= 18, right.

Actions:
- [Tag] Tag this collection with a DOI.
- [Download] Download the data in this collection (the download package may contain more data than requested).

Or refine the collection:

<table>
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<th>Project</th>
<th>Subject</th>
<th>Gender</th>
<th>Age</th>
<th>Handedness</th>
<th>Scan</th>
<th>Include</th>
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UMass/CANDI DOI Project

This page shows a collection of images starting with female, $5 \leq \text{age} \leq 18$, right.

If you don't want to tag this collection, you can go back and refine or download the collection.

<p>| Publication PMID | 18003631 |
| Publication DOI  | 10.1093/schbul/sbm120 |</p>
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<td>Moore CM</td>
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<tr>
<td>Funder</td>
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<td>Description</td>
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</table>

This collection has not been tagged with a DOI.

If you are testing the system, please create a temporary test DOI. If you would like to create a permanent DOI for this data set, please indicate this by checking here: □

Functional DOI Process: Tag Creation
UMass/CANDI DOI Project

Image collection 10.5072/FK2H41Q83C

UMass/CANDI DOI project, 2015
DOI 10.5072/FK2H41Q83C

DataCite XML
Refine/download

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<th>Publication DOI</th>
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<td>18003631</td>
<td>doi:10.1093/schbul/sbm120</td>
<td>National Institute of Mental Health</td>
<td>Frazier JA, Hodge SM, Breeze JL, Giuliano AJ, Terry JE, Moore CM, Kennedy DN, Lopez-Larson MP, Caviness VS, Seidman LJ, Zablotsky B, Makris N</td>
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Source projects: 10.18116/C6159Z
Source images:
- 10.18116/C6FP4R
- 10.18116/C8MW2T
- 10.18116/C6H599
- 10.18116/C6CC7C
- 10.18116/C67P43
- 10.18116/C63W2S

Functional DOI Landing Page
Manual Segmentation for CANDI Share Schizophrenia Bulletin 2008 subject BPDwoPsy_041

Child and Adolescent NeuroDevelopment Initiative, 2008
DOI 10.18116/C6CC7C

Project 10.18116/C6159Z
Collections 10.5072/FK2H41Q83C
Sizes 1 files
187197 bytes
Format NIfTI
Version 1.1
Rights Creative Commons Attribution 4.0 International License

This data set of adolescent females was used to analyze hippocampal volumes in BPD.

Source projects 10.18116/C6159Z
Source images
2. Lessons Learned

Bridging the gap between library and research team
Know Your Strengths

How I succeeded as an Informationist:

**Necessary**

- ◎ Info. science skills
  - ○ Metadata standards
  - ○ Data management
  - ○ Metrics and data usage reporting

**Useful (but not critical)**

- ◎ Neuroscience background
- ◎ Research experience
Main Takeaways:

There is no right answer! You are there to help find a better one than exists today.

When joining a research team you need to be willing to listen, to learn, and to be flexible in your ideas.

...but also remember you are not in this alone, and that research is a collaborative process. Have conversations, try different approaches, and keep the big picture in mind.
3. Future Projects

Machine readable mark-up and building reproducibility frameworks
Thanks!

Any questions?

You can contact me at: Leah.Honor@umassmed.edu