Module 3 Activity: Case-Based Questions

1. The research cases in this course involve unique products of research that need to be documented, curated and managed. For example, in the case on stem cells the research team is generating a high volume of digital optical images and would benefit from metadata standards used for microscopy; in the orthopedic research case, a data dictionary is necessary to create and validate the instruments used to collect data from multiple sources in a longitudinal study; in the case on perceptions of end-of-life care there needs to be a way to map associated documents with the interviews and codes; and in the case on rocket engines, metadata would be needed to document and curate a research team’s unique code written to analyze their experimental data.

A. Let’s first think globally beyond the core metadata typically used to describe a document and instead brainstorm metadata elements that could be helpful for describing and contextualizing different types of data (Compare your answers against this list provided by MITLibraries <http://libraries.mit.edu/guides/subjects/data-management/metadata.html>.

2.) What kinds of disciplinary metadata could a researcher collect for a model organism database (e.g., Flybase, ZFIN) that could make the data more easily discovered or understood (e.g. cell type, strain, etc.)? (Compare your answers against this model organism data repository record <http://flybase.org/reports/FBlc0000260.html>.

3. In the case on rocket engine research, the PI identifies that a lack of documentation surrounding the code is a serious problem. This highlights an important issue for the discoverability, curation and preservation of these important materials produced during the research project.

What are some metadata elements that you could suggest for this researcher to require from students so that they could provide more useful and appropriate documentation of their self-authored software?

References:

Ferguson, Jen. (2012). "Description and Annotation of Biomedical Data Sets." Journal of eScience Librarianship 1(1): Article 9. http://dx.doi.org/10.7191/jeslib.2012.1000

For Attribution -- Developing Data Attribution and Citation Practices and Standards:Summary of an International Workshop http://www.nap.edu/catalog.php?record\_id=13564

Greenberg, Jane. Metadata for Scientifc Research Data Management. NISO/DCMI Webinar Auguest 22, 2012. http://www.niso.org/news/events/2012/dcmi/scientific\_data/

Metadata and Documentation. MIT Libraries Data Management Pages http://libraries.mit.edu/guides/subjects/data-management/metadata.html

The Data Documentation Initiative Specification. Data Documentattion Initiative Alliance. http://www.ddialliance.org/sites/default/files/ryssevik\_0.pdf

Dryad uses a combination of the Dublin and Darwin Core for its core set of standard metadata collected to describe an uploaded data set. Complete the record below by filling in the missing letters.

Module 3 Activity: Metadata Template

The data repository Dryad uses a combination of the Dublin and Darwin Core for its core set of standard metadata collected to describe an uploaded data set. Complete the Dryad record below by replacing the letters with these Dublin and Darwin Core metadata elements.

dc.contributor.author

dc.coverage.spatial

dc.description

dc.identifier

dc.identifier.citation

dc.identifier.uri

dc.subject

dc.title

dc.type

dwc.ScientificName

|  |  |  |
| --- | --- | --- |
| A | Maxwell, Sheri A. |  |
| A | Thistlewood, Howard M. A. |  |
| A | Keyghobadi, Nusha |  |
| B | British Columbia |  |
| B | Canada |  |
| B | Okanagan |  |
| dc.date.accessioned | 2013-11-01T19:03:25Z |  |
| dc.date.available | 2013-11-01T19:03:25Z |  |
| dc.date.issued | 2013-10-17 |  |
| C | doi:10.5061/dryad.qq055 |  |
| C | doi:10.5061/dryad.qq055 |  |
| D | Maxwell SA, Thistlewood HMA, Keyghobadi N (2013) Population genetic structure of the western cherry fruit fly Rhagoletis indifferens (Diptera: Tephritidae) in British Columbia, Canada. Agricultural and Forest Entomology, online in advance of print. |  |
| E | http://hdl.handle.net/10255/dryad.56080 |  |
| F | 1. Population connectivity and movement are key ecological parameters influencing the impact of pests, and are important considerations in control strategies. For many insects, these parameters are difficult to assess directly, although they may be assessed indirectly using population genetic data.  |  |
| dc.relation.haspart | doi:10.5061/dryad.qq055/1 |  |
| dc.relation.isreferencedby | doi:10.1111/afe.12029 |  |
| G | Agricultural pest |  |
| G | cherry fruit fly |  |
| G | dispersal |  |
| G | host plant |  |
| G | isolation by distance |  |
| G | microsatellite |  |
| G | movement |  |
| G | population structure |  |
| G | sex linkage |  |
| H | Data from: Population genetic structure of the western cherry fruit fly Rhagoletis indifferens (Diptera: Tephritidae) in British Columbia, Canada |  |
| I | Data | \* |
| J | Rhagoletis indifferens |  |
| J | Tephritidae |  |
| prism.publicationName | Agricultural and Forest Entomology |  |