20191104 (SSA) - SV Tools & Standards

Metadata standards and tools practice at EPFL School of Life Sciences

Isa-Tab, DICOM, DDI, Uniprot, Genbank... are some well-known metadata standards and tools in the field of Life Sciences. Do you use them?

This EPFL Library survey is aimed at EPFL Life Sciences faculty and labs staff to ascertain community practices around metadata standards and tools. It is a follow-up survey on the one conducted in 2019 entirely around tools.

The survey should not take you more than 5 minutes to complete and is open until 29.02.2020. You can share your contact details il you wish to be informed about the study next steps. Answers will be anonymized for the analysis.

If you have any questions or comment about the survey please email me at eliane.blumer@epfl.ch.

Which EPFL Life Sciences research group are you the closest with? *

Please choose...

Best known standards

How familiar are you with the following standards? (Institute of Bioengineering respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
Cell ontology	○	○	○	○	○
CellML metadata	○	○	○	○	○
chEBI (Chemical Entities of Biological Interest)	○	○	○	○	○
DICOM	○	○	○	○	○
ENCODE (Encyclopedia of DNA Elements)	○	○	○	○	○
ensembl	○	○	○	○	○
FAANG (Functional Annotation of ANimal Genomes)	○	○	○	○	○
FASTA, FASTQ	○	○	○	○	○
Genbank sequence format	○	○	○	○	○
Gene Ontology	○	○	○	○	○
Genome metadata from PATRIC (bacterial Bioinformatics Resource Center)	○	○	○	○	○

GeoME (Genomic Observatories MetaDatabase)	○	○	○	○	○
GFF3 (General Feature Format)	○	○	○	○	○
ISA-tab	○	○	○	○	○
LINCS data (Library of Integrated Network-Based Cellular Signature)	○	○	○	○	○
Metabolomics Standards Initiative (MSI) and Core Information for Metabolomics Reporting (CIMR)	○	○	○	○	○
MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIAPE (Minimum information about a proteomics experiment)	○	○	○	○	○
MIMARKS (Minimum information about a marker gene sequence)	○	○	○	○	○
MIMIx (Minimum Information about a Molecular Interaction eXperiment)	○	○	○	○	○
MINSEQE (Minimum Information about a high-throughput SEQuencing Experiment)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○

MITAB (PSI-MI TAB format)	○	○	○	○	○
MIxS MIGS/MIMS	○	○	○	○	○
MSI (Metabolomics standard Initiative)	○	○	○	○	○
NCBI Taxon	○	○	○	○	○
NIH Common data elements	○	○	○	○	○
Observ-OM and Observ-TAB	○	○	○	○	○
OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○
Sequence Ontology (SO)	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

How familiar are you with the following standards? (Swiss Institute for Experimental Cancer Research respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
CellML metadata	○	○	○	○	○
ODM, ODM-XML (CDISC Clinical data interchange standards consortium CDISC operational data model)	○	○	○	○	○
DICOM	○	○	○	○	○
ISA-tab	○	○	○	○	○
LINCS data (Library of Integrated Network-Based Cellular Signature)	○	○	○	○	○
Metabolomics Standards Initiative (MSI) and Core Information for Metabolomics Reporting (CIMR)	○	○	○	○	○
MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○
MITAB (PSI-MI TAB format)	○	○	○	○	○
NIH Common data elements	○	○	○	○	○

OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○
Sequence Ontology (SO)	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

How familiar are you with the following standards? (Global Health Institute respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
Biotop	○	○	○	○	○
CellML metadata	○	○	○	○	○

ODM, ODM-XML (CDISC Clinical data interchange standards consortium CDISC operational data model)	○	○	○	○	○
COMPARE data hubs standards checklists	○	○	○	○	○
DDI (Data Documentation Initiative)	○	○	○	○	○
DICOM	○	○	○	○	○
GSCID BRC project and sample application standard	○	○	○	○	○
ISA-tab	○	○	○	○	○
Medred ontology	○	○	○	○	○
MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIBBI (Minimum Information for Biological and Biomedical Investigations)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○
MITAB (PSI-MI TAB format)	○	○	○	○	○
NIH Common data elements	○	○	○	○	○

OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○
Sequence Ontology (SO)	○	○	○	○	○
SNOMED-CT	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

How familiar are you with the following standards? (Neuroscience — Brain Mind Institute respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
CellML metadata	○	○	○	○	○
DICOM	○	○	○	○	○
ISA-tab	○	○	○	○	○

MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○
MITAB (PSI-MI TAB format)	○	○	○	○	○
NIH Common data elements	○	○	○	○	○
NINDS Common Data Elements	○	○	○	○	○
OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○
Sequence Ontology (SO)	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

How familiar are you with the following standards? (Center for Neuroprosthetics respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
CellML metadata	○	○	○	○	○
DICOM	○	○	○	○	○
ISA-tab	○	○	○	○	○
MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○
MITAB (PSI-MI TAB format)	○	○	○	○	○
NIH Common data elements	○	○	○	○	○
NINDS Common Data Elements	○	○	○	○	○
OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○

Sequence Ontology (SO)	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

How familiar are you with the following standards? (Blue Brain Project respondents)

By "standard" or "metadata standard", we mean: vocabularies, terminologies, data formats, data models and schemas, annotations formats, ontologies...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Biological Pathway Exchange (BioPAX)	○	○	○	○	○
CellML metadata	○	○	○	○	○
DICOM	○	○	○	○	○
ISA-tab	○	○	○	○	○
MIACME (Minimum Information About Cell Migration Experiments)	○	○	○	○	○
MIRIAM (Minimal Information Required In the Annotation of Models)	○	○	○	○	○
MITAB (PSI-MI TAB format)	○	○	○	○	○
NIH Common data elements	○	○	○	○	○

NINDS Common Data Elements	○	○	○	○	○
OME (Open Microscopy Environment Data model, OME-XML, OME-TIFF)	○	○	○	○	○
PDBx/mmCIF Dictionary (Protein Data Bank, Crystallographic Information File)	○	○	○	○	○
Protocol Data Element Definition	○	○	○	○	○
Sequence Ontology (SO)	○	○	○	○	○
Other standard(s)	○	○	○	○	○

If you ticked "Other standard(s)", please specify which one(s)

Favourite tools

How familiar are you with the following tools families?

By "tool" we mean : scientific software, facility, platform, reference database...

Just skip the lines you don't feel like answering.

	Very familiar (daily practice)	Quite familiar (occasional practice)	Little familiar (no practice)	Not familiar (never heard about it, but maybe interesting)	Not familiar at all (never heard about it, not applicable)
Molecular Interactions and protein-protein tools (such as PathBLAST or HADDOCK)	○	○	○	○	○
Structural bioninformatics tools (such as Swisslipids or Swissdock)	○	○	○	○	○
Survey, database and data management tools (i.e. RedCap, SLIMS)	○	○	○	○	○
Public protein data repository (i.e. PRIDE Archive)	○	○	○	○	○
Gene ontology annotation (i.e. GOA)	○	○	○	○	○
Referencing of data (i.e. Identifiers.org, RRID portal)	○	○	○	○	○
Protein Annotation (i.e. HAMAP)	○	○	○	○	○
Primary nucleotide sequence databases (e.g. GenBank, European Nucleotide Archive)	○	○	○	○	○

Genome databases (e.g. Ensembl, UCSC Genome Browser)	○	○	○	○	○
Gene expression/Microarray databases (e.g. ArrayExpress, Gene Expression Omnibus)	○	○	○	○	○
Protein Sequence databases (e.g. Uniprot, RefSeq, InterPro, PROSITE)	○	○	○	○	○
Protein-protein and other molecular interaction (e.g. Intact, String)	○	○	○	○	○
Protein structure/Model databases (e.g. PDB, SWISS-MODEL)	○	○	○	○	○
Signal transduction/Metabolic pathway databases (e.g. Reactome, KEGG)	○	○	○	○	○
Mutation databases (e.g. OMIM, HGMD, dbSNP)	○	○	○	○	○
Model organism databases (e.g. WormBase, Mouse Genome Informatics)	○	○	○	○	○
Other tool(s)	○	○	○	○	○

If you ticked "Other tool(s)", please specify which one(s)

What about you?

Did you ever contribute to a metadata standard effort or a tool effort? *

By "effort" we mean : design, development, promotion, teaching...

- ◯ No
- ◯ Yes (please specify)

In your opinion, what is using metadata standards or tools good for? *

You can select multiple options.

- ☐ Self-efficiency (neat and tidy data)
- ☐ Collaboration (compatible, shareable data)
- ☐ Complying to research community rules or industry rules
- ☐ I never thought much about it
- ☐ Other (please specify)

Almost done...

Do you have any comment, any suggestion?

Share your thoughts about tools and metadata standards and what support you expect from the Library.

Would you like to be informed about the next steps after this survey (additional interviews, results)? If yes, please share your mail.

name.surname@epfl.ch

Don't forget to click on Finish!