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EDAM-bioimaging

The ontology of bioimage informatics operations, topics, data, and formats

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<https://github.com/edamontology/edam-bioimaging>

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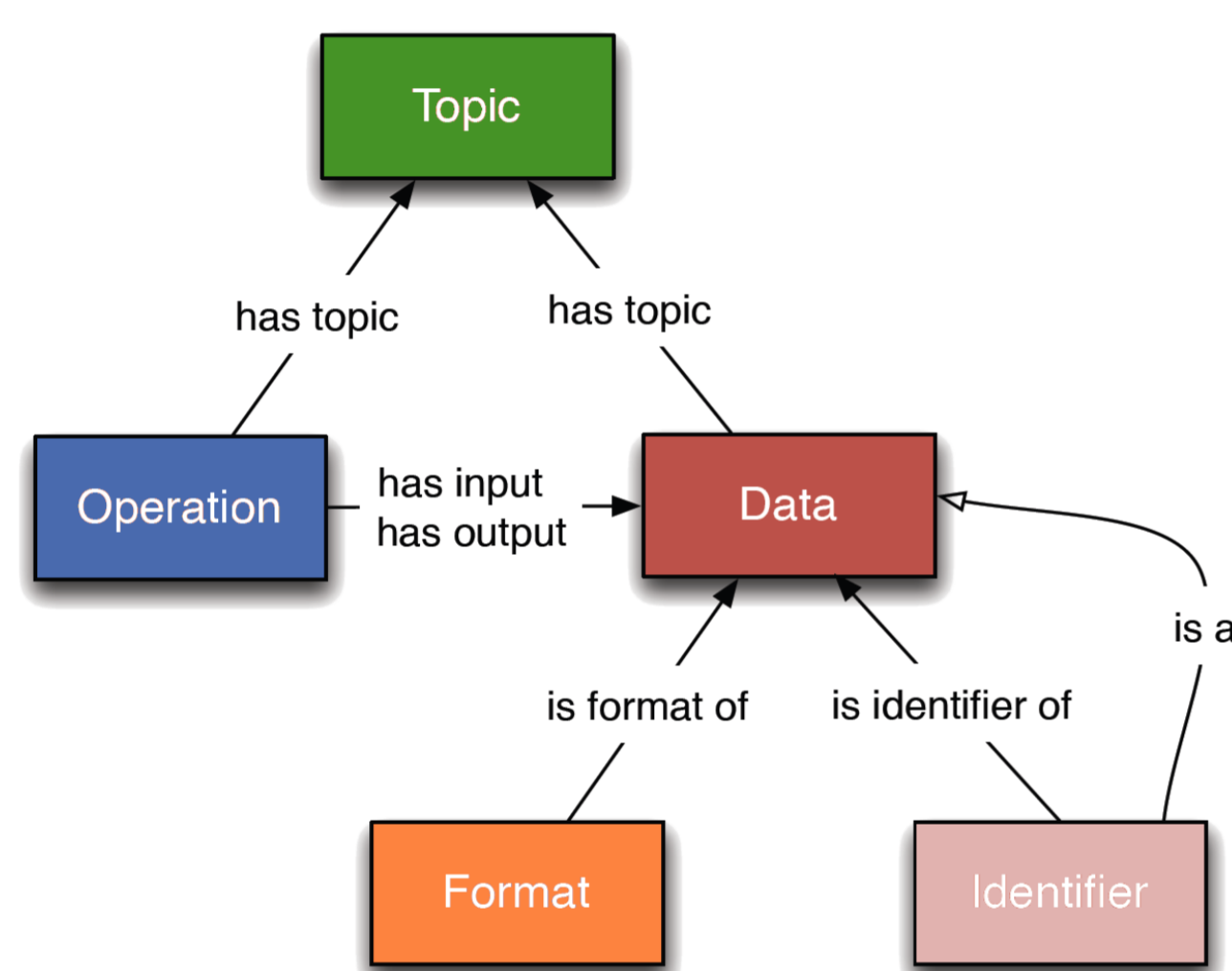
What? EDAM-bioimaging is an extension of the [EDAM ontology](#), dedicated to bioimage analysis, bioimage informatics, and bioimaging.

Why? EDAM-bioimaging enables interoperable descriptions of software, publications, data, and workflows, fostering reliable and transparent science.

How? EDAM-bioimaging is developed in a community spirit, in a welcoming collaboration between numerous bioimaging experts and ontology developers.

How can I contribute? We need your expertise! You can help by reviewing parts of EDAM-bioimaging, posting comments with suggestions, requirements, or needs for clarification, or participating in a Taggathon or another hackathon. Please see <https://github.com/edamontology/edam-bioimaging#contributing>.

STRUCTURE OF EDAM



EXAMPLE CONCEPTS

Preferred Name	Light-sheet microscopy
Definition	Fluorescence microscopy technique in which the plane of illumination is orthogonal to the axis of observation.
LSFM	Selective Plane Illumination Microscopy
hasNarrowSynonym	Light-sheet fluorescence microscopy
hasNarrowSynonym	DSLM
hasNarrowSynonym	Digitally scanned Laser Light-sheet Microscopy
hasNarrowSynonym	SPIM
hasNarrowSynonym	Thin Sheet Laser Imaging Microscopy
hasNarrowSynonym	Lattice Light-sheet Microscopy
hasNarrowSynonym	Dual-View inverted SPIM
hasNarrowSynonym	Spherical aberrations corrected Extended Depth-of-field Lightsheet Microscopy
hasNarrowSynonym	Resonant Beam Lightsheet Microscopy
hasNarrowSynonym	single objective Selective Plane Illumination Microscopy
hasNarrowSynonym	Hardware implementations: multidirectional SPIM
hasNarrowSynonym	LLSM
hasNarrowSynonym	Multiview Selective Plane Illumination Microscopy
hasNarrowSynonym	MuVSPIM
hasNarrowSynonym	inverted SPIM
hasNarrowSynonym	soSPIM
hasNarrowSynonym	dSPIM
hasNarrowSynonym	COLM
hasNarrowSynonym	SPED
hasNarrowSynonym	Clearly Optimized Light-sheet Microscopy
hasNarrowSynonym	mSPIM
hasNarrowSynonym	iSPIM
seeAlso	https://en.wikipedia.org/wiki/Light_sheet_fluorescence_microscopy
subClassOf	Area-capturing microscopy
subClassOf	Point-scanning microscopy

Preferred Name	Filament tracing
Definition	Filament tracing operations are image analysis operations in which there is an image of a filamentous structure (it may be a tree-like structure, a filament network or an agglomeration of single 'stick-like' filaments) as input and outputs data that represent the filament, most commonly a skeleton representation of the filaments and their diameters or surfaces.
hasExactSynonym	Tubular structure extraction
hasNarrowSynonym	Biofilament tracing
hasRelatedSynonym	Curvilinear structure reconstruction
hasRelatedSynonym	Curvilinear structure detection
Related term	Neuron reconstruction
seeAlso	Neuron image analysis
subClassOf	Image segmentation

EDAM-bioimaging is used in [biii.eu](#), the registry portal of bioimage informatics and analysis resources

BISE Bioimage Informatics Search Engine: a BioImage Informatics Index

HOME FORUMS ABOUT BISE ADVANCED SEARCH HOW TO CURATE TAGGERS

Filament tracing

Fulltext search

Painter

Component Description

Painter is a general visualization tool for 3D volumetric data and proof-reading in segmentation/reconstruction with a primary focus on neuron reconstruction from electron micrographs in connectomics. It features/supports:

- Views of orthogonal 2D cross-sections of the data at arbitrary angles and zoom levels
- Mipmaps for efficient display of arbitrarily large data at arbitrary scale levels
- Label data
 - Painting
 - Manual agglomeration
 - 3D visualization as polygon meshes
 - Meshes for each mipmap level
 - Mesh generation on-the-fly via marching cubes to incorporate painted labels and agglomerations in 3D visualization. Marching Cubes is parallelized over small blocks. Only relevant blocks are considered (huge speed-up for sparse label data).

Painter is implemented in Java and makes extensive use of the UI framework JavaFX

has topic

- Electron microscopy
- In-silico reconstruction

has function

- Filament tracing
- Image reconstruction
- Image visualization
- Slice rendering
- Surface rendering

HIERARCHIES OF EDAM-bioimaging



EDAM-bioimaging version *alpha05* DOI: 10.5281/zenodo.2557012 For links to all versions, see <https://github.com/edamontology/edam-bioimaging#viewing>



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