Digital HPS Metadata Manual

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What is Metadata, and Why Does it Matter?

Descriptive metadata is, essentially, data that describes a digital object in a variety of ways. All objects in the HPS repository will contain descriptive information such as their format, the date they were created, and the subjects to which they refer. This descriptive metadata will permit resources to be efficiently found in searches and indexes.

What Does This Manual Help With?

We created this HPS repository metadata manual to provide information that will help project coordinators understand what information they need to provide about the objects they add to the repository. The manual provides standards that will help you describe similar objects in similar ways. If standards are used across the repository, it may even help users to uncover previously unknown connections among different objects (for instance, the same educational institution and similar dates describing two different individuals might allow a user to find a connection between them).

The recommendations set forth in this document are meant to be as broad as possible while still providing clear direction for the end user attempting to deposit her content into the HPS Repository. The main goals of this manual are to provide explanations of the components of the HPS Repository's metadata schema and to give clear direction about how to fill out metadata forms. In several cases, we suggest the use of a controlled vocabulary rather than filling out fields free form. The controlled vocabularies help accomplish the goal of standardization, but they should also take some pressure off of the user by making it easier to know what goes in each field.

The first section of this manual explains the Dublin Core metadata schema, which is the standard used by the HPS Repository. Each property of the Dublin Core is then specified, with instructions on how to fill out that property and specific examples of that property in use. The properties are not listed alphabetically, but rather are grouped with properties with which they can easily be confused. Please note that this section also includes specific instructions for individual projects as those projects are developed.

The following section lists the different types of data, in alphabetical order, that you may want to capture, and links each to the element that you should use (in other words, it allows you to look up the information in reverse - by data point rather than by element name). The final section provides examples of the full set of metadata for several different kinds of objects.¹ An appendix provides important links and references.

Dublin Core Properties and Terms

The HPS Repository's metadata standards are based on recommendations published by the Dublin Core Metadata Initiative (DCMI). Using Dublin Core, which is a broadly used international metadata standard, ensures interoperability and future usability of the resources it stores. One goal of the HPS Repository is easy, automatic import and export of metadata. This is referred to as metadata harvesting, and provides the means to curate the same repository objects on different websites or in different presentation formats, to automatically update virtual exhibits with newly added resources, and to quickly change to new repository software–just to name a few advantages. Because Dublin Core is the most basic and widely used metadata standard, a variety of software to accomplish such tasks already exists and can be used "out-of-the-box."

Fifteen properties comprise the original Dublin Core:

- contributor
- coverage
- creator
- date
- description
- format

¹Note that when no examples of a particular object type were readily available from any of the HPS projects already in existence, a tangentially related object from elsewhere on the Web has been used. In such cases, links have been provided to the original object online.

- identifier
- language
- publisher
- relation
- rights
- source
- subject
- title
- type

To these, more recently, additional properties have been added. We will not list all of them here; for more information, see the list of terms on the Dublin Core website. Among the more recent additions includes the property Provenance, which we have also listed in the subsequent section among the properties that we will be using in the HPS repository.

Each of these properties refers to a specific kind of data about a resource. Properties can and often should be repeated. For example, if a resource has multiple authors, there should be a separate "creator" entry for each author. Each property also possesses qualifiers, which further specify or refine the metadata value (Qualified Dublin Core). Qualifiers permit added flexibility in metadata entry without sacrificing the interoperability of the core properties.

In the next section of this manual, we go through those standards one by one. For each standard, we state whether it is required or optional that you include it, and we roughly define it in plain English. Note that even if a property is listed as "optional," you should still include metadata in that field if you have it: the goal is to describe each object as fully as possible. Then we provide examples of that property and corresponding values. Each example is for a different kind of object, demonstrating how the same property might be modified to describe pertinent information about different kinds of resources. The definitions and the examples should help people designing metadata for their projects see how those properties may be modified to fit each project. This manual will also help users decide what values should be entered in each property for any particular object.

Specific Guidelines for Each Property

Title, Description, and Subject

TITLE (REQUIRED): LITERAL, DESCRIPTIVE, NAME OF RESOURCE

More than one title can be created for each resource. However, there should be only one "real" title. Where possible, it should be the resource creator's original title. If you are creating a title, it should be verbose - more descriptive and less succinct. An alternative title can be specified, if desired. For instance, if the original title is not descriptive enough, an alternate title can be identified that contains more detail.

Example: Image

dc.title Portrait of George M. Gray, Collector, Marine Biological Laboratory at Woods Hole

dc.title.alternative George M. Gray, 1930

Example: Article

dc.title John Bertrand Gurdon (1933-)

dc.title.alternative John Gurdon

For Embryo Project Contributors

DESCRIPTION (REQUIRED): LITERAL TEXTUAL DESCRIPTION OF RESOURCE

The description property can be used multiple times for each object in the repository. Most often, the description ought to be a short summary of the object. In some cases, the description should actually be an abstract of the object if the object is a textual datastream (such as an Embryo Project article) or literary work.

It may also be useful for the description property to hold some of the information that is often erroneously included in Type or Format. For example, the description property can be used to record that an image is black-andwhite. See examples below.

In addition, metadata about an object that you would like to include but that does not easily fit into another property can be put in the description field. For instance, if you would like to link to descriptive information about the physical object from which an object was digitized (e.g. a finding aid or catalog record), repeat the description element and put the link there.

Example: Image

dc.description George M. Gray is facing the camera with specimen or storage bottles on shelves in the background. The bottom of the image bears an autograph that reads "George M. Gray, 1930." Inscription at top of image reads "500" or "50c."

dc.description black-and-white image

dc.description Digitized by Arizona State University Libraries

dc.description.type Photographs

Example: Article

dc.description.abstract Zygote intrafallopian transfer (ZIFT) is an assisted reproductive technology (ART) first used in 1986 to help those who are infertile conceive a child. ZIFT is a hybrid technique derived from a combination of in vitro fertilization (IVF) and gamete intrafallopian transfer (GIFT) procedures. Despite a relatively high success rate close to that of IVF, it is not as common as its parent procedures due to its costs and more invasive techniques. Some patients prefer ZIFT, however, considering it more natural because the fertilized oocyte, the zygote, is placed in the woman's body for implantation much sooner than with IVF.²

dc.description.type Articles

For Embryo Project Contributors

SUBJECT (OPTIONAL BUT RECOMMENDED): TEXTUAL DESCRIPTIVE PROP-ERTY DERIVED FROM A CONTROLLED VOCABULARY

Dublin Core recommends using a controlled vocabulary for the subject property, because it permits coherence and organization across different domains.

 $^{^{2}}$ n.b. In Embryo Project articles, editorial convention has used the first paragraph as the description.abstract content. A different convention would be to write a three-to-four sentence abstract of the article, since the first paragraph is not always or even usually very descriptive of the full content.

That is to say, if the HPS repository uses a standardized vocabulary for the subject element, it is easier for other websites/programs/projects to find and organize the information we host.

Library of Congress Subject Headings and the Medical Subject Headings (MeSH) vocabulary from the National Library of Medicine are both recommended by Dublin Core as good vocabularies to work with.

As with all Dublin Core properties, the Subject field can be repeated in each object, and probably should be. The subject property also should record which vocabulary it references.

It is also possible to use the Subject field without qualifying it by vocabulary. This will apply most often when you wish to list people in the Subject field whose names are not included in the Library of Congress name authority file. In such cases, use the format [Last name], [First name], [Middle initial]. For images (or other objects) that include more than one subject, repeat the field to include the names of all of the subjects.

Example: Article (Embryo Project on Zygote Intrafallopian Transfer)

- dc.subject.mesh Therapeutics–Reproductive Techniques–Reproductive Techniques, Assisted–Zygote Intrafallopian Transfer.
- dc.subject.mesh Investigate Techniques–Reproductive Techniques–Reproductive Techniques, Assisted–Zygote Intrafallopian Transfer.

dc.subject.lcsh Infertility, Female–Alternative treatment.

dc.subject Embryo Project Article³

Example: Data Sheet (historical Woods Hole water temperatures)

dc.subject.lcsh Water temperature–Massachusetts.

dc.subject.lcsh Woods Hole Oceanographic Institution-History.

Example: Image

dc.subject Gray, George M.

For Embryo Project Contributors

 $^{^3\}mathrm{This}$ is an unqualified subject, included so that it can be used as a search term in the HPS repository.

Creator, Contributor, and Publisher

All three of these properties refer to some party responsible for the existence of the resource. The guidelines here help distinguish the roles from each other and explain the format for recording them.

Sometimes it may not be clear if the responsible party is the creator or the publisher. The Dublin Core recommendation is that, in cases of ambiguity, list people as creators and organizations as publishers. That is to say, organizations will be listed as publishers unless it is very clear that they are taking a creation/authorship role.

Name conventions: use the Library of Congress Name Authority File (authories.loc.gov or www.viaf.org) to find if there is name authority already in existence for the person or organization. If there is, use that format. If none exists, in the case of personal names, list the family name first, followed by a comma, followed by the given name and any middle names used. For an organization, list as it appears in publication. If the organization is a smaller hierarchical unit of a larger organization, list the hierarchy from largest to smallest, separated by a period and a space. Examples are provided below.

CREATOR (REQUIRED IF AVAILABLE): AUTHORSHIP INFORMATION

The creator is the individual who originally created the entity; the individual who would normally be cited as author, photographer, filmmaker, etc. Conversion to digital format does not constitute creation.

Example: Embryo Project Article on Zygote Intrafallopian Transfer

dc.creator Zhu, Tian.

For Embryo Project Contributors

CONTRIBUTOR (OPTIONAL): GENERAL DESCRIPTION OF RESPONSIBLE PARTY

This is the most general of the responsible-party properties, used for persons or entities that have made a secondary intellectual contribution to the creation or publication of a resource. For example, Rachel Fink is a contributor for the Bonner Dictyostelium video in the Embryo Project due to her role in adding narration to the footage.

Use the following MARC relator terms to qualify the property and identify

the type of contribution that has been made. If the type of contribution does not appear in the list, use the generic dc.contributor.

- dc.contributor.editor
- dc.contributor.illustrator
- dc.contributor.interviewee
- dc.contributor.interviewer
- dc.contributor.narrator
- dc.contributor.photographer
- dc.contributor.correspondent
- dc.contributor.speaker
- dc.contributor.translator
- dc.contributor.videographer

Example: Bonner Dictyostelium video

dc.contributor.narrator Fink, Rachel

For Embryo Project Contributors

PUBLISHER (OPTIONAL): PERSON OR ORGANIZATION THAT MAKES THE RESOURCE AVAILABLE

For objects being published for the first time, the publisher is the entity that made the object available digitally (no qualifier needed). For objects that have already been published, such as books or journal articles, repeat the property. Use dc.publisher.original for the original publisher and dc.publisher.digital for the entity that made the object available in the repository.

Example: Embryo Project Article on Zygote Intrafallopian Transfer

dc.publisher Arizona State University. School of Life Sciences. Center for Biology and Society. Embryo Project Encyclopedia.

Example: Book, One Hundred Years Exploring Life: The Marine Biological Laboratory at Woods Hole

dc.publisher.original Jones and Bartlettdc.publisher.digital Biodiversity Heritage LibraryFor Embryo Project Contributors

Format and Type

FORMAT (REQUIRED): TEXTUAL, CONTROLLED VOCABULARY FOR DE-SCRIBING DIGITAL MEDIA

There are two qualifiers for Format: medium and extent. This property applies only to digital media, as it describes the datastream of the object rather than the original characteristics prior to digitization. Format should be used only for the resource's MIME type (medium) and its size ("extent"). While there can sometimes be more than one entry for extent (see example), there should be only one entry for medium. If it seems as though there are more, then you are probably trying to describe multiple formats of a physical object, and you should see the notes at Relation, Type, and Description.

MIME types can be looked up at http://www.iana.org/assignments/mediatypes/index.html. However, if you are entering individual objects into the repository (as opposed to batch uploading), you will select the MIME type from a drop-down menu.

File size, in extent, will be automatically generated by the repository, but other values will not (e.g. run time).

Example: Article on Zygote Intrafallopian Transfer

dc.format.medium text/xhtml

dc.format.extent 5.349 Kb

Example: Video (Bonner's slime mold development)

dc.format.medium video/mp4

dc.format.extent 64.60 Mb

dc.format.extent 5m25s

TYPE (REQUIRED): TEXTUAL, CONTROLLED VOCABULARY FOR GENRE DESCRIPTION

The Type property describes the nature of the resource in broad, general terms. You can also think of this as the genre of the resource. The Dublin Core recommended practice is to use a narrowly defined controlled vocabulary, called DCMI, for this. That vocabulary is:

- Collection
- Dataset
- Event
- Image
- StillImage
- MovingImage
- Interactive Resource
- PhysicalObject
- Service
- Software
- Sound
- Text

For the sake of interoperability, no object should use any value for Type that does not appear in this list. If necessary, the Description field can be used to contain "Type"-like information that does not conform to the DCMI Type vocabulary. Contrast this with notes at Format and Relation.

Example: Image

dc.type StillImage

Example: Book, *Whose View of Life* in the MBLWHOI Library - not digitized

 ${\bf dc.type} \ {\rm PhysicalObject}$

Example: Harold Heath Collection of Photographs

dc.type Collection For Embryo Project Contributors

Relation and Source

Relation (Required): Refers to the object's relationship to another object in or out of the repository

The Relation property refers to the object's relationships to other objects in or out of the repository. The value specified should be the unique identifier of that referred-to object (e.g., the Embryo Project URI) if the relationship specified is to another object in the repository. There are six official qualifiers for Relation, only two of which the HPS Repository is likely to use. They are isPartOf and isFormatOf.

Use Relation.isPartOf to identify the HPS project to which the object belongs.

Entering the relation property as a machine-readable unique ID will permit web software to create views of items that all belong to the same collection, call up different formats of digital objects, etc. An optional, human readable "literal" value can be entered as well, if desired: e.g., dc.relation.isFormatOf = "Digital version of Bonner's Dictyostelium video."

Qualifiers

- dc.relation.isPartOf Refers to the collection of objects to which this object belongs. A good example is Harold Heath Collection of images; another is the Friday Night Lecture Series. Collections should actually be entered as objects in the repository, in order to generate IDs for them. Collections will also be created for each of the contributing HPS projects; the relation property is required only for this particular area of description.
- dc.relation.isFormatOf Refers to an object of which this object is a digitized or converted format. For example, the VHS tape of the Bonner Dictyostelium video is a physical object, and the mpeg video of it is a format of that physical object.

Example: Image in the Harold Heath Collection

dc.title Portrait of George M. Gray

dc.type StillImage

dc.format.medium image/jp2

dc.format.extent 4.4 Mb

dc.relation.isPartOf http://hpsrepository.mbl.edu/handle/10776

Example: Digital Representation of Physical Object

dc.title John Tyler Bonner's Video of Slime Mold Development

dc.type MovingImage

dc.format.medium video/mpeg

dc.relation.isFormatOf Digital version of VHS tape of Bonner's Dictyostelium video

Source (Optional): Reference to a resource from which the present resource is derived

The source property will be used to link to the physical repository, if any, of the physical item from which the object was digitized. See the Description property for where to link to the physical object's finding aid and the place to record information about the historical changes in ownership of the physical object.

Example: Letter to Harold Heath

dc.source Marine Biological Laboratory Archives

Date, Coverage, and Provenance

DATE (REQUIRED): MULTIPLE ENTRIES REFERRING TO DATES FOR THE OBJECT IN THE REPOSITORY

Each object in the repository has a variety of dates associated with it. Some of these are automatically generated (e.g. dc.date.issued and dc.date.accessioned refer to the date and time of upload and availability). The two date fields that need to be filled in are dc.date.created and dc.date.createdStandard. dc.date.created is what we sometimes refer to as the "verbatim" date of the object, while dc.date.createdStandard is the field that we added for standardization to allow for date sorting in the repository. dc.date.created can contain text; dc.date.createdStandard needs to follow a very specific format using only numbers and slashes. For date.createdStandard, if you don't have a specific date or date range, you will need to estimate - the uncertainty will be reflected in the date.created. Examples are below.

	Table 1: Date Formats	
Date Type	dc.date.created	dc.date.createdStandard
Year	YYYY	YYYY
Year and month	YYYY-MM	YYYY-MM
Complete date	YYYY-MM-DD	YYYY-MM-DD
Date range	YYYY-MM-DD to YYYY-MM-DD	YYYY-MM-DD/YYYY-MM-DD
Year range	YYYY-YYYY (e.g. 1972-1977)	YYYY/YYYY (e.g. 1972/1977)
Decade range	YYYYs (e.g. 1970s)	YYYY/YYYY (e.g. 1970/1979)
Possible year	YYYY?	YYYY
Year or later	YYYY or later	YYYY/YYYY (estimated end date)
Possible year range	YYYY?-YYYY?	YYYY/YYYY
Near date	circa YYYY	YYYY
Non-consecutive dates	YYYY, YYYY	YYYY (first year)
No date	Undated	[leave blank]

Example: Image, Marine Biological Laboratory, Teaching Lab, sometime in the 1890s

dc.date.created 1890-1899

dc.date.createdStandard 1890/1899

COVERAGE (OPTIONAL): DESCRIPTION OF THE TEMPORAL AND/OR SPA-TIAL CONTEXT OF THE OBJECT

Coverage is a property that allows you to specify a geographic area to which the object corresponds and/or a time period with which the object is associated. The recommended practice is to use a controlled vocabulary, so that it is possible to find or group objects that have the same temporal and spatial coverage. For the spatial property, use the Getty Thesaurus of Geographic Names. The only time the Getty TGN is not precise enough would be for objects requiring geo-coordinates, in which case you can use the DCMI Point Encoding Scheme.

The temporal property should record a date or date range covered by an object, if that date range is distinct from the date created (e.g., a book written in 1999 that discusses the time period 1939-1945). Use the same format as above in dc.date.createdStandard.

Example: Bonner Dictyostelium Video

dc.coverage.spatial Harvard University

Example: One Hundred Years Exploring Life: The Marine Biological Laboratory at Woods Hole

dc.date.created 1989

dc.coverage.temporal 1888/1988

PROVENANCE (REQUIRED): USED FOR THE PROVENANCE OF THE DIGITAL OBJECT

DSpace automatically populates the provenance field with information about the digital object. If you wish to include information about the serial ownership trail of a physical object from which the digital object was generated, use the Description field.

Rights

RIGHTS (REQUIRED): FREE-FORM DESCRIPTION OF COPYRIGHT OR LINK TO COPYRIGHT STATEMENT

Each object should have rights information entered into its metadata. Specific copyright or licensing details must be decided by the individual HPS repository project.

The Creative Commons Initiative provides licensing language that may be useful. The Attribution-NonCommercial-Share Alice license (CC BY-NC-SA) is the most applicable, particularly for archival sources. It can be found at http://creativecommons.org/licenses/by-nc-sa/3.0/.

Example:

dc.rights.license Licensed as Creative Commons Attribution-NonCommercial-Share Alike 3.0 Unported (CC BY-NC-SA 3.0) http://creativecommons.org/licenses/bync-sa/3.0/

For Embryo Project Contributors

Identifier

IDENTIFIER (REQUIRED): ID NUMBER; UNAMBIGUOUS REFERENCE TO AN OBJECT IN THE REPOSITORY

Identifiers are ID numbers, such as an ISBN for a book or a DOI for an online journal. Generally speaking, identifiers are generated by software as objects are entered into a repository. They are universally unique and differentiate the object from all others in the repository and the world.⁴ They will be entered automatically by the repository software when an object is created.

Another use of identifiers in a repository such as ours is to record an object's previous identifier from other systems. For example, images and articles that were created for the old Embryo Project site already have a unique Embryo Project persistent identifier (PID). Recording that identifier is useful for a variety of reasons, not the least of which is the ability to refer accurately across projects to the same object. If an object as a previous identifier from another system, add that information in dc.identifier.

Example: Bonner's Dictyostelium video

dc.identifier.uri http://hdl.handle.net/10776/706

dc.identifier.other embryo:125746

For Embryo Project Contributors

Language

IDENTIFIER (REQUIRED IF RELEVANT): TEXTUAL CONTROLLED VOCABU-LARY FOR THE LANGUAGE OF A RESOURCE

⁴For further information about unique identifiers, see, for example, http://www.kcoyle.net/jal-32-4.html.

The language, if it has one, of each resource should be recorded in the metadata. This allows for a number of operations in search and curation. Include the language if the object contains words, either text-based or oral (as in a video).

The Library of Congress provides a controlled vocabulary based on ISO definitions. When two abbreviations are given, opt for the bibliographic abbreviation (B).

Examples:

dc.language.iso eng

dc.language.iso ger

Metadata Types and Corresponding Dublin Core Properties

Abstract (optional)

Description The actual abstract of an object such as an article, textual datastream or literary work, taken directly from the object itself or composed when entering the metadata.

Dublin Core field dc.description.abstract

AUTHOR

See Creator

CHANGES IN OWNERSHIP

 $See \ {\bf Provenance}$

CITATION (REQUIRED)

Description The identifying information that a scholar or researcher should use when citing the object. Citations should be standardized for similar object types within contributing projects and, ideally, across the entire HPS repository.

Dublin Core field dc.identifier.citation

CONTRIBUTING PROJECT (REQUIRED)

Description Each object should identify the overarching project of which it is a part.

Dublin Core field dc.relation.isPartOf

CONTRIBUTOR (OPTIONAL)

Description The contributor is any individual, group, or organization that has played a role - but not the main role; see Creator - in the intellectual creation or dissemination of the object. Examples include the

narrator of a video directed and filmed by someone else or the interviewer in an oral history. The field should be qualified using the options listed in the Contributor section of this manual. Names of people and organization should be standardized using the Library of Congress Name Authority File. If an individual is not listed in LC-NAF, cite him/her as Lastname, Firstname, Middle initial/name if any. If there are multiple contributors, repeat the field.

Dublin Core field dc.contributor.[xxx]

COPYRIGHT (REQUIRED)

- **Description** The copyright statement contains the information about the rights attached to a particular object. Specific copyright or licensing details must be determined by the individual HPS project.
- Dublin Core field dc.rights

CREATOR (REQUIRED IF KNOWN)

Description The creator is the individual or entity primarily responsible for the creation of the object: e.g., the photographer of an image; the author of an article or book. Additional, secondary contributors can be entered in the Contributor field. If multiple individuals or entities are equally responsible for the object's creation, repeat this field. As with the Contributor field, names of people and organizations should be standardized using the Library of Congress Name Authority File. If an individual is not listed in LCNAF, cite him/her as Lastname, Firstname, Middle initial/name if any.

Dublin Core field dc.creator

DATE CREATED (REQUIRED)

Description The date created identifies the date on which the original object was produced, if known. Be as specific as possible. If no exact date is known, but it can be approximated, list a date range or the approximate year. Fill in two fields for the date created according to the formats listed in Table 1.

Dublin Core field dc.date.created; dc.date.createdStandard

DATE COVERED OR DEPICTED (OPTIONAL)

Description The coverage date identifies the date or time period covered by or depicted in an object. Use this field if the time period covered is distinct from the date created (e.g. an article, published in 2011, that covers the time period 1939-1945). Dates should be listed in the w3c format (See Table 1 under date.createdStandard column).

Dublin Core field dc.coverage.temporal

DESCRIPTION (OPTIONAL)

Description The description is a short, free-form summary of the object, more extensive than the Title. It may already exist as part of the object (for instance, a list of names on the back of a photograph of a group of people) or you may compose it yourself. If you are describing an object in multiple ways - e.g., its contents and its physical format (see below under Format, Physical for more details) - repeat the field multiple times.

Dublin Core field dc.description

EXTENT, DIGITAL (OPTIONAL)

Description Extent describes the size of the digital object in whatever measurement is applicable to that format (e.g. size of computer file, length of time, or number of pages). See Extent, Physical for describing the size of an original physical object. The file size will be automatically generated by DSpace; other entries must be generated by hand.

Dublin Core field dc.format.extent

EXTENT, PHYSICAL (OPTIONAL)

Description The size of a physical object in any applicable measurement.

Dublin Core field dc.description

FORMAT, PHYSICAL (OPTIONAL)

Description The format field (see Extent and Medium for details) describes the digital representation of an object. However, you may also wish to include details about the format of an original physical object (e.g., "black-and-white photograph"), in which case you should use the description field.

Dublin Core field dc.description

Genre

See Type

IDENTIFIER (REQUIRED)

Description Each object in the repository will have a unique identifier automatically assigned to it when it is added to the repository. The identifier will differentiate it from all other objects in the repository. Along with the identifier that is added by DSpace, you may wish to repeat the field and add previously assigned identifiers, such as ISBN numbers or Embryo Project persistent identifiers.

Dublin Core field dc.identifier

LANGUAGE (OPTIONAL)

Description The language of an object should be included in the metadata if the object is text-based. Use the Library of Congress controlled vocabulary of languages based on ISO definitions. Where two abbreviations are given, opt for the bibliographic abbreviation (B).

Dublin Core field dc.language.iso

Length

See **Extent**

LOCATION DEPICTED OR COVERED (OPTIONAL)

Description This field refers to the geographical location represented or depicted in the object. It is important for objects such as photographs and some audiovisual materials that have a location that is significant

to the content. Use the Getty Thesaurus of Geographic Names for the standardized vocabulary, or if a location is not listed in TGN, follow its subject heading or name authority in the Library of Congress Authority File.

Dublin Core field dc.coverage.spatial

LOCATION, PHYSICAL

See Source and Repository

MEDIUM, DIGITAL (REQUIRED IF AVAILABLE)

Description The medium is the digital format of the object (for instance, a TIFF or PDF file). Use the list of MIME types to describe the medium.

Dublin Core field dc.format.medium

OWNER

See **Repository**

OWNERSHIP CHANGES

See **Provenance**

PROVENANCE (OPTIONAL)

Description For archival documents and physical objects, this field refers to the trail of ownership of the object. The content of the actual dc.provenance field will be generated by DSpace to refer to the digital object; so if you wish to identify the ownership trail of the original physical object, use the Description property.

Dublin Core field dc.description

PUBLISHER, DIGITAL (OPTIONAL)

Description For resources that have come from an analog original, this field is where to record the project or place where the object was dig-

itized. For objects that are originally digital, such as Embryo Project encyclopedia articles, record the publication information here as well. See Publisher, Original for objects, such as books, that had publishers prior to their entry into the repository.

Dublin Core field dc.publisher digital (if there was a previous publisher; dc.publisher (if this is the only publisher)

PUBLISHER, ORIGINAL (OPTIONAL)

Description If the object had a publisher prior to its addition to the HPS repository, enter that information in this field. In such cases, you should specify that this is the original publisher using the .original qualifier, since you will be repeating the publisher field to also indicate the digital publisher (see Publisher, Digital).

Dublin Core field dc.publisher.original

Relationship, to a different form or version of the object (optional)

Description An object can have several different types of relationships. It can be part of a larger collection (See Relationship to a larger digital collection) or it can be a form of a different resource. When an object is a form of a different resource, it means that changes have been made in format. Best practice is for objects' relationships to be entered as unique identifiers, if the connected object is also in the repository. This will permit the software to connect the items in the database. However, relationships can be entered as human readable text as well.

Dublin Core field dc.relation.isFormatOf; dc.relation.isVersionOf

RELATIONSHIP, TO A LARGER DIGITAL COLLECTION (OPTIONAL)

Description If an object is part of a larger collection, you should include the information about the collection in the object's metadata record so that it can be connected in the database to the larger collection. See Relationship to a different form or version of the same object for other types of possible relationships an object may have. See Contributing Project for how to identify the HPS project to which the object belongs. Best practice is for objects' relationships to be entered as unique identifiers, if the larger collection is also in the repository. However, relationships can be entered as human readable text as well.

Dublin Core field dc.relation.isPartOf

REPOSITORY, OF ORIGINAL PHYSICAL OBJECT (OPTIONAL)

Description Links to the website for the archival repository that holds the original object of which this is a digitized form.

Dublin Core field dc.source

RIGHTSHOLDER

See Citation

Size

See **Extent**

SOURCE, OF ORIGINAL PHYSICAL OBJECT (OPTIONAL)

Description Use this field to link to descriptive information (e.g. a finding aid or catalog record) for the original physical form of the object. This information could be useful if someone comes across the object and would like to view the original, and it also helps to put the object in context.

Dublin Core field dc.description

SUBJECT TERMS (optional)

Description Subject terms are keywords within a controlled vocabulary that describe the content of an object. Use the subject field multiple times for multiple subject terms. Good controlled vocabularies to use are Medical Subject Headings (MeSH) and Library of Congress Subject Headings. For each term used, record which subject term scheme you used (e.g. dc.subject.lcsh or dc.subject.mesh).

Dublin Core field dc.subject

TIME PERIOD COVERED OR DEPICTED

See Date depicted or covered

TITLE, ALTERNATIVE (optional)

- **Description** You can repeat the Title field (see Title, Original) if you would like to specify an alternative title (for instance, if the original title does not contain enough descriptive information, or if you think site visitors are likely to search under a different title).
- Dublin Core field dc.title.alternative

TITLE, ORIGINAL (required)

Description More than one title can be created for each resource (see Title, Alternative). However, there should be only one official title. Where possible, it should be the resource creator's original title. If there is no original title, create one. It should be verbose - more descriptive and less succinct.

Dublin Core field dc.title

TYPE (optional)

Description The Type property describes the nature of the resource in broad, general terms. You can also think of this as the genre of the resource. The Dublin Core recommended practice is to use a narrowly defined vocabulary for this (see Type in the previous section for the vocabulary). If necessary, the Description field can be used to contain "Type-like" information that does not conform to the DCMI Type vocabulary.

Dublin Core field dc.type

Complete Examples

Audiovisual

VIDEO. John Tyler Bonner's Video of Slime Mold Development.

dc.creator Bonner, John Tyler

dc.contributor.photographer Smith, Frank

dc.contributor.narrator Fink, Rachel

dc.date.created 1940-1949

dc.date.createdStandard 1940/1949

dc.identifier.other embryo:125746

dc.identifier.uri http://hdl.handle.net/10776/706

dc.description This video is composed of a sequence of time lapse films created by John Tyler Bonner in the 1940s to show the life cycle of the cellular slime mold, Dictyostelium discoideum. As only the second person to study slime molds, Bonner frequently encountered audiences who had never heard of, let alone seen, the unusual organism. He therefore decided to create a film to present at seminars in order to introduce his object of study. Bonner created the video for his senior thesis at Harvard University with the help of photographer Frank Smith. Bonner began to work at Princeton University in 1947, thus the mention of that university on the title screen of the film. It was digitized and narrated by developmental biologist Rachel Fink of Mount Holyoke College. Includes (approximate starting times given): Amoebae [0:02], Aggregation [00:27], Migrating Pseudoplasmodia [02:16], Culmination [03:28], Trisected Pseudoplasmodium [04:17].

dc.format.medium video/mp4

dc.format.extent 5m25s

dc.language.iso eng

dc.coverage.spatial Harvard University

dc.subject.mesh Dictyostelium discoideum

dc.subject.mesh Growth and Development

dc.title Slime mold development video by John Tyler Bonner
dc.type MovingImage
dc.relation.isPartOf Embryo Project Encyclopedia
dc.description.type Video
dc.subject.embryo Organisms
dc.subject.embryo Processes
dc.subject.tag Model organisms

AUDIO. Biochemistry I Lecture from MIT Introductory Biology Course.

dc.creator Sive, Hazel

dc.contributor Jacks, Tyler

dc.publisher Massachusetts Institute of Technology

dc.date.created 2005

dc.date.createdStandard 2005

dc.description Lecture three of the 36-lecture Spring 2005 Introductory Biology course at the Massachusetts Institute of Technology (MIT). This was the first of three lectures on biochemistry under the 'Foundations' section of the course. The class was team-taught by Hazel Sive and Tyler Jacks.

dc.format.medium audio/mp3

dc.format.extent 38 Mb

dc.language.iso eng

dc.coverage.spatial Massachusetts Institute of Technology

dc.subject.mesh Biochemistry

dc.title Biochemistry I Lecture from MIT Introductory Biology Course

dc.type Audio

dc.relation.isPartOf [fill in project identifier]

dc.identifier.citation Audio, Biochemistry I Lecture from MIT Introductory Biology Course, 2005. [Project Name], History and Philosophy of Science Repository. URI: [unique identifier].

Images

PORTRAIT. Portrait of George M. Gray, Collector, Marine Biological Laboratory at Woods Hole.

- dc.title Portrait of George M. Gray, Collector, Marine Biological Laboratory at Woods Hole
- dc.title.alternative Portrait of George M. Gray
- dc.date.created 1930
- dc.date.createdStandard 1930
- dc.coverage.spatial Woods Hole, Mass.
- dc.description George M. Gray is facing the camera with specimen or storage bottles on shelves in the background. The bottom of the image bears an autograph that reads "George M. Gray, 1930." Inscription at the top of the image reads "500" or "50c."
- dc.description black and white image
- dc.description reformatted digital

dc.description Label: ML HCP 50C

dc.description Digitized by Arizona State University Libraries

dc.publisher Marine Biological Laboratory Archives

dc.source [link to repository]

dc.relation.isPartOf MBL Copeland-Bloom Photo Album

dc.relation.isPartOf Embryo Project Encyclopedia

dc.format.medium image/jp2

dc.format.extent 4.4 Mb

dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/

dc.subject.lcsh Biologists-United States

dc.subject Gray, George M.

dc.type StillImage

dc.identifier.other embryo:127413

dc.description.type Photographs

dc.subject.embryo People

IMAGE WITH MULTIPLE PEOPLE⁵ Embryology Class Photo, 1988.

dc.title Embryology Class 1988

dc.date.created 1988

dc.date.createdStandard 1988

dc.coverage.spatial Woods Hole, Mass.

- dc.description Students in the 1988 Embryology Course at the Marine Biological Laboratory in Woods Hole, Mass.
- dc.description Front row, left to right: John Doe, Jane Smith, unknown, unknown. Second row, left to right: Jane Doe, unknown, unknown.
- dc.description black and white image
- dc.description Digitized by Marine Biological Laboratory Digital Processing Center
- dc.publisher Marine Biological Laboratory Archives

dc.source [link to repository]

- dc.relation.isPartOf Embryo Project Encyclopedia
- dc.relation.isPartOf Marine Biological Laboratory Embryology Class Photos

⁵When you have an image with multiple people, use the description field to list each individual. Go from left to right, and if there are multiple rows, start in the front row and work your way back. If you know some names and not others, write "unknown" for those individuals who are unidentified.

dc.format.medium image/jp2

dc.format.extent [??]

dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/

- **dc.subject** Marine Biological Laboratory (Woods Hole, Mass.). Embryology Class
- dc.type StillImage

dc.identifier.other embryo:126201

dc.description.type Photographs

dc.subject.embryo People

SELF-GENERATED IMAGE/ILLUSTRATION. Turtle Shell Structure - Composite.

dc.title Turtle Shell Structure - Composite

dc.date.created 2010-11

dc.date.createdStandard 2010-11

dc.description Depiction of three parts of the turtle shell structure.

dc.creator Smith, John A.

dc.relation.isPartOf Embryo Project Encyclopedia.

dc.format.medium image/jp2

dc.format.extent [??]

dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/

dc.description.type Illustrations

dc.subject.embryo Processes

dc.subject.embryo Organisms

dc.type StillImage

dc.subject.tag Turtles

Text

ARTICLE. Embryo Project Article: Zygote Intrafallopian Transfer.

dc.type Text

dc.format.medium text/xml

dc.language.iso eng

dc.identifier.other embryo:127449

dc.identifier.citation Zhu, Tian. "Zygote Intrafallopian Transfer," Embryo Project Encyclopedia, January 30, 2011. URI: [URI].

dc.date.created 2011-01-31

dc.date.createdStandard 2011-01-31

dc.title Zygote Intrafallopian Transfer

dc.creator Zhu, Tian

- dc.description.abstract Zygote intrafallopian transfer (ZIFT) is an assisted reproductive technology (ART) first used in 1986 to help those who are infertile conceive a child. ZIFT is a hybrid technique derived from a combination of in vitro fertilization (IVF) and gamete intrafallopian transfer (GIFT) procedures. Despite a relatively high success rate close to that of IVF, it is not as common as its parent procedures due to its costs and more invasive techniques. Some patients prefer ZIFT, however, considering it more natural because the fertilized oocyte, the zygote, is placed in the woman's body for implantation much sooner than with IVF.
- dc.subject.mesh Therapeutics–Reproductive Techniques–Reproductive Techniques, Assisted–Zygote Intrafallopian Transfer.

dc.subject.lcsh Infertility, Female-Alternative treatment.

dc.subject.embryo Processes

dc.description.type Articles

dc.publisher Arizona State University, Tempe, AZ, USA

dc.relation.isPartOf Embryo Project Encyclopedia

dc.rights.copyright Copyright Arizona Board of Regents

- dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/
- ARCHIVAL DOCUMENT. Letter to Harold Heath.
- dc.title Letter to Harold Heath from Reinhart Dohrn
- dc.description This is a letter from Reinhardt Dohrn at the Stazione Zoologica in Naples, Italy to Harold Heath at the Hopkins Marine Station in Pacific Grove, CA, United States. It is a heartfelt letter of gratitude for Heath's gift of a photograph of Dohrn's father, Anton Dohrn, the founder of the Stazione.
- dc.description Provenance of physical object: Given to the Marine Biological Laboratory Archives by Jane Maienschein, [date]. Given to Jane Maienschein, [date], by [whom]. Given to [whom] by Harold Heath's widow, [name], [date]. Original owner Harold Heath.
- dc.subject Dohrn, Anton

dc.creator Dohrn, Reinhardt

- dc.contributor.correspondent Heath, Harold.
- dc.source Harold Heath Collection, item [number], Marine Biological Laboratory Archives
- dc.publisher.digital Arizona State University

dc.format.medium text

dc.type Text

- dc.relation.isPartOf Embryo Project Encyclopedia
- dc.date.created 1931-11-11
- dc.date.createdStandard 1931-11-11

dc.coverage.spatial Napoli, Italy

- dc.rights.copyright Copyright Arizona Board of Regents
- dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/
- dc.identifier.other embryo:202100

dc.identifier.other embryo:202132

dc.language.iso eng

BOOK. Biological Lecture Series, Marine Biological Laboratory.

- dc.title Biological lectures delivered at the Marine Biological Laboratory of Wood's Holl in the summer session of 1890
- dc.title.alternative Biological lectures delivered at the Marine Biological Laboratory, Woods Hole, 1890
- dc.description Biological lectures given at the Marine Biological Laboratory in Woods Hole in the summer of 1890
- dc.description.tableofcontents Preface Specialization and organization, companion principles of all progress. The most important need of american biology, by C. O. Whitman Naturalist's occupation: 1. general survey. 2. a special problem, by C. O. Whitman Some problems of Annelid morphology, by E. B. Wilson Gastraea theory and its successors, by J. P. McMurrich Weismann and Maupas on the origin of death, by Edward G. Gardiner Evolution and heredity, by Henry Fairfield Osborn Relationships of the sea-spiders, by T. H. Morgan On caryokinesis, by S. Watase Ear of man: its past, present, and future, by Howard Ayers Study of Ocean temperatures and currents, by William Libbey, Jr.

dc.subject.lcsh Biology

dc.subject mblhistory

dc.creator Marine Biological Laboratory (Woods Hole, Mass.)

dc.publisher.original Ginn and Co.

dc.publisher.digital Biodiversity Heritage Library

dc.format.medium text/pdf

dc.type Text

dc.relation.isPartOf Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl

dc.date.created 1891

dc.date.createdStandard 1891

dc.coverage.temporal 1890

dc.coverage.spatial Woods Hole (Mass.)

dc.rights Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/

dc.language.iso eng

dc.contributor Whitman, Charles Otis, 1842-1910

dc.contributor Wilson, Edmund B. (Edmund Beecher), 1856-1939

dc.contributor McMurrich, J. Playfair (James Playfair), 1859-1939

dc.contributor Gardiner, Edward G. (Edward Gardiner), 1854-1907

dc.contributor Osborn, Henry Fairfield, 1857-1935

dc.contributor Morgan, Thomas Hunt, 1866-1945

dc.contributor Watase, Shozauro

dc.contributor Ayers, Howard

dc.contributor Libbey Jr., William

Collection

HAROLD HEATH COLLECTION OF PHOTOGRAPHS.

dc.title Harold Heath Collection of Photographs

dc.title.alternative Heath Collection

dc.description.abstract The Harold Heath Collection is a series of portraitstyle photographs of biologists collected by zoologist and embryologist Harold Heath over the course of his career. Most photographs are autographed by the person they depict. The collection may provide unique insight into those persons that Heath had personal relationships with or thought important to science in the late nineteenth and early twentieth centuries. In addition to photographs, the collection contains a few items that Heath added over the years, such as a letter from Anton Dohrn's son Reinhardt, a postage stamp depicting Ernst Haeckel, and prints of paintings of men of science who predated Heath's career.

dc.description Digitized versions of the physical objects contained in the Harold Heath Collection.

dc.creator Heath, Harold

dc.publisher The Embryo Project. Arizona State University.

dc.source [link to source repository]

dc.date.created 1870-1950

dc.date.createdStandard 1870/1950

dc.identifier [URL]

dc.subject.lcsh Biologist-Biography

dc.type Collection

dc.rights.license Licensed as Creative Commons Attribution-Share Alike 3.0 Unported. http://creativecommons.org/licenses/by-sa/3.0/

Event

GROWTH, DEATH, AND REGENERATION: GENETIC STUDIES IN THE FRUIT FLY DROSOPHILA MELANOGASTER.

- **dc.title** Growth, Death, and Regeneration: Genetic Studies in the Fruit Fly Drosophila melanogaster
- dc.description.abstract In 1927, J. B. S. Haldane wrote: "The most obvious differences between different animals are differences of size, but for some reason the zoologists have paid singularly little attention to them." Since then, there have been remarkable advances in the understanding of mechanisms that instruct parts of a developing embryo to elaborate specific structures. However, we still have a very poor understanding of why animals achieve a typical size at the end of their growth phase. For instance, why are most strains of mice roughly the same size, and more importantly, why are they all smaller than rats? Another poorly understood aspect of growth is that which occurs during tissue regeneration. Ablation of a quarter of a zebrafish's heart

results in the re-growth of the missing portion while humans can only replace damaged portions of their heart with fibrous scar tissue. Why are some animals capable of amazing feats of regeneration and others not?

dc.subject.mesh Drosophila-growth and development

dc.creator Harihawan, Iswar K.

dc.contributor.speaker Patel, Nipam

dc.format.extent [??]

dc.type Event

dc.relation.isPartOf Marine Biological Laboratory Friday Evening Lecture Series

dc.date.created 2011-06-17

dc.date.createdStandard 2011-06-17

dc.coverage.spatial Woods Hole, Mass.

dc.rights Copyright Marine Biological Laboratory

dc.language.iso eng

dc.identifier.citation "Growth, Death, and Regeneration: Genetic Studies in the Fruit Fly Drosophila melanogaster," Marine Biological Laboratory Friday Evening Lecture Series, June 17, 2011. History and Philosophy of Science Repository, [URI].

Map

HTTP://WWW/WHOI.EDU/GENERALINFO/DIRECTIONS/WHVILLAGE.HTML. Example not in repository.

- dc.title Woods Hole Village Facilities of the Woods Hole Oceanographic Institution (WHOI)
- dc.title.alternative Map of the Woods Hole Village Facilities

dc.description Map of the Woods hole Village Facilities of the Woods Hole Oceanographic Institution (WHOI). Includes Bigelow Laboratory, Iselin Marine Facility, Smith Laboratory, Co-op Building, 38 Water Street, Redfield Laboratory, Smith House, Crowell House, Shiverick House, Exhibit Center, Caryn House, Nobska House, Walsh Cottage, Blake Building, Meteor House, Challenger House, and Challenger Annex.

dc.publisher Woods Hole Oceanographic Institution

dc.format.medium image/jp2

dc.type Image

dc.date.created 1997

dc.date.createdStandard 1997

dc.rights Copyright Woods Hole Oceanographic Institution

- dc.language.iso eng
- dc.identifier.citation Map, Woods Hole Village Facilities of the Woods Hole Oceanographic Institution (WHOI), 1997. History and Philosophy of Science Repository, [URI].

Other

POWER POINT PRESENTATION. Presentation from National Association of Public Hospitals and Health Systems. Example not in repository.

dc.title Environment Post Health Care Reform

dc.description In this Power Point presentation, Siegel and Feldpush present the landscape of health care after the passing of the Patient Protection and Affordable Care Act. The file contains only the visual format, not the video or audio of the presentation.

dc.subject.mesh Delivery of health care

dc.creator Smith, Bruce

dc.creator Feldpush, Beth

dc.publisher National Association of Public Hospitals and Health Systems

dc.format.medium image/pdf

dc.type Image

- dc.relation.isPartOf [*Fake* 2011 NAPH Fall Conference Presentations Collection]
- dc.date.created 2011-09-19

dc.date.createdStandard 2011-09-19

- dc.rights Copyright National Association of Public Hospitals and Health Systems
- dc.language.iso eng
- dc.identifier.citation Power Point Presentation. Siegel, Bruce and Beth Feldpush, "Environment Post Health Care Reform," September 19, 2011. NAPH Fall Conference Presentations, History and Philosophy of Science Repository, [URI].

PHYSICAL ARTIFACT. Metadata without a digital representation of the object.

- dc.title Peat bog corer, well type
- dc.description Peat bog corer used to collect samples. Contains nine 3 inch outer diameter tubes 36 inches in length.
- dc.description Donated by the Redfield Estate on December 29, 1980.
- dc.subject.lcsh Core Drilling Equipment and Supplies
- dc.subject.lcsh Marine geophysics
- dc.subject.lcsh Scientific apparatus and instruments

dc.creator Redfield, Alfred Clarence (1890-1983)

- dc.creator Hoadley, L. D.
- **dc.publisher** Woods Hole Oceanographic Institution Data Library and Archives
- dc.type PhysicalObject

dc.relation.isPartOf [URI for WHOI Scientific Instrument Collection

dc.date.created 1958

dc.date.createdStandard 1958

- $\mathbf{dc.rights}$ Property of the Woods Hole Oceanographic Institution
- **dc.source** Woods Hole Oceanographic Institution Data Library and Archives. Scientific Instrument Collection, No. 391
- dc.identifier.citation Redfield, Alfred Clarence and L. D. Hoadley. "Peat bog corer well type." Woods Hole Oceanographic Institution, 1958.

Additional Resources

- **Creative Commons Licensing Information** For the dc.rights element. Provides language for legal licensing. http://creativecommons.org/licenses
- **Dublin Core Metadata Initiative** Provides an exhaustive reference source on the use of DC terms. http://dublincore.org
- Dublin Core Metadata Initiative Terms List Brief, thorough list of DC properties and qualifiers. http://dublincore.org/documens/dcmi-terms/index.shtml
- The Getty Thesaurus of Geographic Names Provides a controlled vocabulary for geographic terms, for use in dc.coverage.spatial. http://www.getty.edu/research/tools
- Internet Naming Authority MIME Types Provides authoritative list of file types, for use in dc.format.medium. http://www.iana.org/assignments/mediatypes/index.html
- Library of Congress Subject Headings Search Controlled vocabulary of general subject keywords, for use in dc.subject. http://id.loc.gov
- National Library of Medicine Medical Subject Headings Browser Another vocabulary of subject keywords, more specifically related to biology and medicine, for use in dc.subject. http://www.nlm.nih.gov/mesh/MBrowser.html

Addendum for Embryo Project Contributors

Title

For People articles, you might often want to include an alternative title with different spellings or forms of a person's name. For instance, if someone changed his or her name, you should include an alternative title with the previous version of the name.

Description

Always include at least one entry in dc.description.type; this field is where the "Browse by Type" menu draws from. Your controlled vocabulary is as follows:

- Articles
- Audio
- Correspondence
- Datasets
- Essays
- Illustrations
- Laboratory Notes
- Photographs
- Publications
- Slides

Subject

Along with MeSH and LC terms, please include the following:

dc.subject.embryo This property is where the "Browse by Subject" menu draws from. Include at least one, but if objects fall into multiple categories, you can repeat the field and include more than one. Your controlled vocabulary is :

- Awards
- Disorders
- Ethics
- Experiments
- Legal
- Organisms
- Organizations
- Outreach
- People
- Places
- Procedures
- Processes
- Publications
- Religion
- Technologies
- Theories
- dc.subject.tag This property controls the "tags" that are listed with each article or other object to help create relationships among the objects. Include one to five of these. The controlled vocabulary is listed here. If you think we need a term that's not yet in the list, talk to one of the EP editors.

Creator

For articles, the author(s) is the creator.

Contributor

If the article editor is documented, use dc.contributor.editor to include the name of the editor in the metadata.

Publisher

dc.publisher should be as follows: Arizona State University. School of Life Sciences. Center for Biology and Society. Embryo Project Encyclopedia.

Type

Use "text" for articles. Be specific for images and media; use "StillImage" or "MovingImage" rather than just "Image."

Rights

The Embryo Project Encyclopedia is using the CC-BY-NC-SA license, per the example in this manual.

Identifier

For objects that were in the old EP repository in Fedora, include their previous PID as follows:

dc.identifier.other embryo:125746