

Open Science, Sharing & Licensing

Robert Haase

Code

Slides

Text

Data

...

GEFÖRDERT VOM



Bundesministerium
für Bildung
und Forschung



Diese Maßnahme wird gefördert durch die Bundesregierung
aufgrund eines Beschlusses des Deutschen Bundestages.
Diese Maßnahme wird mitfinanziert durch Steuermittel auf
der Grundlage des von den Abgeordneten des Sächsischen
Landtags beschlossenen Haushaltes.

Sharing & Licensing

- Here I'm sharing the slides [#openaccess](#)
- They are licensed [CC-BY 4.0](#) unless mentioned otherwise.
- This means, you can legally reuse them.



<https://doi.org/10.5281/zenodo.10966230>

Quiz

- When you shared materials over the internet, which platform did you use?

Onedrive/Google
cloud/Dropbox/etc.

Zenodo/Figshare/
[bio]arxiv/F1000

Email

Other



Quiz

- When you shared materials over the internet, which license did you use?

None



Public
Domain



Creative
Commons



BSD/GPL/
MIT/...



Sharing & Licensing

- I work in public service, and my work should be available publicly.

The screenshot shows a web browser window displaying a Zenodo record. The browser's address bar shows the URL zenodo.org/records/10972692. The Zenodo logo is in the top left, followed by a search bar and navigation links for 'Communities' and 'My dashboard'. The user profile 'robert_ha...' is visible in the top right. The record details include: 'Published April 15, 2024 | Version v3', a 'Presentation' button, an 'Open' button, and three main action buttons: 'Edit' (orange), 'New version' (green), and 'Share' (blue). Below these are statistics for '86 VIEWS' and '65 DOWNLOADS', with a 'Show more details' link. A 'Versions' section lists 'Version v3' with the identifier '10.5281/zenodo.10972692' and the date 'Apr 15, 2024'. The main content area features the title 'Kollaboratives Arbeiten und Versionskontrolle mit Git' by 'Haase, Robert^{1,2}' with an ORCID icon and a 'Show affiliations' button. The abstract discusses collaborative work and Git, and a bulleted list provides further context.

Published April 15, 2024 | Version v3

Kollaboratives Arbeiten und Versionskontrolle mit Git

Haase, Robert^{1,2}

Gemeinsames Arbeiten im Internet stellt uns vor neue Herausforderungen: Wer hat eine Datei wann hochgeladen? Wer hat zum Inhalt beigetragen? Wie kann man Inhalte zusammenfuehren, wenn mehrere Mitarbeiter gleichzeitig Aenderungen gemacht haben? Das Versionskontrollwerkzeug git stellt eine umfassende Loesung fuer solche Fragen bereit. Die Onlineplattform github.com stellt nicht nur Softwareentwicklern weltweit eine git-getriebene Plattform zur Veruegung und erlaubt ihnen effektiv zusammen zu arbeiten. In diesem Workshop lernen wir:

- Infuerung in FAIR-Prinzipien im Softwarecontext
- Arbeiten mit git: Pull-requests
- Aufloesen von Merge-Konflikten
- Automatisiertes Archivieren von Inhalten nach Zenodo.org
- Eigene Webseiten auf github.io publizieren

Closed science

Why are some science-related materials/data/code not shared?

- Risk of being scooped
- Fear of blaming oneself (imposter syndrome)
- Lack of awareness (who is allowed to publish *my work*?)
- Assumption: it's not worth the effort.

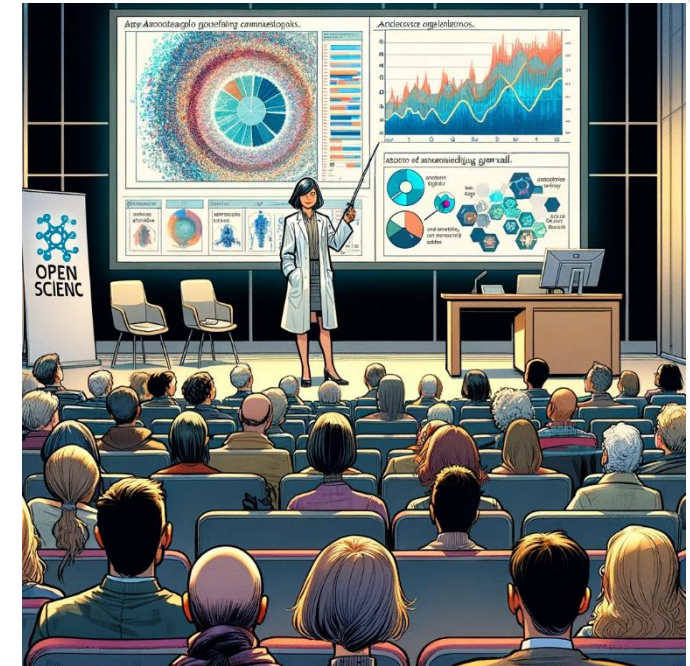


Open Science

- Research related
(hot topics)
- Often tailored towards
general audience
(science communication)
- Earliest at the time a
manuscript is published
(e.g. as preprint)

Open Training

- Routine tasks
(colder topics)
- Transfer of
domain-specific
knowledge



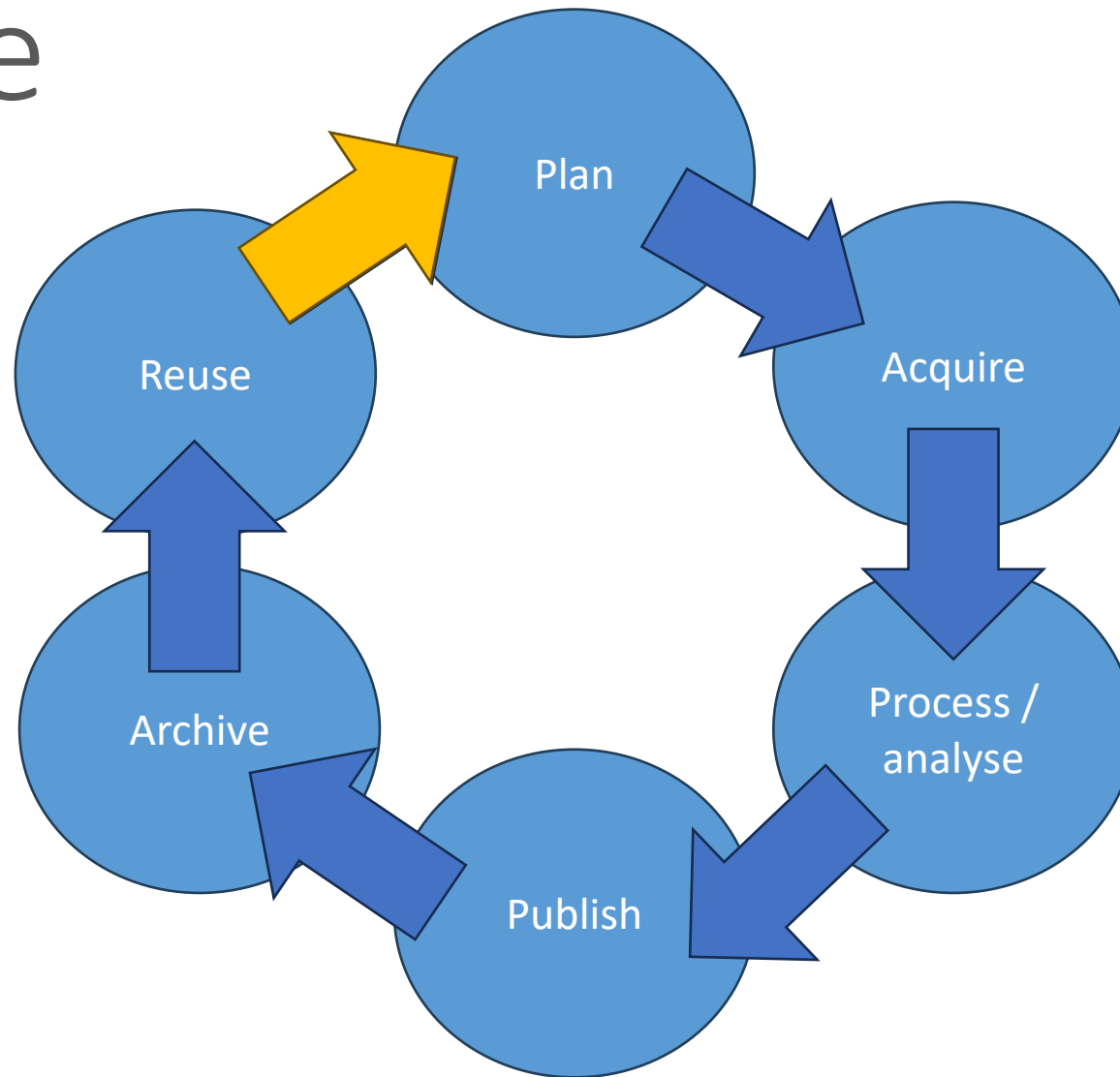
[Research] Data Management (RDM)

- All activities, processes, terms, persons which have relationships with data
 - Processing
 - Storage
 - Organisation
 - Publication
 - ...
- In routine: working with data



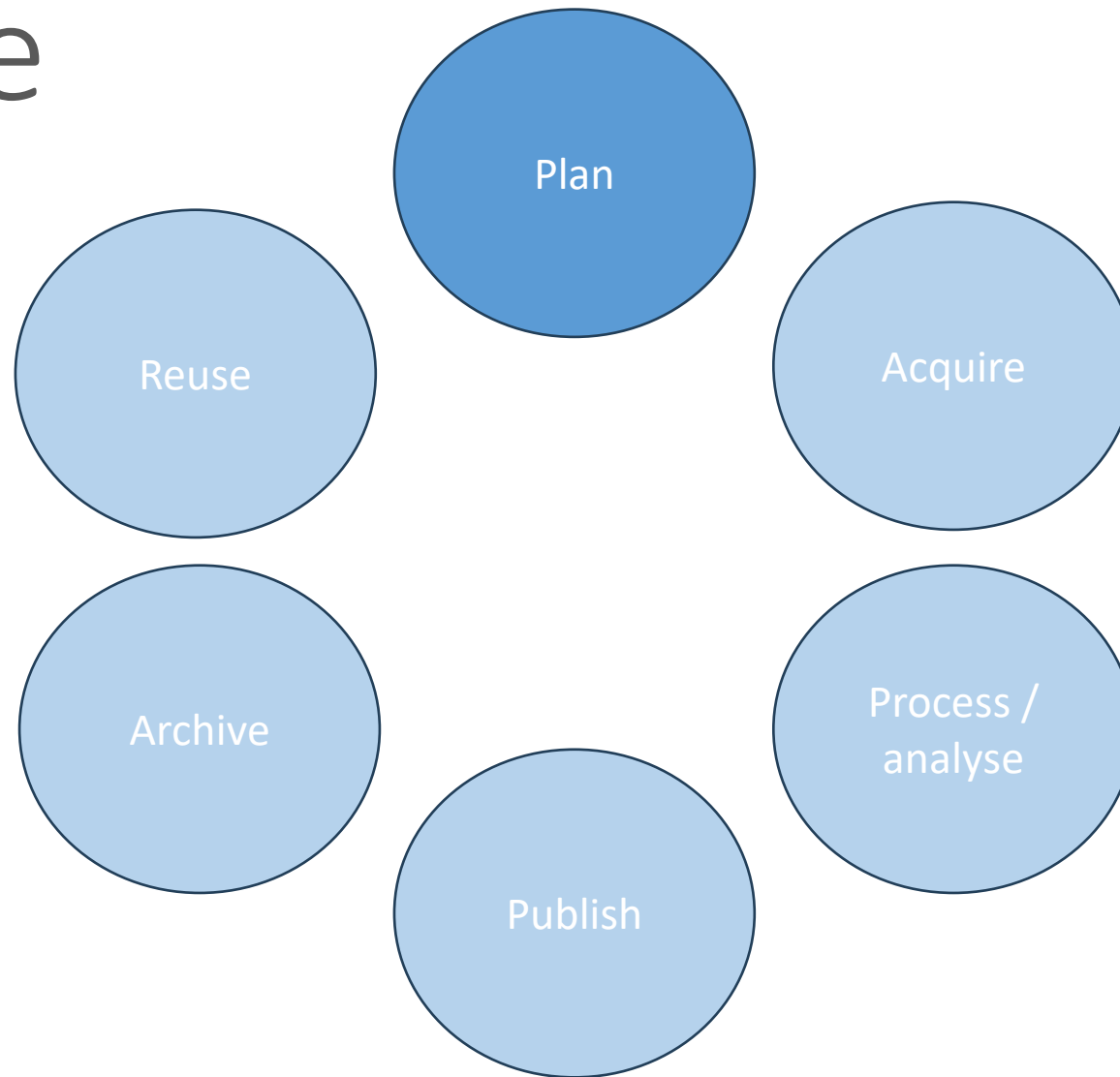
RDM Life Cycle

- Processes are ideally cyclic



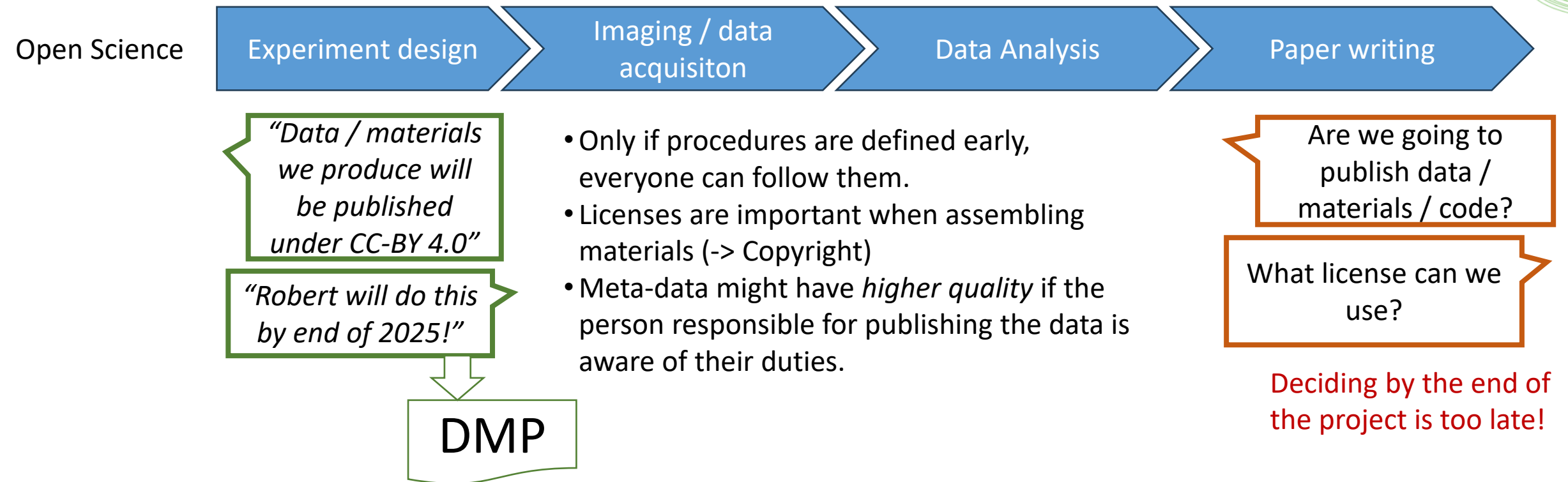
RDM Life Cycle

- Cost
- Benefit
- Quality
- Strategic decisions



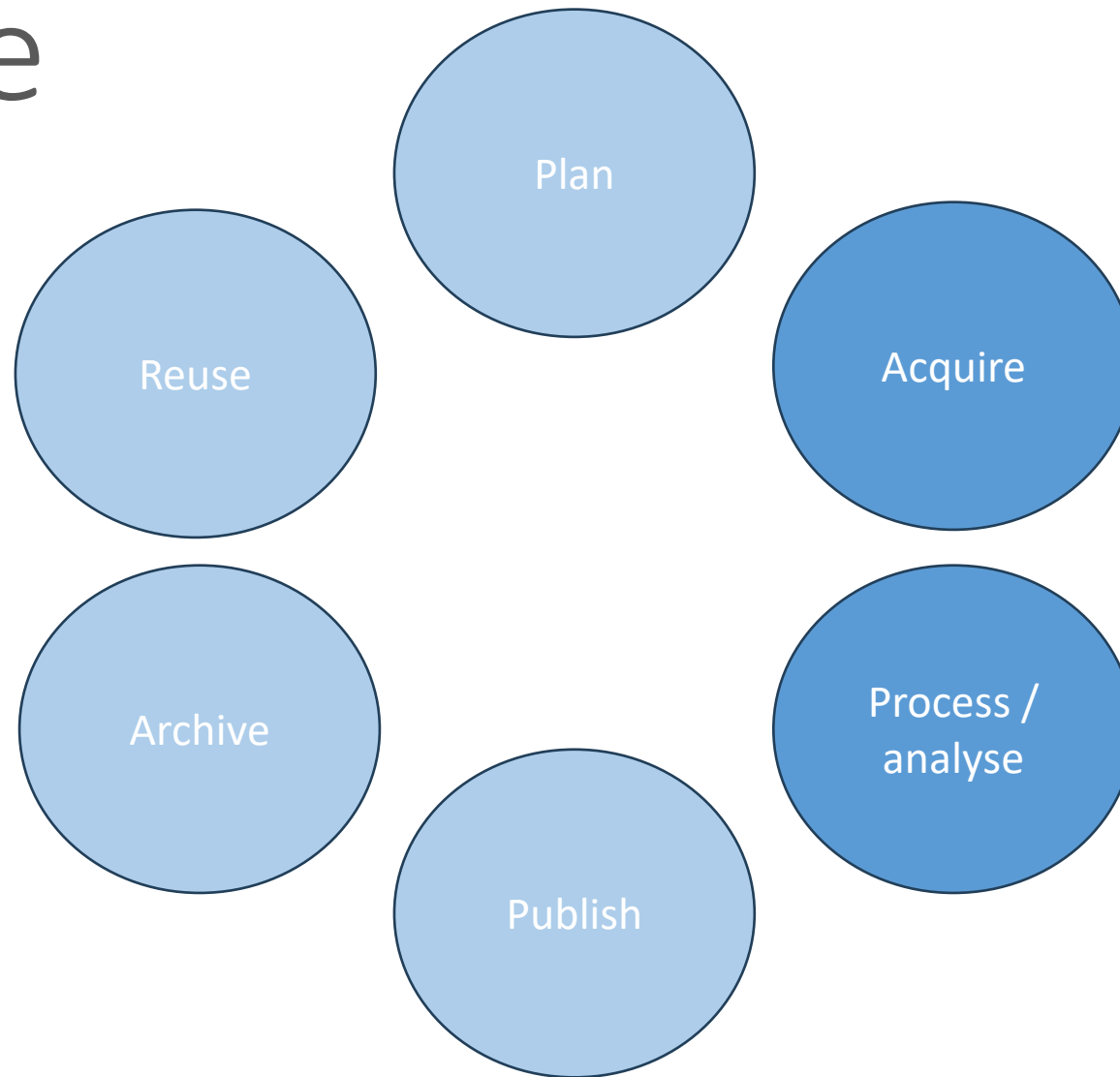
Data Management Plans (DMPs)

- Define responsibilities and procedures early!



RDM Life Cycle

- Types of data
- Terms and conditions
 - Usage rights
 - Copyright
- IT infrastructure
- Backup



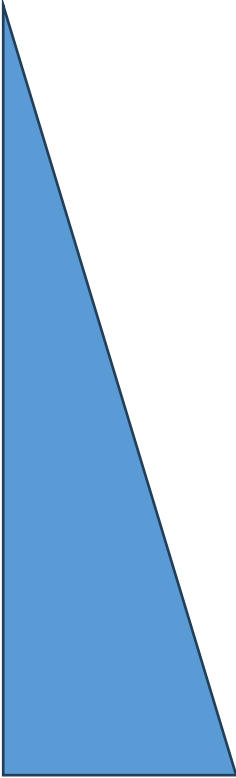
Types of data

- Structured data
 - Tables, databases
- Unstructured data
 - Texte, emails, videos, pictures
- Semi-structured data
 - Frageboegen
 - Scientific images



Types of data

- Openly accessible data
 - „open data“
 - „open source“ software
- Business data
- Research data
 - Hot / cold
- Personal data
- Secret data

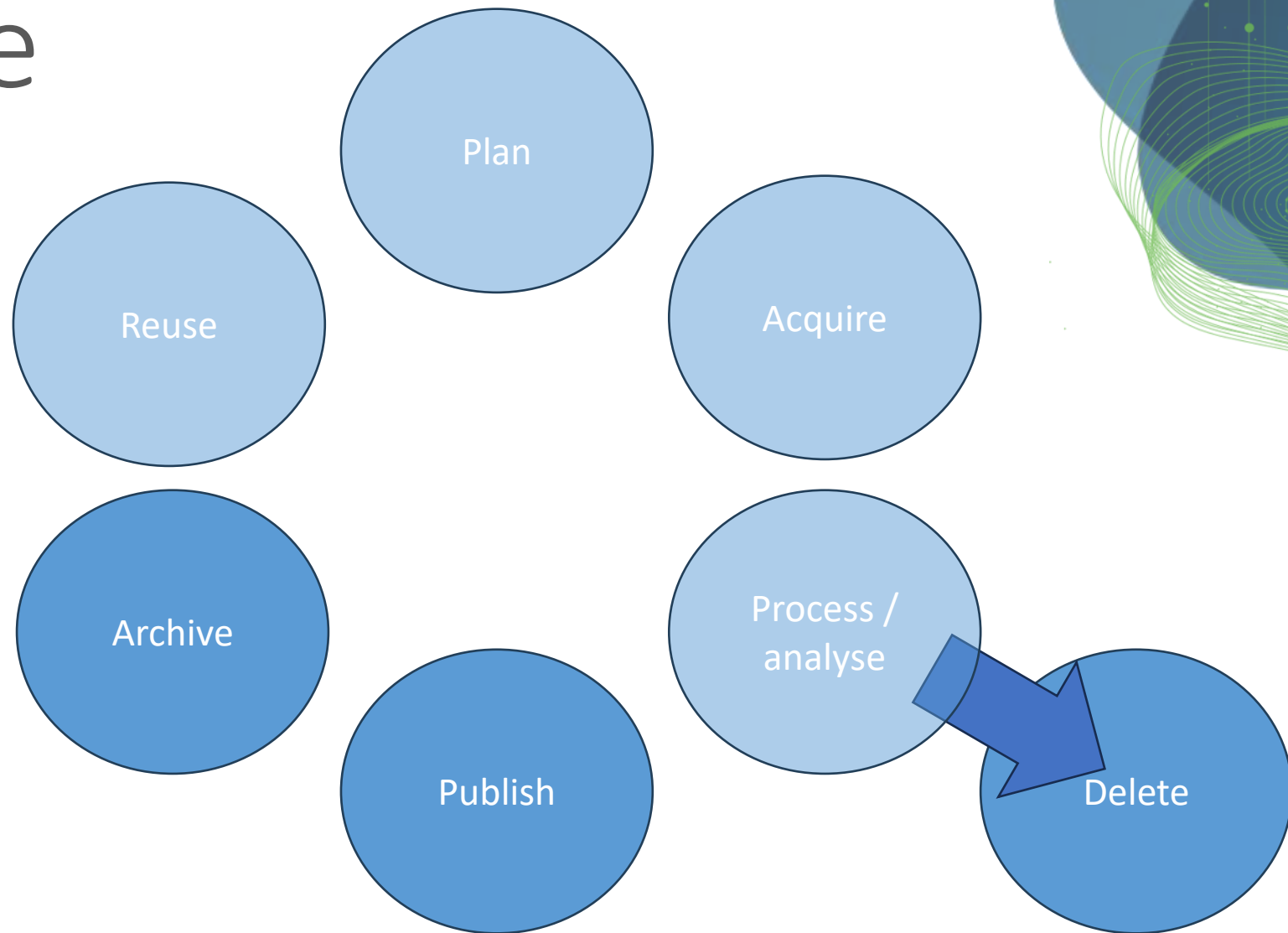


In need of
protection
(schutzbedürftig)



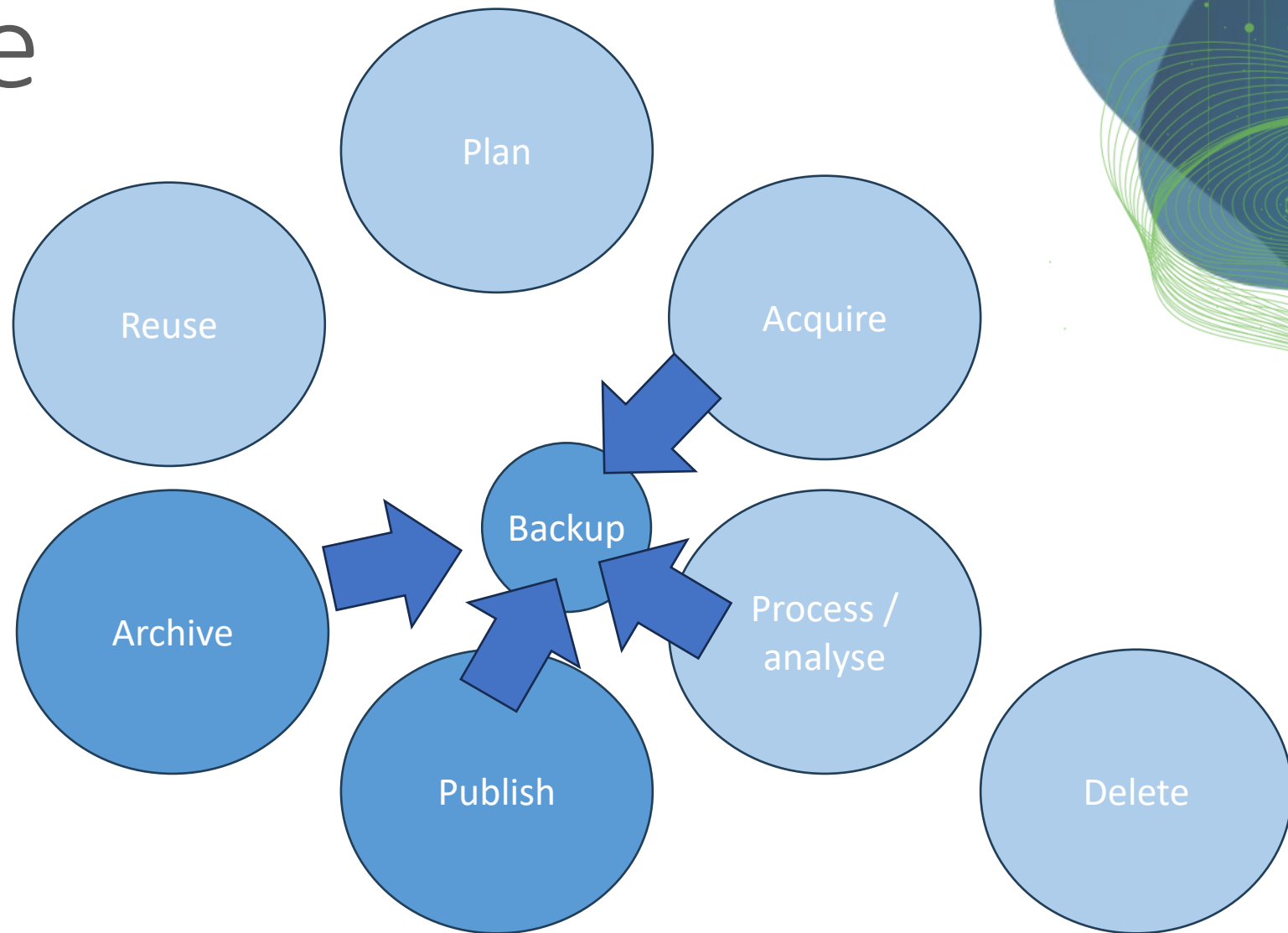
RDM Life Cycle

- Right to publish
- Regulatory aspects
 - Research data: archive 15 years
- Authorship
- Registration (-> Findable)



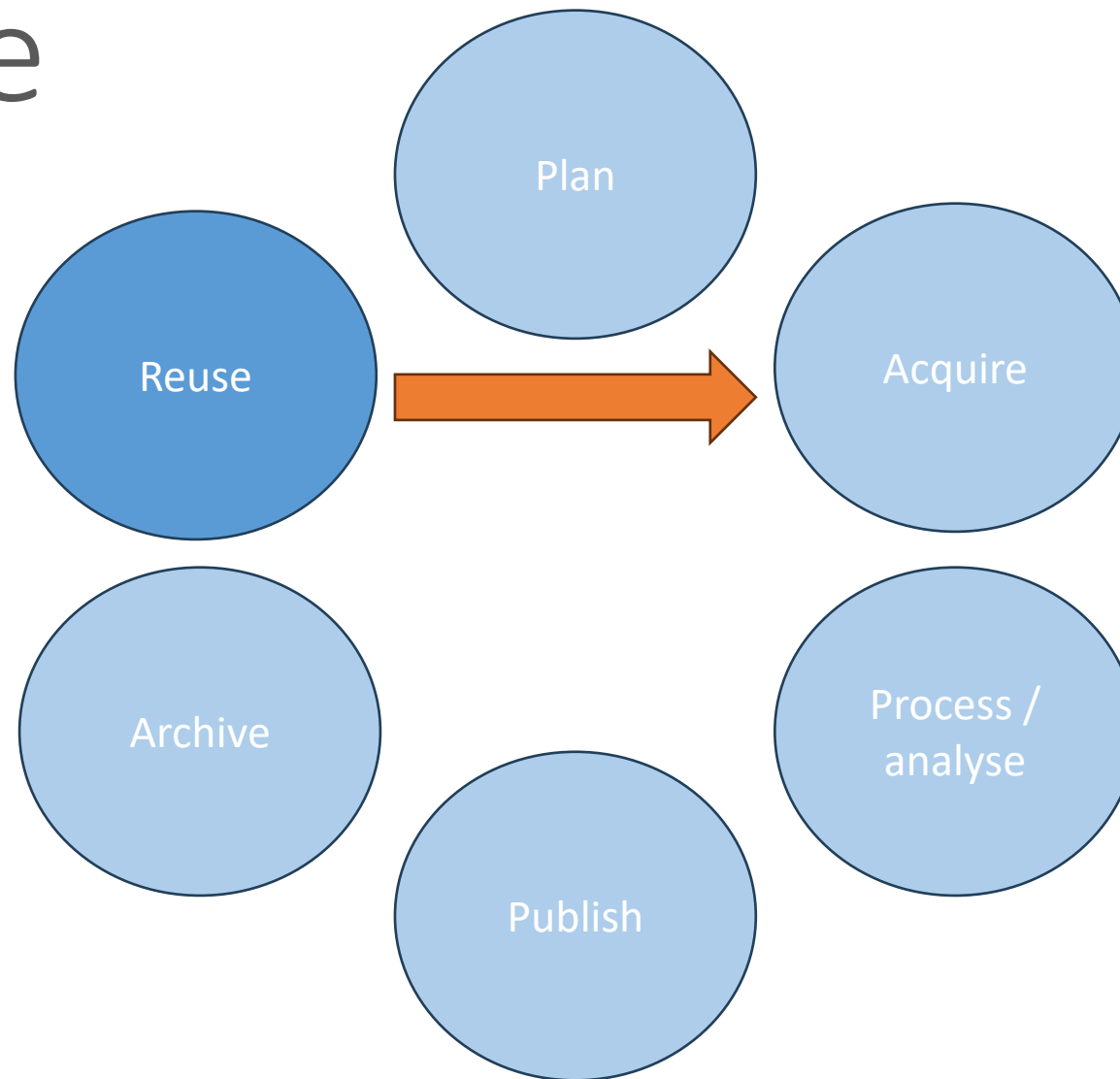
RDM Life Cycle

- Backup: Regular copy of (all) files
 - Conflict: Some personal data needs to be deleted, should not go into backup
- Publication: Selection of curated files for external use
- Archive: Selection of curated files for later use (not necessarily public)



RDM Life Cycle

- Potential future benefit
- Sustainability
- Important: **Licensing**
 - Has impact on next cycle / acquisition



Scientific culture

Public access to research results -> Reusability



Guidelines for Safeguarding Good Research Practice

Code of Conduct

“Kodex”

Guideline 13: Providing public access to research results

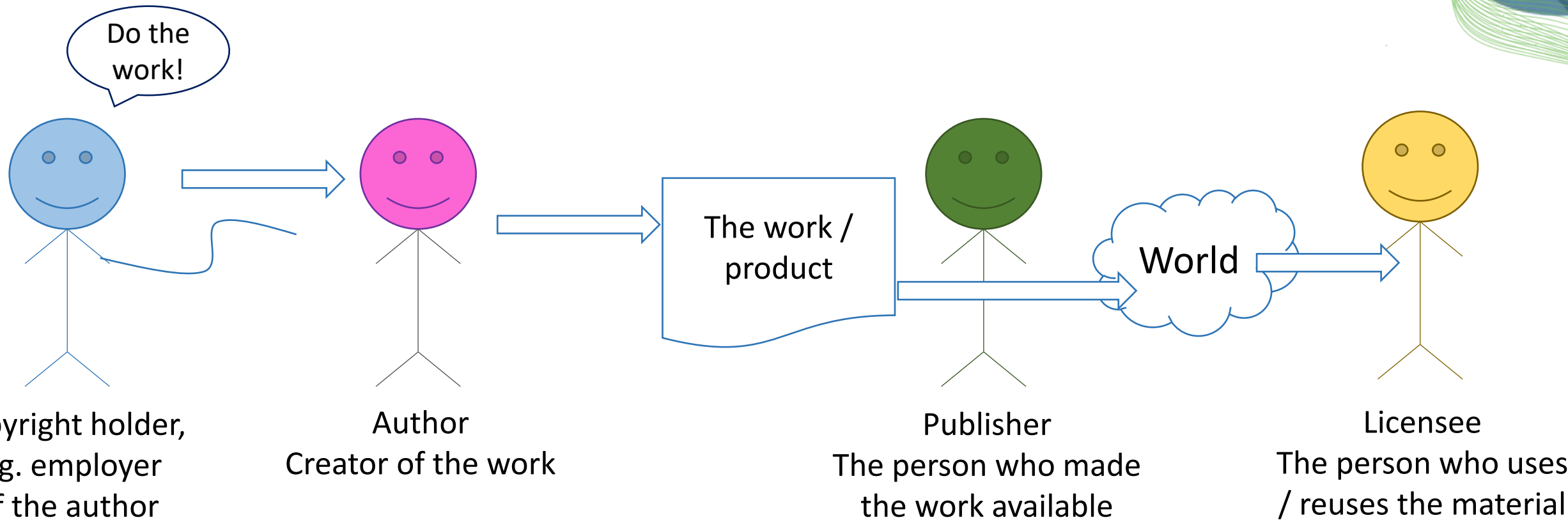
► As a rule, researchers **make all results available** as part of scientific/academic discourse. In specific cases, however, there may be reasons not to make results publicly available (in the narrower sense of publication, but also in a broader sense through other communication channels); this decision must not depend on third parties. **Researchers decide autonomously** – with due regard for the conventions of the relevant subject area – whether, how and where to disseminate their results. If it has been decided to make results available in the public domain, researchers describe them clearly and in full. Where possible and reasonable, this includes making the research data, materials and information on which the results are based, as well as the methods and software used, available and fully explaining the work processes. Software programmed by researchers themselves is made publicly available along with the source code. Researchers provide full and correct information about their own preliminary work and that of others.

Explanations:

In the interest of transparency and to enable research to be referred to and **reused by others**, whenever possible researchers make the research data and principal materials on which a publication is based available in recognised archives and repositories **in accordance with the FAIR principles** (Findable, Accessible, Interoperable, Reusable). Restrictions may apply to public availability in the case of patent applications. If self-developed

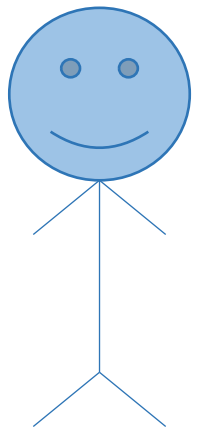
Am I allowed to publish my stuff?

- ... it depends... on who is responsible

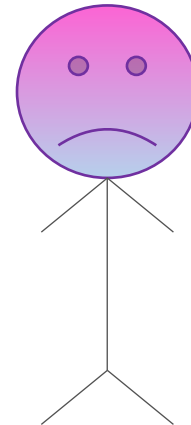


Am I allowed to publish my stuff?

- ... it depends... on what materials served as basis



Author of related material

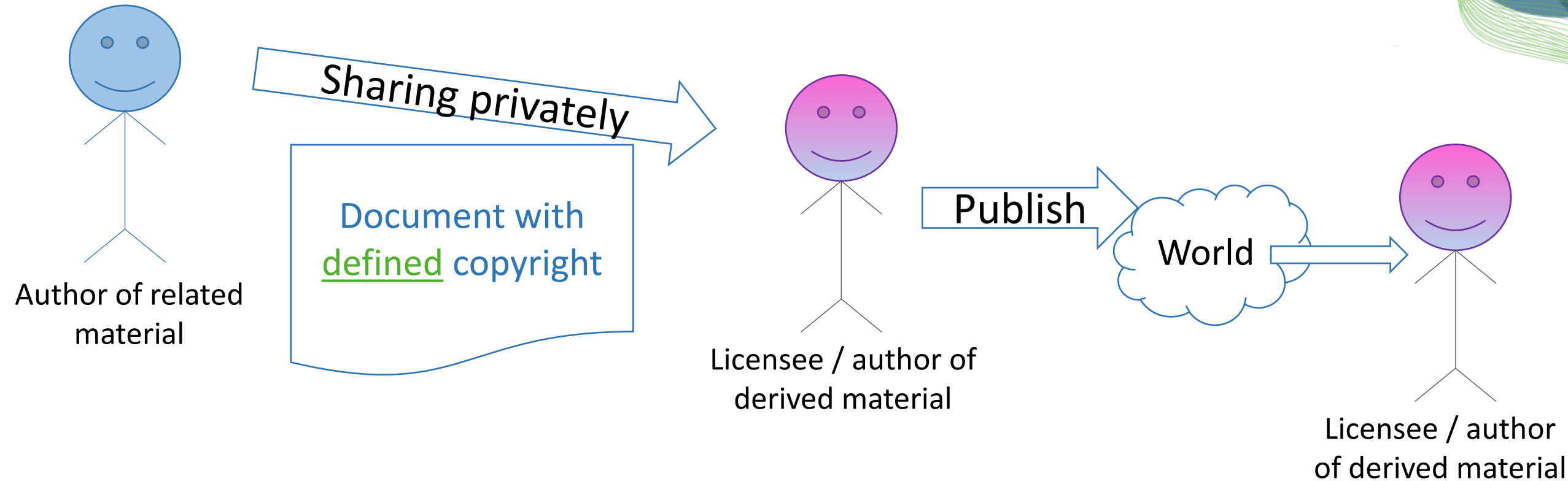


Licensee / author of derived material



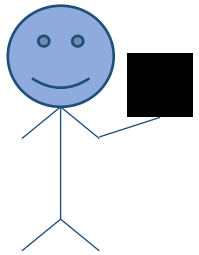
Am I allowed to publish my stuff?

- ... it depends... on what materials served as basis



Openness of software / projects

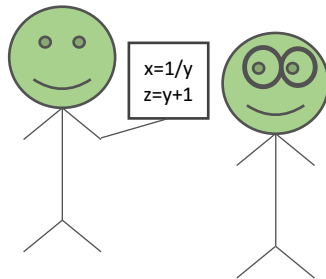
Closed source



- Open to collaborations
- “Black box”
- Compiled code (e.g. C/C++)
- Good for protecting intellectual properties (\$\$\$)

Hardware device drivers

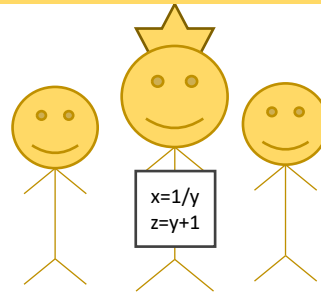
Open source



- Code available to read
- Not necessarily executable code
- No maintenance / support efforts

Custom image analysis scripts

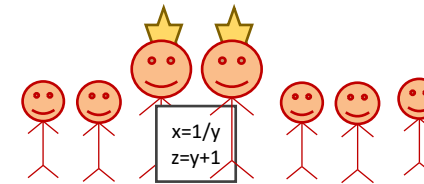
Benevolent dictatorship



- Open to contributions
- Single maintainer, often overwhelmed
- Efficient decision making
- Bus factor ≈ 1

TrackMate, SNT, MorpholibJ, CLIJ

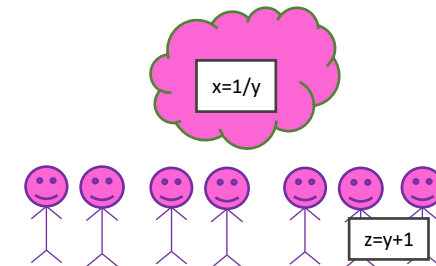
Community driven



- Open to contributions
- Partially democratic
- Board of maintainers (core developers)
- Long-winded decision making

scikit-image, scipy, OpenCL

Openly extensible



- Openly extensible; without maintainers involved
- Partially community driven

ImageJ, Python, numpy

Quiz

- What is the role of the OpenData Portal of Leipzig in the context of publishing data?

Copyright holder



Author



Publisher



Licensee



Standard for sharing: The FAIR-principles

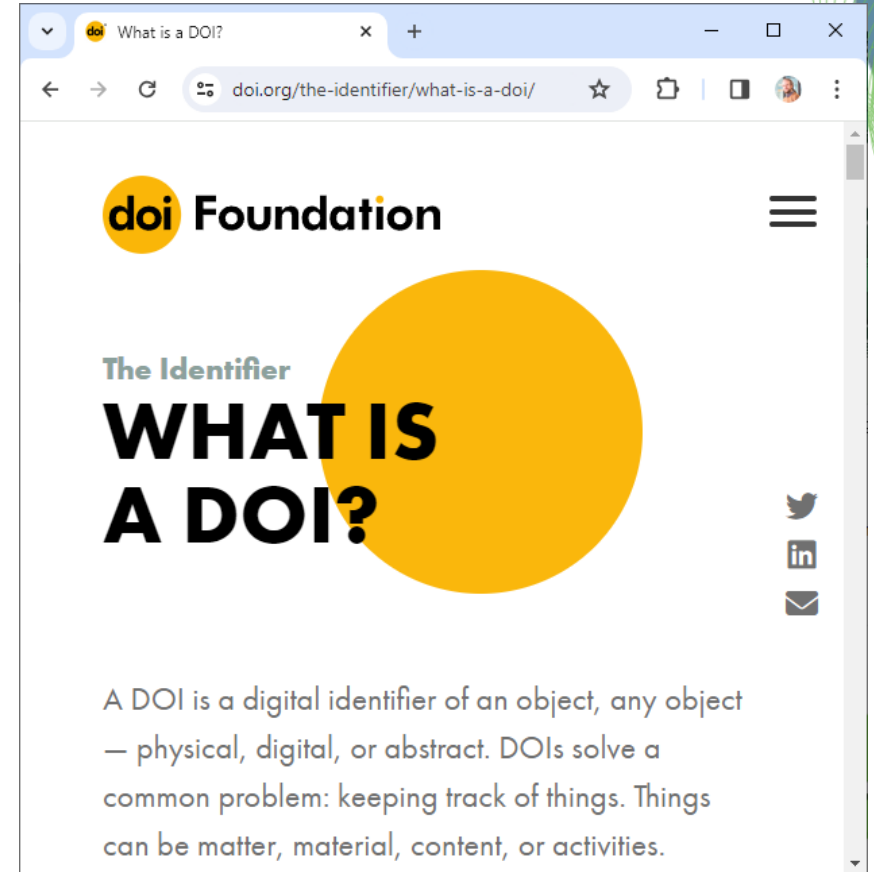
- Findable
- Accessible
- Interoperable
- Reusable



The FAIR-principles

Findable

- F1. (Meta)data are assigned a globally unique and persistent identifier
 - Universal Resource Identifier (URI)
 - Digital Object Identifier (DOI)
- F2. Data are described with rich metadata (defined by R1 below)
- F3. Metadata clearly and explicitly include the identifier of the data they describe
- F4. (Meta)data are registered or indexed in a searchable resource



Object /Resource Identifiers (URI/DOI)

- DOIs / URIs always point at the same data
- DOIs are centrally registers, URIs not
- Unified Resource Locators (URLs) may point at different things

The screenshot shows the OpenData Leipzig website for the dataset 'Straßennetz, Stadt Leipzig'. The page includes a search bar, navigation tabs (Datensätze, Organisationen, Kategorien, Anwendungen, Über uns, Nutzung, Hackathons), and a detailed description of the dataset. The 'Daten und Ressourcen' section lists four data formats: CSV, GeoJSON, GeoPackage, and WFS-GetCapabilities, each with an 'Entdecke' button. The 'Zusätzliche Informationen' table is highlighted with a blue box.

Feld	Wert
Ansprechpartner	Verkehrs- und Tiefbauamt, Stadt Leipzig
E-Mail	vta@leipzig.de
Verwaltungsebene	kommunale Ebene
Gemeindename	Leipzig, Stadt
Ausgestellt	2021-08-20
Aktualisiert	2024-01-17

Gemeindename	Leipzig, Stadt
Ausgestellt	2021-08-20
Aktualisiert	2024-01-17

This no DOI, no URI, it's a URL

Unified Resource Locators

- These are all URLs

<https://twitter.com/haesleinhuepf/status/891596662782779392>

<https://doi.org/10.5281/zenodo.28325>

<https://opendata.leipzig.de/dataset/vornamenstatistik-2023>

<https://www.leipzig.de/>

Unified Resource Identifiers

- Which of these are URIs?

<https://twitter.com/haesleinhuepf/status/891596662782779392>

<https://doi.org/10.5281/zenodo.28325>

<https://opendata.leipzig.de/dataset/vornamenstatistik-2023>

<https://www.leipzig.de/>

Digital Object Identifiers

- Which of these are DOIs?

<https://twitter.com/haesleinhuepf/status/891596662782779392>

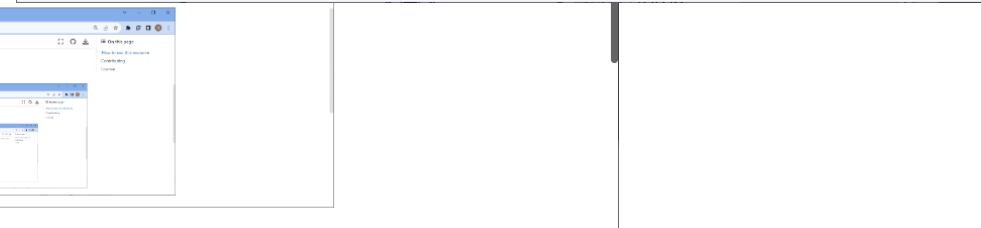
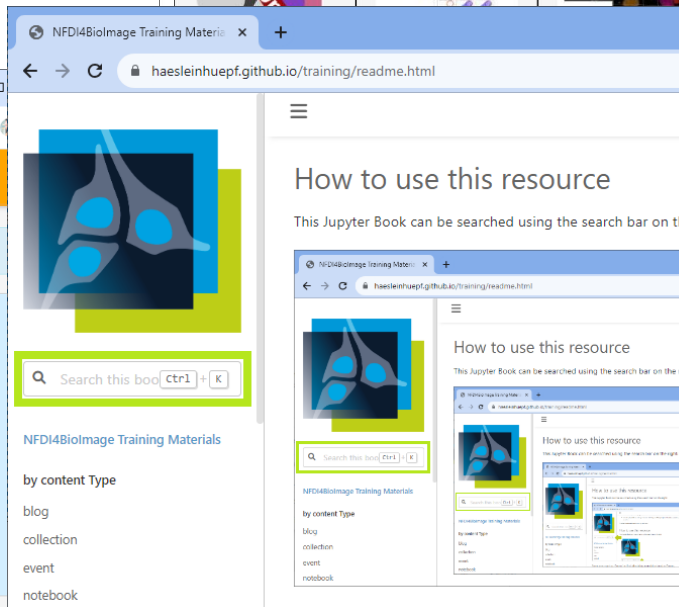
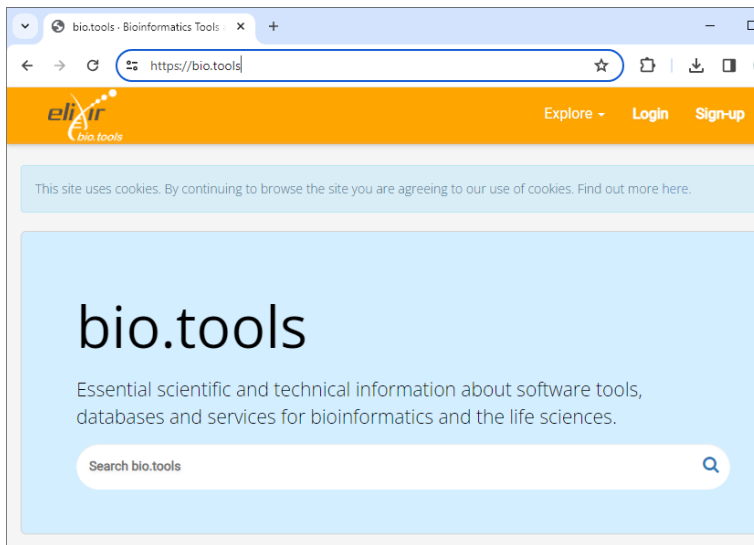
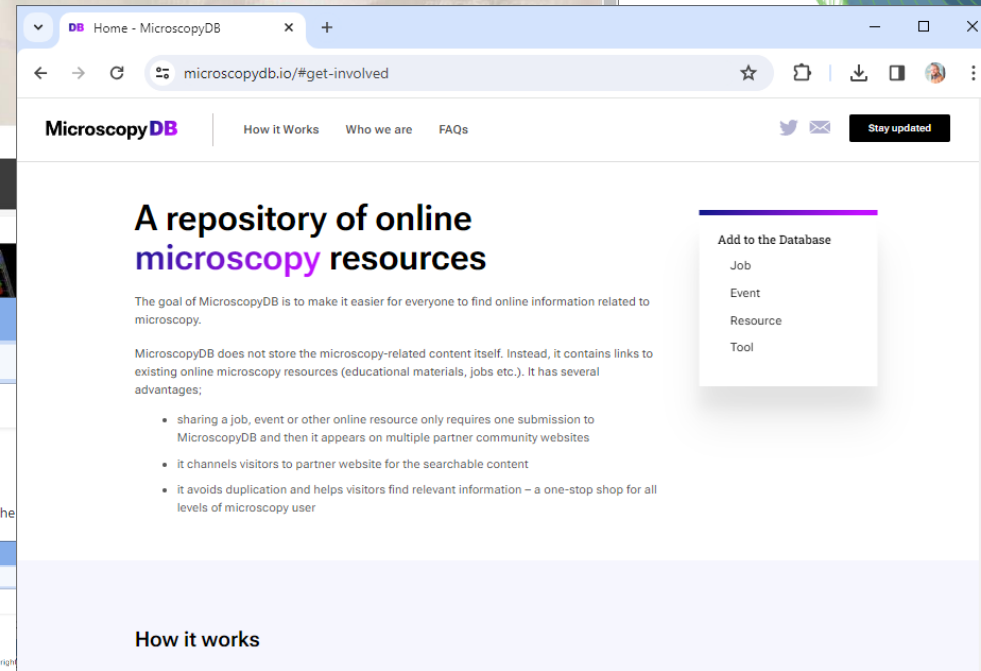
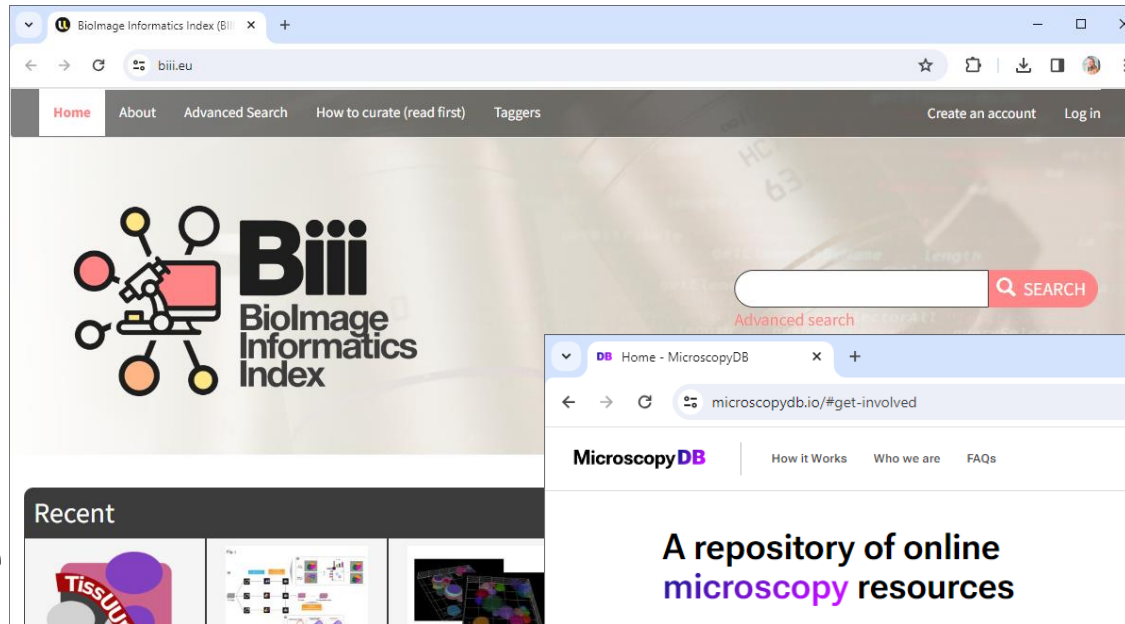
<https://doi.org/10.5281/zenodo.28325>

<https://opendata.leipzig.de/dataset/vornamenstatistik-2023>

<https://www.leipzig.de/>

Indexing

- Make sure your materials are listed in public search indices
- Do not trust google to make your stuff findable



Incentives: Findability

- Your *future-self* will thank you, because they will find your work

You remember that talk you gave in 2021?

Where are the slides?

Online, open access!

Sharing and licensing material | x +

f1000research.com/slides/10-519

F1000Research

Search

SUBMIT YOUR RESEARCH

BROWSE GATEWAYS & COLLECTIONS HOW TO PUBLISH ABOUT BLOG MY RESEARCH SIGN IN

Home » Browse » Sharing and licensing material

SLIDES

NOT PEER REVIEWED

VIEW FULL SCREEN

PowerPoint P... 1 / 28 24%

Code Slides Text Data ...

Sharing and licensing material
Robert Haase
June 30th 2021

Metrics | 411 Views | 60 Downloads

DOWNLOAD 30.92 MB

SHARE CITE

PART OF THE GATEWAY

neubias NEUBIAS - the Bioimage Analysts Network

BROWSE BY RELATED SUBJECTS

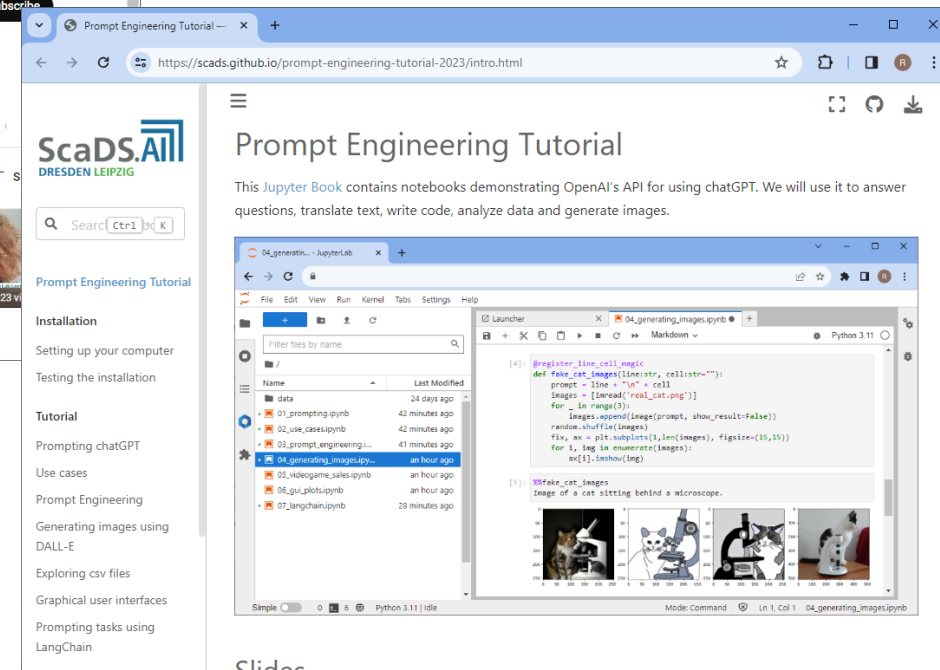
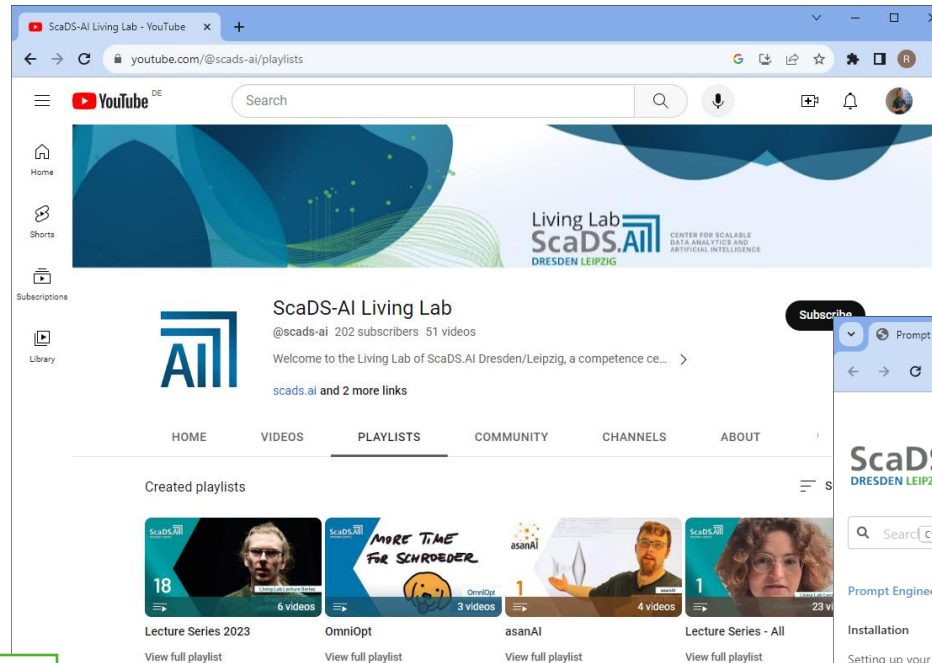
Artificial intelligence
Computer and information sciences
Electrical engineering

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TECHNISCHE UNIVERSITÄT DRESDEN

Incentives: Findability -> Visibility

- YouTube
- Github



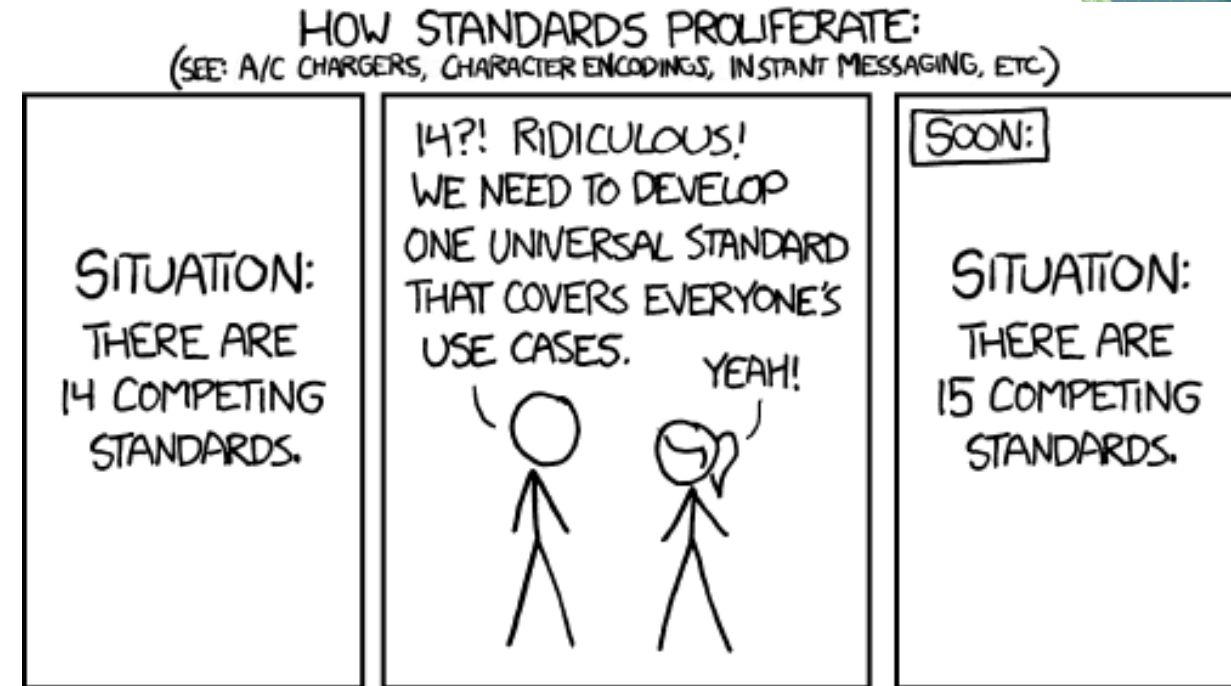
Open & FAIR sharing
is a PR instrument

- ... leading to
- more software users
 - new collaborations

The FAIR-principles

Accessible

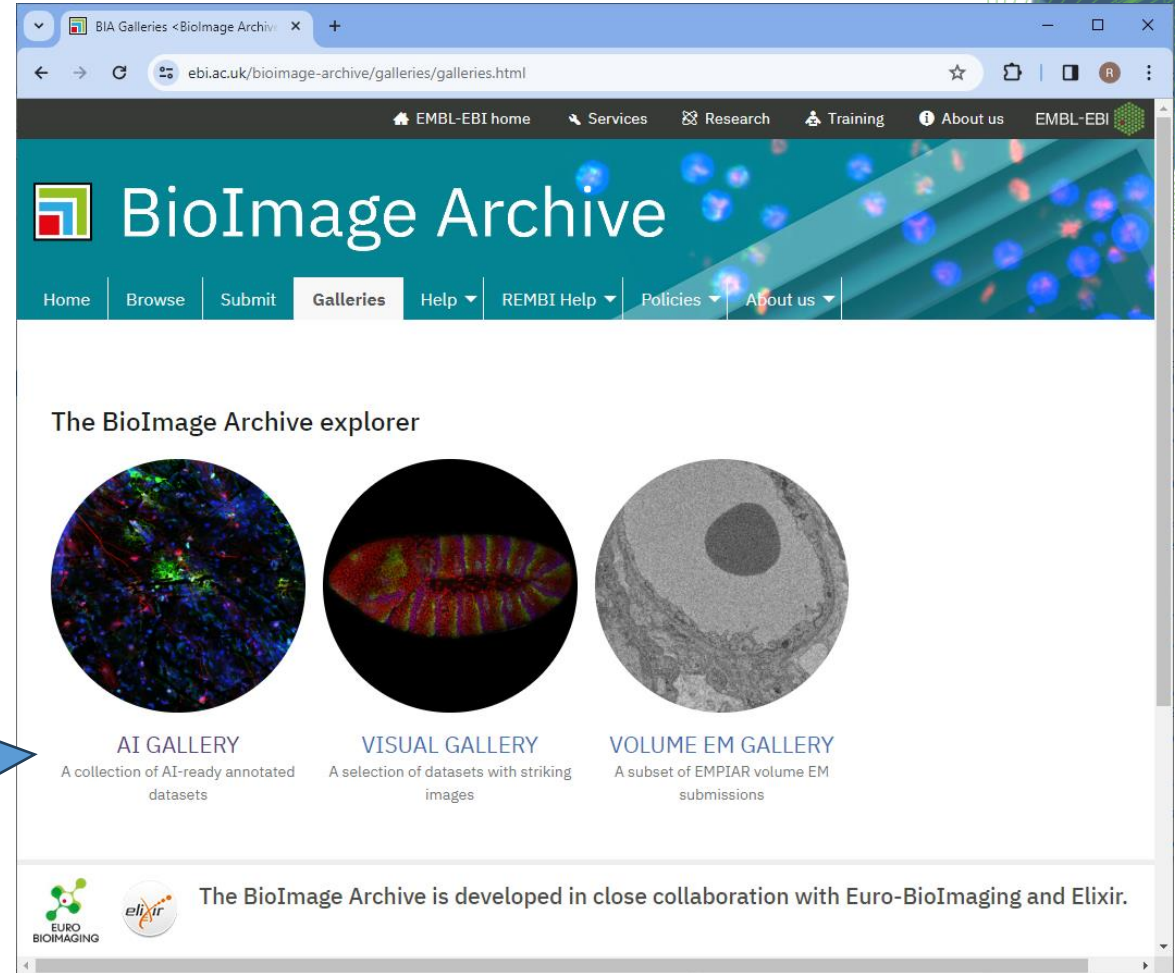
- A1. (Meta)data are retrievable by their identifier using a standardised communications protocol
 - A1.1 The protocol is open, free, and universally implementable
 - A1.2 The protocol allows for an authentication and authorisation procedure, where necessary
- A2. Metadata are accessible, even when the data are no longer available



Accessibility

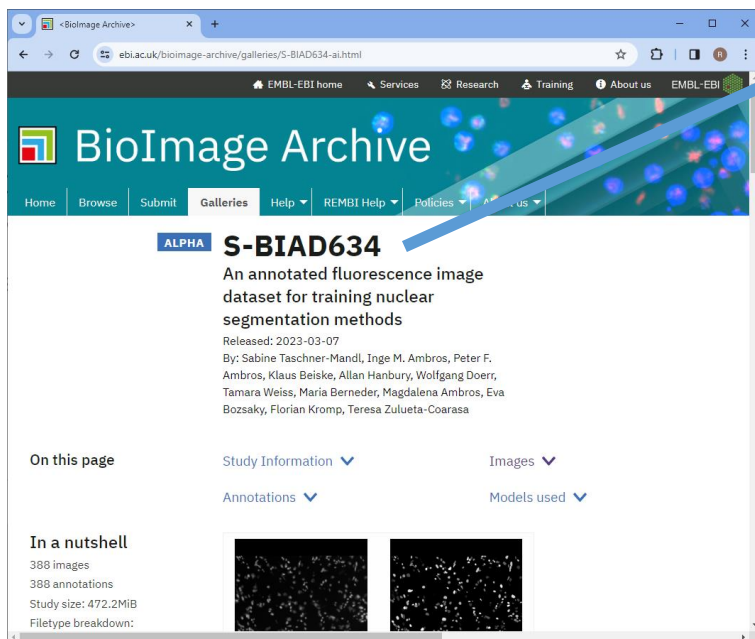
- The ability to download data, for humans and computers

Essential for AI developers =-)



Accessibility

- The ability to download data, for humans and computers



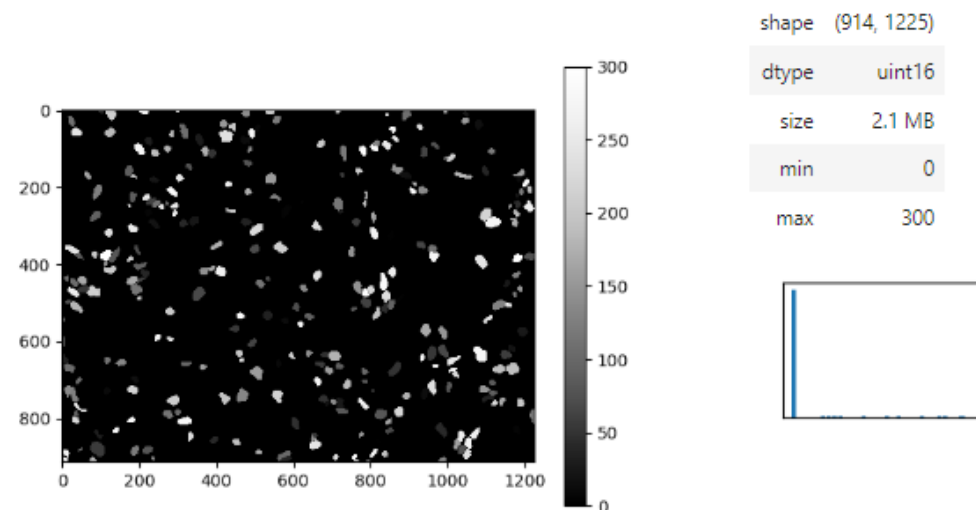
```
[1]: from bia_explorer import io, biostudies
      from skimage.io import imread
      import stackview

      accession = 'S-BIAD634'
      study = io.load_bia_study(accession)
      image = study.images[0]
```

Displaying images using stackview

```
[2]: uri = image.uri.replace("\\", "/")
      image_data = imread(uri)
      stackview.insight(image_data)
```

[2]:



Restricted Access

- The A in FAIR does not necessarily stand for Open Access

April 7th 2024:

26
👁️ VIEWS

0
📄 DOWNLOADS

▶ Show more details

blobs.tif

Published March 18, 2024 | Version v1

Dataset **Restricted**

0 VIEWS 0 DOWNLOADS

▶ Show more details

Haase, Robert^{1,2}

This dataset contains blobs.tif, which was published before as blobs.gif as part of ImageJ's example images. The dataset is public-domain, available online in png format as well: <https://samples.fiji.sc/blobs.png>

This record in Zenodo serves demonstrating that data can be published with closed access.

Files

Restricted

The record is publicly accessible, but files are restricted to users with access.

Citations

Show Literature (0) Dataset (0) Software (0)

Search for citation ... Search

blobs.tif

Published March 18, 2024 | Version v1

Dataset **Restricted**

0 VIEWS 0 DOWNLOADS

▶ Show more details

Haase, Robert^{1,2}

This dataset contains blobs.tif, which was published before as blobs.gif as part of ImageJ's example images. The dataset is public-domain, available online in png format as well: <https://samples.fiji.sc/blobs.png>

This record in Zenodo serves demonstrating that data can be published with closed access.

Files

blobs.tif

📄 Edit

➕ New version

🔗 Share

0 VIEWS 0 DOWNLOADS

▶ Show more details

Versions

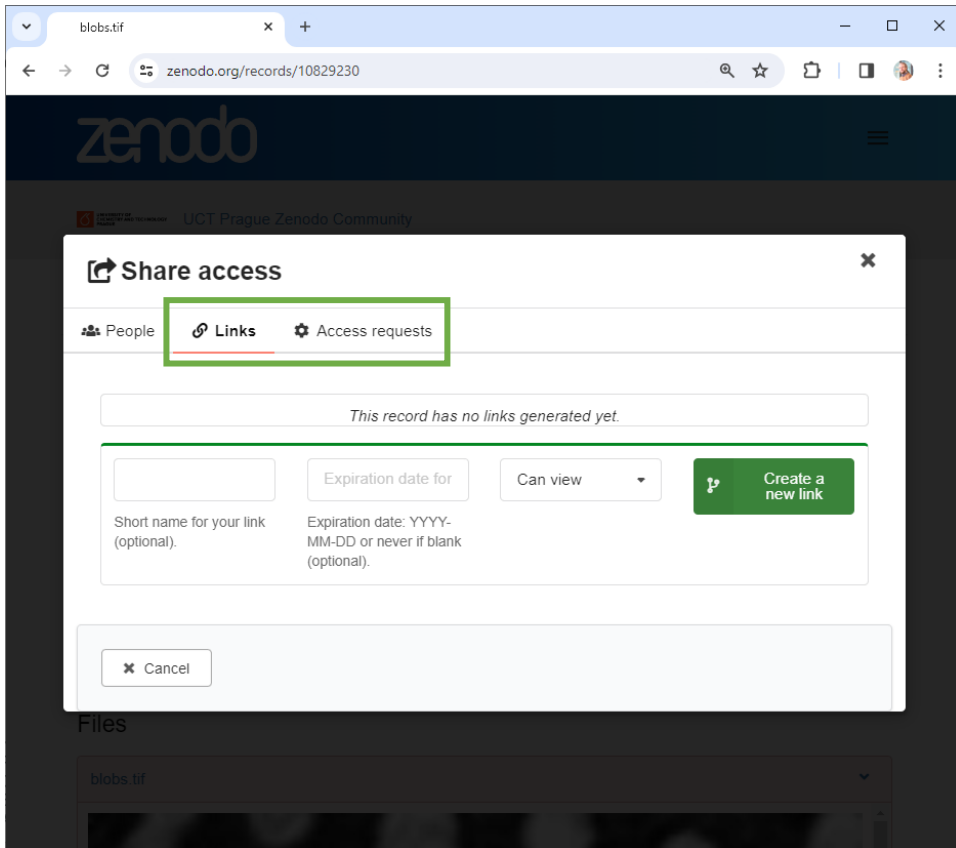
Version v1 Mar 18, 2024

10.5281/zenodo.10829230

Cite all versions? You can cite all versions by using the DOI 10.5281/zenodo.10829229. This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

Restricted Access

- The A in FAIR does not necessarily stand for Open Access



Restricted Access

- The A in FAIR does not necessarily stand for Open Access

Share access

People Links **Access requests**

- Allow authenticated users to request access to restricted files.
- Allow non-authenticated users to request access to restricted files.

Enable users and guests to request access to your record's files. When access is requested by someone, you will get an e-mail asking for approval. After you approve a request, users will be granted access and guests will receive a secret link.

Accept conditions

Optional. Specify conditions under which you approve access. This message will be visible for any user when requesting access to this record.

Paragraph B I

Advanced options

Published March 18, 2024 | Version v1 Dataset Restricted

blobs.tif

Haase, Robert^{1,2} Schätz, Martin Show affiliations

This dataset contains blobs.tif, which was published before as blobs.gif as part of ImageJ's example images. The dataset is public-domain, available online in png format as well: <https://samples.fiji.sc/blobs.png>

This record in Zenodo serves demonstrating that data can be published with closed access.

Files

Restricted

The record is publicly accessible, but files are restricted to users with access.

Request access

If you would like to request access to these files, please fill out the form below.

You are currently not logged in. Do you have an account? [Log in here](#)

Your email address* Your full name*

Request message

I agree to that my full name and email address is shared with the owners of the record

Request access

26 VIEWS **0** DOWNLOADS Show more details

Versions

Version v1	Mar 18, 2024
10.5281/zenodo.10829230	

Cite all versions? You can cite all versions by using the DOI [10.5281/zenodo.10829229](https://doi.org/10.5281/zenodo.10829229). This DOI represents all versions, and will always resolve to the latest one. [Read more](#).

External resources

Indexed in [OpenAIRE](#)

Communities

UCT Prague Zenodo Community

Details

DOI [10.5281/zenodo.10829230](https://doi.org/10.5281/zenodo.10829230)

The FAIR-principles

Interoperable

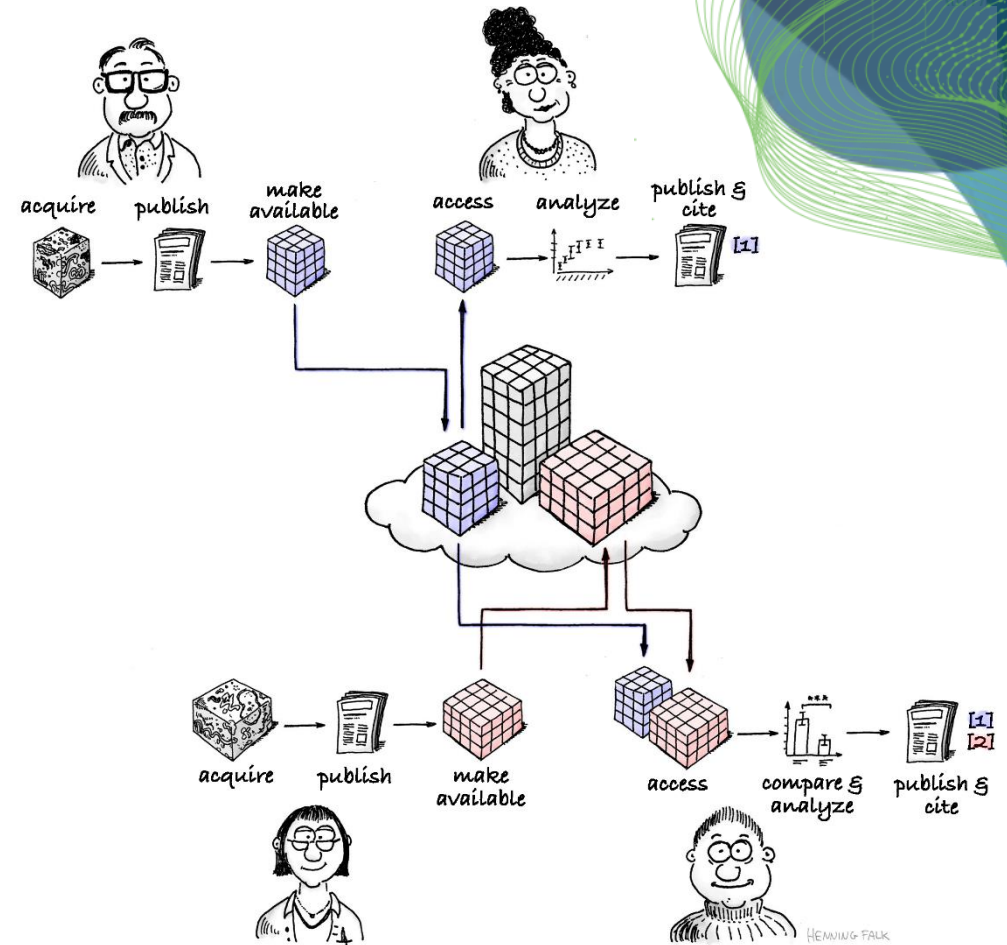
- I1. (Meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
- I2. (Meta)data use vocabularies that follow FAIR principles
- I3. (Meta)data include qualified references to other (meta)data



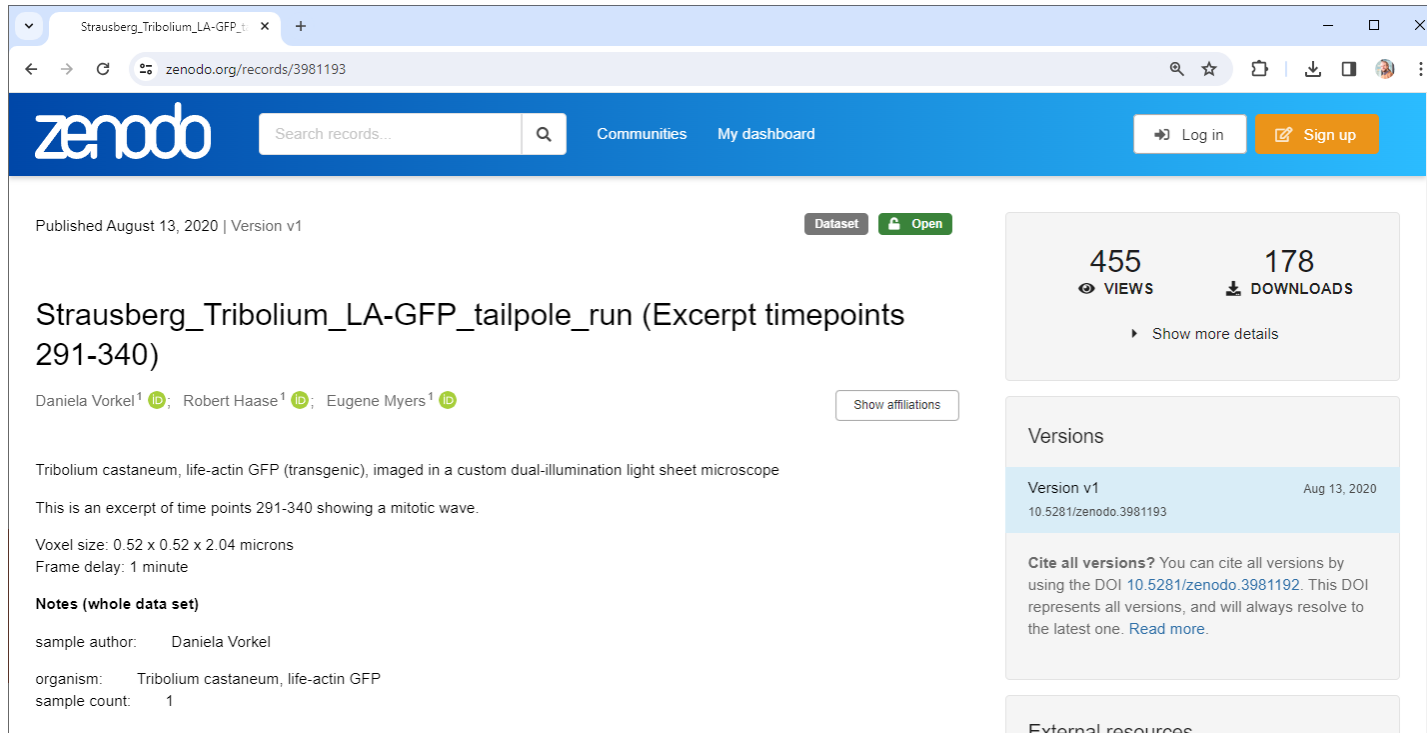
The FAIR-principles

Reusable

- R1. (Meta)data are richly described with a plurality of accurate and relevant attributes
- R1.1. (Meta)data are released with a clear and accessible data usage license
- R1.2. (Meta)data are associated with detailed provenance
- R1.3. (Meta)data meet domain-relevant community standards



Incentives: Citability






zenodo

Search records... [Search] Communities My dashboard [Log in] [Sign up]

Published August 13, 2020 | Version v1 [Dataset] [Open]

Strausberg_Tribolium_LA-GFP_tailpole_run (Excerpt timepoints 291-340)

Daniela Vorkel¹ ; Robert Haase¹ ; Eugene Myers¹ 

[Show affiliations]

Tribolium castaneum, life-actin GFP (transgenic), imaged in a custom dual-illumination light sheet microscope

This is an excerpt of time points 291-340 showing a mitotic wave.

Voxel size: 0.52 x 0.52 x 2.04 microns
Frame delay: 1 minute

Notes (whole data set)

sample author: Daniela Vorkel

organism: Tribolium castaneum, life-actin GFP
sample count: 1

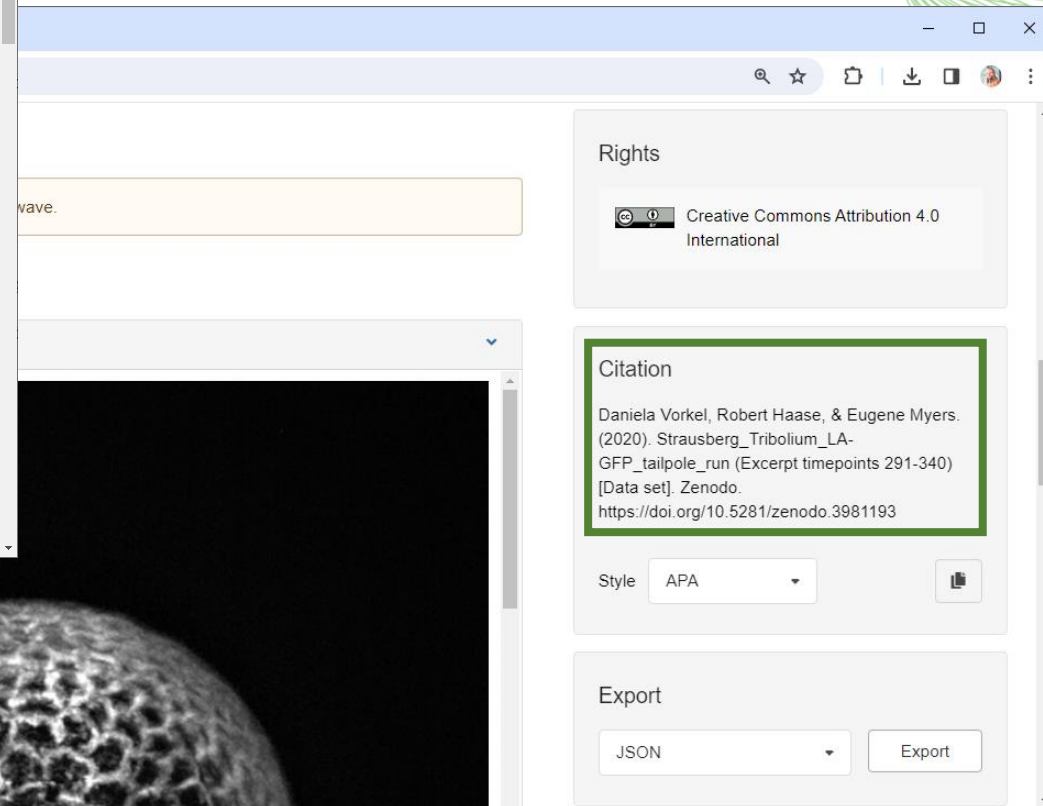
455 VIEWS 178 DOWNLOADS [Show more details]

Versions


Version v1	Aug 13, 2020
10.5281/zenodo.3981193	

Cite all versions? You can cite all versions by using the DOI [10.5281/zenodo.3981192](https://doi.org/10.5281/zenodo.3981192). This DOI represents all versions, and will always resolve to the latest one. [Read more.](#)

External resources



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Citation

Daniela Vorkel, Robert Haase, & Eugene Myers. (2020). Strausberg_Tribolium_LA-GFP_tailpole_run (Excerpt timepoints 291-340) [Data set]. Zenodo. <https://doi.org/10.5281/zenodo.3981193>

Style: APA [Dropdown] [Copy]

Export

JSON [Dropdown] [Export]

Incentives: Reusability

- Open Access -> Others teach how to use your tools & methods

Interactive image data flow graph x +
f1000research.com/slides/10-201

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Pol Physics of Life TU Dresden CENTER FOR SYSTEMS BIOLOGY DRESDEN

Interactive Image Data Flow Graphs and GPU-accelerated image processing for everyone
Robert Haase

ABRF Annual Meeting March 10th 2021

@haesleinhuepf @PoLDresden TECHNISCHE UNIVERSITÄT DRESDEN

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Interactive Image Data Flow Graphs and reproducible GPU-accelerated image processing
Martin Schätz

Adapted from Robert Haase, PoL, TU Dresden

@haesleinhuepf @SchatzCZ @PoLDresden

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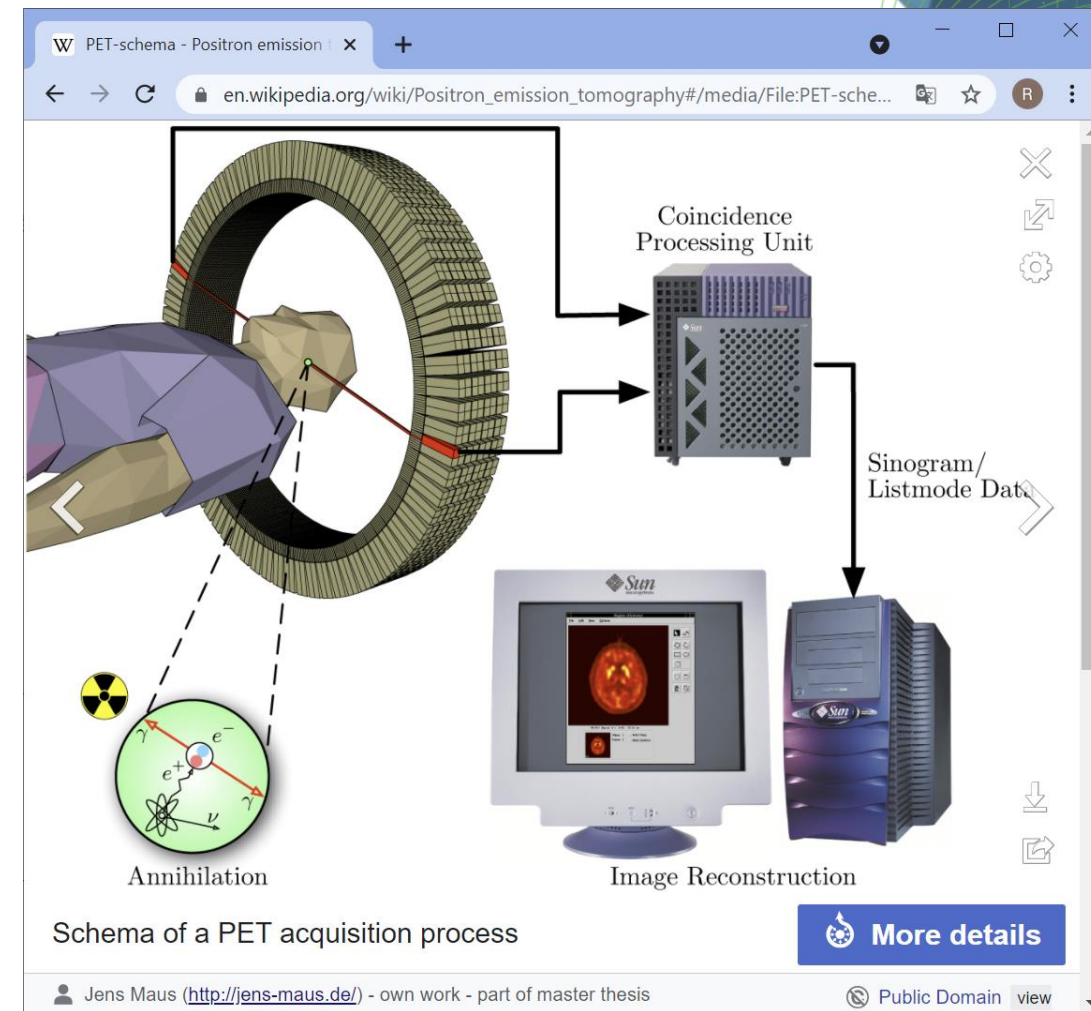
Use cases: Manuscripts

- Preprints
 - Accessible / reusable
 - <https://arxiv.org/>
 - <https://biorxiv.org/>
 - <https://medrxiv.org/>
- Journals

The screenshot shows a web browser window displaying a bioRxiv article. The browser's address bar shows the URL: www.biorxiv.org/content/10.1101/236463v5.article-info. The page header includes the Cold Spring Harbor Laboratory logo and the bioRxiv logo with the tagline 'THE PREPRINT SERVER FOR BIOLOGY'. Navigation links for HOME, ABOUT, SUBMIT, NEWS & NOTES, ALERTS / RSS, and CHANNELS are visible. A search bar with 'Advanced Search' is present. A yellow warning box states: 'bioRxiv posts many COVID19-related papers. A reminder: they have not been formally peer-reviewed and should not guide health-related behavior or be reported in the press as conclusive.' The article title is 'Content-Aware Image Restoration: Pushing the Limits of Fluorescence Microscopy'. The authors listed are Martin Weigert, Uwe Schmidt, Tobias Boothe, Andreas Müller, Alexandr Dibrov, Akanksha Jain, Benjamin Wilhelm, Deborah Schmidt, Coleman Broaddus, Siân Culley, Mauricio Rocha-Martins, Fabián Segovia-Miranda, Caren Norden, Ricardo Henriques, Marino Zerial, Michele Solimena, Jochen Rink, Pavel Tomancak, Loic Royer, Florian Jug, and Eugene W. Myers. The DOI is <https://doi.org/10.1101/236463>. A note indicates it was published in *Nature Methods* with DOI [10.1038/s41592-018-0216-7](https://doi.org/10.1038/s41592-018-0216-7). On the right side, there are options to Download PDF, Supplementary Material, XML, Email, Share, and Citation Tools. Social media buttons for Tweet and Like 0 are also visible. A banner for 'COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv' is at the bottom right.

Use cases: Figures

- Talk about each others' work
- Advertise your work
- ... because our work is often publicly funded
- https://commons.wikimedia.org/wiki/Main_Page
- <https://figshare.com>



Use cases: Data

- Unique datasets
- Valuable for domain scientists
- Valuable for software developers
- <https://zenodo.org>
- If possible avoid institutional servers / services

The screenshot shows the RODARE website interface. The main content area displays the dataset title, a description, and a list of authors. On the right, there are statistics for 1,684 views and 4,745 downloads. Below the description, there are sections for 'Publication date', 'DOI', 'Keyword(s)', 'Grants', 'Related identifiers', 'Communities', and 'License (for files)'. A blue arrow points from the dataset page towards the Twitter post.

The screenshot shows a Twitter post by Nicolas Chiaruttini (@nKiaru) dated Jun 27. The text of the tweet reads: "Effortless browsing of 280Gb of data thanks to @FijiSc's BigDataViewer and @zeiss_micro multiresolution CZI (@bioformats readable 🍌) format. This awesome open access dataset is from @SuckertTheresa and @jm_mightypirate (rodare.hzdr.de/record/915)". Below the text is a grid of 12 small images showing cross-sections of brain tissue with various colored overlays. The tweet has 2 replies, 14 retweets, and 91 likes.

Use cases: Code

- Collaboration in open-source projects *unthinkable* without openly sharing and transparent licensing

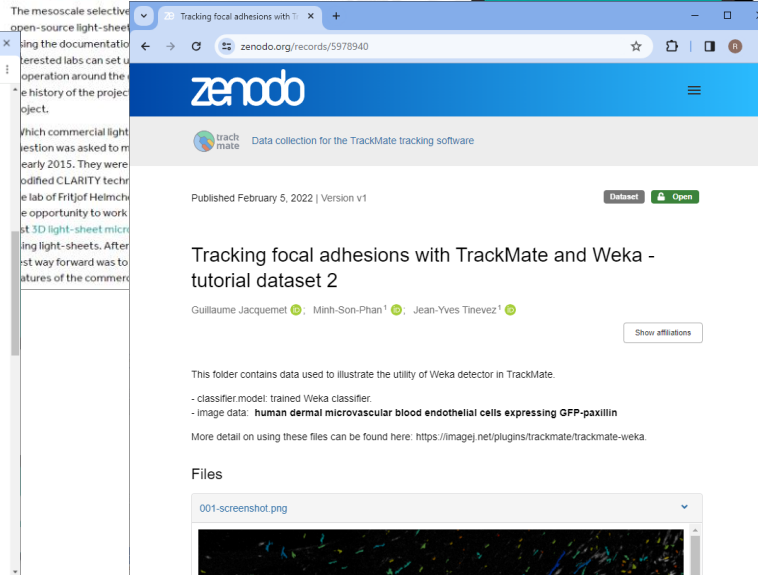
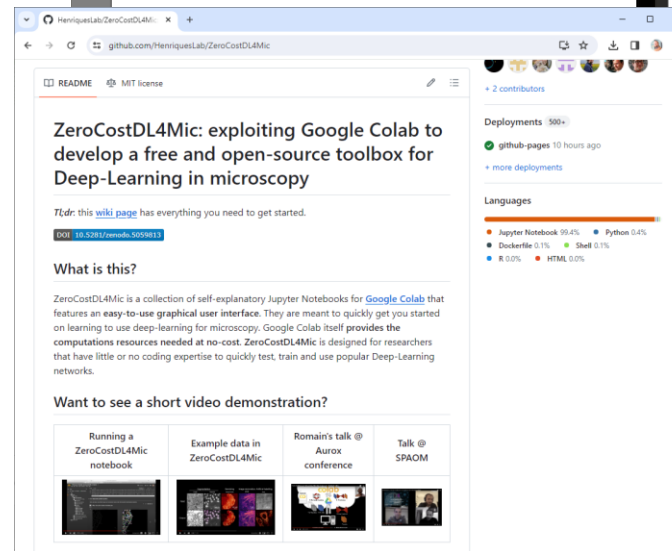
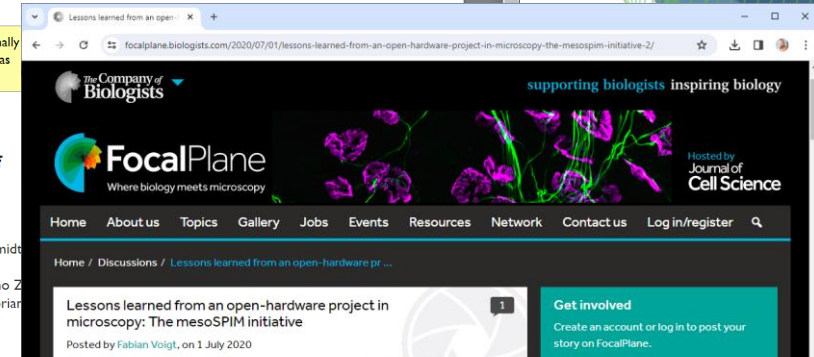
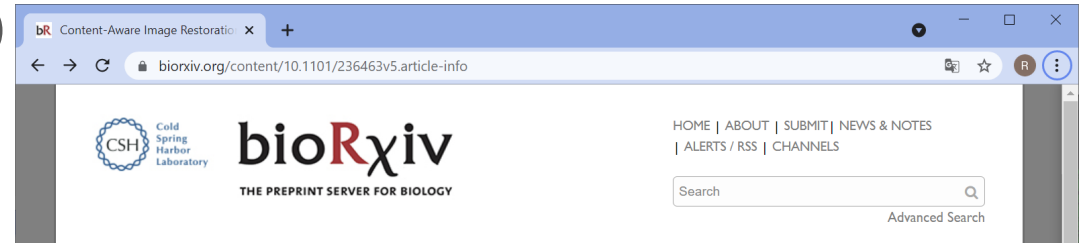
The image displays three overlapping screenshots of GitHub profiles, illustrating open-source collaboration:

- Left screenshot:** Profile for **Fiji**, described as a "batteries included" distribution of ImageJ for scientific image analysis. It shows 156 repositories, 50 people, and 37 teams.
- Middle screenshot:** Profile for **napari**, a fast, interactive, multi-dimensional image viewer for python. It shows 22 repositories, 3 people, and 1 project.
- Right screenshot:** Profile for **NumPy**, the fundamental package for scientific computing with Python. It shows 28 repositories, 5 projects, 45 packages, and 45 people.

Each screenshot shows the repository list, pinned repositories, and top languages used in the projects.

Where to share?

- Open science related content
 - bioRxiv (manuscripts, no reviews)
 - Figshare
 - F1000
 - Bioimage Archive (data)
 - Github (code)
 - Zenodo
 - Focalplane
 - Institutional servers (if there is no alternative)



Where to share?

Github pages



- Open *training* related content
 - bioRxiv (manuscripts, no reviews)
 - Figshare
 - F1000
 - Bioimage Archive (data)
 - Github (code)
 - Zenodo
 - Focalplane
 - Institutional servers (if there is no alternative)

The collage includes the following screenshots:

- GitHub:** A repository page for 'Prompt Engineering Tutorial' by ScaDS, showing installation instructions and a table of contents.
- ScaDS:** A page titled 'Image Analysis Training Resources' with a 'README' and 'Code of conduct'.
- F1000Research:** A slide titled 'Sharing and licensing material' by Robert Haase, dated June 30th 2021, with a diagram showing 'Code', 'Slides', 'Text', and 'Data'.
- Zenodo:** A record page for 'Train-the-Trainer Concept on Research Data Management', published November 4, 2020, version 3.0.
- JupyterLab:** A screenshot of a JupyterLab interface showing code for generating images using OpenAI's API.

Zenodo

- Publicly funded infrastructure @ CERN / Switzerland

The image shows two overlapping browser windows of the Zenodo website. The top window displays the 'Featured communities' section, featuring the 'European Climate and Modelling Forum' (ECMF) with a colorful abstract logo and a 'Browse' button. Below the logo, it states: 'ECEMF is a Horizon 2020-funded project to establish a European forum for energy...'. The bottom window shows the website's navigation menu, which includes links for 'About', 'Blog', 'Help', 'Developer s', 'Contribute', 'Funded by', 'Policies', 'FAQ', 'REST API', 'GitHub', 'Donate', 'Docs', 'Guides', 'Support', 'Projects', 'Roadmap', and 'Contact'. The 'Funded by' section includes logos for CERN, OpenAIRE, and the European Union. At the bottom of the page, it says 'Powered by CERN Data Centre & InvenioRDM' and provides links for 'Status', 'Privacy policy', 'Cookie policy', 'Terms of Use', and 'Support'.

Quiz

- Where might open source code be most *visible*?

Git server of the
university



Zenodo.org



Github.com



Company / institute
/ personal website





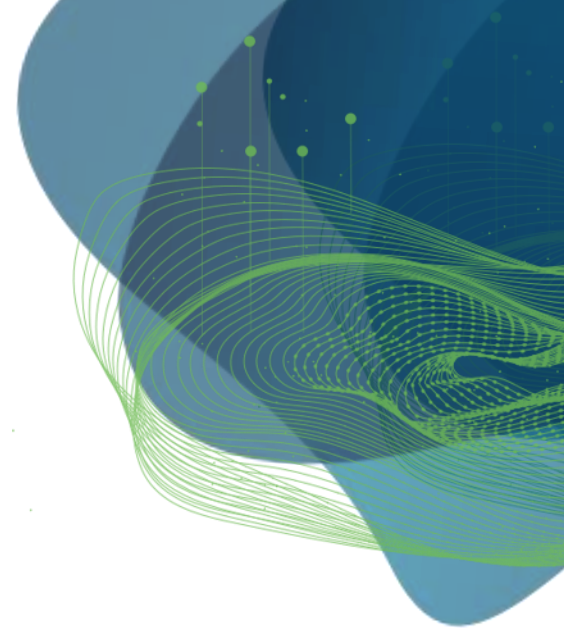
ScaDS.AI

DRESDEN LEIPZIG

CENTER FOR SCALABLE DATA ANALYTICS
AND ARTIFICIAL INTELLIGENCE

Exercises

Robert Haase



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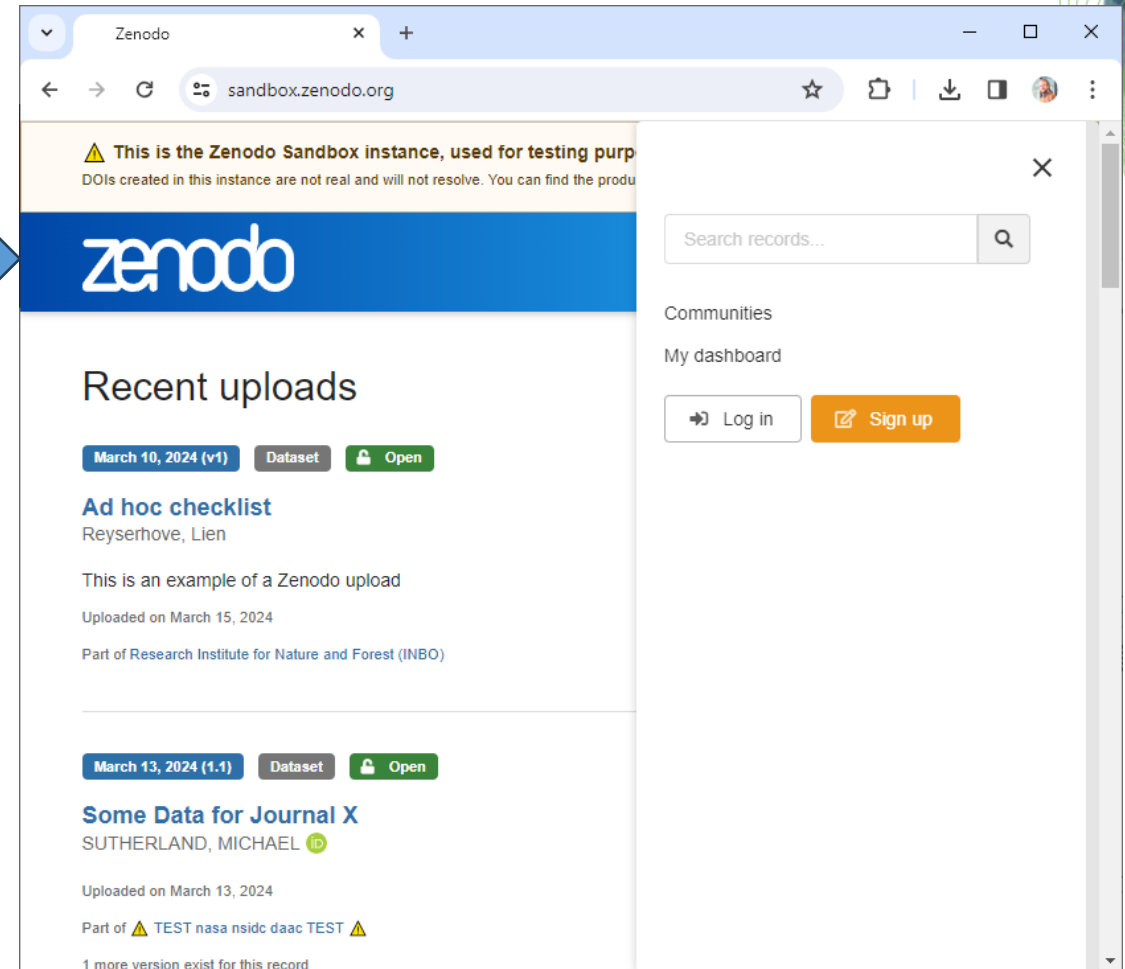
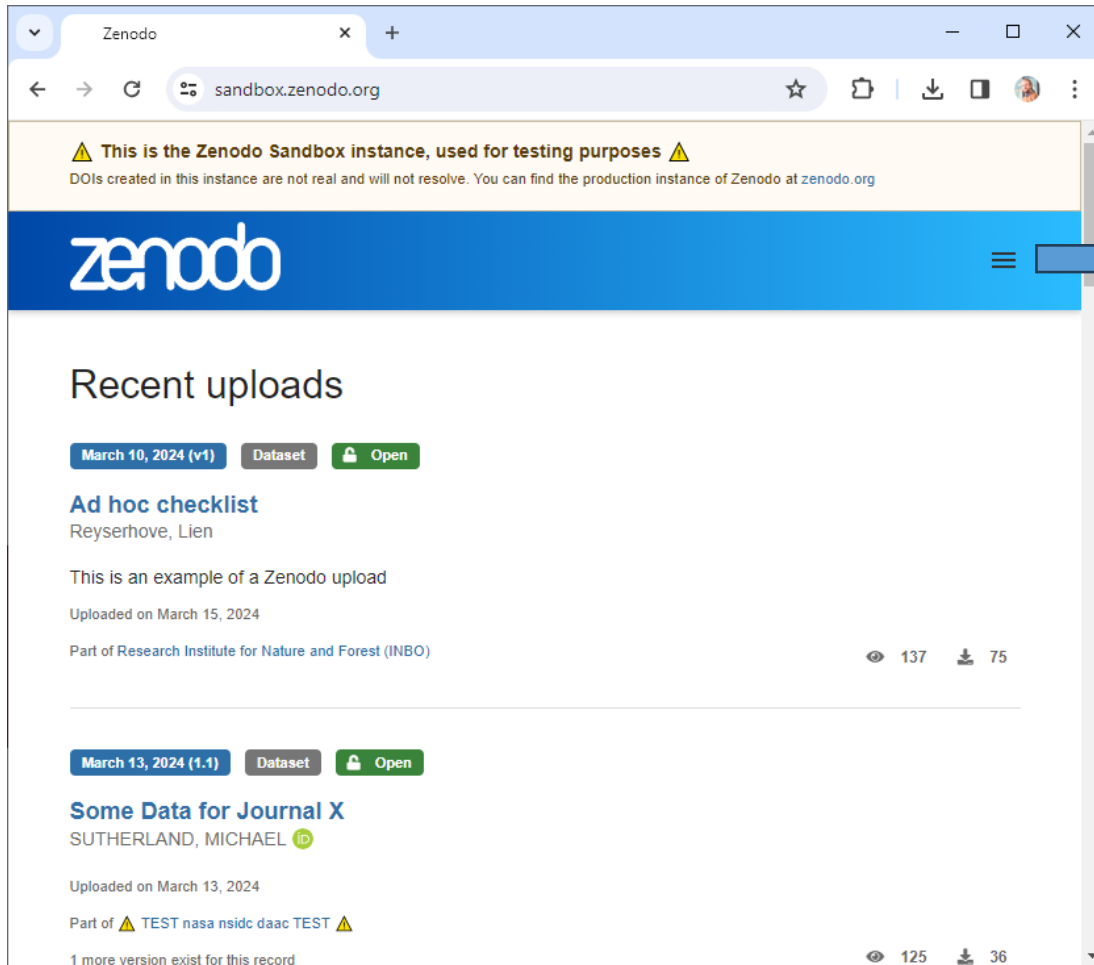


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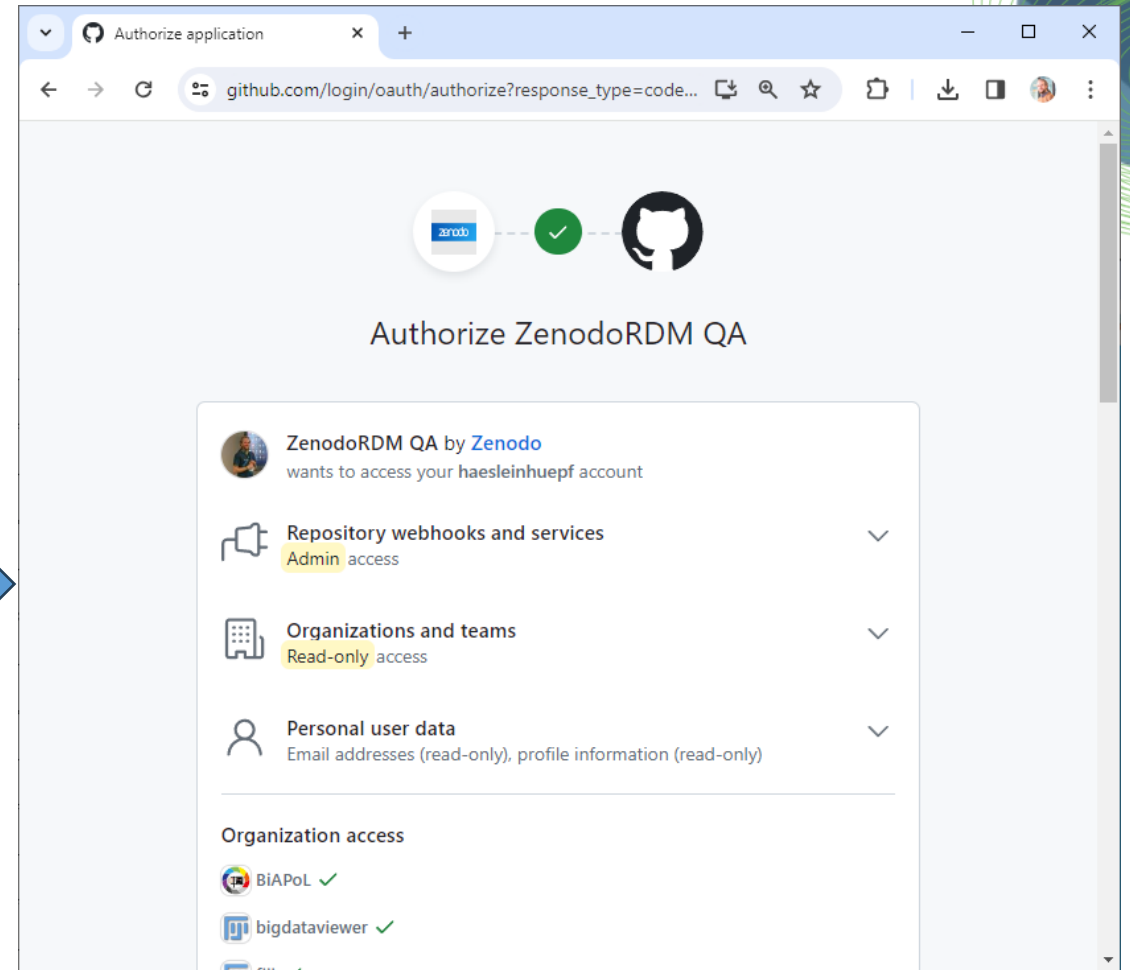
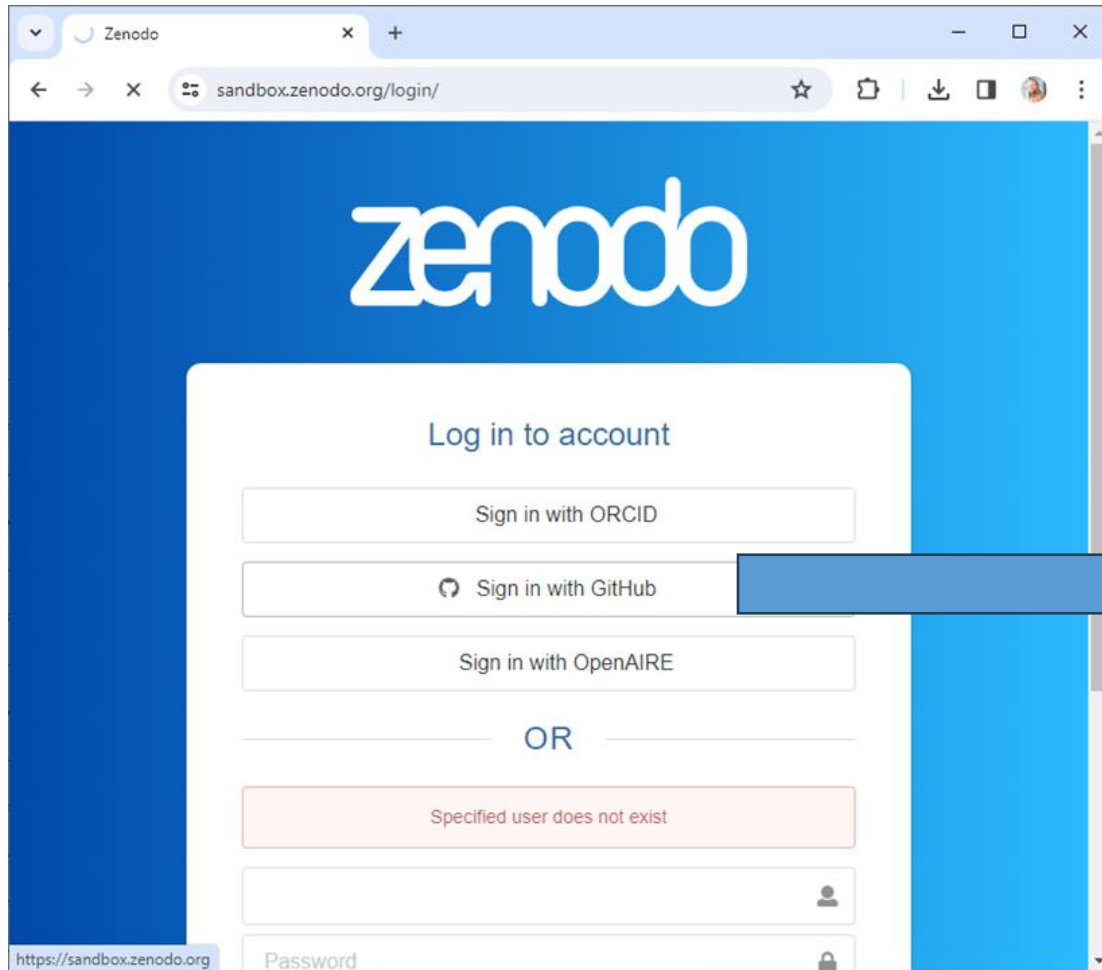


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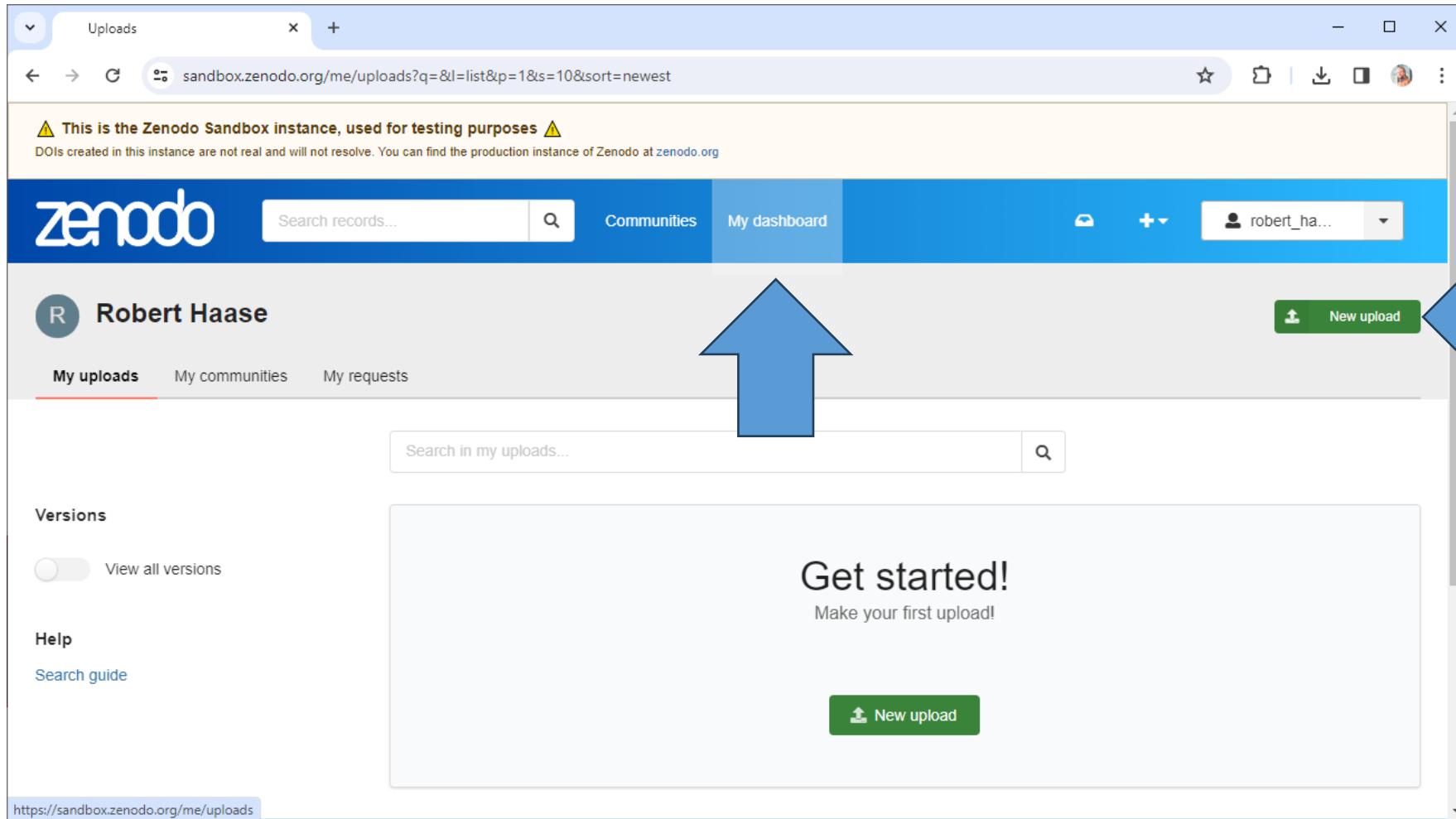
Exercise: Sharing files on Zenodo



Exercise: Sharing files on Zenodo



Exercise: Sharing files on Zenodo



Exercise: Sharing files on Zenodo

⚠️ This is the Zenodo Sandbox instance, used for testing purposes ⚠️
DOIs created in this instance are not real and will not resolve. You can find the production instance of Zenodo at zenodo.org

zenodo Search records... Communities My dashboard robert_ha...

Select the community where you want to submit your record. [Select a community](#)

Files

Storage available 1 out of 100 files 23.16 KB out of 50.00 GB

Preview	Filename	Size	Progress
<input type="checkbox"/>	blobs.tif md5:f03320995e44df33f0596e0eb7b0a8f2	23.16 KB	100%

Drag and drop files - or - [Upload files](#)

Draft

Save draft Preview

[Publish](#)

Visibility*

Files only

Public Restricted

Public
The record and files are publicly accessible.

Only drop files here you are allowed to share!

Exercise: Sharing files on Zenodo

New upload

sandbox.zenodo.org/uploads/43512

Basic information

Digital Object Identifier*

Do you already have a DOI for this upload? Yes No

Reserve a DOI by pressing the button (so it can be included in files prior to upload). The DOI is registered when your upload is published.

Resource type*

Dataset

Title*

Blobs.tif

Publication date*

2024-04-07

In case your upload was already published elsewhere, please use the date of the first publication. Format: YYYY-MM-DD, YYYY-MM, or YYYY. For intervals use DATE/DATE, e.g. 1939/1945.

Creators*

Draft

Visibility*

Files only

Public

The record and files are publicly accessible.

Options

Apply an embargo ⓘ

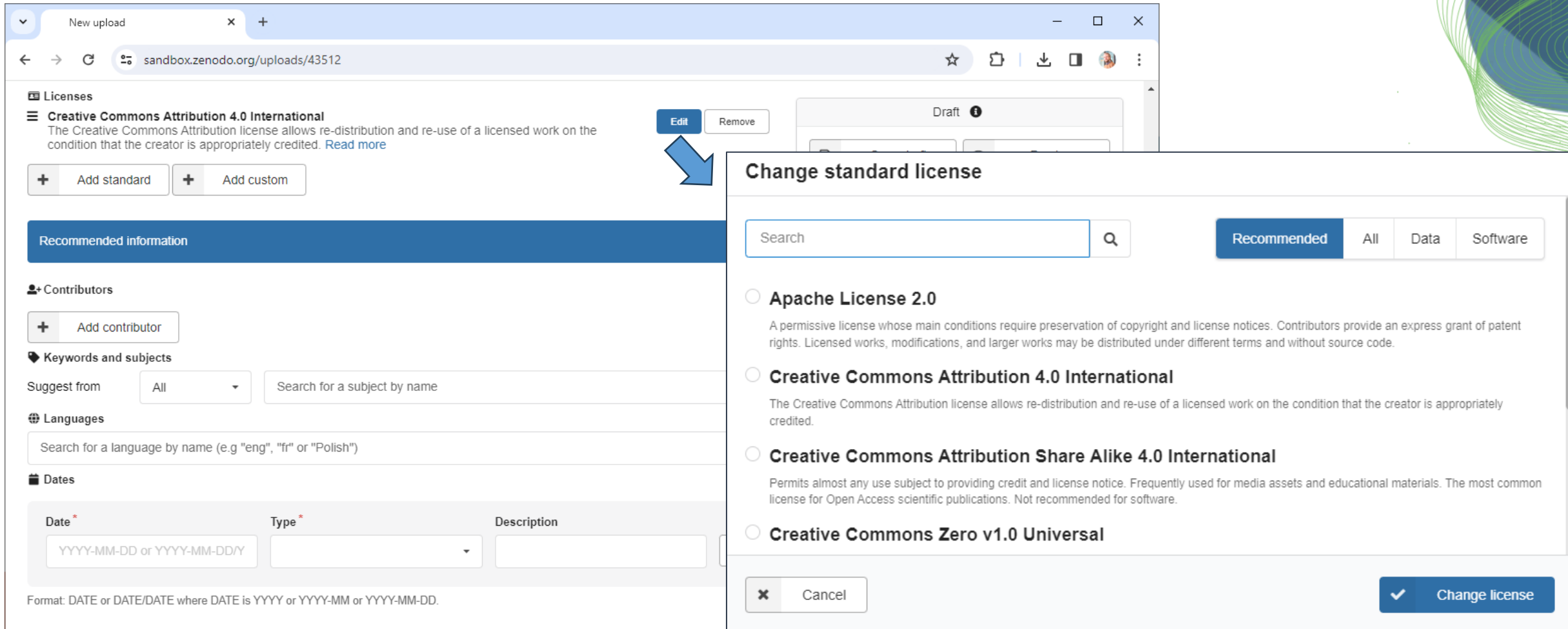
Record or files protection must be restricted to apply an embargo.

Exercise: Sharing files on Zenodo

The screenshot shows the Zenodo 'New upload' interface. The main page has a 'Draft' status and a 'Preview' button. The 'Creators' section has an 'Add creator' button, which is highlighted with a blue arrow. Below it is a 'Description' section with a 'Paragraph' format and a 'B' bold button. The 'Licenses' section shows 'Creative Commons Attribution' as the selected license. The 'Add creator' modal is shown in three overlapping stages:

- Stage 1:** The 'Add creator' modal is open with 'Person' selected. The search input contains 'haase, rober|'. A list of search results is shown, including 'Haase, Robert' with various ORCID iDs and 'Haase, Jannika' and 'Haase, Jana'.
- Stage 2:** The 'Add creator' modal is open with 'Person' selected. The search input contains 'Search for persons by name, identifier, or affiliation...'. The 'Family name' field contains 'Haase'. The 'Identifiers' field contains '0000-0001-5949-2327'. The 'Affiliations' field contains 'Leipzig University' and 'ScaDS.AI'. The 'Role' field contains 'Contact person'. A 'Cancel' button is visible at the bottom.
- Stage 3:** The 'Add creator' modal is open with 'Person' selected. The search input contains 'Search for persons by name, identifier, or affiliation...'. The 'Family name' field contains 'Haase'. The 'Given names' field contains 'Robert'. The 'Identifiers' field contains '0000-0001-5949-2327'. The 'Affiliations' field contains 'Leipzig Uni', 'Add Leipzig Uni', 'Leipzig University', 'University Hospital Leipzig', and 'Bach Archiv Leipzig'.

Exercise: Sharing files on Zenodo



The screenshot shows the Zenodo 'New upload' interface. The main page displays the current license as 'Creative Commons Attribution 4.0 International'. A blue arrow points to the 'Edit' button. A modal window titled 'Change standard license' is open, showing a search bar and a list of license options:

- Apache License 2.0
- Creative Commons Attribution 4.0 International
- Creative Commons Attribution Share Alike 4.0 International
- Creative Commons Zero v1.0 Universal

The modal also includes a 'Cancel' button and a 'Change license' button.

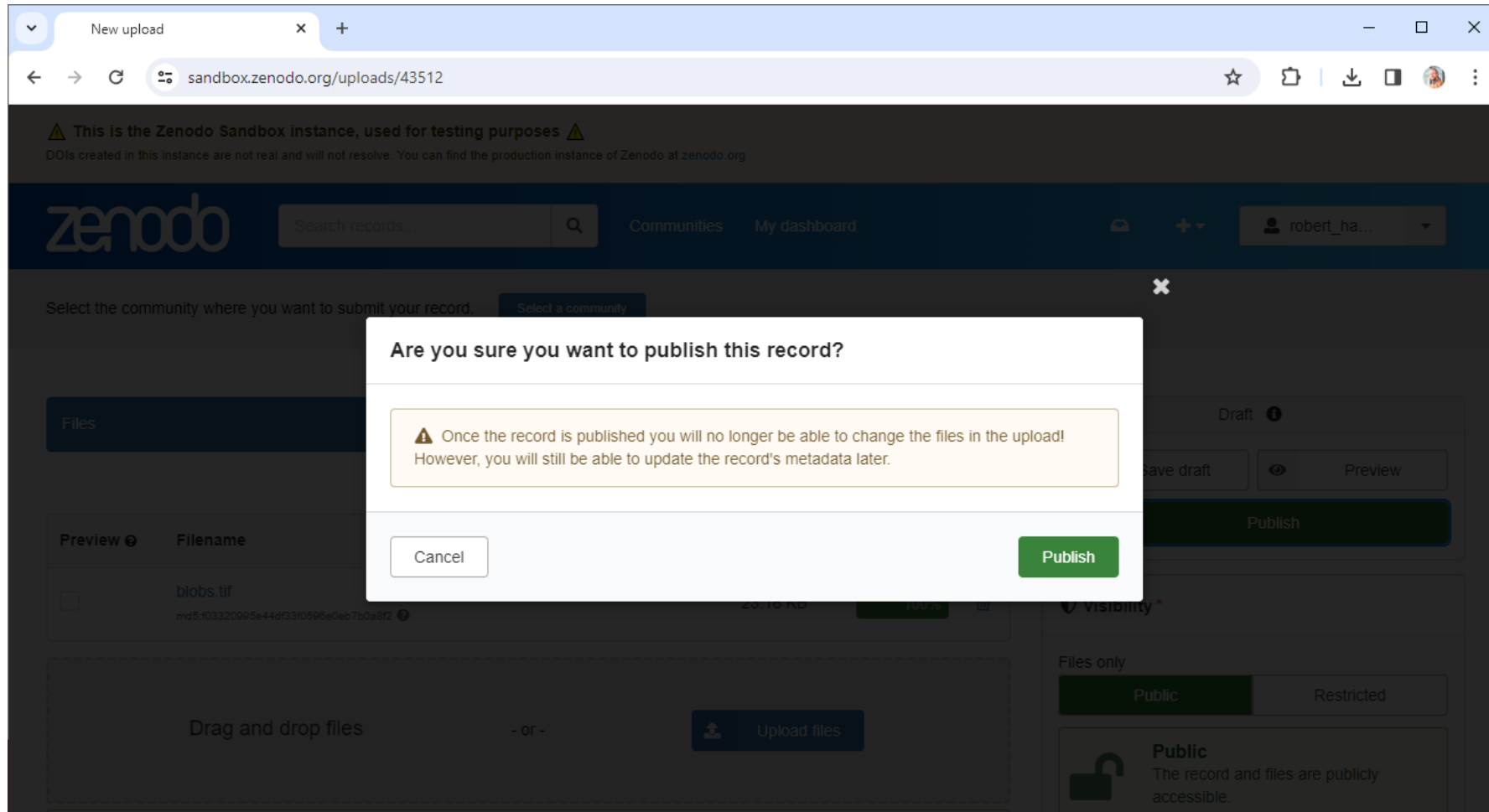
Exercise: Sharing files on Zenodo

The image shows two overlapping browser windows of the Zenodo 'New upload' page. The left window is partially obscured by a green callout box. The right window shows the 'Related works' section with a dropdown menu open, highlighting 'Is supplement to'. Another green callout box points to this option. The right side of the page shows the 'Draft' status, 'Save draft', 'Preview', and 'Publish' buttons, along with 'Visibility' and 'Options' sections.

Mention your funding source here

We often publish data as supplement to a manuscript. We can link it there

Exercise: Sharing files on Zenodo



Exercise: Sharing files on Zenodo

Published April 7, 2024 | Version v1

Blobs.tif

Haase, Robert^{1,2}

Files

blobs.tif

0 VIEWS 0 DOWNLOADS

Versions

Version	Published
Version v1	Apr 7, 2024

You can return to the form and make changes.

If the changes are substantial, create a new version.

Exercise: Sharing files on Zenodo

- If this was too fast...

FocalPlane
Where biology meets microscopy

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Contact us Log in/register

Home / How to / [Sharing research data with Zenodo](#)

Sharing research data with Zenodo

Posted by [Robert Haase](#), on 15 February 2023

TL;DR: Sharing data open access is good scientific practice. If data is shared via online portals such as <https://zenodo.org>, we can implement best practices for sharing, licensing, reusing and citing research data. In this blog post I guide through the minimal procedures that are necessary to share a dataset publicly following the FAIR principles; to make it Findable, Accessible, Interoperable and Reusable.

The scenario

Assume a potential future collaborator asks for a dataset we showed in a talk recently or already published about earlier this year. The data is not hot research data; if we uploaded this one file to the internet, nobody could scoop us. Thus, we're fine sharing it publicly. Such small dataset are

Write a 'How to' post
Create an account
post your story on
Log in/register

More posts like this

- How to
-
-

Home About us Topics Gallery Jobs Events Resources Network

Log in/register

Zenodo

Zenodo is a platform for sharing data openly for free with benefits such as easy downloading data, preview of common file formats and making your data citable. Zenodo is funded through public funding sources such as CERN, OpenAIRE and the European Union Horizon 2020 programme. You are not uploading your data to a big corporate company who may do evil things with it. Zenodo gives your dataset a nice web page where everyone can read who were the authors of the dataset, the meta data you entered and you can also see how often it was downloaded. Another highlight of the page is the section *Cite* as instructing readers and downloaders of your data how to cite your work.

zenodo

Strausberg_Tribolium_LA-GFP_tailpole_run (Excerpt timepoints 291-340)

204 80

OpenAIRE

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Log in/register

Upload form.

zenodo

Search uploads...

Upload Communities robert_haase@gmx.de

Search uploads...

Upload New Upload

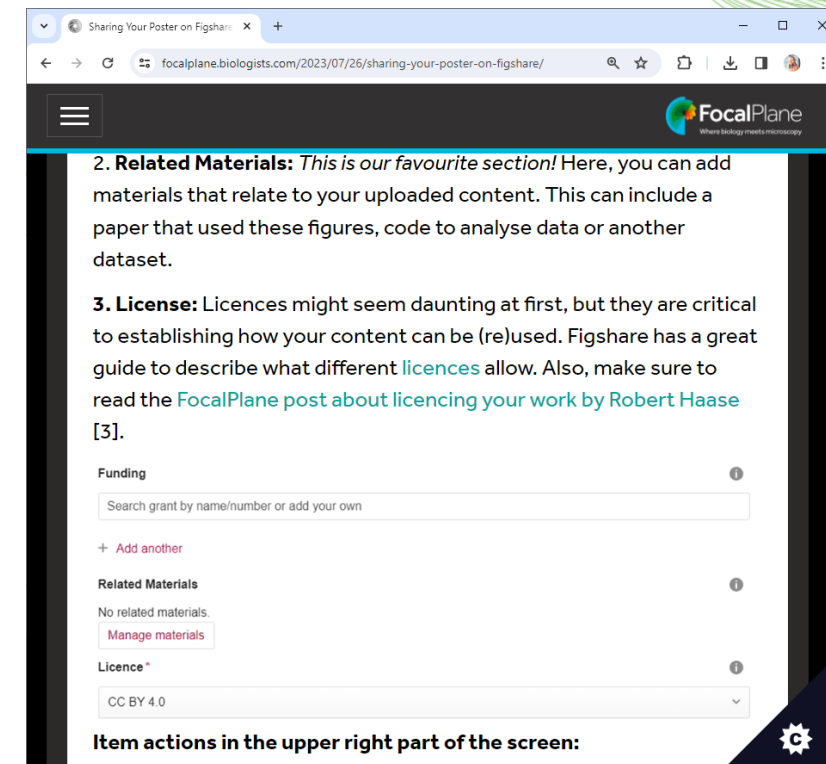
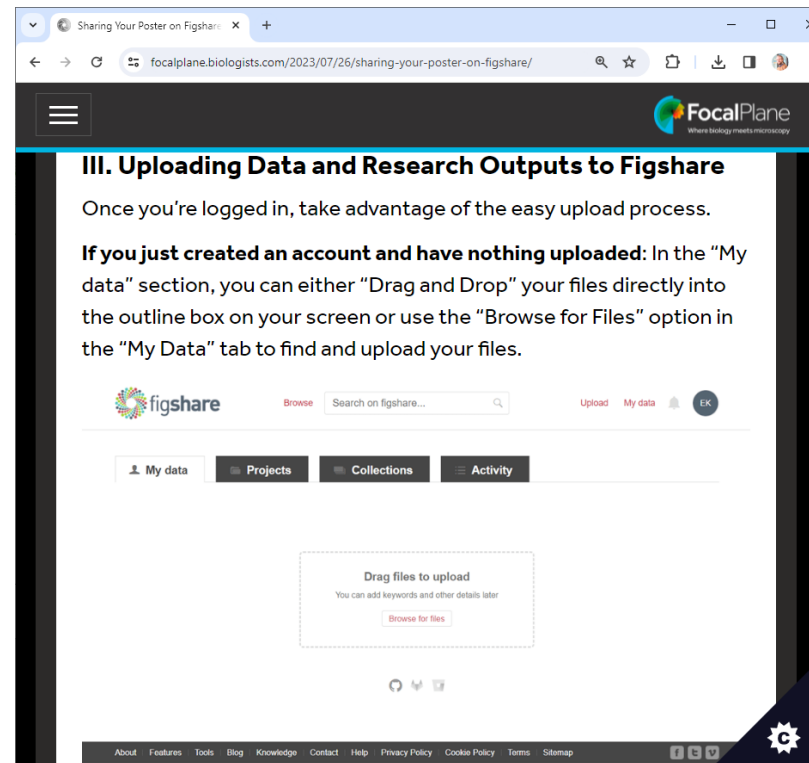
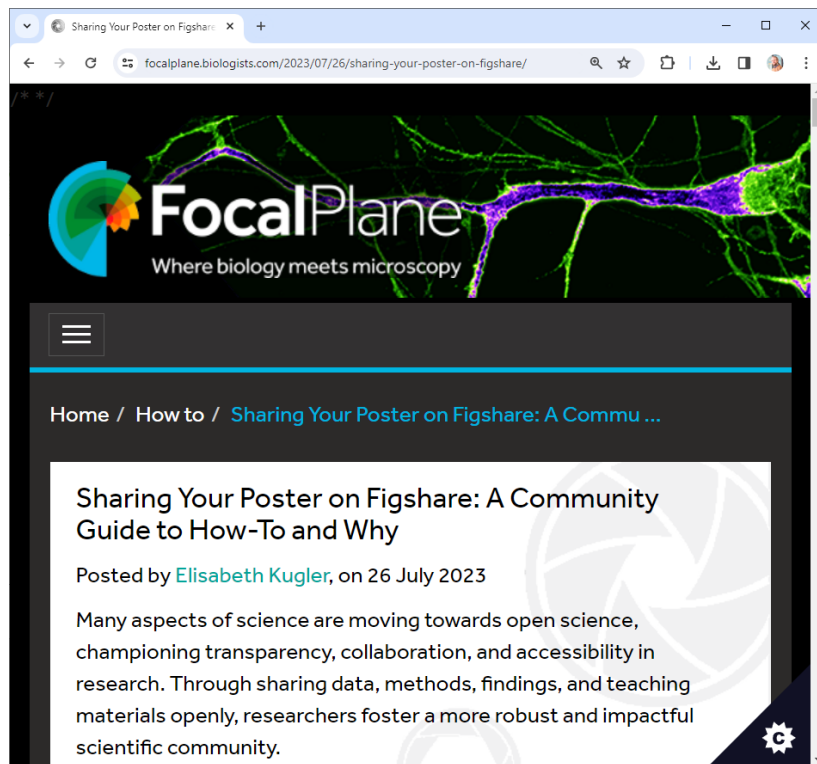
Drafts 3 Published 89 All versions Sort: desc

- December 12, 2022 (0.2.0) Software Open Access
BIAPoL/image-data-science-with-Python-and-Napari-EPFL2022: 2022.12.12
Created Dec 12, 2022 1:31:29 PM, modified Dec 12, 2022 1:32:00 PM
- November 19, 2022 (0.1.2) Software Open Access
haeseinhuepf/napari-owncloud: 0.1.2
Created Nov 19, 2022 10:15:13 AM, modified Nov 19, 2022 10:15:17 AM
1 more version(s) exist for this record
- November 9, 2022 (0.1.0 for zenodo) Software Open Access
haeseinhuepf/napari-assistant-plugin-generator: 0.1.0-for-zenodo
Created Nov 9, 2022 2:57:30 PM, modified Nov 9, 2022 2:57:34 PM
- December 24, 2022 (0.4.4) Software Open Access
haeseinhuepf/napari-assistant: 0.4.4

On this page, you can immediately upload files. The limit of 50 GB is amazing if you keep in mind that this is a free service. And more is possible by getting in touch with the platform maintainers. After choosing files, don't forget to click the *Start Upload* button. I recommend using open standardized file formats such as TIF for imaging data allowing others to use any kind of software for opening your data. Also, use open

Exercise: Sharing files

- Alternatively: Try Figshare!



Lunch break

We continue 13:30

GEFÖRDERT VOM



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Landtags beschlossenen Haushaltes.

Open Science, Sharing & Licensing

Robert Haase

Code

Slides

Text

Data

...

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der Grundlage des von den Abgeordneten des Sächsischen
Landtags beschlossenen Haushaltes.

Licensing: Permissive versus restrictive

- Who knows what the ND stands for?



You are free to:

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The licensor cannot revoke these freedoms as long as you follow the license terms.

“permissive”

Under the following terms:

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NoDerivatives — If you remix, transform, or build upon the material, you may not distribute the modified material.

“restrictive”

Licensing: Permissive versus restrictive

I hope nobody feels hurt
by the following slides.

I just would like to
make a point.

Licensing: Permissive versus restrictive

Example

bioRxiv THE PREPRINT SERVER FOR BIOLOGY

Generative interpolation and restoration of images using deep learning for improved 3D tissue mapping

Saurabh Joshi, André Forjaz, Kyu Sang Han, Yu Shen, Daniel Xenos, Jordan Matelsky, Brock Wester, Arrate Munoz-Barrutia, Ashley L Kiemen, Pei-Hsun Wu, Denis Wirtz
doi: <https://doi.org/10.1101/2024.03.07.583909>

This article is a preprint and has not been certified by peer review [what does this mean?].

Abstract Info/History Metrics Preview PDF

ARTICLE INFORMATION

doi <https://doi.org/10.1101/2024.03.07.583909>

History March 10, 2024.

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But I'm not allowed!

Licensing: Permissive versus restrictive

Example

bioRxiv THE PREPRINT SERVER FOR BIOLOGY

HOME | SUBMIT | FAQ | BLOG | ALERTS / RSS | ABOUT | CHANNELS

Search Advanced Search

New Results Follow this preprint

Biolmage Model Zoo: A Community-Driven Resource for Accessible Deep Learning in Biolmage Analysis

Wei Ouyang, Fynn Beuttenmueller, Estibaliz Gómez-de-Mariscal, Constantin Pape, Tom Burke, Carlos García-López-de-Haro, Craig Russell, Lucía Moya-Sans, Cristina de-la-Torre-Gutiérrez, Deborah Schmidt, Dominik Kutra, Maksim Novikov, Martin Weigert, Uwe Schmidt, Peter Bankhead, Guillaume Jacquemet, Daniel Sage, Ricardo Henriques, Arrate Muñoz-Barrutia, Emma Lundberg, Florian Jug, Anna Kreshuk

doi: <https://doi.org/10.1101/2022.06.07.495102>

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Download PDF Email Print/Save Options Share Data/Code Citation Tools

Post Like 0

COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

Subject Area Bioinformatics

Subject Areas All Articles

ARTICLE INFORMATION

doi <https://doi.org/10.1101/2022.06.07.495102>

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Licensing: Permissive versus restrictive

Example

The screenshot shows a bioRxiv article page. The article title is "Content-Aware Image Restoration: Pushing the Limits of Fluorescence Microscopy". The authors listed are Martin Weigert, Uwe Schmidt, Tobias Boothe, Andreas Müller, Alexandr Dibrov, Akanksha Jain, Benjamin Wilhelm, Deborah Schmidt, Coleman Broaddus, Siân Culley, Mauricio Rocha-Martins, Fabián Segovia-Miranda, Caren Norden, Ricardo Henriques, Marino Zerial, Michele Solimena, Jochen Rink, Pavel Tomancak, Loic Royer, Florian Jug, and Eugene W. Myers. The article is dated July 3, 2018. It has been published in Nature Methods with a DOI of 10.1038/s41592-018-0216-7. The article is licensed under a CC-BY-NC-ND 4.0 International license, which is highlighted with a red box. The page also features a search bar, navigation links, and a subject area dropdown menu.

I would love to show you a Figure from this paper!

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Licensing: Permissive versus restrictive

Example

bioRxiv THE PREPRINT SERVER FOR BIOLOGY

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Search Advanced Search

New Results Follow this preprint

Omnipose: a high-precision morphology-independent solution for bacterial cell segmentation

Kevin J. Cutler, Carsen Stringer, Paul A. Wiggins, Joseph D. Mougous
doi: <https://doi.org/10.1101/2021.11.03.467199>
Now published in *Nature Methods* doi: 10.1038/s41592-022-01639-4

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COVID-19 SARS-CoV-2 preprints from medRxiv and bioRxiv

Subject Area Microbiology

Subject Areas All Articles

Animal Behavior and Cognition Biochemistry Bioengineering Bioinformatics

ARTICLE INFORMATION
doi <https://doi.org/10.1101/2021.11.03.467199>
History July 27, 2022.

ARTICLE VERSIONS

Version 1 (November 4, 2021 - 17:20).
Version 2 (November 5, 2021 - 13:38).
Version 3 (December 2, 2021 - 19:27).
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Example

The screenshot shows a bioRxiv preprint page. The title is "Bridging the Gap: Integrating Cutting-edge Techniques into Biological Imaging with deepImagej". The authors listed are Caterina Fuster-Barceló, Carlos García López de Haro, Estibaliz Gómez-de-Mariscal, Wei Ouyang, Jean-Christophe Olivo-Marin, and Daniel Sage, Arrate Muñoz-Barrutia. The DOI is https://doi.org/10.1101/2024.01.12.575015. The page includes a search bar, navigation links (HOME, SUBMIT, FAQ, BLOG, ALERTS / RSS, ABOUT, CHANNELS), and a "Follow this preprint" button. There are also options to "Download PDF", "Print/Save Options", "Data/Code", "Email", "Share", and "Citation Tools". A "Post" button is visible. The "ARTICLE INFORMATION" section shows the DOI, history (January 15, 2024), and copyright information: "The copyright holder for this preprint is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under a **CC-BY-ND 4.0 International license**". The "Subject Area" is "Bioinformatics".

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Example

The screenshot shows a bioRxiv article page. The article title is "napari-threedee: a toolkit for human-in-the-loop 3D image analysis in napari" by Kevin A. Yamauchi and Alister Burt. The article is dated July 30, 2023. The copyright notice states: "The copyright holder for this preprint is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under a **CC-BY-ND 4.0 International** license." The license text "CC-BY-ND 4.0" is highlighted with a red box. A red arrow points from this box to a red speech bubble on the right. The page also features a search bar, navigation links, and social media sharing options.

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BIAFLOWS: A collaborative framework to reproducibly deploy and benchmark bioimage analysis workflows

Ulysse Rubens, Romain Mormont, Lassi Paavolainen, Volker Bäcker, Gino Michiels, Benjamin Pavie, Leandro A. Scholz, Martin Maška, Devrim Ünay, Graeme Ball, Renaud Hoyoux, Rémy Vandaele, Ofra Golani, Anatole Chessel, Stefan G. Stanciu, Natasa Sladoje, Perrine Paul-Gilloteaux, Raphaël Marée, Sébastien Tosi

doi: <https://doi.org/10.1101/707489>

Now published in *Patterns* doi: [10.1016/j.patter.2020.100040](https://doi.org/10.1016/j.patter.2020.100040)

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Subject Area **Bioinformatics**

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ARTICLE INFORMATION

doi <https://doi.org/10.1101/707489>

History February 6, 2020.

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Version 1 (July 19, 2019 - 10:19).
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ModularImageAnalysis (MIA): Assembly of modularised image and object analysis workflows in ImageJ

Stephen J. Cross, Jordan D. J. R. Fisher, Mark A. Jepson
doi: <https://doi.org/10.1101/2023.06.12.544614>
Now published in *Journal of Microscopy* doi: [10.1111/jmi.13227](https://doi.org/10.1111/jmi.13227)

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Swarm Intelligence for Medical Volume Segmentation: The Contribution of Self-reproduction

Robert Haase, Hans-Joachim Böhm, Daniel Zips & Nasreddin Abolmaali

Conference paper

1628 Accesses | 2 Citations | 3 Altmetric

Part of the [Lecture Notes in Computer Science](#) book series (LNAI, volume 7006)

Abstract

For special applications in diagnostics for oncology the analysis of imaging data from Positron Emission Tomography (PET) is obfuscated by low contrast and high noise. To deal with this issue we propose a segmentation algorithm based on Ant Colony Optimization (ACO) and evolutionary selection of ants for self reproduction. The self reproduction approach is no standard for ACO, but appears to be crucial for volume segmentation. This investigation was focused on two different ways for reproduction control and their contribution to quantity and

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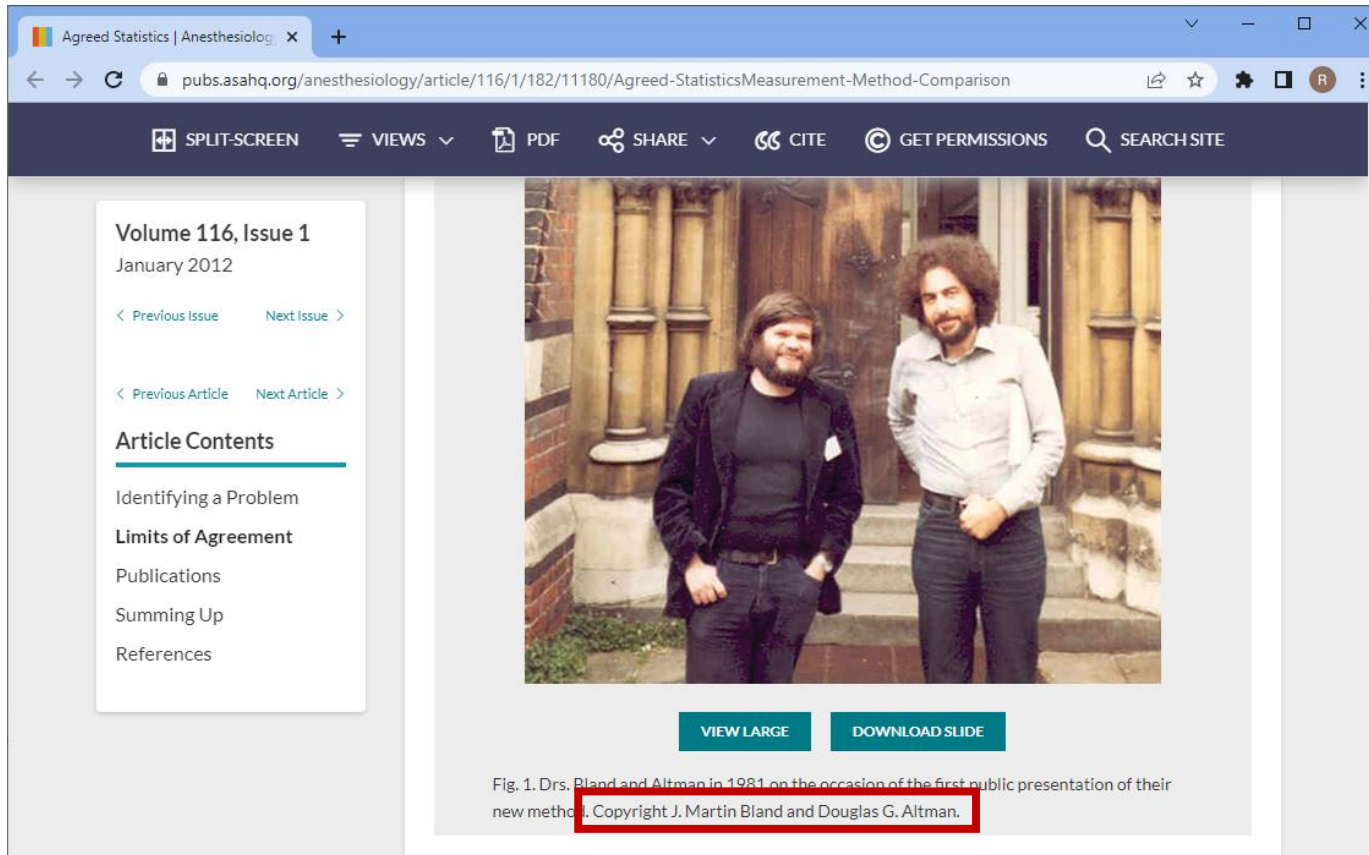
The issue is not so much paying 100 Eur, but the related administrative effort.

QUICK PRICE

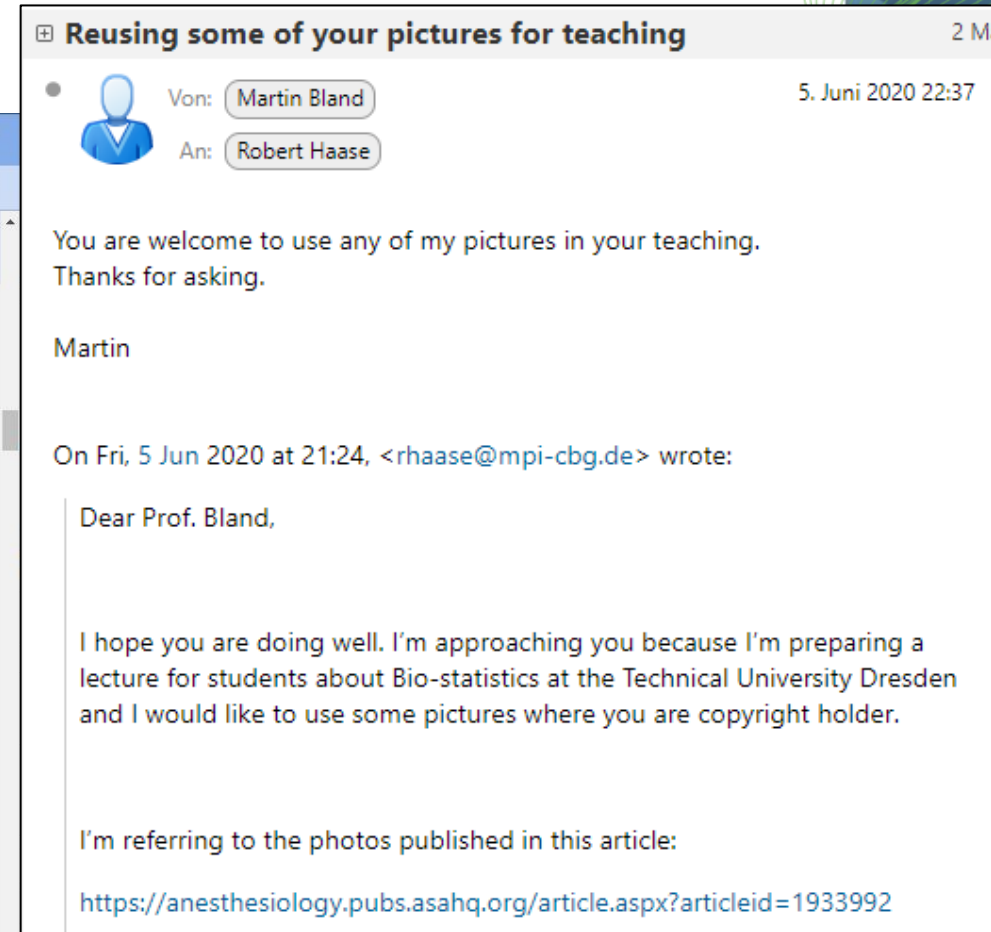
CONTINUE

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Example



The screenshot shows a web browser window with the URL pubs.asahq.org/anesthesiology/article/116/1/182/11180/Agreed-Statistics-Measurement-Method-Comparison. The page features a navigation bar with options like 'SPLIT-SCREEN', 'VIEWS', 'PDF', 'SHARE', 'CITE', 'GET PERMISSIONS', and 'SEARCH SITE'. On the left, there is a sidebar with 'Volume 116, Issue 1' and 'January 2012'. The main content area displays a photograph of two men, Drs. Bland and Altman, standing in front of a building entrance. Below the photo are buttons for 'VIEW LARGE' and 'DOWNLOAD SLIDE'. A caption below the photo reads: 'Fig. 1. Drs. Bland and Altman in 1981 on the occasion of the first public presentation of their new method. Copyright J. Martin Bland and Douglas G. Altman.'



The screenshot shows an email titled 'Reusing some of your pictures for teaching' sent on 5. Juni 2020 at 22:37. The sender is Martin Bland and the recipient is Robert Haase. The email content is as follows:

You are welcome to use any of my pictures in your teaching. Thanks for asking.

Martin

On Fri, 5 Jun 2020 at 21:24, <rhaase@mpi-cbg.de> wrote:

Dear Prof. Bland,

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I'm referring to the photos published in this article:

<https://anesthesiology.pubs.asahq.org/article.aspx?articleid=1933992>

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I presume due to lack of
awareness & training

Train the trainers!

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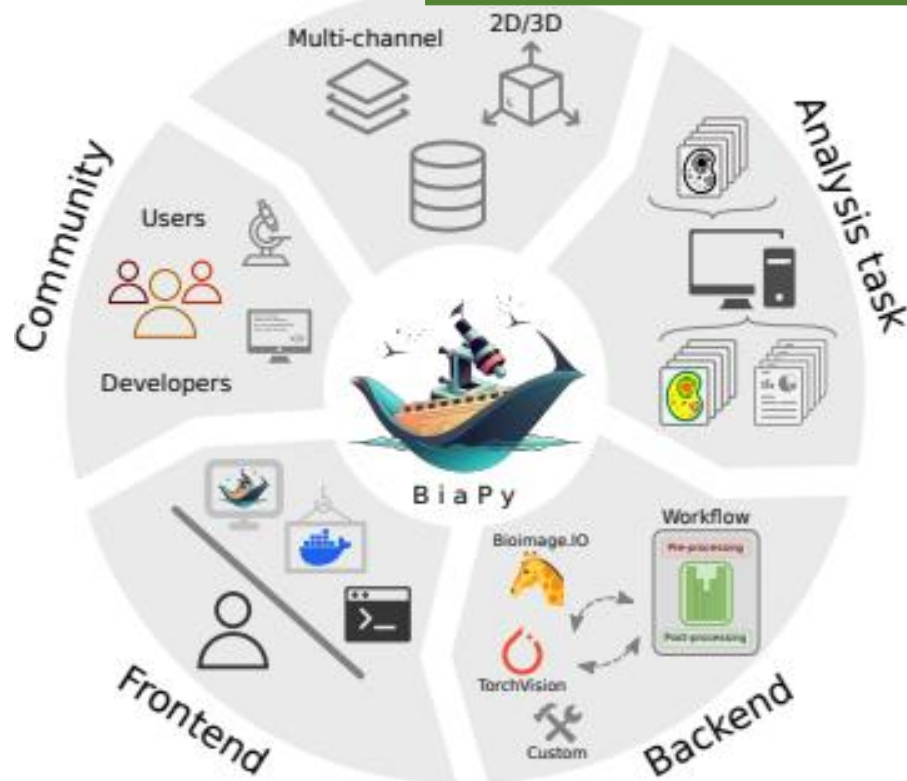
Bad for the progress of science

In particular in the context of training

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BiaPy: A unified framework for versatile bioimage analysis with deep learning

Daniel Franco-Barranco, Jesus Angel Andres-San Roman, Ivan Hidalgo-Cenalmor, Lenka Backova, Aitor Gonzalez-Marfil, Clement Caporal, Anatole Chessel, Pedro Gomez-Galvez, Luis M. Escudero, Donglai Wei, Arrate Munoz-Barrutia, Ignacio Arganda-Carreras

doi: <https://doi.org/10.1101/2024.02.03.576026>

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Bringing TrackMate into the era of machine-learning and deep-learning

Dmitry Ershov, Minh-Son Phan, Joanna W. Pylvänäinen, Stéphane U. Rigaud, Laure Le Blanc, Arthur Charles-Orszag, James R.W. Conway, Romain F. Laine, Nathan H. Roy, Daria Bonazzi, Guillaume Duménil, Guillaume Jacquemet, Jean-Yves Tinevez

doi: <https://doi.org/10.1101/2021.09.03.458852>

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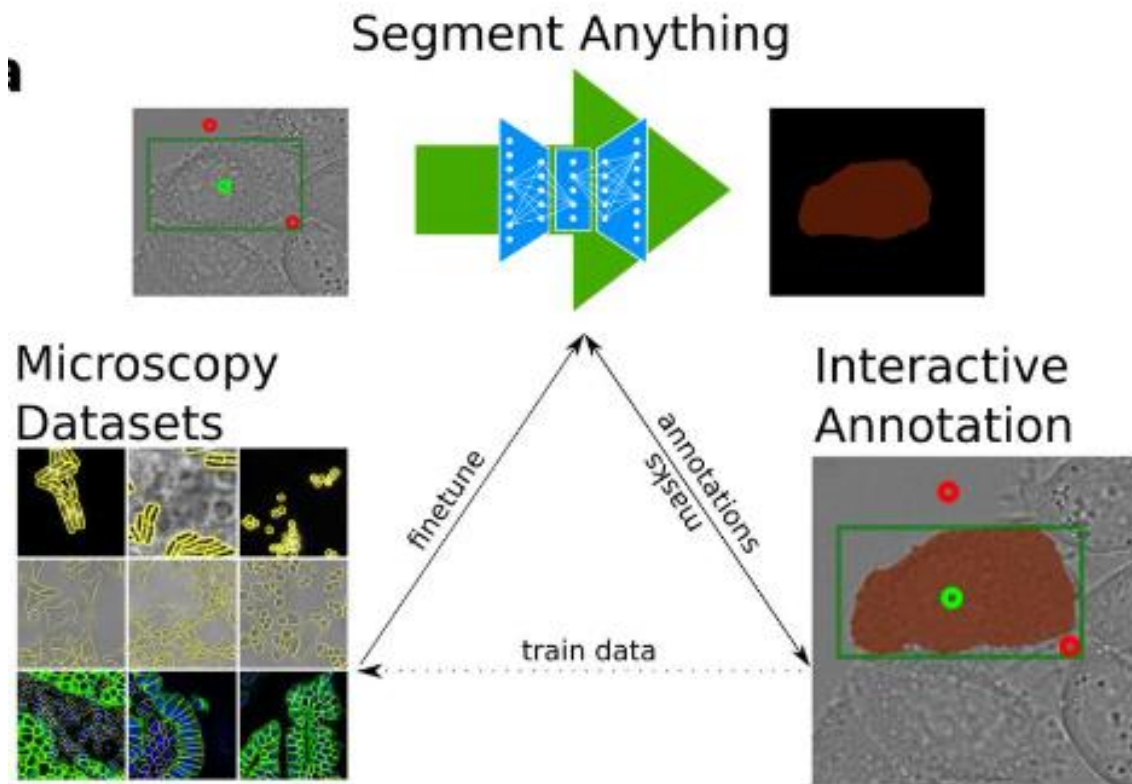
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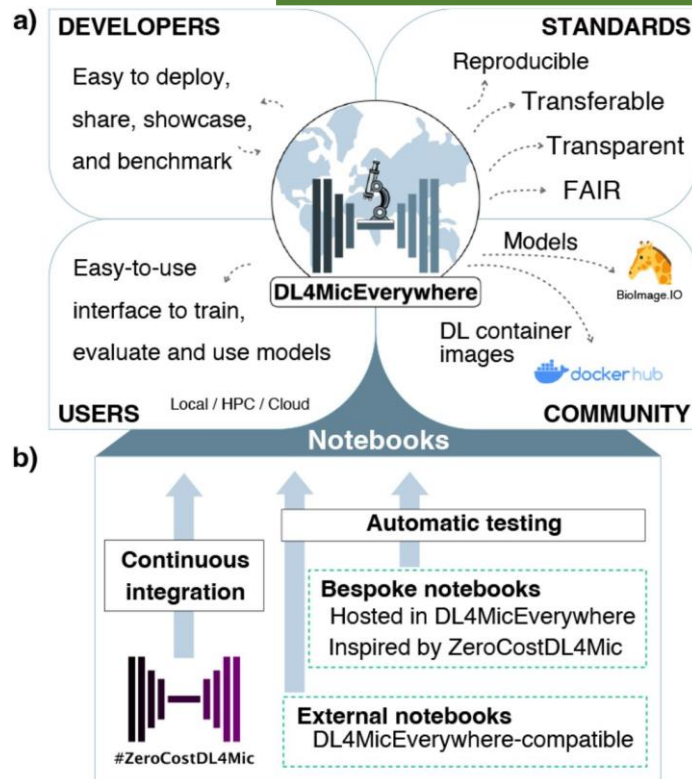


The screenshot shows a bioRxiv preprint page for 'Segment Anything for Microscopy'. The page includes the bioRxiv logo, navigation links, a search bar, and a list of authors: Anwai Archit, Sushmita Nair, Nabeel Khalid, Paul Hilt, Vikas Rajashekar, Marei Freitag, Sagnik Gupta, Andreas Dengel, Sheraz Ahmed, and Constantin Pape. The DOI is <https://doi.org/10.1101/2023.08.21.554208>. The page also features social media sharing options, a 'Post' button, and a section for 'Subject Area' with 'Bioinformatics' selected. The copyright notice states: 'The copyright holder for this preprint is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under [CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/) International license.'

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DL4MicEverywhere: Deep learning for microscopy made flexible, shareable, and reproducible

Iván Hidalgo-Cenalmor, Joanna W Pylvänäinen, Mariana G Ferreira, Craig T Russell, Ignacio Arganda-Carreras, A14Life Consortium, Guillaume Jacquemet, Ricardo Henriques, Estibaliz Gómez-de-Mariscal

doi: <https://doi.org/10.1101/2023.11.19.567606>

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History November 19, 2023.

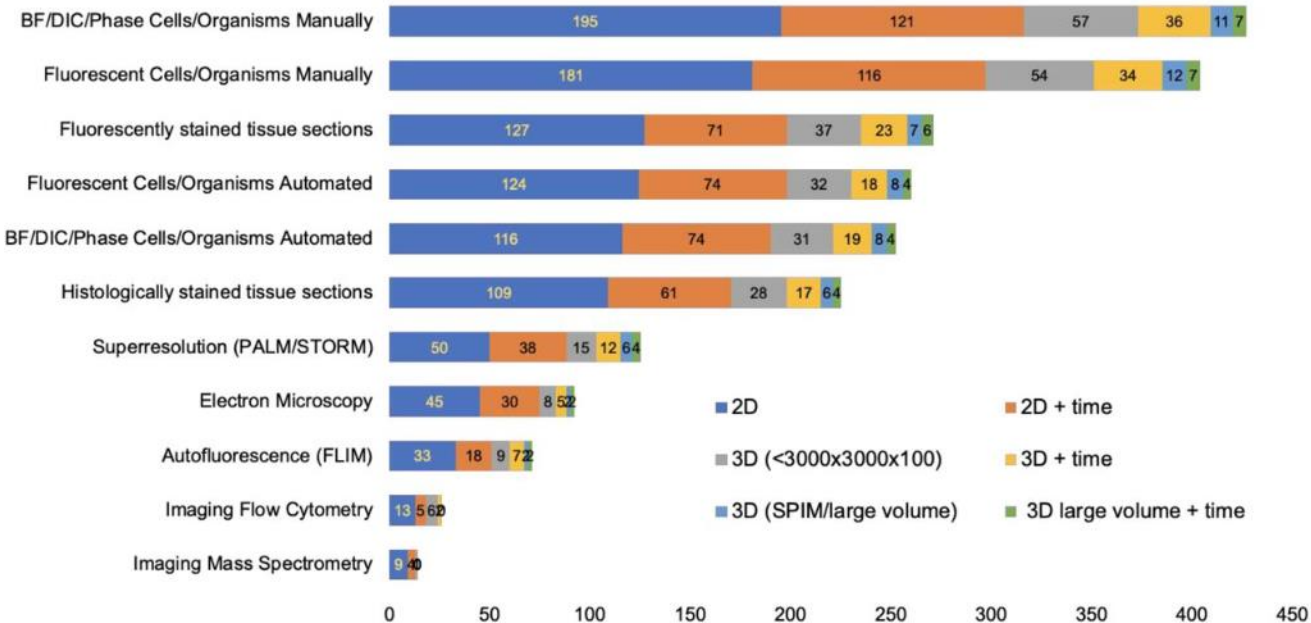
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What kinds of images do you commonly want to analyze?



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2020 BioImage Analysis Survey: Community experiences and needs for the future

Nasim Jamali, Ellen TA Dobson, Kevin W. Eliceiri, Anne E. Carpenter, Beth A. Cimini

doi: <https://doi.org/10.1101/2021.08.16.456498>

Now published in *Biological Imaging* doi: [10.1017/S2633903X21000039](https://doi.org/10.1017/S2633903X21000039)

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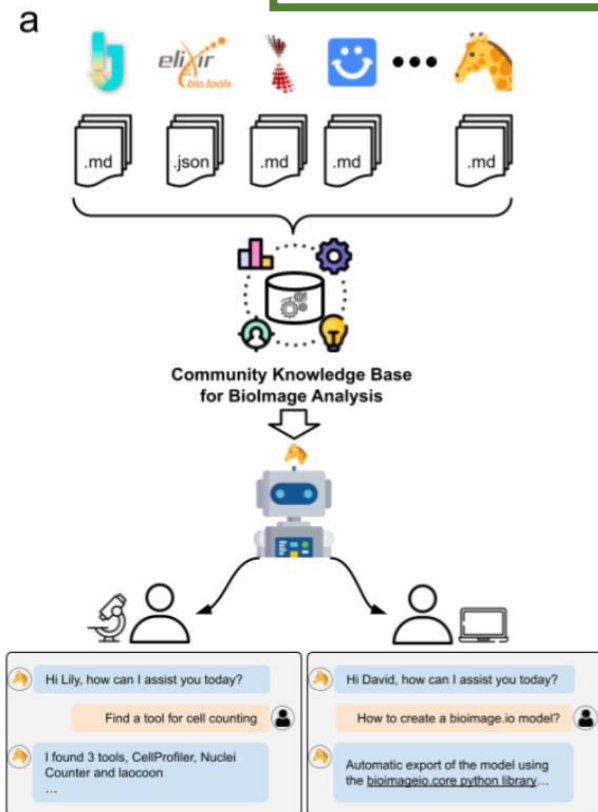
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The screenshot shows a Zenodo record page for the project 'Biolmage.IO Chatbot: A Personalized Assistant for Biolmage Analysis Augmented by Community Knowledge Base'. The page includes the following information:

- Published:** December 5, 2023 | Version v2
- Views:** 223
- Downloads:** 174
- Authors:** Lei, Wanlu^{1,2}; Fuster-Barceló, Caterina^{3,4}; Muñoz-Barrutia, Arrate^{3,4}; Ouyang, Wei¹
- Abstract:** The rapidly expanding landscape of biolmage analysis tools presents a navigational challenge for both experts and newcomers. Traditional search methods often fall short in assisting users in this complex environment. To address this, we introduce the Biolmage.IO Chatbot, an AI-driven conversational assistant tailored for the biolmage community. Built upon large language models, this chatbot provides personalized, context-aware answers by aggregating and interpreting information from diverse databases, tool-specific documentation, and structured data sources. Enhanced by a community-contributed knowledge base and fine-tuned retrieval methods, the Biolmage.IO Chatbot offers not just a personalized interaction but also a knowledge-enriched, context-aware experience. It fundamentally transforms the way biologists, biolmage analysts, and developers navigate and utilize advanced biolmage analysis tools, setting a new standard for community-driven, accessible scientific research.
- Identifiers:** DOI: 10.48550/arXiv.2310.18351
- Related works:** Is identical to Publication: 10.48550/arXiv.2310.18351 (DOI)
- Funding:** Horizon Europe research and innovation programme 101057970 European Commission
- Dates:** Created 2023-10-23
- Citations:** Show only: Literature (0) Dataset (0) Software (0)
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NanoPyx: super-fast bioimage analysis powered by adaptive machine learning

Bruno M. Saraiva, Inês M. Cunha, António D. Brito, Gautier Follain, Raquel Portela, Robert Haase, Pedro M. Pereira, Guillaume Jacquemet, Ricardo Henriques

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Example

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The screenshot shows the BioImage Archive interface. At the top, there's a search bar and navigation links. Below, the article title "The glucosylceramide synthase inhibitor PDMP causes lyso-somal lipid accumulation and mTOR inactivation" is visible. A "Data files" section is highlighted, showing a table of files:

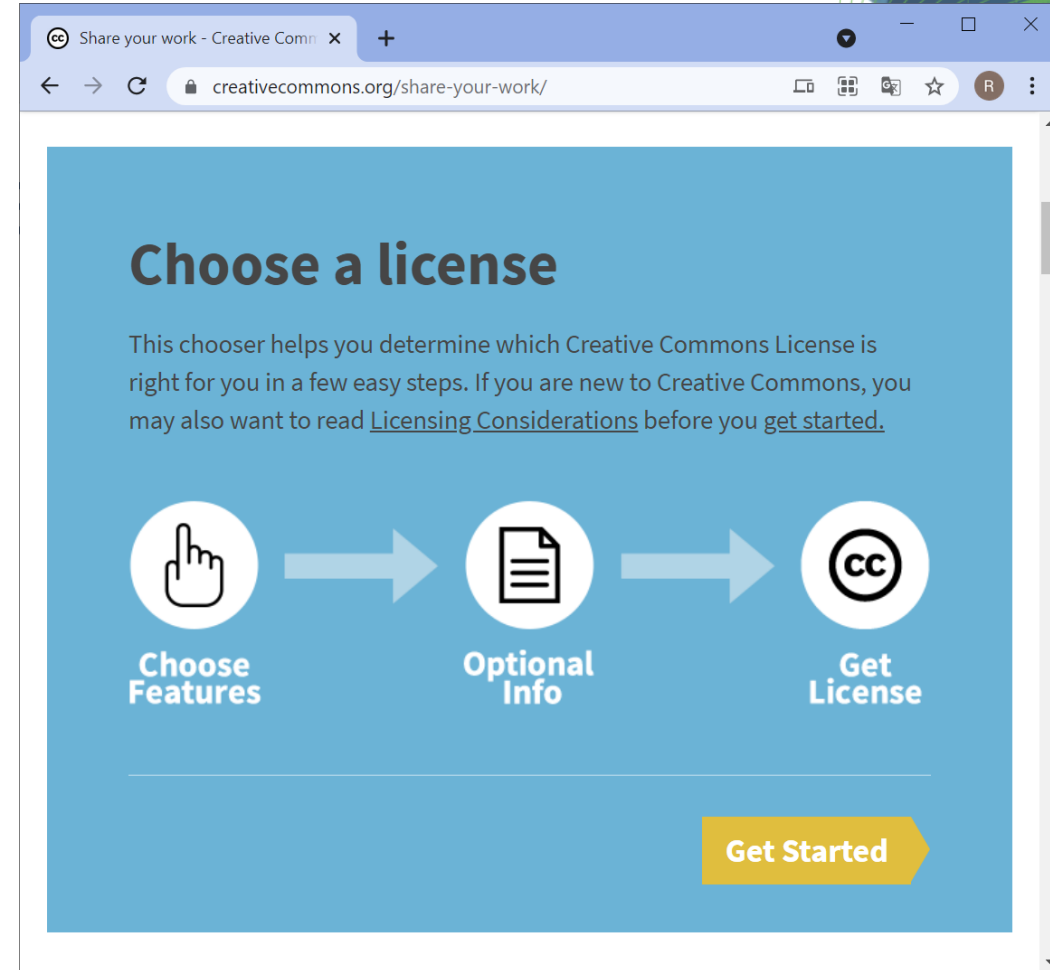
Name	Size	Section	staining	cells	labelling	treatment	Channel 1	Channel 2	timepoint
experimentA_11_WT_Miglustat.czi	1.6 MB	Study Component	click chemistry and IF	WT	pacSph	50 µM NB-DNJ (Miglustat)	pacSph	Lamp1	continuous labelling
experimentA_12_SGPL1_PDMP.czi	1.6 MB	Study Component	click chemistry and IF	SGPL1-/-	pacSph	20 µM PDMP	pacSph	Lamp1	continuous labelling
experimentA_13_SGPL1_PDMP.czi	1.6 MB	Study Component	click chemistry and IF	SGPL1-/-	pacSph	20 µM PDMP	pacSph	Lamp1	continuous labelling

The screenshot shows the bioRxiv preprint page. The article title is "The Biolmage Archive - building a home for life-sciences microscopy data". The authors listed are Matthew Hartley, Gerard J. Kleywegt, Ardan Patwardhan, Ugis Sarkans, Jason R. Swedlow, and Alvis Brazma. The DOI is <https://doi.org/10.1101/2021.12.17.473169>. The page includes a "Data files" section with a table of files, similar to the one in the BioImage Archive screenshot. A "Copyright" notice is highlighted in a green box, stating: "The copyright holder has placed this preprint in the Public Domain. It is no longer restricted by copyright. Anyone can legally share, reuse, remix, or adapt this material for any purpose without crediting the original authors."

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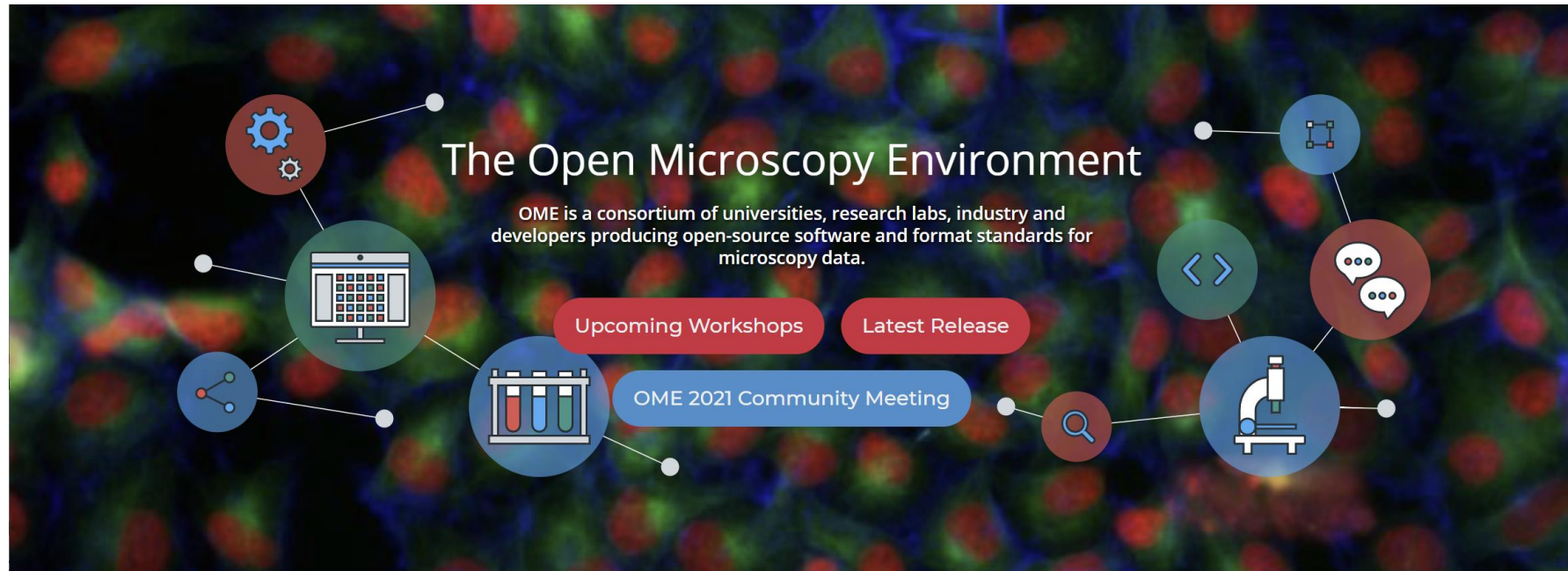
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Example



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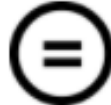


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





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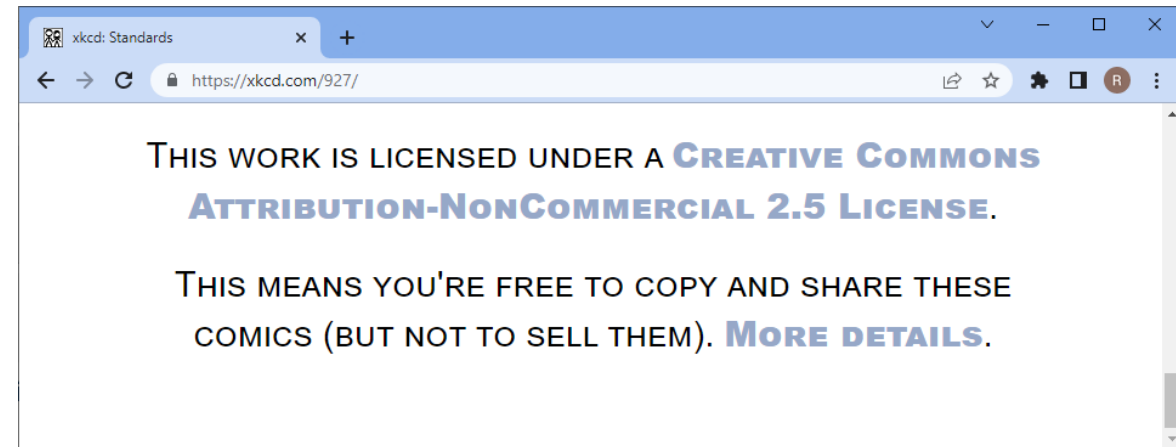
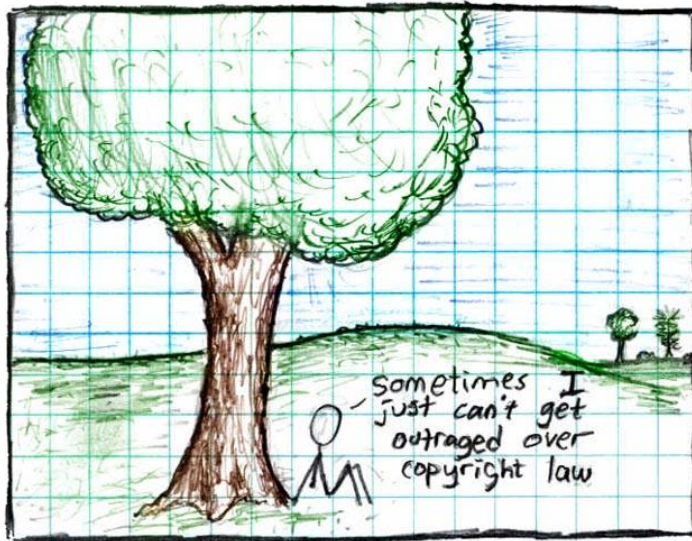


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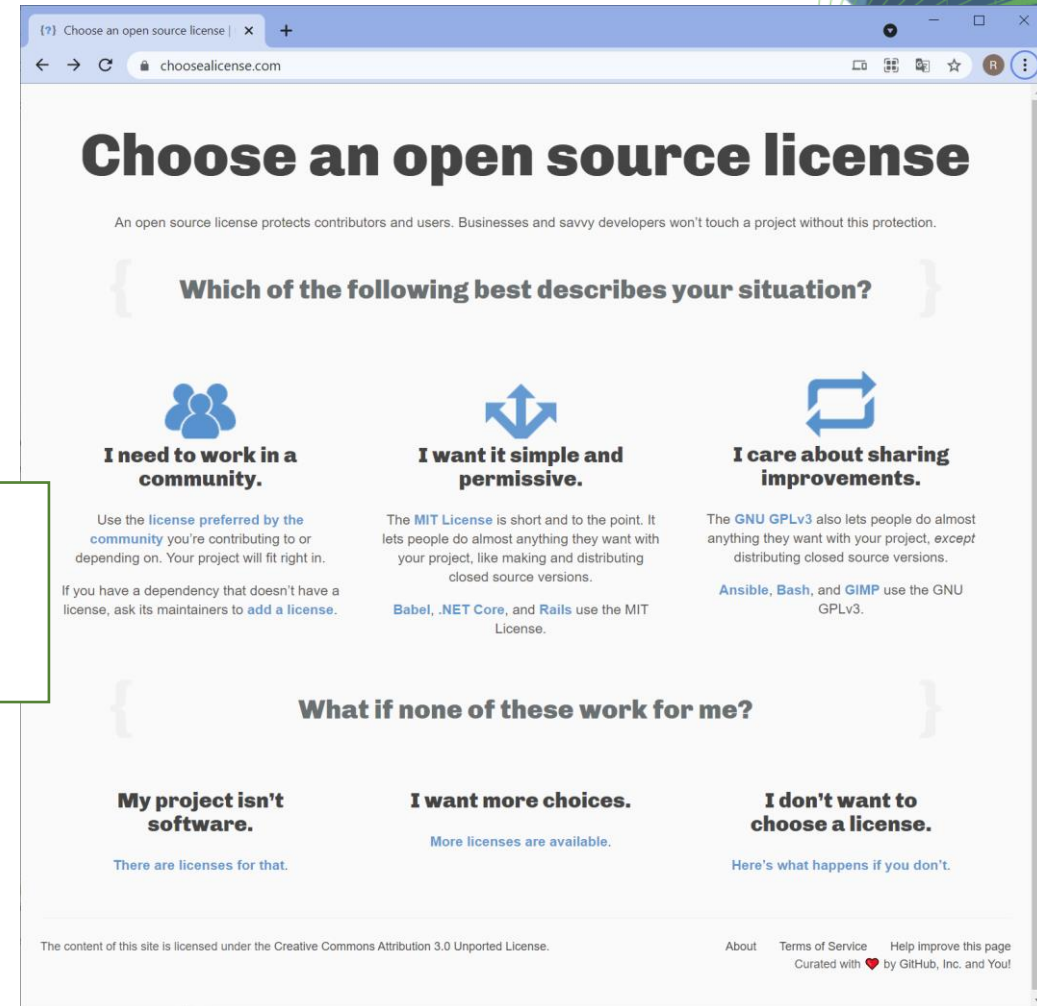
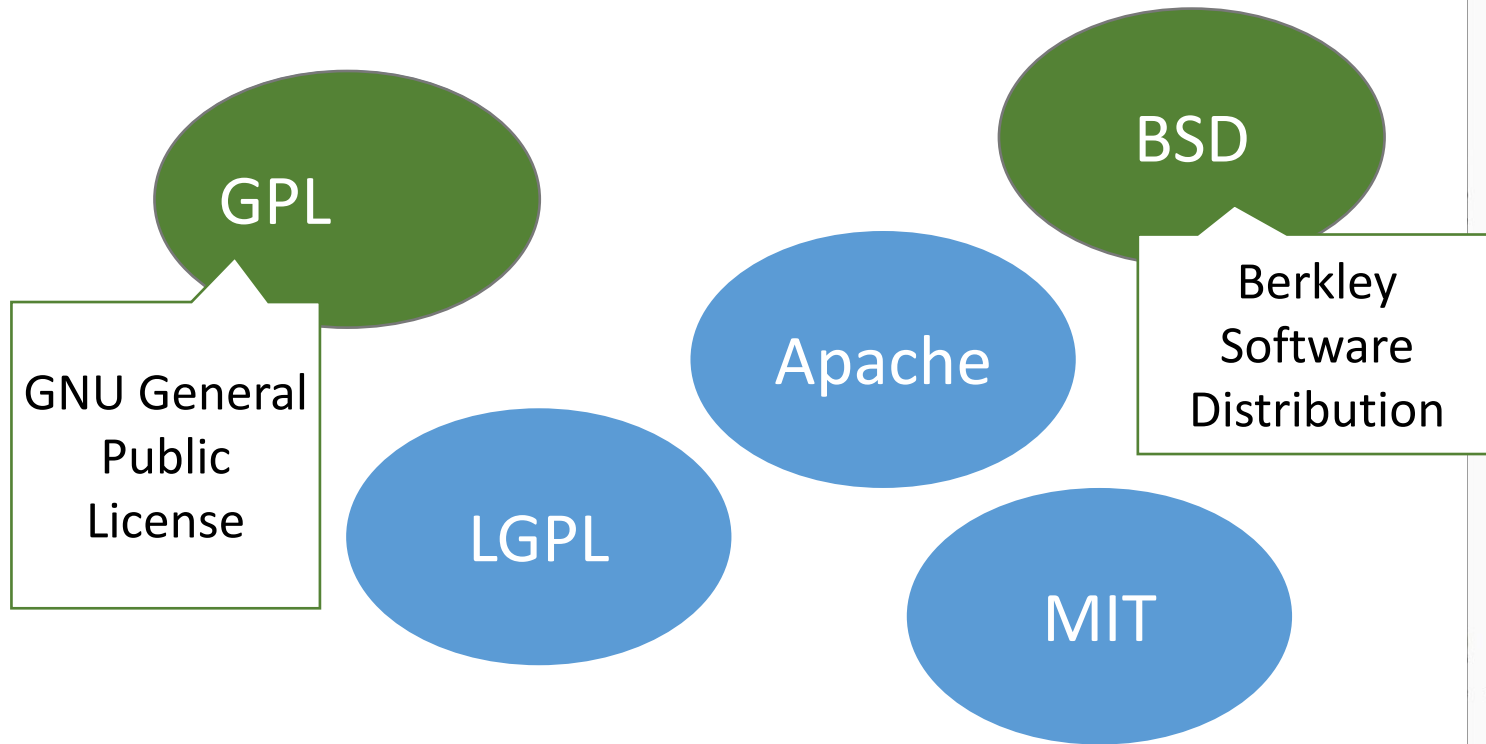
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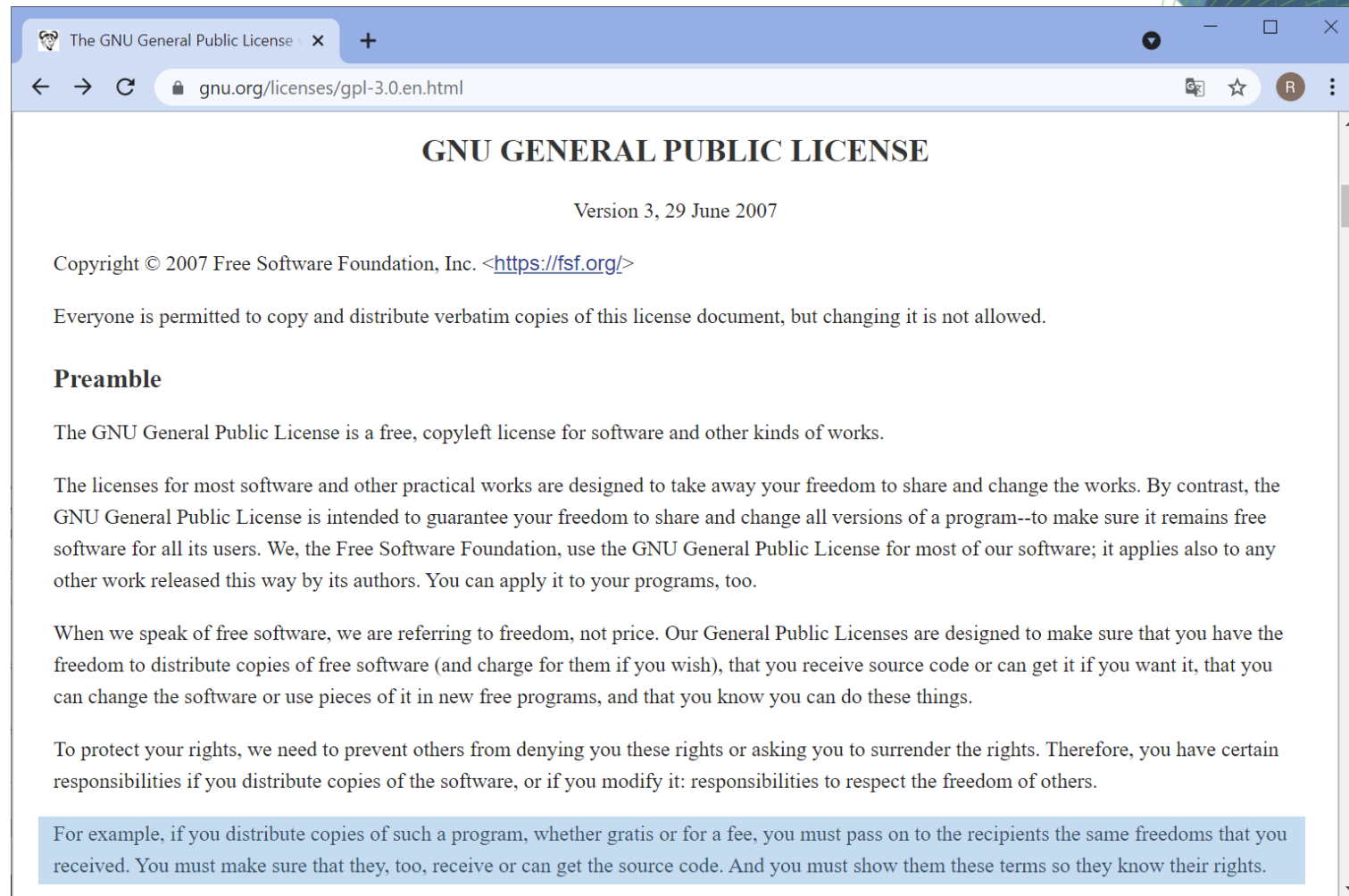
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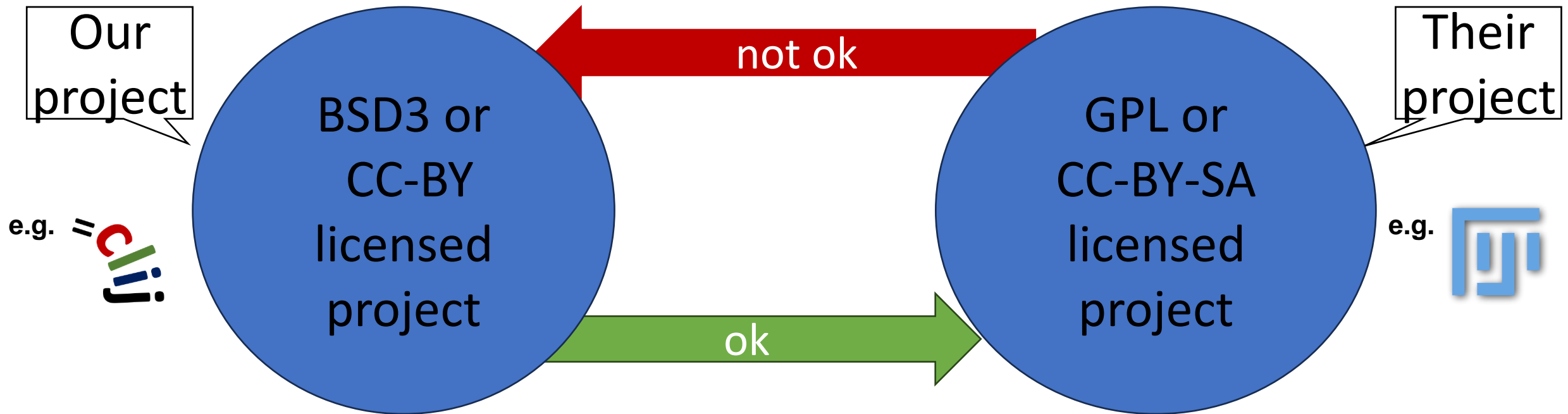
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cnr-isti-vclab/meshlab: The open source mesh processing system

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alemuntoni bugfix while loading exif info ✓ 2672c14 22 days ago 10,254 commits

.github	fix missing windeployqt in windows workflows	5 months ago
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resources	icon on windows folder	5 months ago
sample	add gltf samples	16 months ago
scripts	deploy all plugins in macos script	4 months ago
src	bugfix while loading exif info	22 days ago
textures	moved textures folder outside distrib	3 years ago
unsupported	remove "vertex color noise" filter	12 months ago
.gitignore	move build and install dirs on macos outside src	5 months ago

About

The open source mesh processing system

www.meshlab.net

point-cloud mesh mesh-generation

3d-printing 3d-scanning 3d

3d-reconstruction 3d-models

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mesh-simplification triangle-mesh

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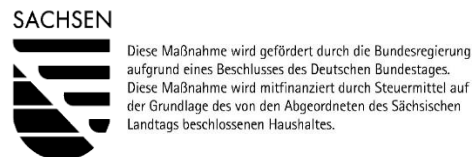


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