Day-to-day image data management with OMERO

Workshop on Research Data Management for Microscopy and Image Analysis
GBM Compact Symposium 2024

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Slides will be available for you online later!

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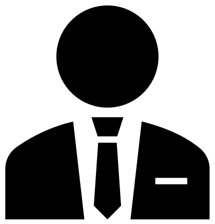
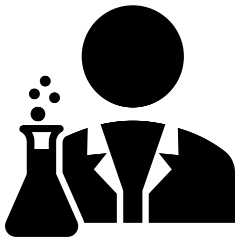
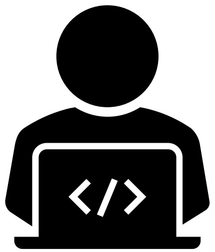
Data management for everyone in the lab







- Group leaders
  - Overview of projects
  - Monitor progress
  - Long term archiving

- Experimenters
  - Knows all the details of a project, which experiment worked, which had an issue
  - Can organize and annotate data

- Bioimage analyst
  - Needs metadata for processing
  - Share results back
  - Traceability of analysis

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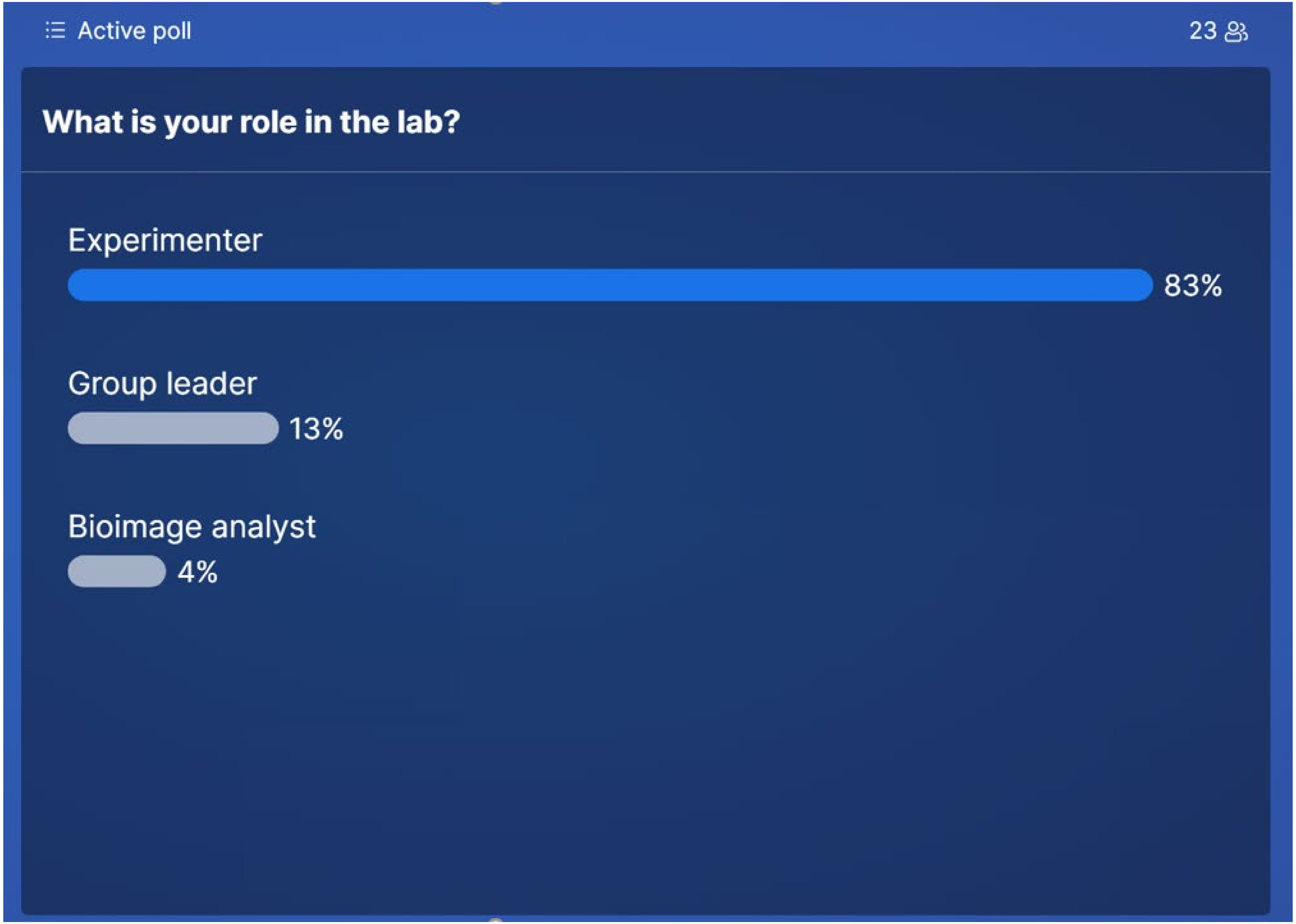


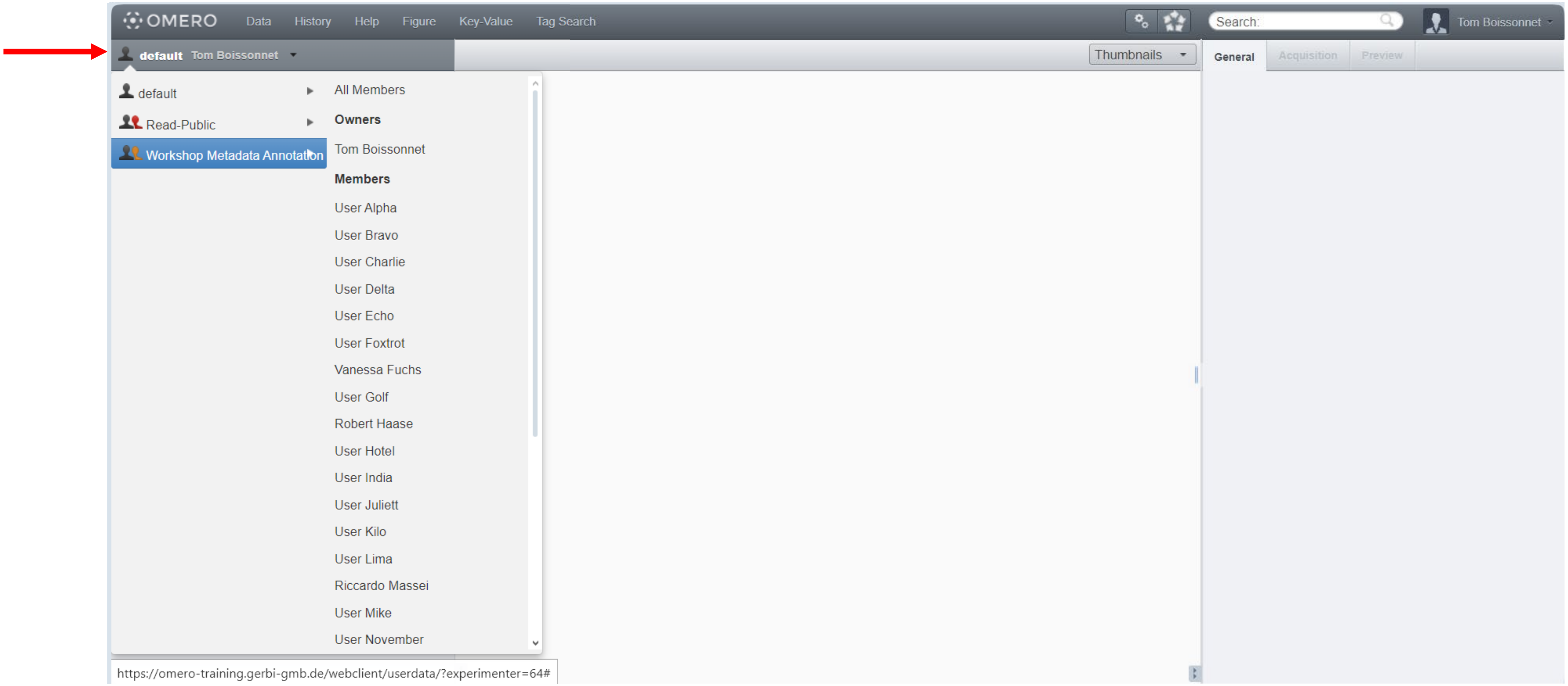
Active poll
23
What is your role in the lab?
Experimenter
83%
Group leader
13%
Bioimage analyst
4%

OMERO

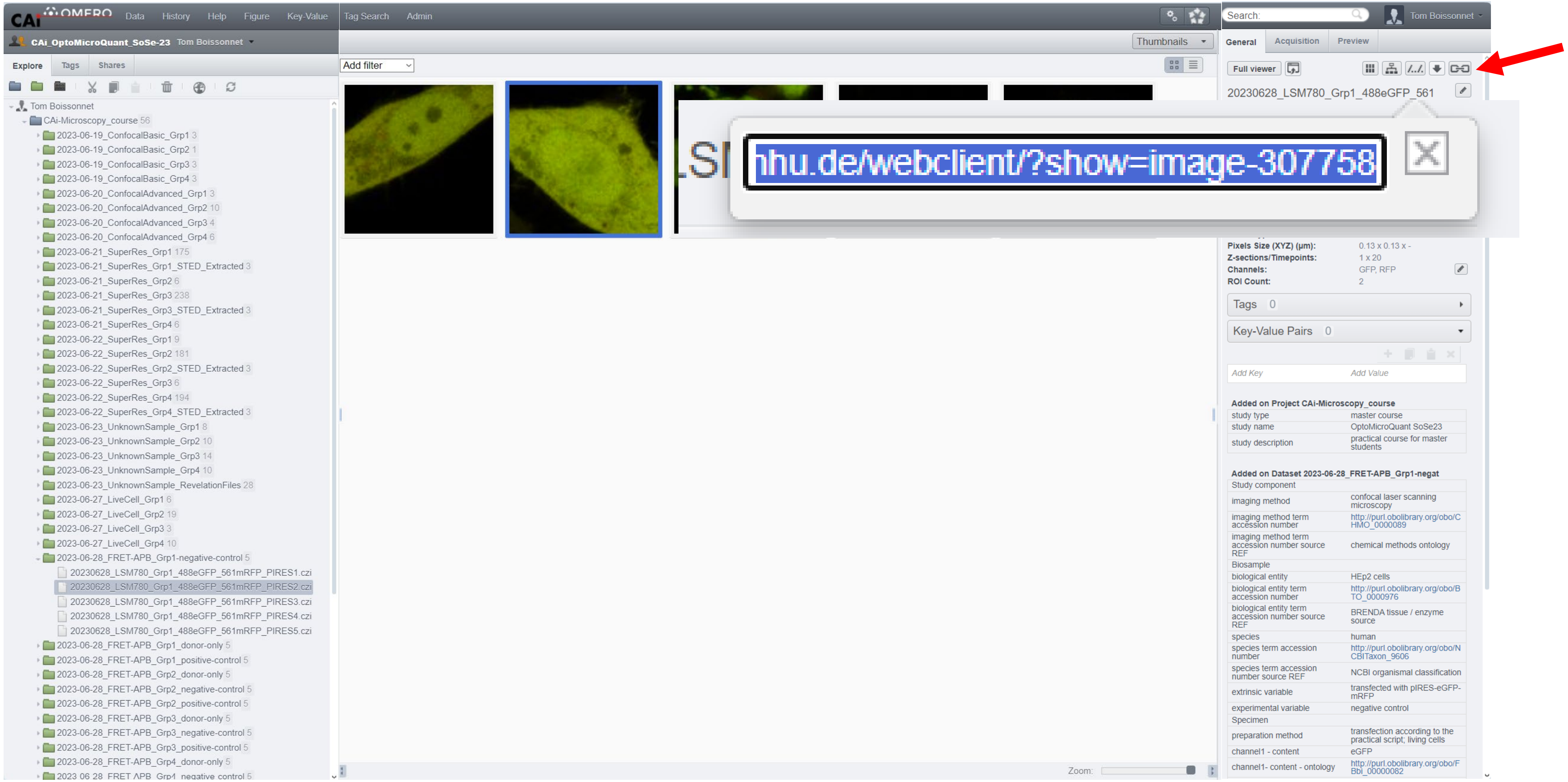
OMERO.web is one of the ways to access data in OMERO.server

Data overview & exploration

Group leader



Data overview & exploration — links



Organizing data

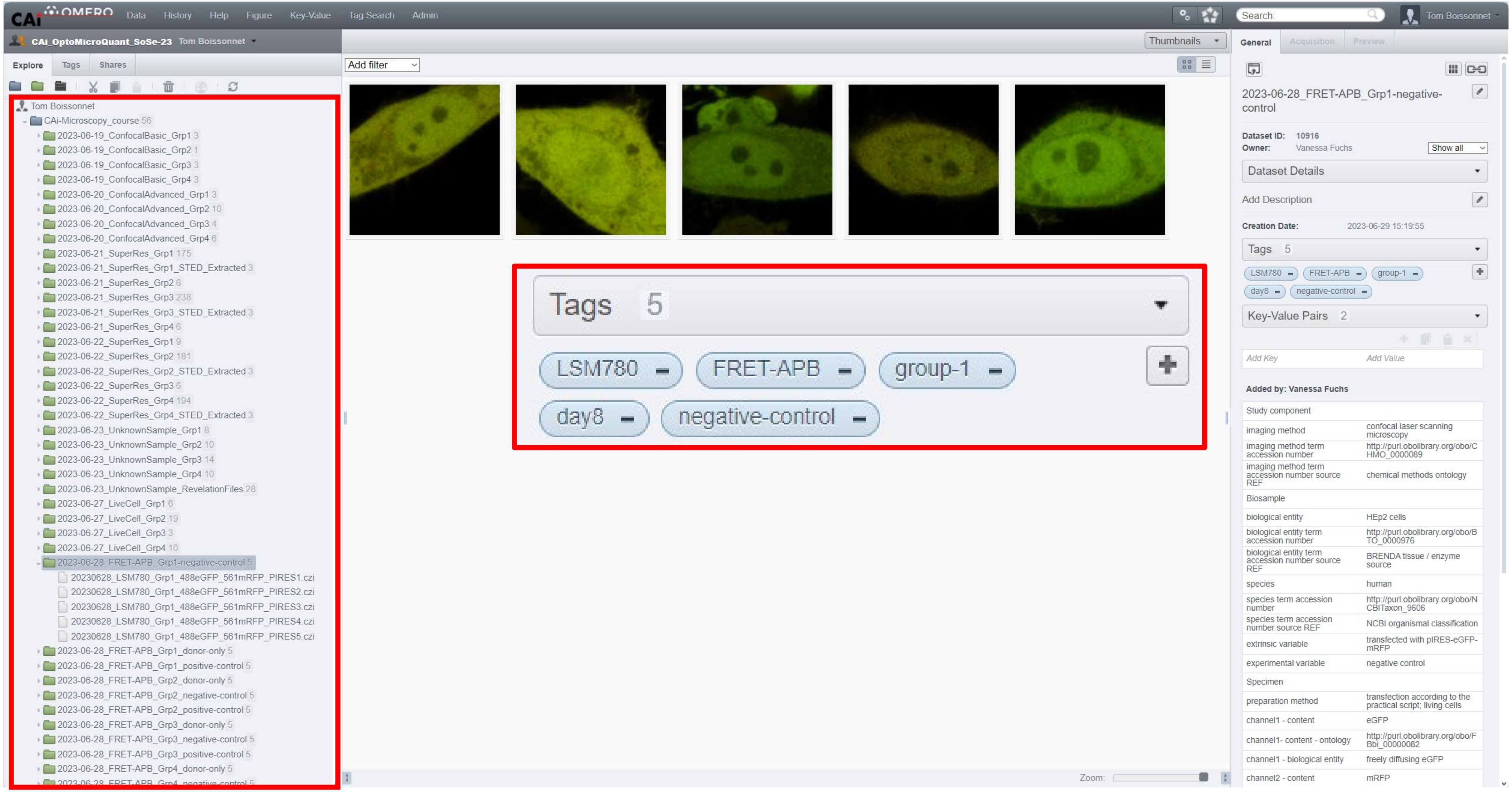
Collection of books on biology

Sorting the books by author, alphabetically

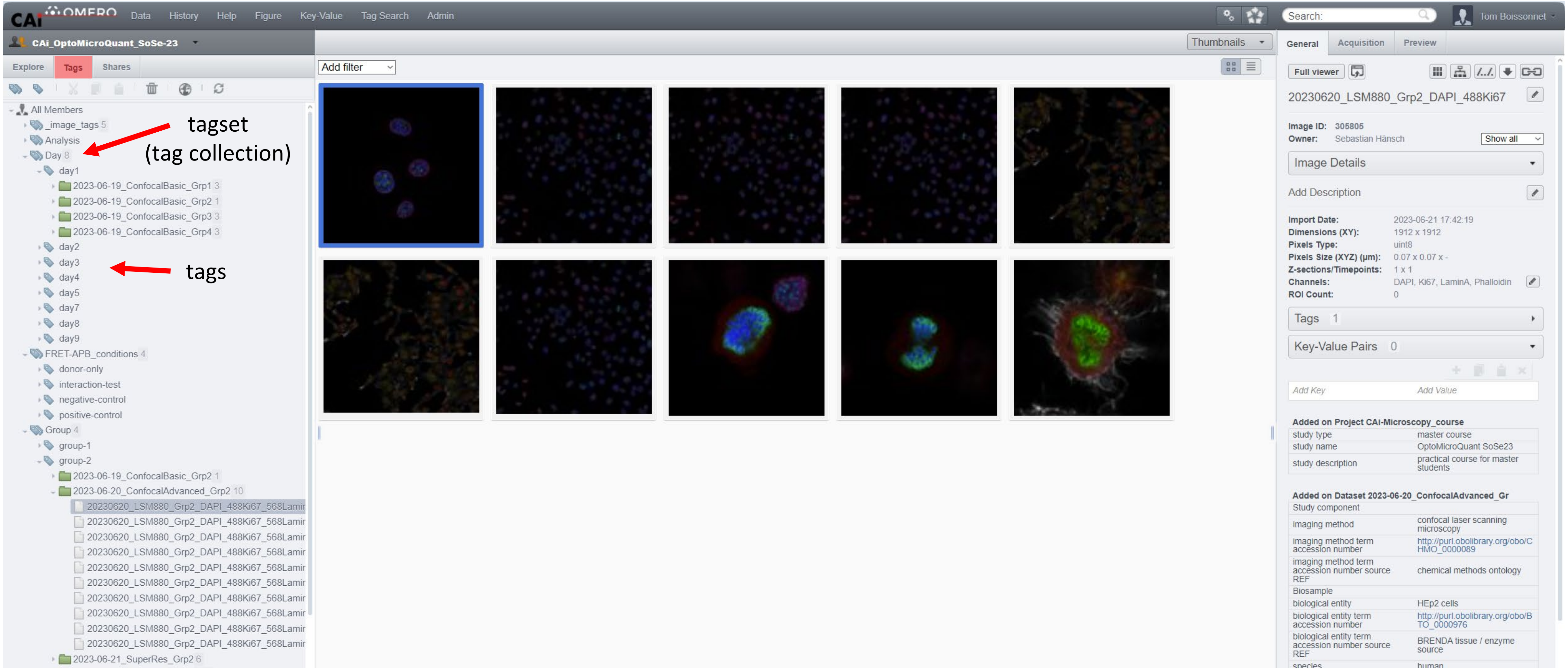
- More ways to arrange books?
    - species
    - sub-topic: cell biology, ecology, evolution

https://www.rawpixel.com/image/6040641/photo-image-book-public-domain-room

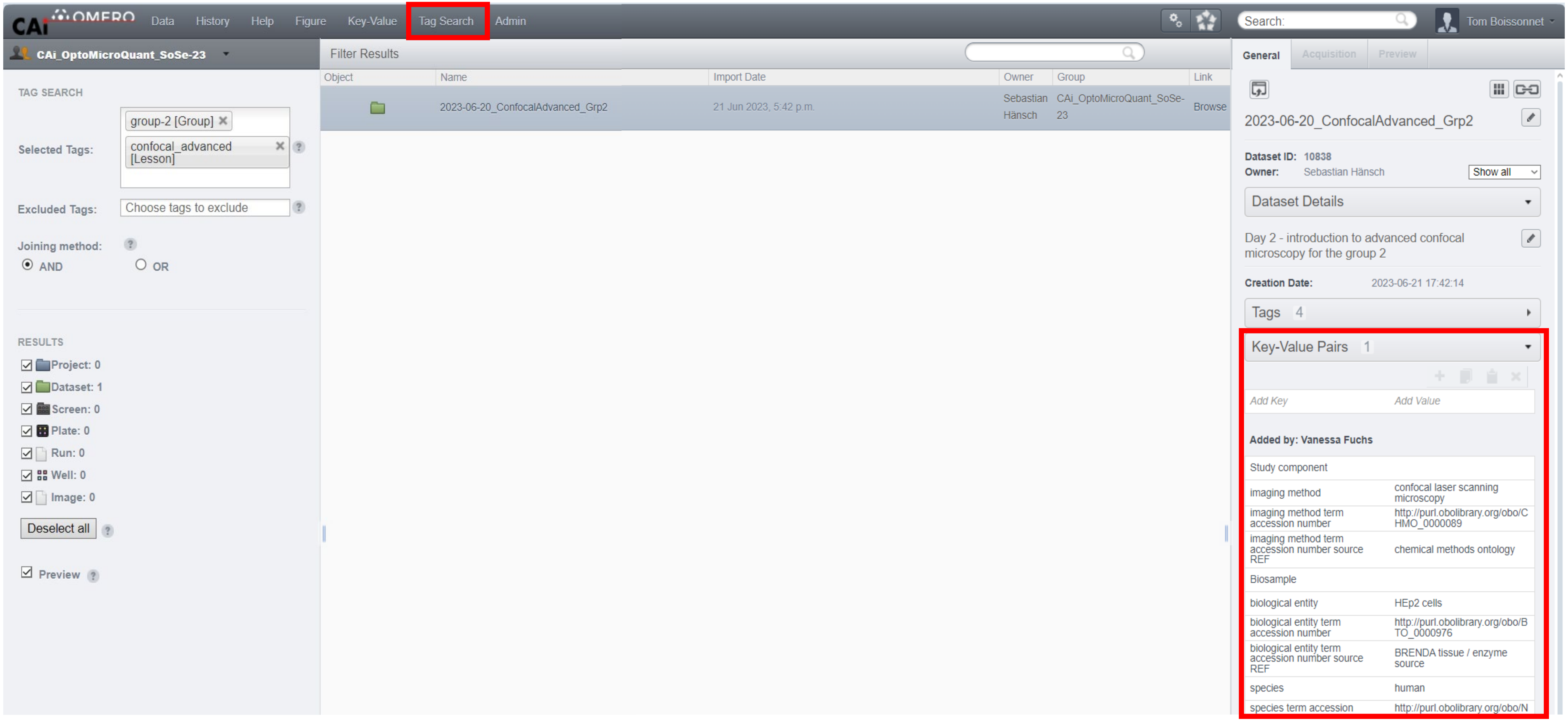
Organizing data — working with images



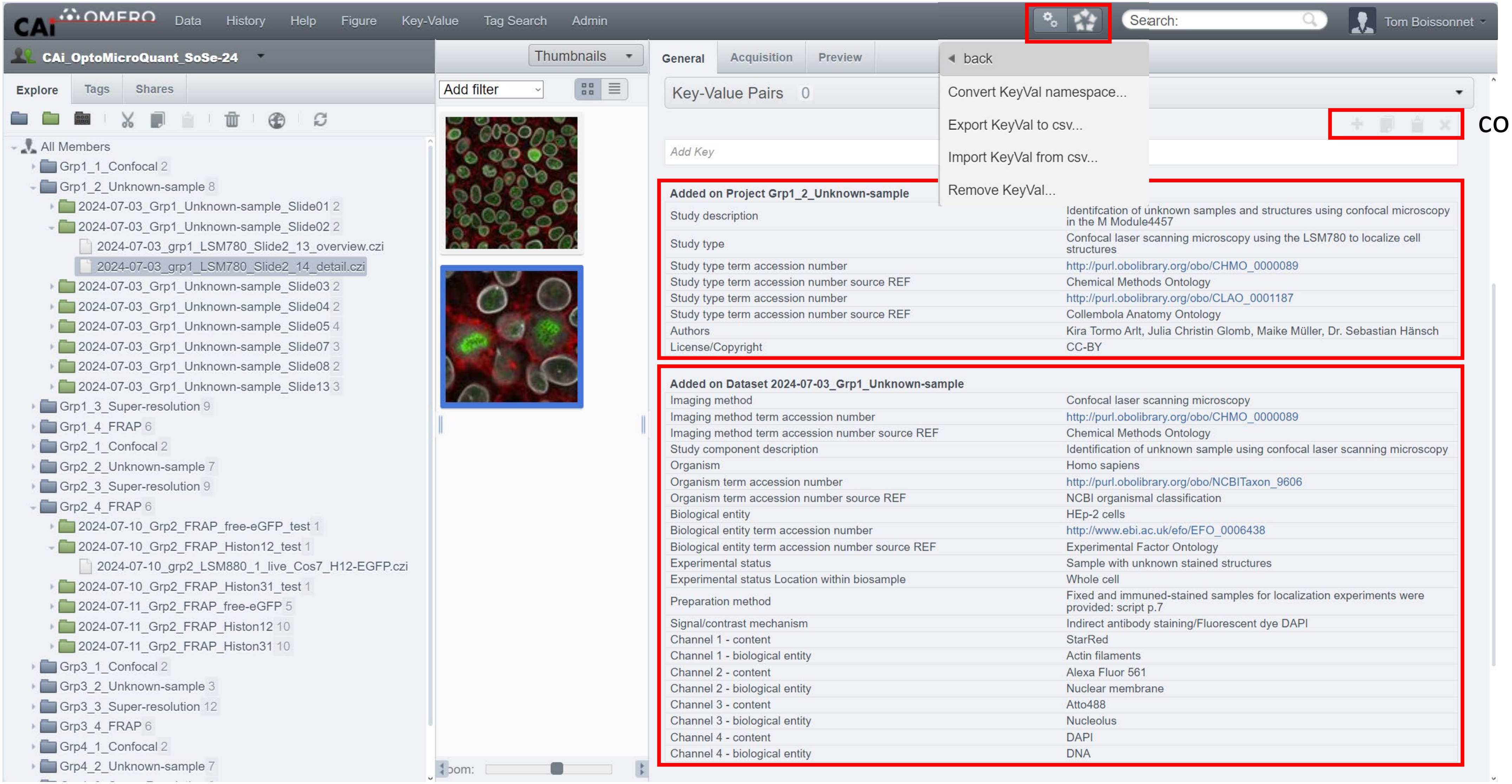
Organizing data — browsing tags



Organizing data — tagsearch

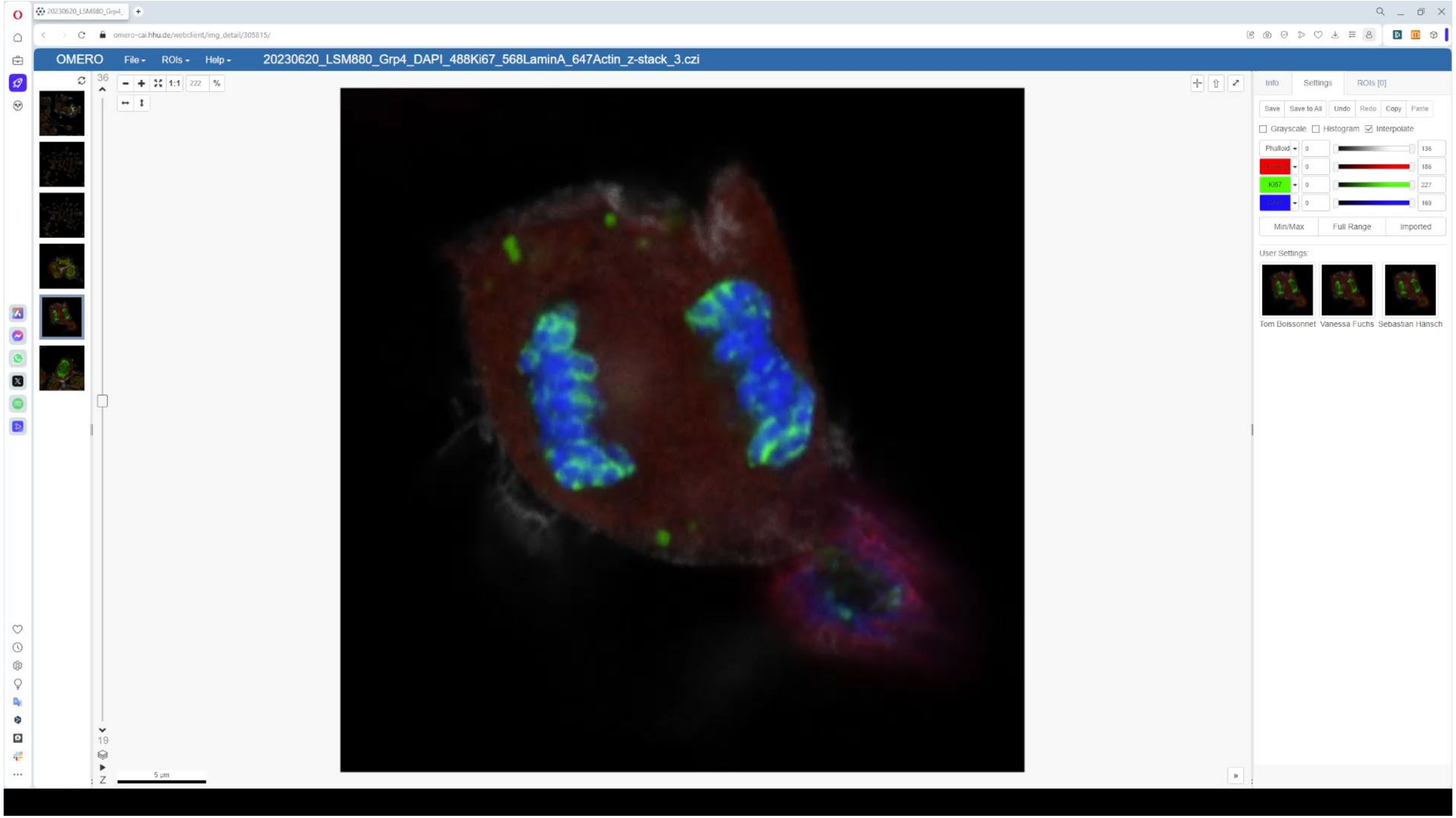


Working with images — key-value pairs

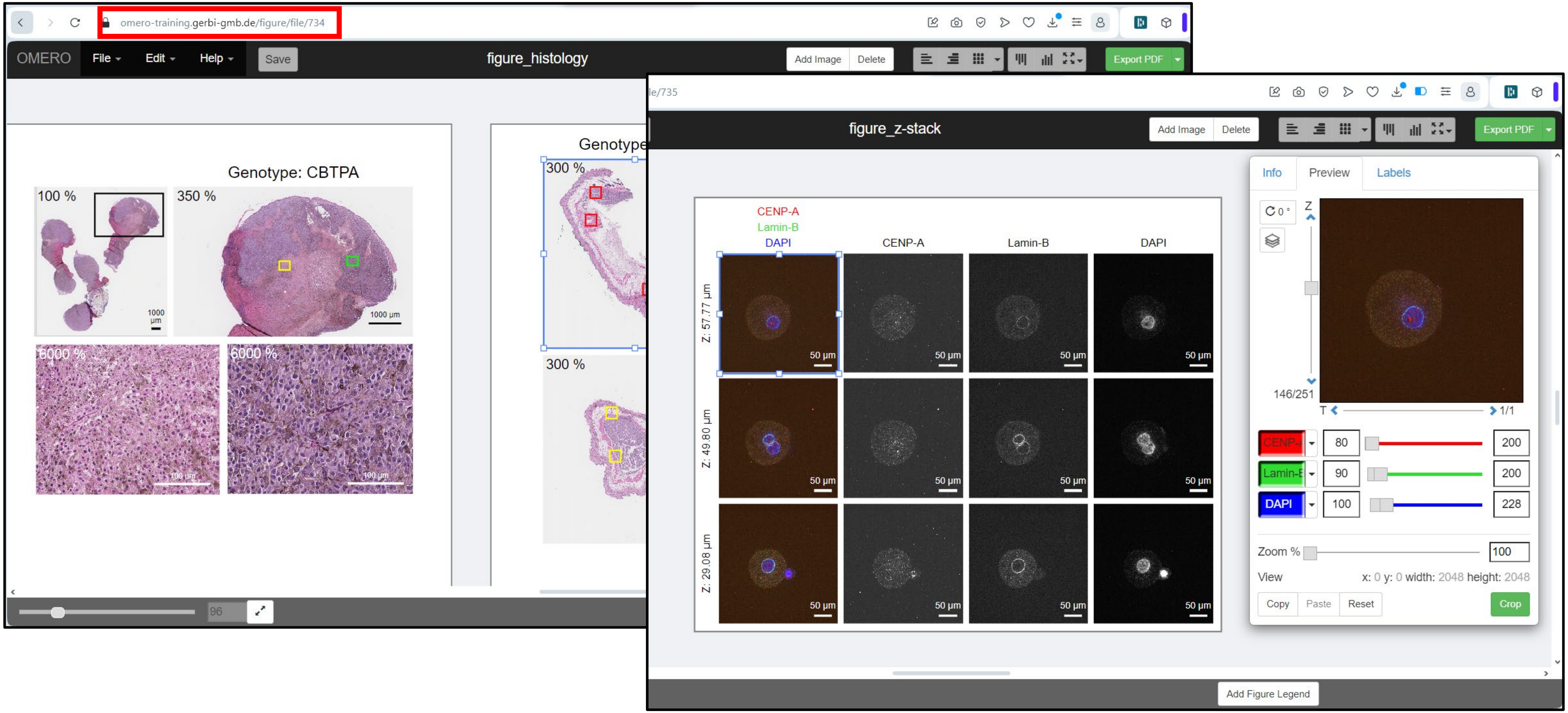


copy paste

OMERO.iviewer

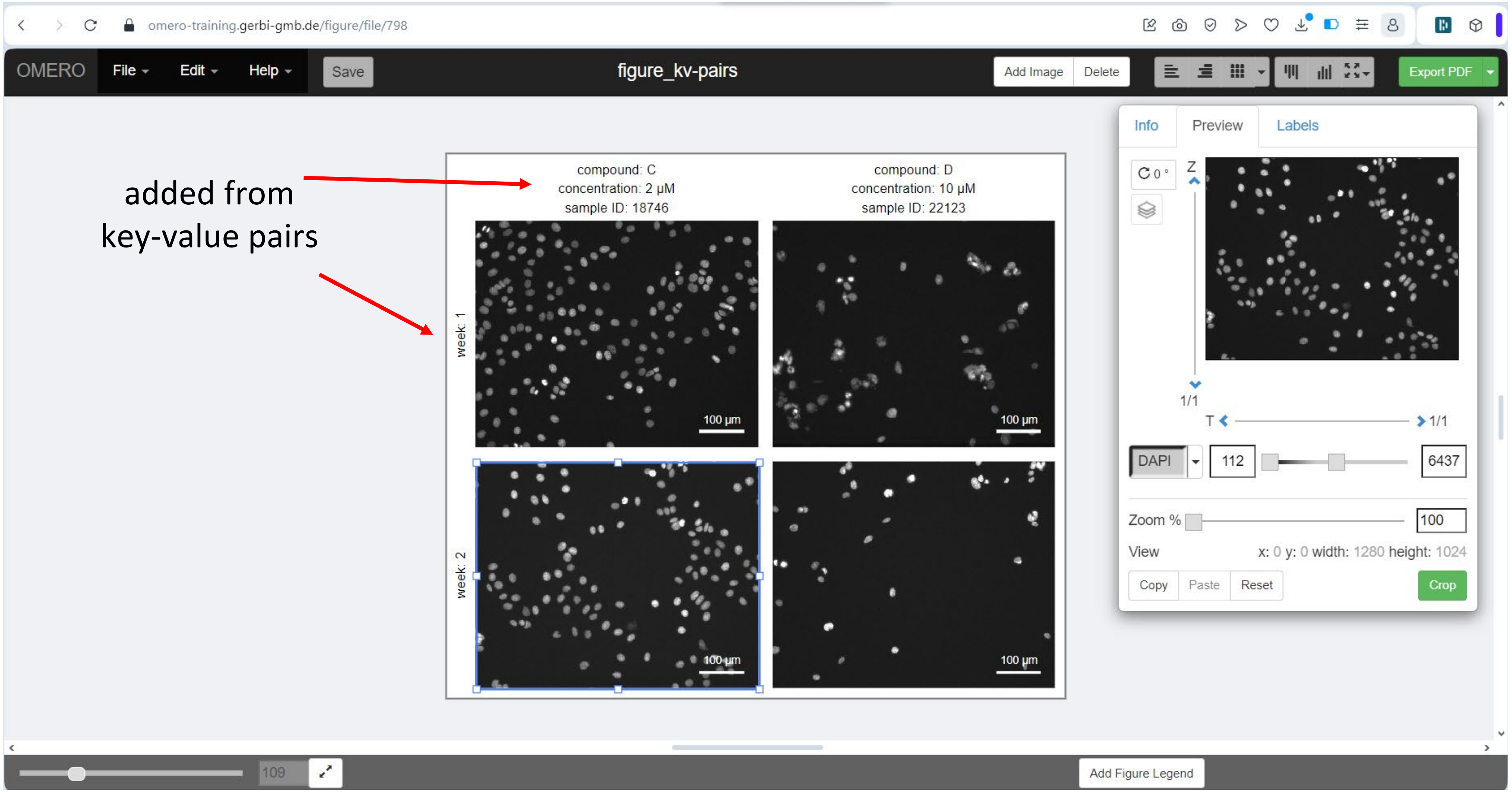


OMERO.figure

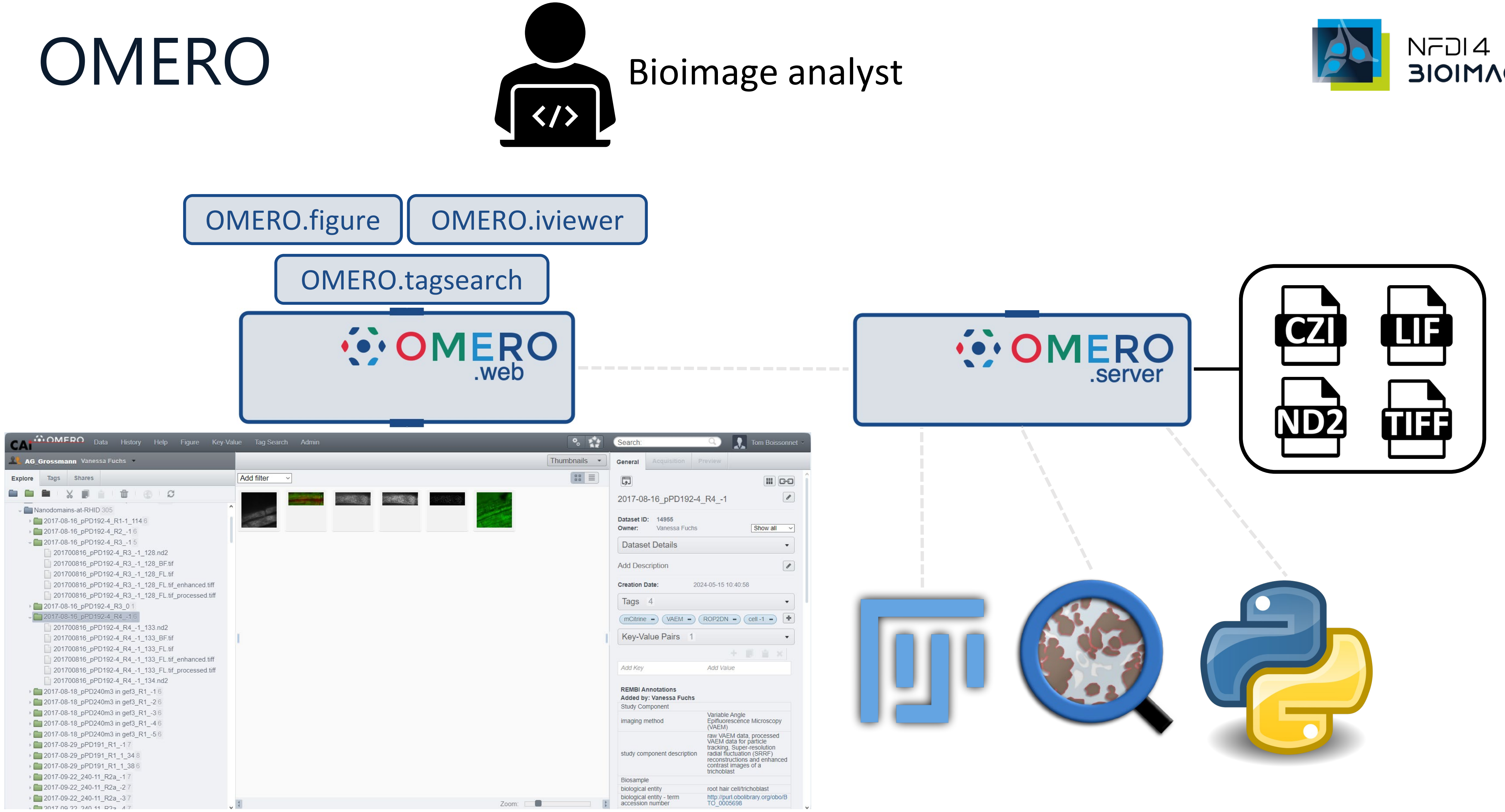


OMERO.figure

added from
key-value pairs



OMERO


Bioimage analyst
OMERO.figure
OMERO.iviewer
OMERO.tagsearch
OMERO .web
OMERO .server
CZI
LIF
ND2
TIFF

What's next?

- Reproducible image analysis workflows with OMERO software APIs
  Michele Bortolomeazzi

- Publishing datasets in public archives for bioimage data
  Ksenia Krooß

- Meet us at the Research Data Management Booth throughout the day *(+ Lena Krämer)*

Conclusions

- Data management is for everyone throughout a project
  - group leaders
  - experimenters
  - bioimage analysts
- Data management purpose is to increase your ability to explore data
  - remote access to data - sharing links over files
  - traceability from acquisition to analysis
  - extensions to solve specific needs: OMERO.figure