

# OMERO: Managing Images

## Facility Manager Training day

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# Managing Data



- Annotating data
- Searching
- Moving images between groups
- Changing ownership of images
- Deleting images
- Advanced tagging
  - automatically tagging
  - searching by tags
- Questions

# ANNOTATING DATA

# Annotating data



- Tags
  - organise data according to tags
- Key-Value Pairs
  - extend metadata
- Attachments
  - attach analysis results
- Ratings
  - rank images, highlight significant images
- Comments
  - discuss images with collaborators

# Annotating data: Key-Value Pairs

The screenshot displays the OME web interface. At the top, there is a navigation bar with 'Tag Search' and 'Admin' links, a search bar, and a user profile for 'ome-trainer-1'. Below this is a 'Thumbnails' dropdown menu. The main area is divided into a grid of image thumbnails on the left and a detailed view on the right. The detailed view shows the image name 'scram\_01.r3d', its ID '1626', and the owner 'ome-trainer-1'. It also features expandable sections for 'Image Details', 'Tags', and 'Key-Value Pairs'. The 'Key-Value Pairs' section is expanded, showing a table of experimental parameters.

Key	Value
siRNAi	control
Incubation	10 mins
Fixation	Methanol
Anti-Aurora-B	Rabbit
Antibody dilution	1:500

<http://help.openmicroscopy.org/managing-data.html#keyvalue>

# Annotating data: Key-Value Pairs

The screenshot displays the OpenMicroscopy web interface. At the top, it shows the user 'ome-trainer-1' is connected to 'frog.openmicroscopy.org'. A search bar is present. The main workspace contains four image thumbnails under the heading 'Workspace: 4 of 4 images' for the project 'CSFV\_12.r3d\_D3D\_PRJ.dv (11-Jul-2016)'. On the right, a 'Full Viewer' panel is open for the selected image, showing its details and a table of key-value pairs.

**Image Details:**

- Image ID: 1644
- Owner: ome-trainer-1 ome-trainer-1

Key	Value
siRNAi	INCENP
Incubation	10 mins
Fixation	Methanol
Anti-Aurora-B	Rabbit
Antibody dilution	1:500

<http://help.openmicroscopy.org/managing-data.html#keyvalue>

# Annotating data: Attachments

The screenshot displays the OMERO web interface. The top navigation bar includes 'Data', 'History', 'Help', 'Figure', 'Tag Search', and 'Admin'. A search bar and user profile are on the right. The left sidebar shows a file tree for 'ome-trainer-1 ome-trainer-1' with folders like 'Images', 'CENP-B movies', and 'PTRE'. The main area shows a grid of six microscopy image thumbnails. The right panel is titled 'PTRE' and shows 'Dataset ID: 51', 'Owner: ome-trainer-1 ome-trainer-1', and 'Creation Date: 2014-10-01 16:58:46'. Below this, there are sections for 'Tags', 'Key-Value Pairs', and 'Attachments'. The 'Attachments' section lists three files: 'PTRE.jpg (13.86 KB)', 'PTRE.jpg (21.14 KB)', and 'PTRE.jpg (7.90 KB)'. Each attachment has a minus sign and an 'x' icon for removal.

<http://help.openmicroscopy.org/managing-data.html#attach>

# Annotating data: Ratings & Comments

The screenshot displays the OME web interface. At the top, there is a navigation bar with 'Tag Search' and 'Admin' links, a search bar, and a user profile for 'ome-trainer-1'. Below this is a 'Thumbnails' dropdown menu and a 'Filter Images' input field. The main area is a grid of microscopy images, with the top-left image selected. To the right, a 'Full viewer' panel shows the selected image's details: 'CSFV\_10.r3d\_D3D\_PRJ.dv', 'Image ID: 1645', and 'Owner: ome-trainer-1 ome-trainer-1'. The panel includes expandable sections for 'Image Details', 'Tags', 'Key-Value Pairs', 'Attachments', 'Ratings', and 'Comments'. The 'Ratings' section shows a 5-star rating system with 3 stars selected and an average of 3/1 votes. The 'Comments' section has an 'Add Comment:' text box and a comment from 'ome-user-1' dated 2015-06-17 15:00:12 stating 'Nucleus well visible.'.

<http://help.openmicroscopy.org/managing-data.html#attach>



**SEARCHING**

# Searching

The screenshot displays the OMERO search interface. The top navigation bar includes 'OMERO', 'Data', 'History', 'Help', 'Figure', 'Tag Search', and 'Admin'. A search bar is located in the top right corner. Below the navigation bar, the current context is 'Lab1 ome-trainer-1 ome-trainer-1'. The main search area on the left is titled 'GENERAL SEARCH' and includes a search input field containing 'IAGFP', a 'Show search hints' link, and several filter options: 'Search for:' with checkboxes for Images, Datasets, Projects, Plates, and Screens; 'Restrict by Field:' with checkboxes for Name, Description, and Annotations; 'Scope:' with a dropdown for 'In group' set to 'All Groups' and a dropdown for 'Data owned by' set to 'ome-trainer-1 ome-trainer-1'; and 'Date:' with a dropdown for 'Import date' and two empty date input fields. A 'Search' button is at the bottom of this section. The right side of the interface shows 'Filter Results' with '2 results'. Below this is a table with columns: Type, Name, Acquired, Imported, Group, and Link. Two results are listed, both of Type 'Image' and Group 'Lab1'. The first result is 'IAGFP-Noc02\_R3D.dv' with acquisition date '2005-08-23' and import date '2015-06-17'. The second result is 'IAGFP-Noc01\_R3D.dv' with acquisition date '2005-08-23' and import date '2015-06-17'. Both results have a 'Browse' link. The interface also has tabs for 'General' and 'Acquisition'.

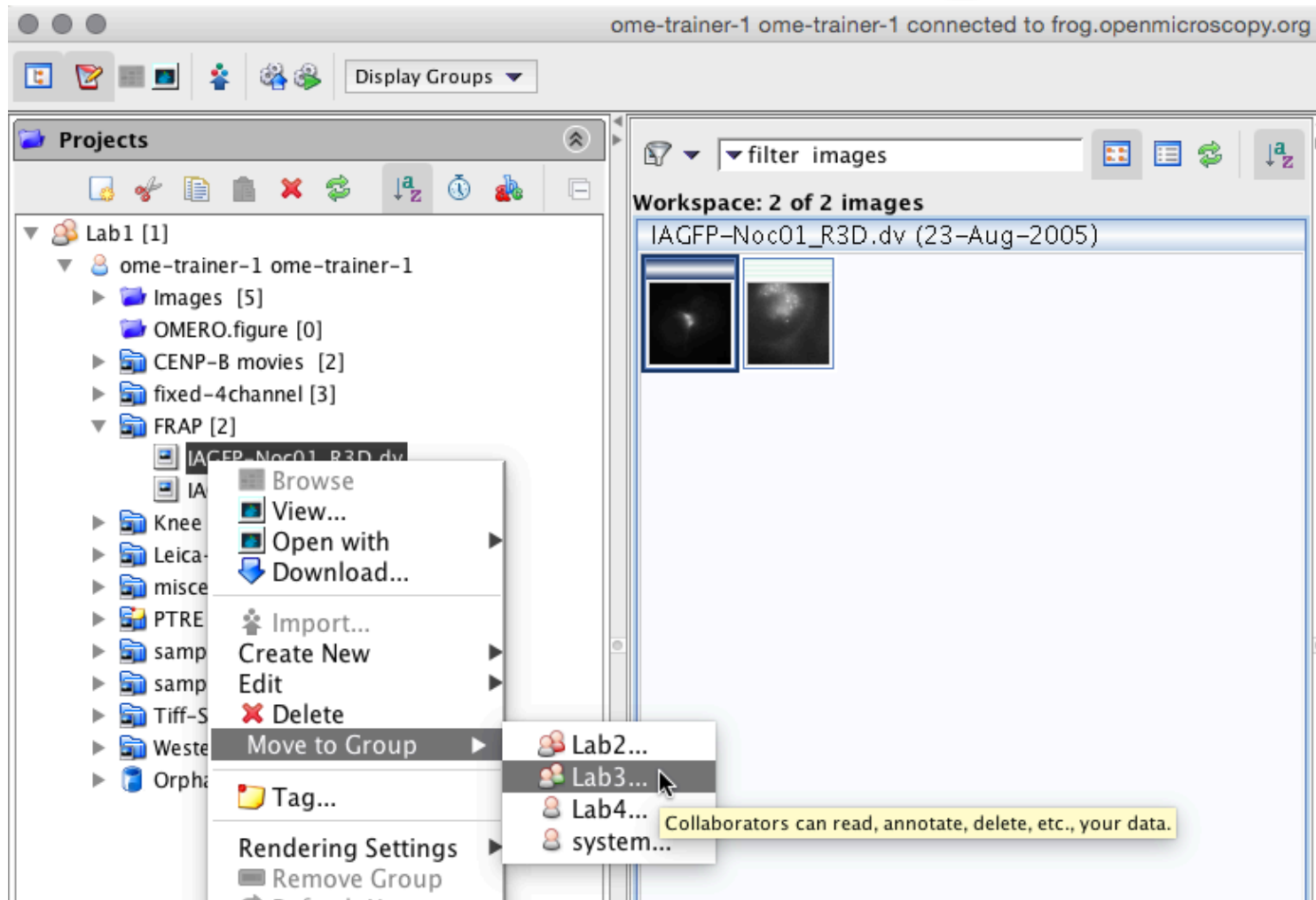
Type	Name	Acquired	Imported	Group	Link
	IAGFP-Noc02_R3D.dv	2005-08-23 11:58:41	2015-06-17 12:19:20	Lab1	Browse
	IAGFP-Noc01_R3D.dv	2005-08-23 11:54:53	2015-06-17 12:19:21	Lab1	Browse

<http://help.openmicroscopy.org/search.html>



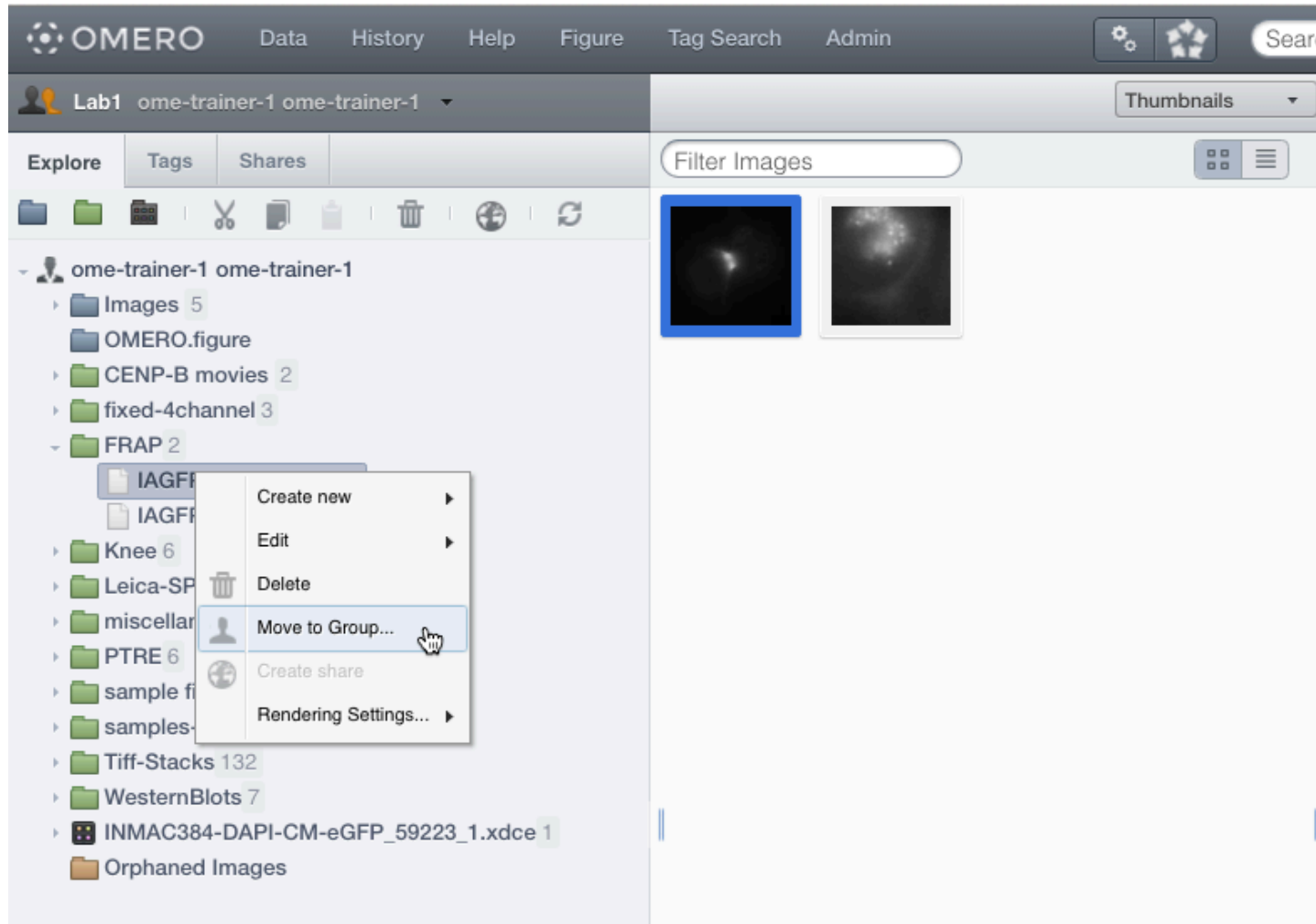
# MOVING & DELETING IMAGES

# Moving data between groups



<http://help.openmicroscopy.org/group-owner.html#move>

# Moving data between groups

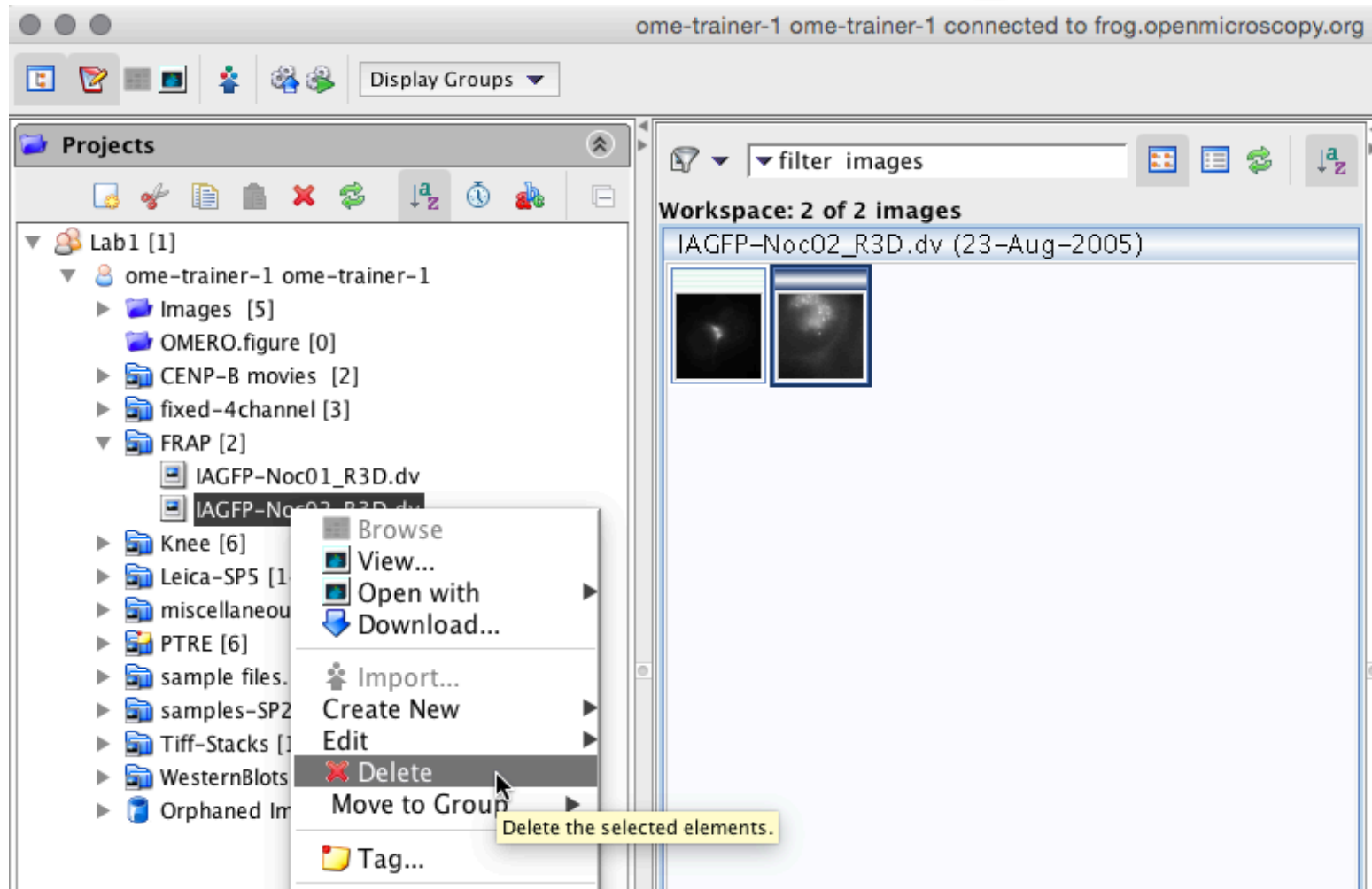


<http://help.openmicroscopy.org/group-owner.html#move>

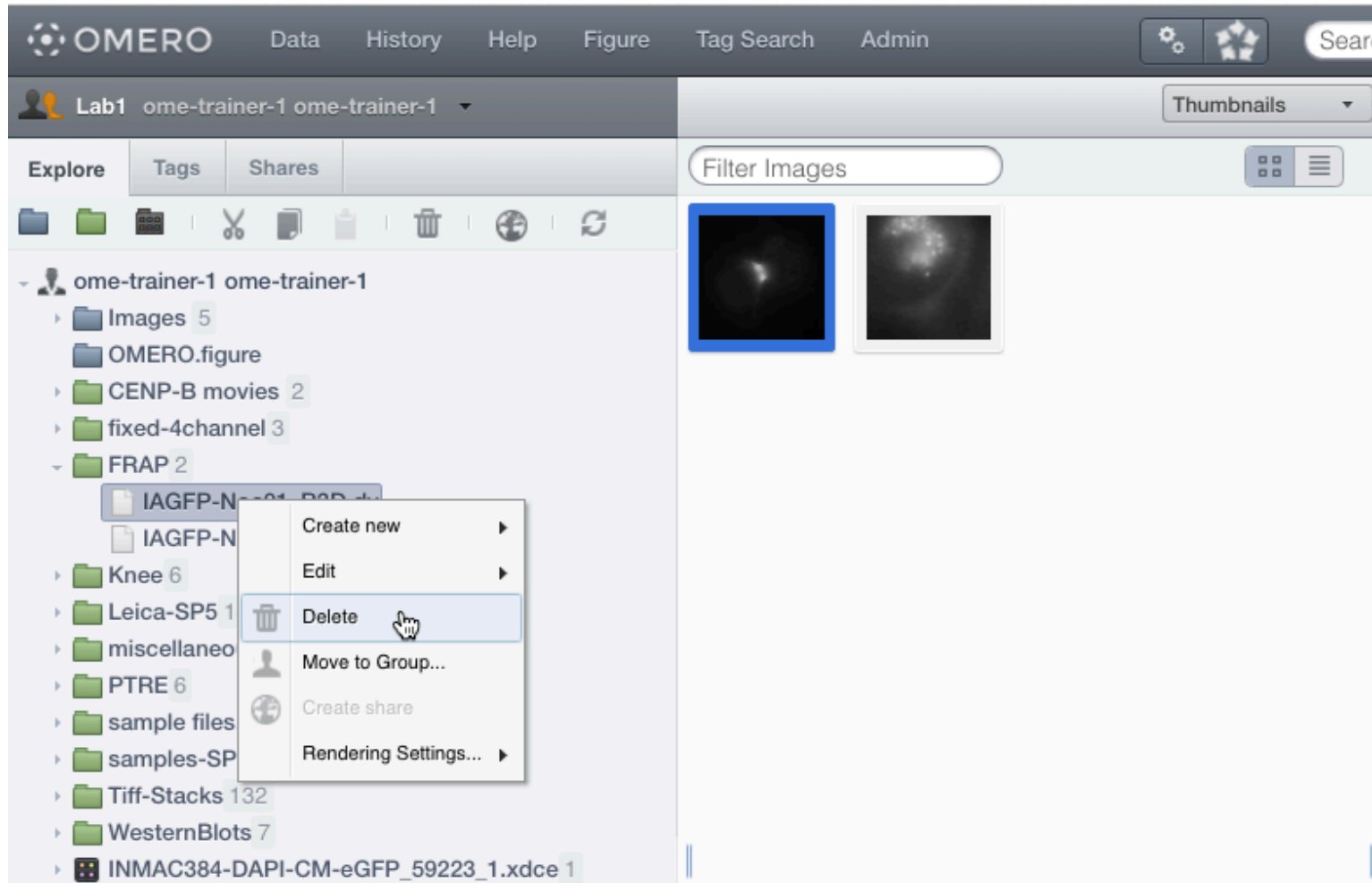
# Moving data between groups & users

- Moving data between groups
  - May result in annotations being lost
  - Also possible via the Command Line
    - `omero chgrp`
- Changing ownership of data
  - Only possible via the Command Line
    - `omero chown`
  - Admin – transfer ownership to any user
  - Group owner – transfer to other member of the group
  - Member – cannot transfer ownership

# Deleting data



# Deleting data





# Deleting data

## ○ Deleting data

- Linked tags and attachments not deleted by default
- Also possible via the Command Line
  - omero delete
  - Provides more advanced options
  - Can be used for scripted deletes

<https://www.openmicroscopy.org/site/support/omero/users/cli/delete.html>

# ADVANCED TAGGING

# Advanced Tagging

- Automatically tagging
  - OMERO.webtagging
    - autotag - tag based on file name metadata
    - tagsearch – search images using multiple tags

<http://help.openmicroscopy.org/web-tagging.html>

# WebTagging

The image displays two screenshots of the OMERO web interface, illustrating the 'WebTagging' process. The top screenshot shows the 'Show All Potential Tags' checkbox being checked, with a red arrow pointing to it. The bottom screenshot shows the 'Rarity Threshold' set to 2 and the 'Show All Potential Tags' checkbox checked, with a green arrow pointing from the top screenshot to the bottom one.

**Top Screenshot:** The interface shows the 'Show All Potential Tags' checkbox checked. The table below lists the original import paths for various datasets.

Original Import Path
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_10_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_10_R3D_D
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_11_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_12_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_13_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_14_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_15_R3D_
Users/gus/Documents/1 OME/4 Data/Data from Jason/PTR/P-TRE_16_R3D_

**Bottom Screenshot:** The interface shows the 'Rarity Threshold' set to 2 and the 'Show All Potential Tags' checkbox checked. The table below lists the original import paths for various datasets, with the 'test' tag highlighted in green.

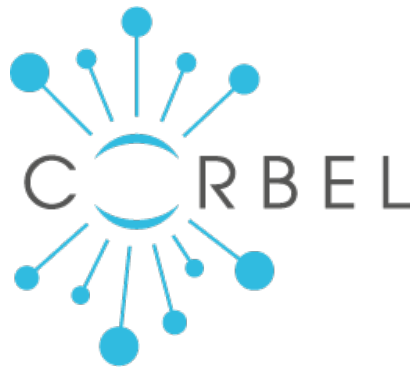
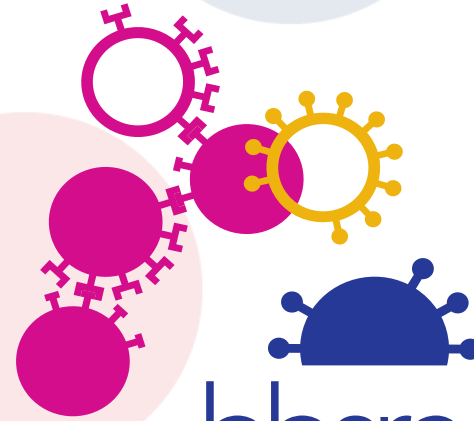
Original Import Path
Users/gus/
Users/gus/Dc
Users/gus/
Users/gus/
Users/gus/
Users/gus/
Users/gus/
Users/gus/
Users/gus/
Users/gus/

<http://help.openmicroscopy.org/web-tagging.html>

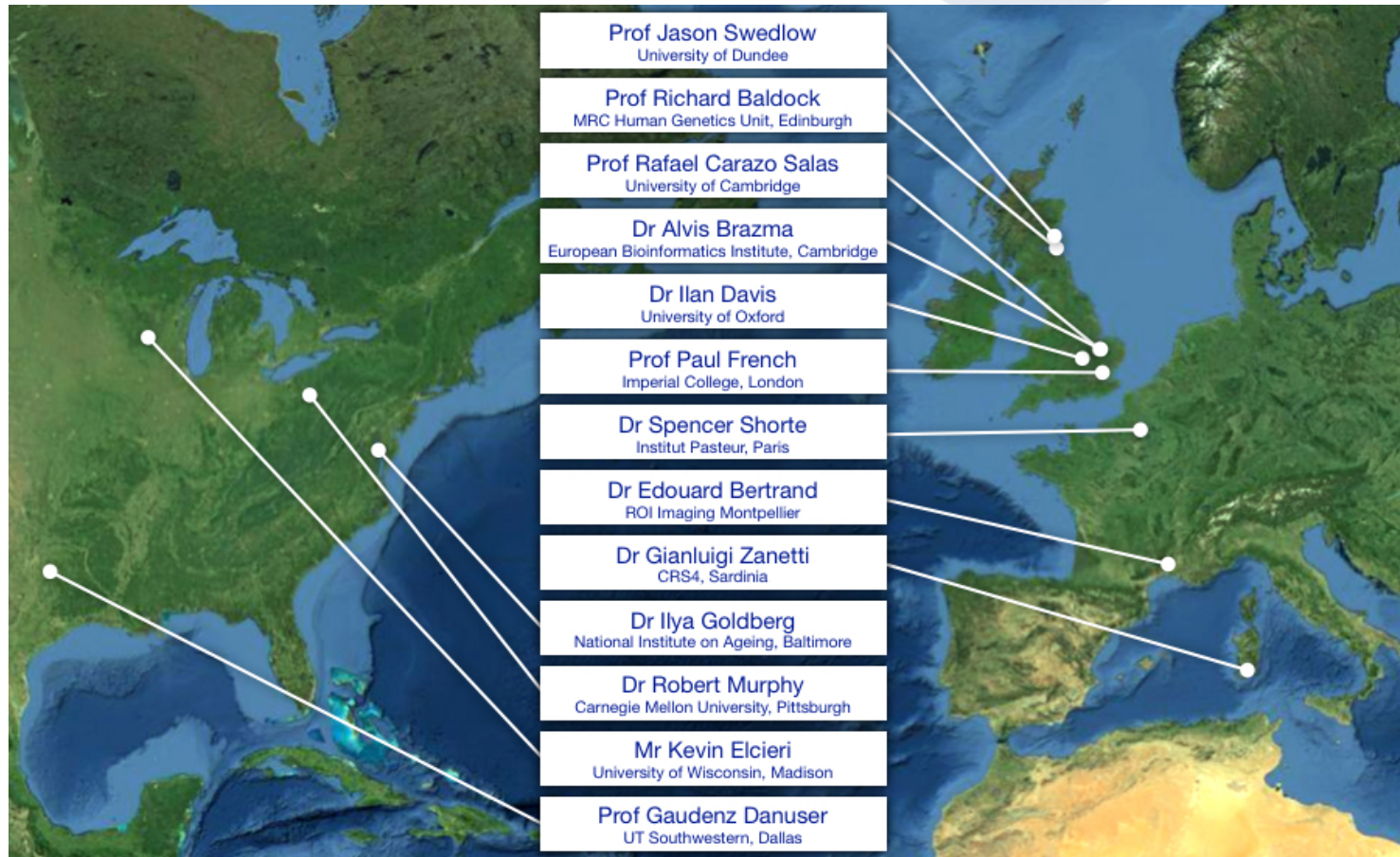
## Some useful links

- OMERO Downloads:
  - <http://downloads.openmicroscopy.org/omero/>
- OMERO Help Pages:
  - <http://help.openmicroscopy.org/>
- OMERO Forums:
  - <https://www.openmicroscopy.org/community/>
- OMERO demo server:
  - <http://help.openmicroscopy.org/demo-server.html>

# Thank to Funders



# OME Consortium



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