

# OMERO: Managing Users & Groups

## Facility Manager Training day

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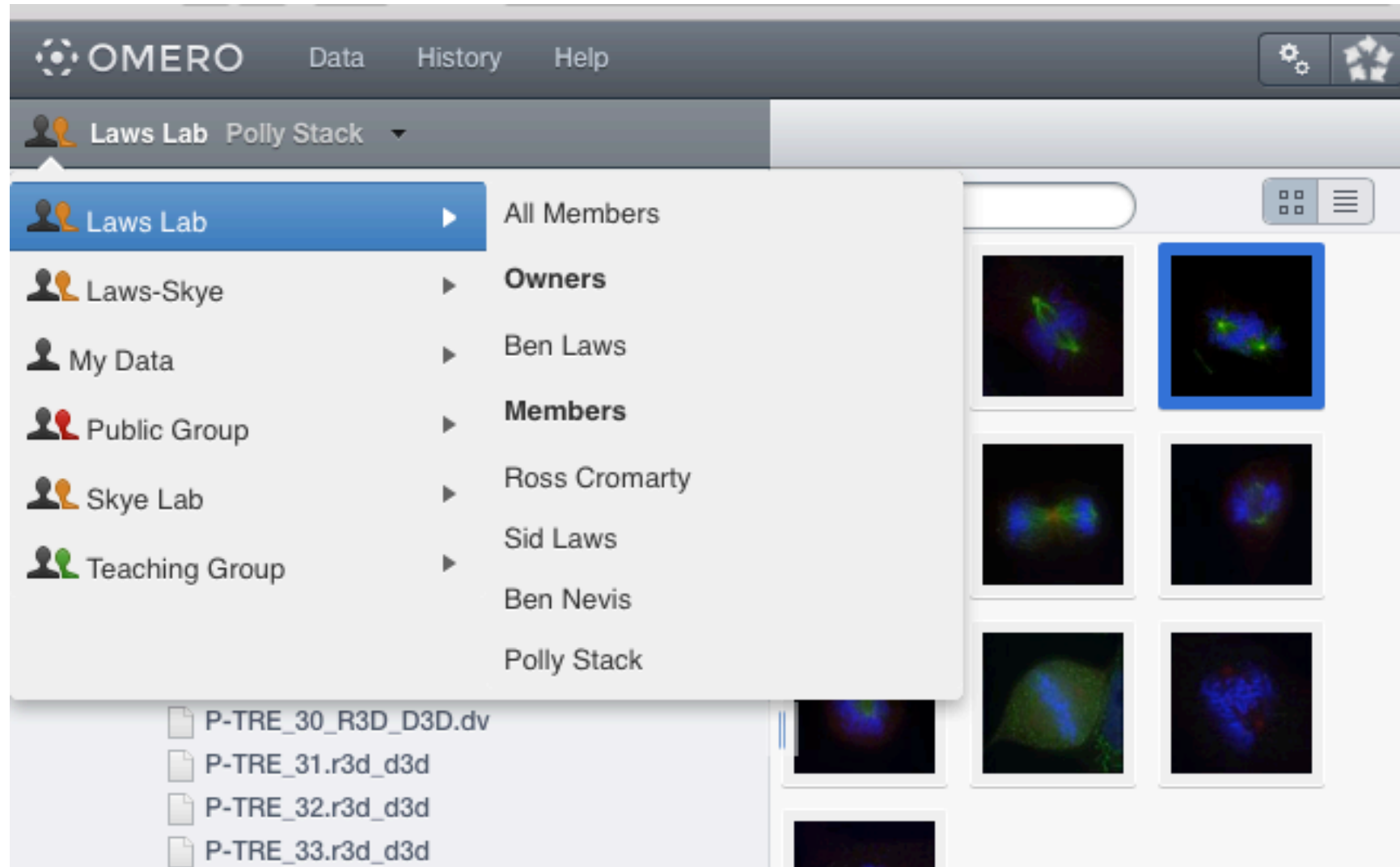
# OMERO: Managing Users & Groups

- Users
- Groups
- Managing users and groups
  - via LDAP
  - via the Web Client
  - via the Command Line Interface
- Questions



# USERS & GROUPS IN OMERO

# Why have users and groups?



# Security Model

PERMISSIONS	 Read	 Annotate	 Write	 Privacy
 Private	✓	✓	✓	 You
 Group-Read	✓	✗	✗	
 Group-Annotate	✓	✓	✗	 Your Group
 Group-Write	✓	✓	✓	
 Public-Read	✓	✗	✗	
 Public-Annotate	✓	✓	✗	
 Public-Write	✓	✓	✓	Anyone

<http://help.openmicroscopy.org/sharing-data.html#permissions>

# Users



- **Group Members**

- the level most users will be at
- can always see and interact fully their own data in any type of group
- how much they can see and interact with data belonging to other group members depends on the type of the group.

- Group Owners

- Admins

<http://help.openmicroscopy.org/sharing-data.html#roles>

# Users



- Group Members

- **Group Owners**

- typically used by laboratory or research group leaders
- groups can have more than one owner
- can manage group membership
- can increase the permissions level on a group
- can view, annotate, edit and delete data belonging to other members in the group
- other interactions with data depend on group type.

- Admins

<http://help.openmicroscopy.org/sharing-data.html#roles>

# Users



- Group Members
- Group Owners
- **Admins**
  - this role is typically reserved for the OMERO server administrator
  - can create new users and new groups
  - can do almost anything they like to any user's data, in any group

<http://help.openmicroscopy.org/sharing-data.html#roles>



# Groups



- Private

- data only shared with Group Owners and Administrators

- Collaborative

- **Read-Only:** group members can view but not alter your data
- **Read-Annotate:** group members can add to your data but not remove anything.
- **Read-Write:** group members are effectively co-owners of all the data except for moving data between groups

- Public

- public access to selected data without the need to log in

<http://help.openmicroscopy.org/sharing-data.html#groups>

# Security Model

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 Group-Write	✓	✓	✓	
 Public-Read	✓	✗	✗	
 Public-Annotate	✓	✓	✗	
 Public-Write	✓	✓	✓	Anyone

<http://help.openmicroscopy.org/sharing-data.html#permissions>

# OMERO & LDAP

# Managing users & groups using LDAP

- What is LDAP:
  - Lightweight Directory Access Protocol
  - Manages a distributed directory information service
  - Used in most medium to large institutions
- How does OMERO use LDAP
  - If username does not exist in OMERO server:
    - query LDAP and create new user
    - allocate to any defined groups
  - Manage changed passwords via LDAP

<http://www.openmicroscopy.org/site/support/omero/sysadmins/server-ldap.html>

# Managing users & groups using LDAP

```
omero.ldap.config=true
omero.ldap.urls=ldap://localhost:389
omero.ldap.username=
omero.ldap.password=
omero.ldap.base=ou=example,o=com

omero.ldap.user_filter=(objectClass=person)
omero.ldap.user_mapping=omeName=cn,
    firstName=givenName,
    lastName=sn,
    email=mail,
    institution=department,
    middleName=middleName

omero.ldap.group_filter=(objectClass=groupOfNames)
omero.ldap.group_mapping=name=cn
omero.ldap.new_user_group=default
```

<http://www.openmicroscopy.org/site/support/omero/sysadmins/server-ldap.html>



# USERS & GROUPS IN THE OMERO CLIENTS

# OMERO.insight

The screenshot displays the OMERO.insight web interface. The title bar indicates the connection: "Polly Stack connected to omero-training-march16.docker.openmicroscopy.org".

**Projects Panel:** A tree view on the left shows the project structure. Under "Laws Lab [1]" > "Polly Stack" > "Nature Paper [1]" > "Figure 1 [10]", the file "P-TRE\_22\_R3D\_D3D\_VOL.dv" is selected.

**User Selection Menu:** A dropdown menu is open, showing "Display Users" with a checked box. Under "Laws Lab", "Polly Stack" is also checked. Other options include "All Groups", "Laws-Skye", "My Data", "Public Group", "Skye Lab", and "Teaching Group". A sub-menu for "All Members" is also visible, listing "Ben Laws", "Ross Cromarty", "Sid Laws", "Ben Nevis", and "Polly Stack" (checked).

**Image Viewer:** A grid of microscopy images is displayed in the center. The top row shows three images, and the bottom row shows two. A larger image is visible below the grid.

**Metadata Panel (Right):** The "General" tab is active. It shows the following information for "P-TRE\_22\_R3D\_D3D\_VOL.dv":

- Image ID: 3
- Owner: Polly Stack
- Image Details: collected with critical illumination
- Import Date: 2015-06-18 13:09:44
- Dimensions (XY): 736 x 736
- Pixel Type: uint8
- Pixels Size (XYZ) (nm): 66.31x66.31x200.00
- Z-sections/Timepoints: 1 x 1
- Channels: 457.0, 528.0, 617.0
- ROI Count: 0

Below the metadata are expandable sections for Tags, Key-Value Pairs, Attachments, Ratings, Comments, and Located in.

# OMERO.web

The screenshot displays the OMERO.web web client interface. At the top, the browser address bar shows the URL `omero-training-march16.docker.openmicroscopy.org/webclient/`. The OMERO logo and navigation tabs (Data, History, Help) are visible. A search bar and a user profile dropdown (Polly Stack) are also present.

The main interface is divided into several sections:

- Left Panel (Navigation):** Shows a tree view of the current workspace. The "Laws Lab" group is selected, and a dropdown menu is open, listing "All Members", "Owners" (Laws-Skye, Ben Laws), "Members" (Ross Cromarty, Sid Laws, Ben Nevis, Polly Stack), and "My Data". Below this, a file browser shows a list of files and folders, including "P-TRE\_30\_R3D\_D3D.dv", "P-TRE\_31.r3d\_d3d", "P-TRE\_32.r3d\_d3d", "P-TRE\_33.r3d\_d3d", "Timelapse From JCB 3", "Tutorial - FLIM Data 2", "Porter et al 6", "Results", "INMAC384-DAPI-CM-eGFP\_59223\_1.xdce 1", and "Orphaned Images 1".
- Center Panel (Image Grid):** Displays a grid of microscopy images. The top-right image is selected and highlighted with a blue border. Below the grid, a single image is shown in a larger view.
- Right Panel (Image Details):** Shows the "General" tab for the selected image. The image name is "P-TRE\_22\_R3D\_D3D\_VOL.dv". The "Image ID" is 3, and the "Owner" is Polly Stack. The "Image Details" section shows the image was collected with critical illumination. The "Import Date" is 2015-06-18 13:09:44, "Dimensions (XY)" are 736 x 736, "Pixels Type" is uint8, "Pixels Size (XYZ) (µm)" is 0.07 x 0.07 x 0.20, "Z-sections/Timepoints" is 1 x 1, "Channels" are 457.0, 528.0, 617.0, and "ROI Count" is 0. Below this, there are expandable sections for "Tags", "Key-Value Pairs", "Attachments", "Ratings", and "Comments".





# MANAGING USERS & GROUPS VIA THE WEB CLIENT

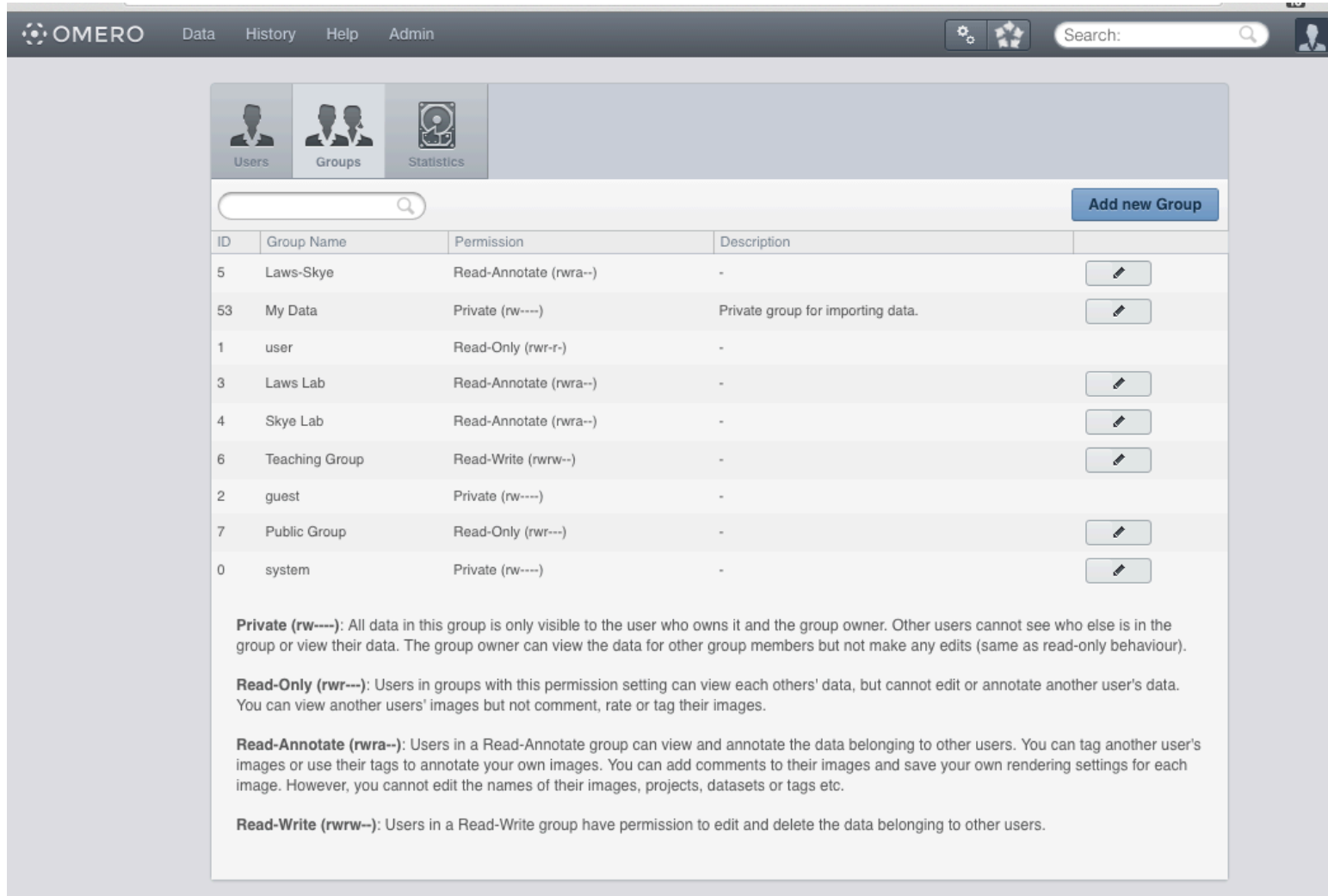
# Managing users & groups via the Web Client

The screenshot displays the OMERO web client interface for user management. The top navigation bar includes 'Data', 'History', 'Help', and 'Admin' menus, along with a search bar and a user profile icon. Below the navigation bar are three tabs: 'Users', 'Groups', and 'Statistics'. The 'Users' tab is active, showing a search bar and an 'Add new User' button. Below these elements is a table listing users with the following columns: ID, Full name, Username, Institution, Roles, and an edit button.

ID	Full name	Username	Institution	Roles	
4	Ben Laws	blaws	Scottish Institute		
3	Polly Stack	pstack	Scottish Institute		
5	Ben Nevis	bnevis	Scottish Institute		
2	Isla Skye	iskye	Scottish Institute		
7	Ross Cromarty	rcromarty	Scottish Institute		
8	Sid Laws	slaws	Scottish Institute		
6	Kyle Lochalsh	klochalsh	Scottish Institute		
0	root root	root	-		
1	Guest Account	guest	-		

<http://help.openmicroscopy.org/facility-manager.html#manage>

# Managing users & groups via the Web Client



OMERO Data History Help Admin Search: [ ] [ ] [ ] [ ]

Users Groups Statistics

[ ] Add new Group

ID	Group Name	Permission	Description	
5	Laws-Skye	Read-Annotate (rwra--)	-	[ ]
53	My Data	Private (rw----)	Private group for importing data.	[ ]
1	user	Read-Only (rwr-r-)	-	
3	Laws Lab	Read-Annotate (rwra--)	-	[ ]
4	Skye Lab	Read-Annotate (rwra--)	-	[ ]
6	Teaching Group	Read-Write (rwrw--)	-	[ ]
2	guest	Private (rw----)	-	
7	Public Group	Read-Only (rwr-r-)	-	[ ]
0	system	Private (rw----)	-	[ ]

**Private (rw----):** All data in this group is only visible to the user who owns it and the group owner. Other users cannot see who else is in the group or view their data. The group owner can view the data for other group members but not make any edits (same as read-only behaviour).

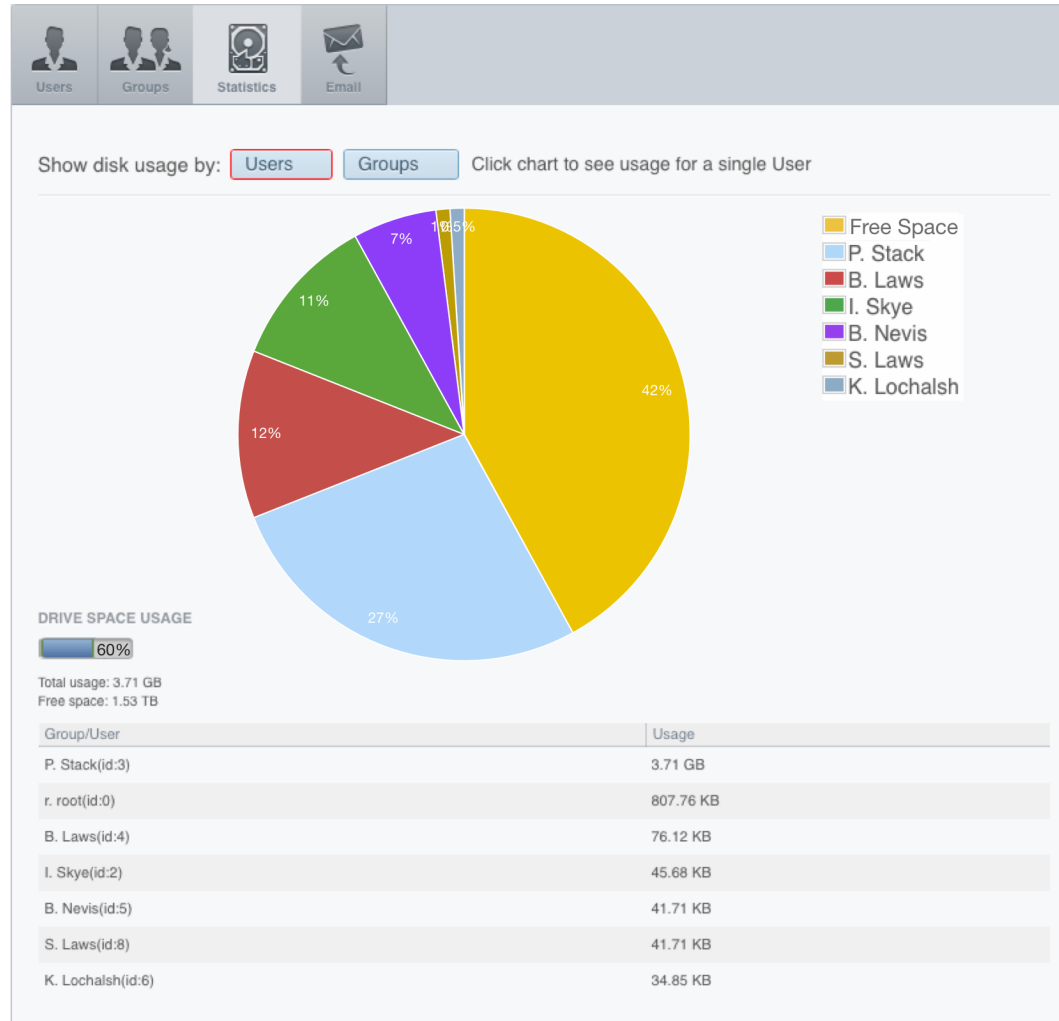
**Read-Only (rwr-r-):** Users in groups with this permission setting can view each others' data, but cannot edit or annotate another user's data. You can view another users' images but not comment, rate or tag their images.

**Read-Annotate (rwra--):** Users in a Read-Annotate group can view and annotate the data belonging to other users. You can tag another user's images or use their tags to annotate your own images. You can add comments to their images and save your own rendering settings for each image. However, you cannot edit the names of their images, projects, datasets or tags etc.

**Read-Write (rwrw--):** Users in a Read-Write group have permission to edit and delete the data belonging to other users.

<http://help.openmicroscopy.org/facility-manager.html#manage>

# Managing users & groups via the Web Client



<http://help.openmicroscopy.org/facility-manager.html#manage>



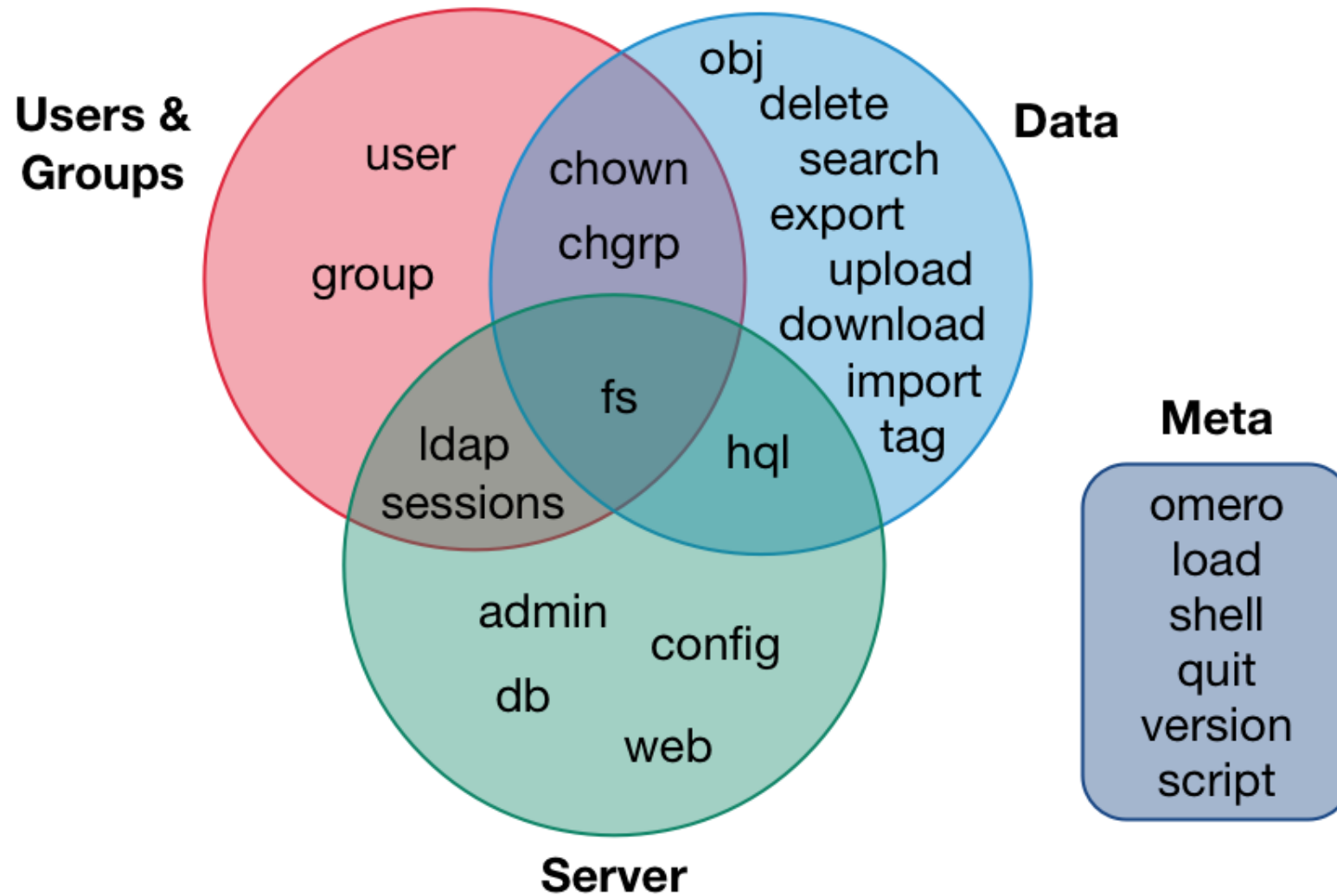
# MANAGING USERS & GROUPS VIA THE COMMAND LINE INTERFACE

# Managing users & groups via the Command Line Interface

- Ideally suited to:
  - scripted workflows
  - quick checks
  - more flexibility than the Web Client

<http://www.openmicroscopy.org/site/support/omero/sysadmins/cli/usergroup.html>

# The OMERO Command Line Interface



# Managing users & groups via the Command Line Interface

- omero user
  - creating new users
  - getting user details
  - changing type of user
  - adding a user to a group

<http://www.openmicroscopy.org/site/support/omero/sysadmins/cli/usergroup.html>



# Managing users & groups via the Command Line Interface

- omero group
  - creating new groups
  - updating group details
  - getting group details
  - changing permissions of a group
  - adding a user to a group
  - making a user an owner

<http://www.openmicroscopy.org/site/support/omero/sysadmins/cli/usergroup.html>

# Managing users & groups via the Command Line Interface

- omero fs
  - information about disk usage
    - broken down by group & user
    - filesets, images, attachments
- omero hql
  - information about user activity
    - when last logged in, for example

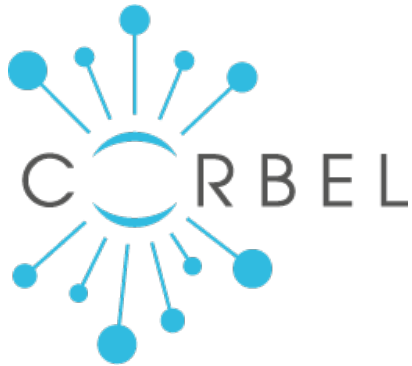
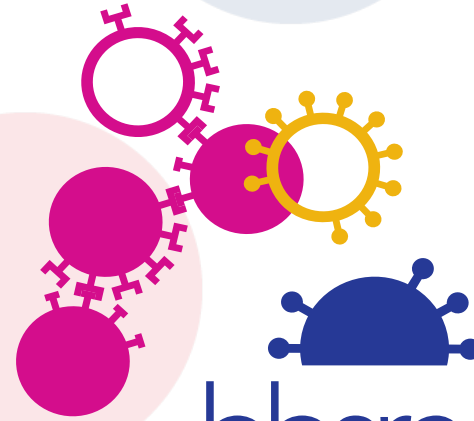
<http://www.openmicroscopy.org/site/support/omero/sysadmins/cli/fs.html>

<http://www.openmicroscopy.org/site/support/omero/developers/GettingStarted.html#bin-omero-hql>

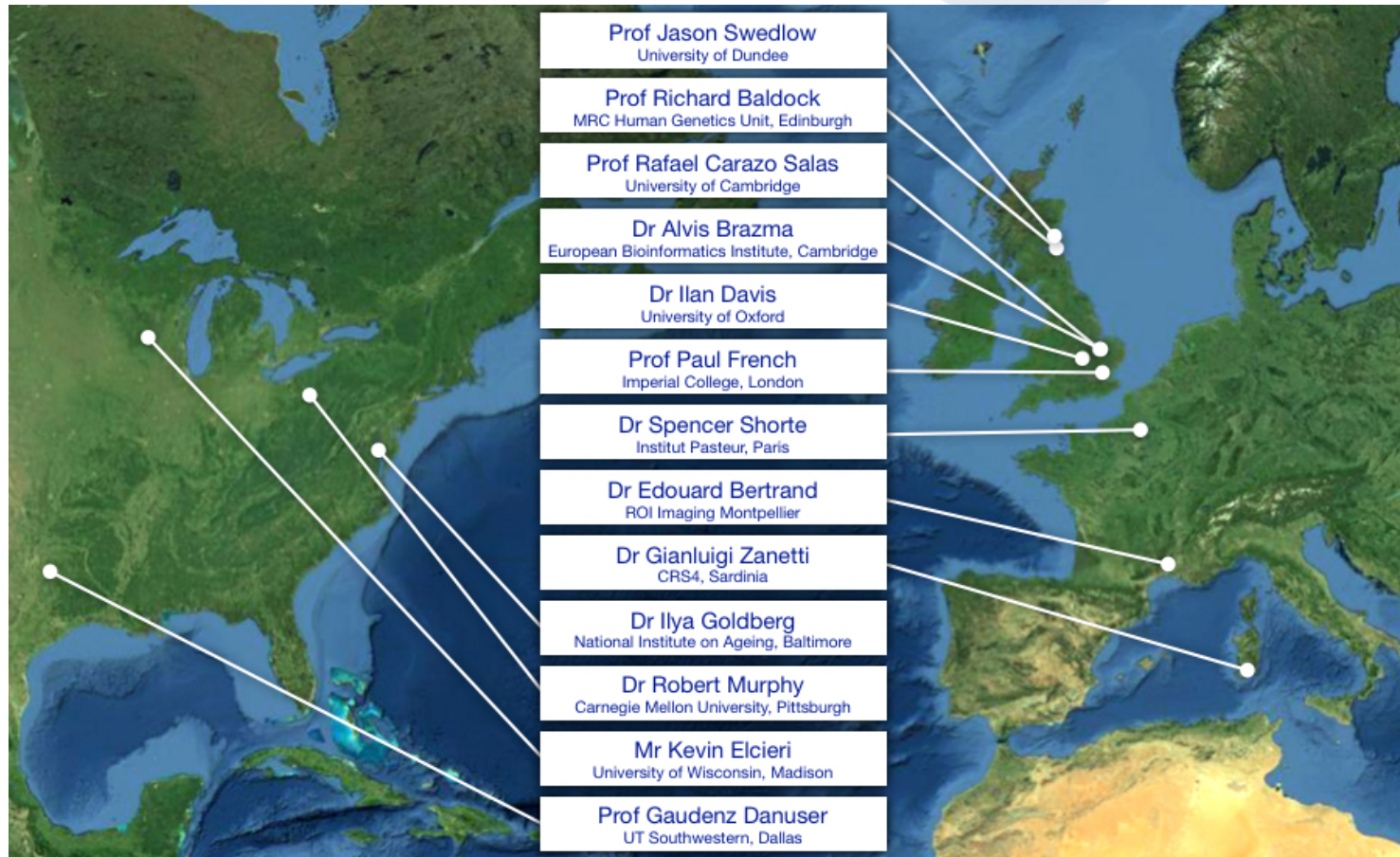
## Some useful links

- 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



Dundee, UW Madison, UT Southwestern, Oxford, CRS4, Montpellier, Edinburgh, CMU, Imperial, NIA, Institut Pasteur, EMBL-EBI, Glencoe Software