

# **Welcome!!!**

## **The 6th OME Users Meeting**

### **Institut Pasteur, Paris**

# Thank you!!!

Christiane Pacaud

Spencer Shorte

# Thank you!!!



wellcome trust



# Agenda

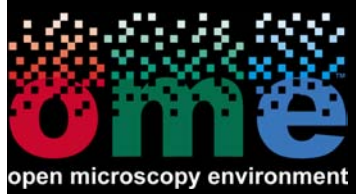
**15 min: Project overview**  
**Jason**

**45 min: Last 2 years**  
**OME Team**

**15 min: Discussion**

# Introducing....



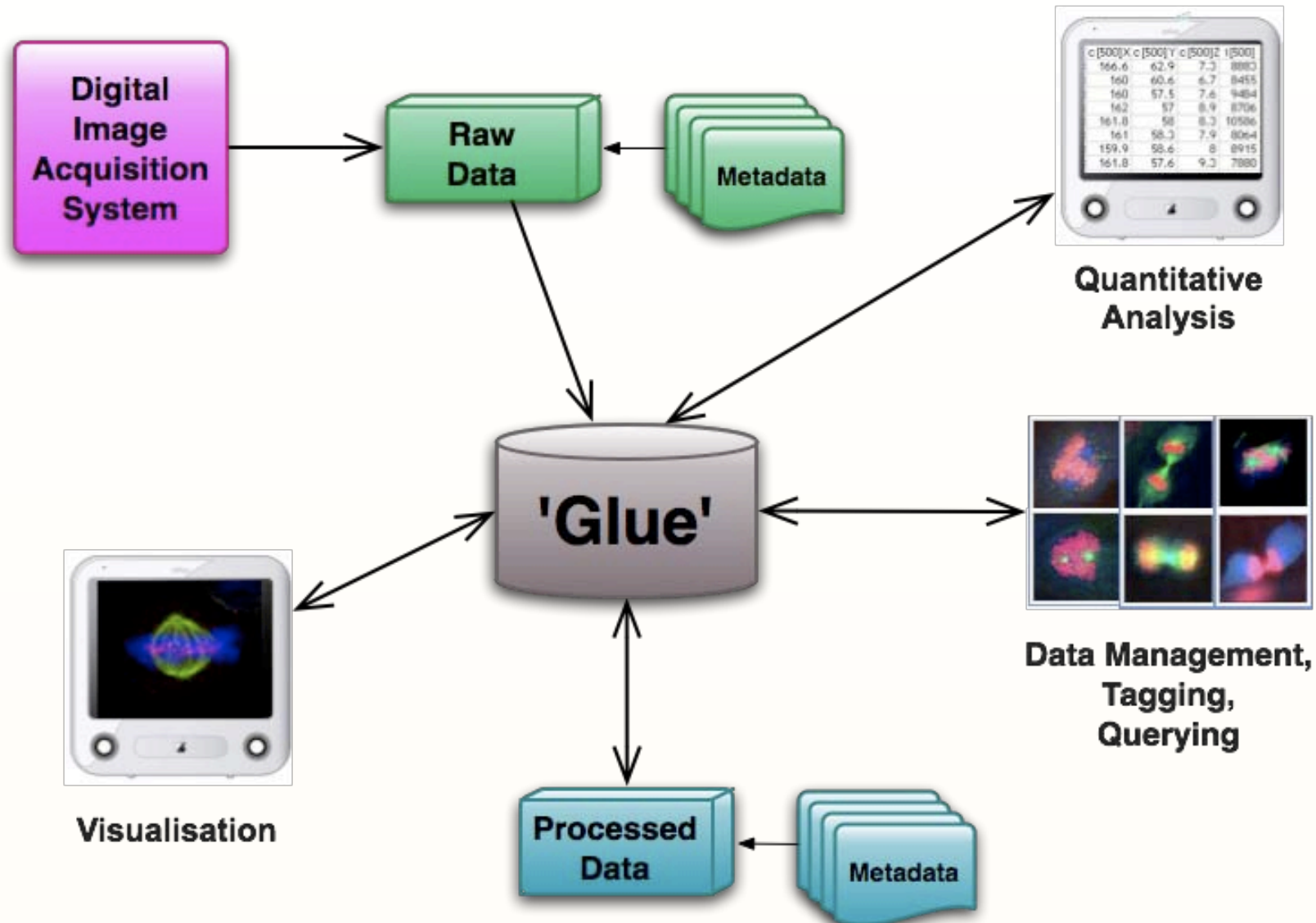


# Introducing....



...and the ImageJDev Team

# OME: What we do...



# What's this mtg for?

“Annual Report”

Building the Consortium

OME-TIFF and Bio-Formats: Moving the standard forward

Demos, Docs, and Installs

Roadmap

Use cases for analysis integration

More feedback, criticism, comments....

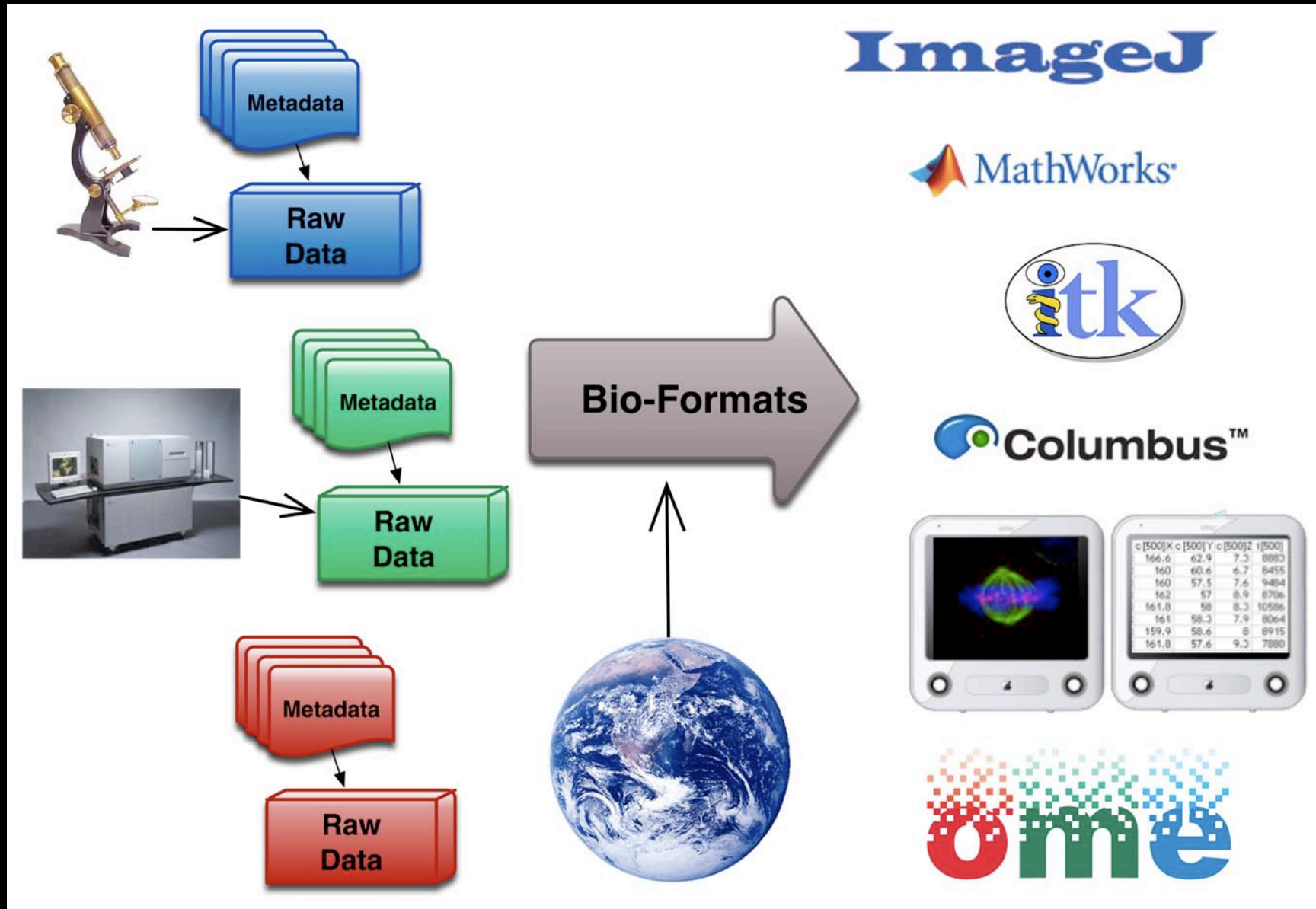
More collaboration...



# Release timeline 4.1 - 4.3



# Bio-Formats 4.3



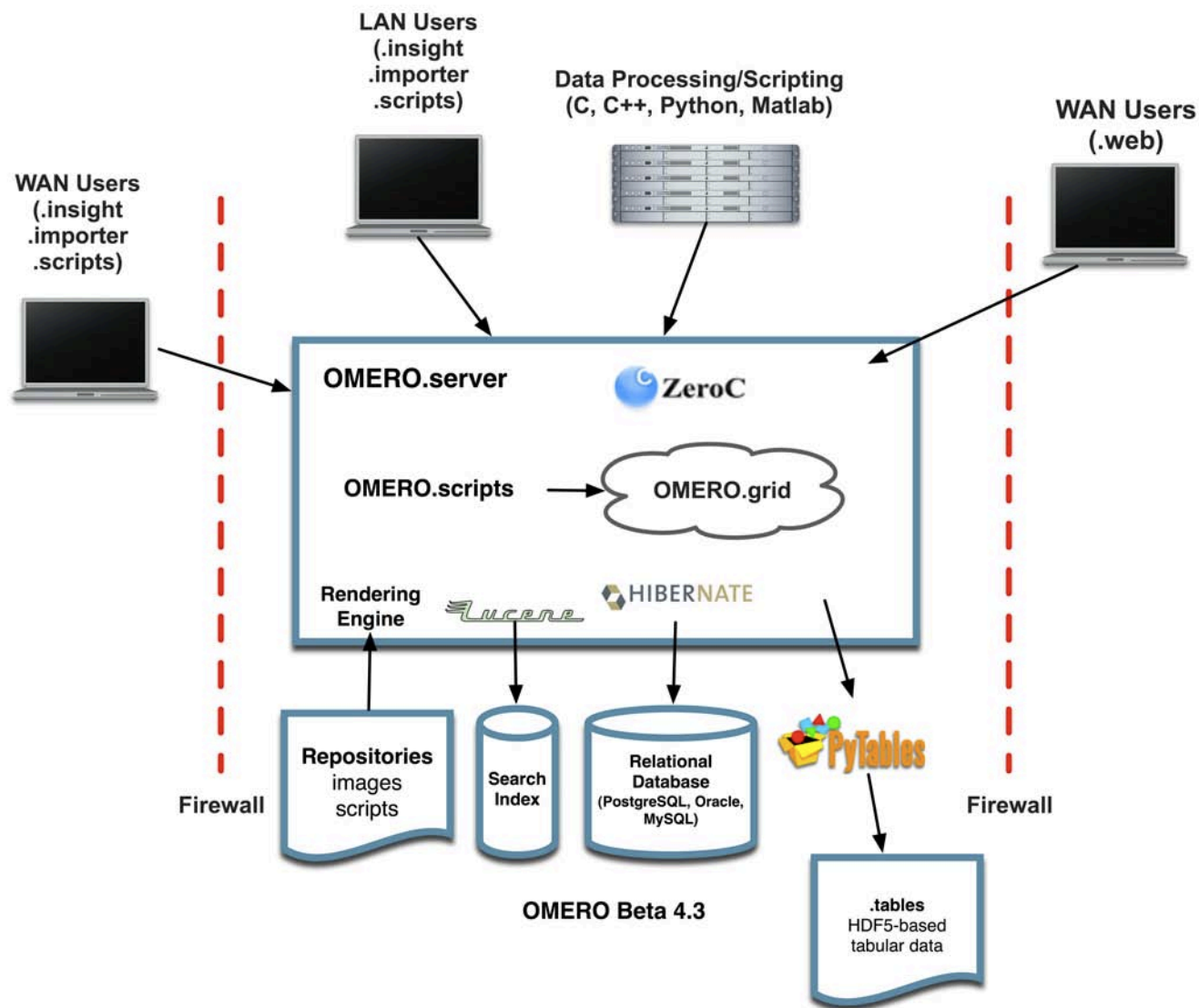


# Bio-Formats 4.3

**New File Formats** InCell 3000, NanoZoomer, Trestle, Olympus VSI,  
and Volocity (!!!)

.....and a whole lot of fixes and  
suggestions from the community


# OMERO 4.3











# Primary Emphasis 4.1 - 4.3

|                   |                                      |
|-------------------|--------------------------------------|
| Extended metadata | Read PFFs more thoroughly            |
| Group permissions | Removing private limitation from 4.0 |
| SPW Model         | Support for HCS                      |
| Big images        | Beyond the 4k X 4k limit!            |
| Client Clean-up   | Consistency!!!!                      |
| API Clean-up      | Python....                           |

# Extended Metadata

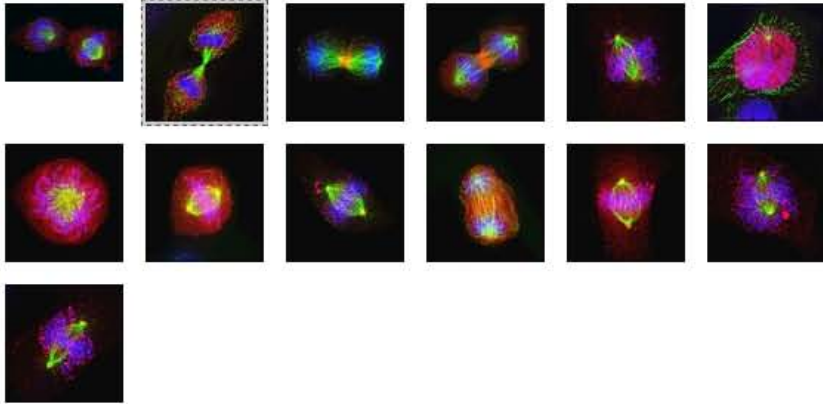


open microscopy environment

 HOME
  DATA
  PUBLIC
  SEARCH
  HISTORY
  ME
  HELP
  CONTACT
 [logout](#)

BASKET: 0 items STATUS: 0 job(s) group: Swedlow Group \*Jason Swedlow (jason)

- Jason Swedlow
  - Big Ones
  - CBDData
  - Import tests
  - INCENP Staining
    - PTRE
      - ...edlow/PTRE/P-TRE\_23\_R3D\_D3D.dv
      - ...edlow/PTRE/P-TRE\_24\_R3D\_D3D.dv
      - ...edlow/PTRE/P-TRE\_25\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_10\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_11\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_12\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_13\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_14\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_15\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_16\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_17\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_18\_R3D\_D3D.dv
      - ...jason/PTRE/P-TRE\_19\_R3D\_D3D.dv
    - TRE
  - Lymphoma
  - Flex
  - InCell
  - plate1
  - plate1
  - Orphaned images



Page: 1

**General** Acquisition Preview

**/Volumes/jrswedlow/PTRE/P-TRE\_24\_R3D\_D3D.dv**

Image ID: 14598

[Launch full viewer](#)

collected with critical illumination/Ab pre-blocked with P-TRE

|                                |                          |
|--------------------------------|--------------------------|
| <b>Acquisition Date:</b>       | 2004-08-23 19:26:38      |
| <b>Imported Date:</b>          | 2011-05-18 10:59:40      |
| <b>Dimensions (XY):</b>        | 512 x 512                |
| <b>Pixels Type:</b>            | int16                    |
| <b>Pixels Size (XYZ) (μm):</b> | 0.0663 x 0.0663 x 0.2000 |
| <b>Z-sections/Timepoints:</b>  | 65 x 1                   |
| <b>Channels:</b>               | 457, 528, 617            |

**Annotations**

Rate: No ratings

Tag: ☐ No tags

Attach: ☐ No attachments.

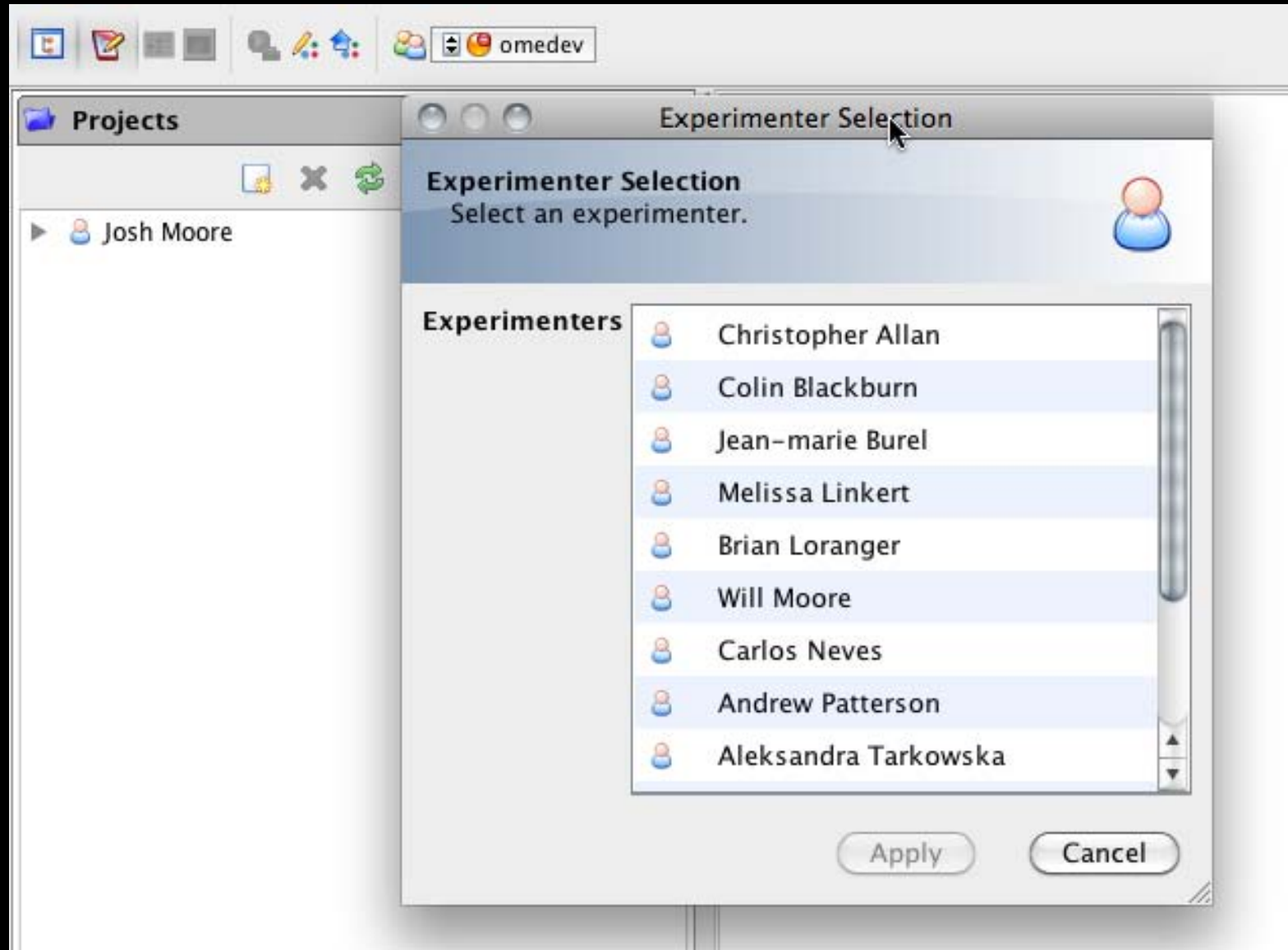
Others:

Comment:

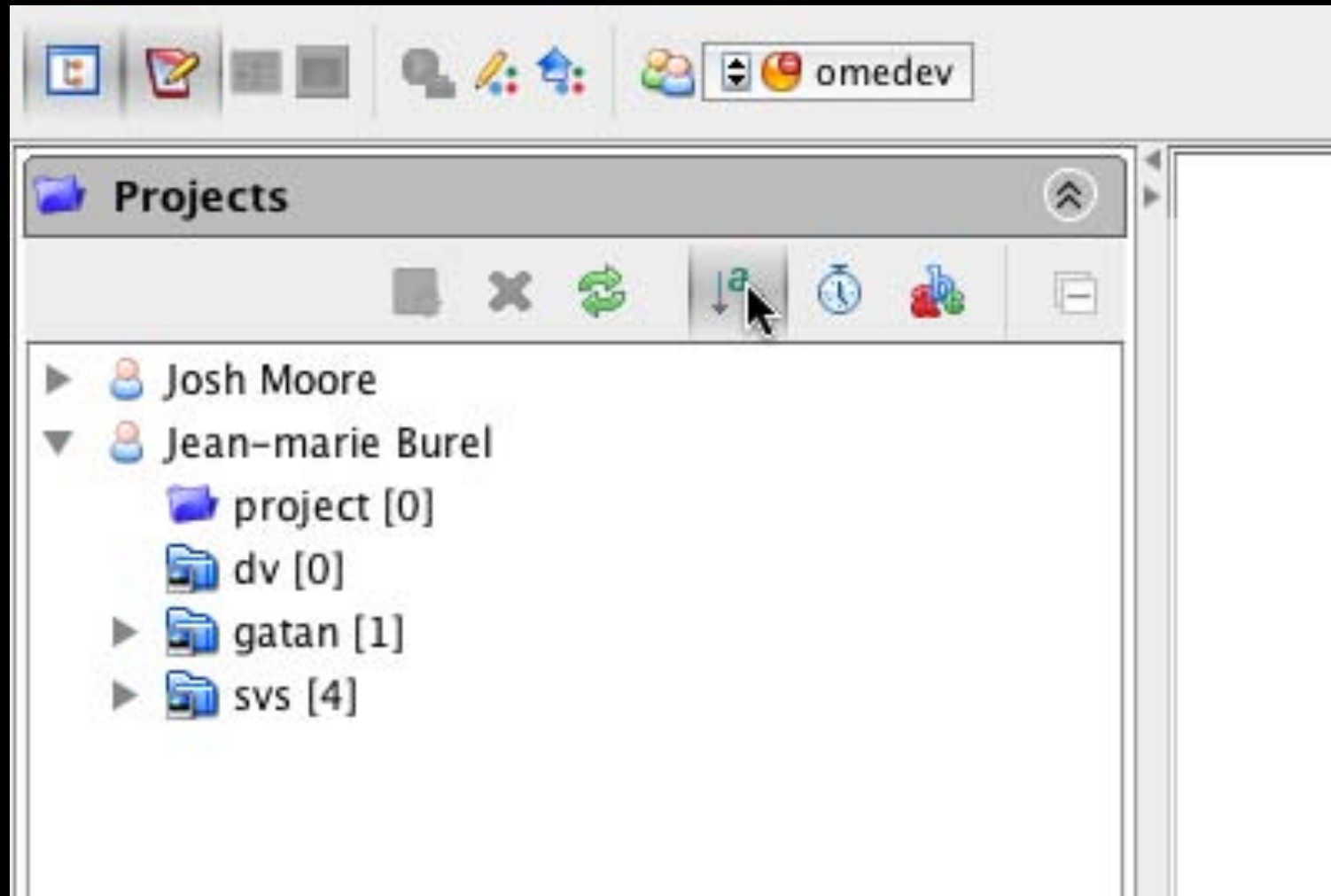
[Add Comment](#)



... for scientists and developers

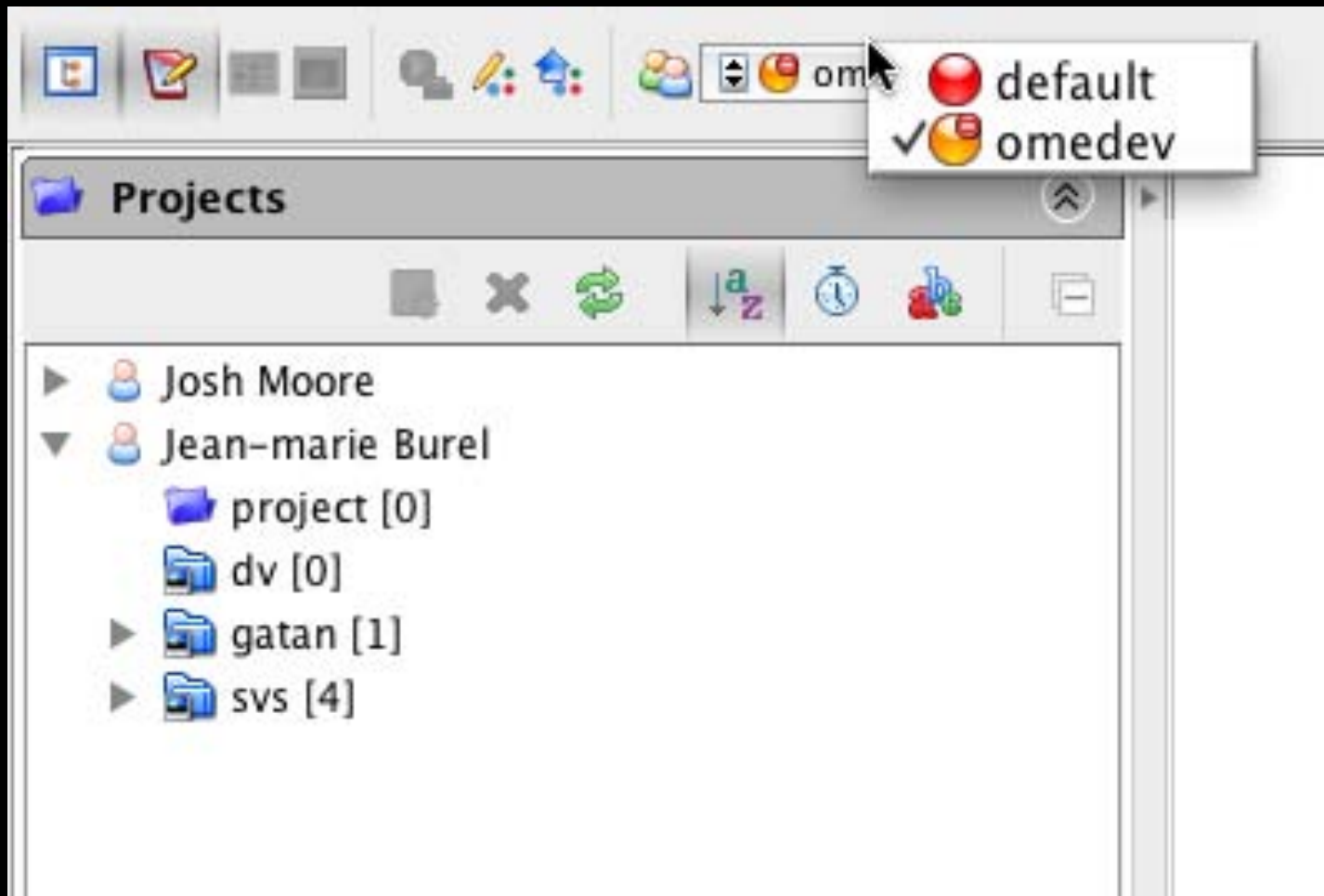


... for scientists and developers





... for scientists and developers





## General client updates & consistency improvements

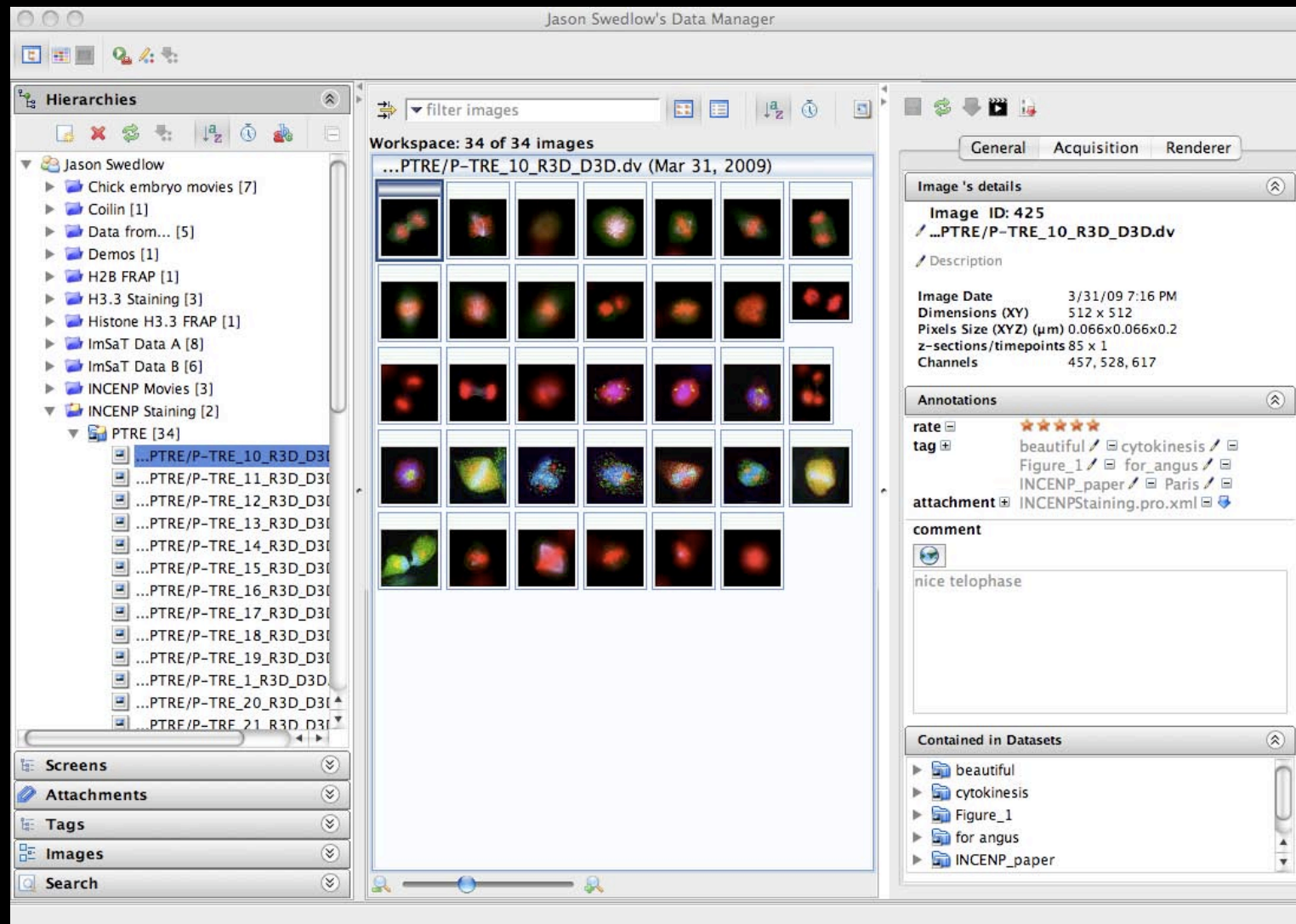
The screenshot displays the OMERO.web 4.3.0 web interface. At the top, there is a navigation bar with icons for Home, Data, Public, Search, History, Me, Help, and Contact. Below this, a status bar shows 'BASKET: 0 items', 'STATUS: 0 job(s)', and the current user 'Jason Swedlow (jason)'. The main interface is divided into three sections:

- Left Panel (File Browser):** A tree view showing the directory structure. The 'PTRE' folder is expanded, listing various image files such as '...edlow/PTRE/P-TRE\_23\_R3D\_D3D.dv' and '...edlow/PTRE/P-TRE\_24\_R3D\_D3D.dv'.
- Center Panel (Image Grid):** A grid of 12 microscopy images showing cellular structures with different color channels (red, green, blue, yellow). The image '...edlow/PTRE/P-TRE\_24\_R3D\_D3D.dv' is selected and highlighted with a dashed border.
- Right Panel (Image Details):** A detailed view of the selected image. It includes tabs for 'General', 'Acquisition', and 'Preview'. The 'General' tab is active, showing the following information:
  - Image ID:** 14598
  - Launch full viewer:** A button with an eye icon.
  - Description:** 'collected with critical illumination/Ab pre-blocked with P-TRE'
  - Acquisition Date:** 2004-08-23 19:26:38
  - Imported Date:** 2011-05-18 10:59:40
  - Dimensions (XY):** 512 x 512
  - Pixels Type:** int16
  - Pixels Size (XYZ) (μm):** 0.0663 x 0.0663 x 0.2000
  - Z-sections/Timepoints:** 65 x 1
  - Channels:** 457, 528, 617
  - Annotations:**
    - Rate:** No ratings
    - Tag:** No tags
    - Attach:** No attachments
    - Others:**
    - Comment:** A text input field with an 'Add Comment' button.

At the bottom center of the image grid, it says 'Page: 1'.



## General client updates & consistency improvements



... for scientists and developers



# ROIs in OMERO.Web

[ID: 2751] PT1173A001.hdr

Controls Display Zoom View Window Help

Image

Z=1/1 T=1/1

x1.5

Measurement Tool [ID: 2751] PT1173A001.hdr

Controls Options

Manager Inspector Results Graph Pane

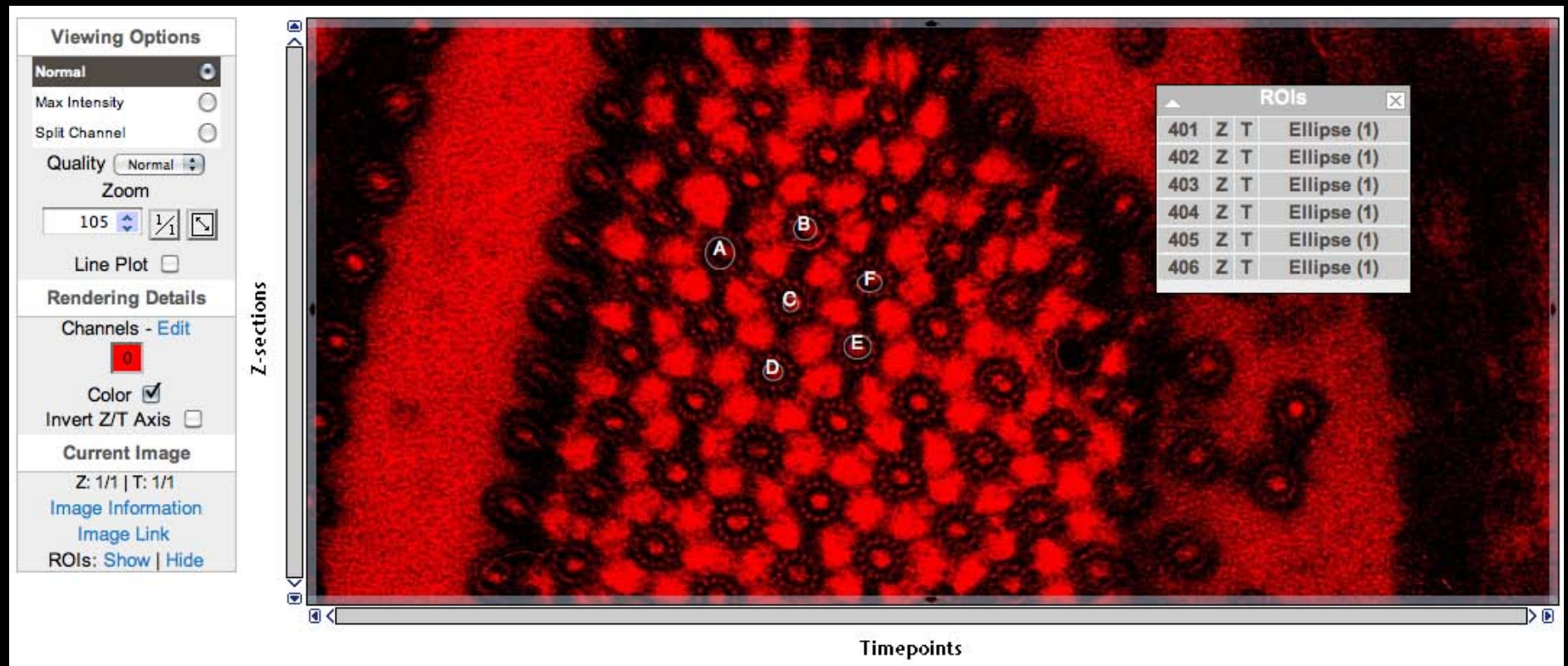
| ROI | id | T     | Z     | Type                  | Text | Visible                             |
|-----|----|-------|-------|-----------------------|------|-------------------------------------|
| ▼   | 1  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 1  | 1     | 1     | <input type="radio"/> | A    | <input checked="" type="checkbox"/> |
| ▼   | 3  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 3  | 1     | 1     | <input type="radio"/> | B    | <input checked="" type="checkbox"/> |
| ▼   | 4  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 4  | 1     | 1     | <input type="radio"/> | C    | <input checked="" type="checkbox"/> |
| ▼   | 5  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 5  | 1     | 1     | <input type="radio"/> | D    | <input checked="" type="checkbox"/> |
| ▼   | 6  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 6  | 1     | 1     | <input type="radio"/> | E    | <input checked="" type="checkbox"/> |
| ▼   | 7  | [1,1] | [1,1] | <input type="radio"/> |      | <input checked="" type="checkbox"/> |
|     | 7  | 1     | 1     | <input type="radio"/> | F    | <input checked="" type="checkbox"/> |

Ready.



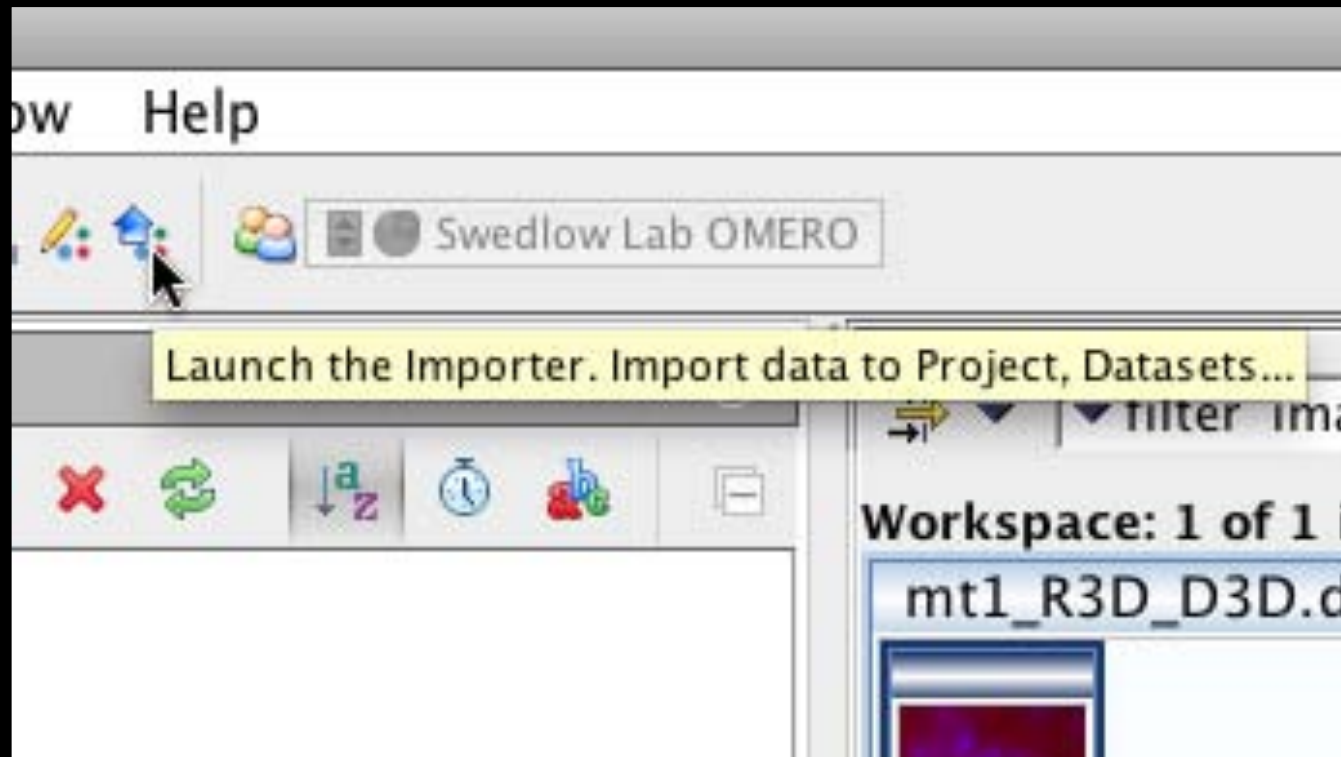
... for scientists and developers

# ROIs in OMERO.Web



... for scientists and developers

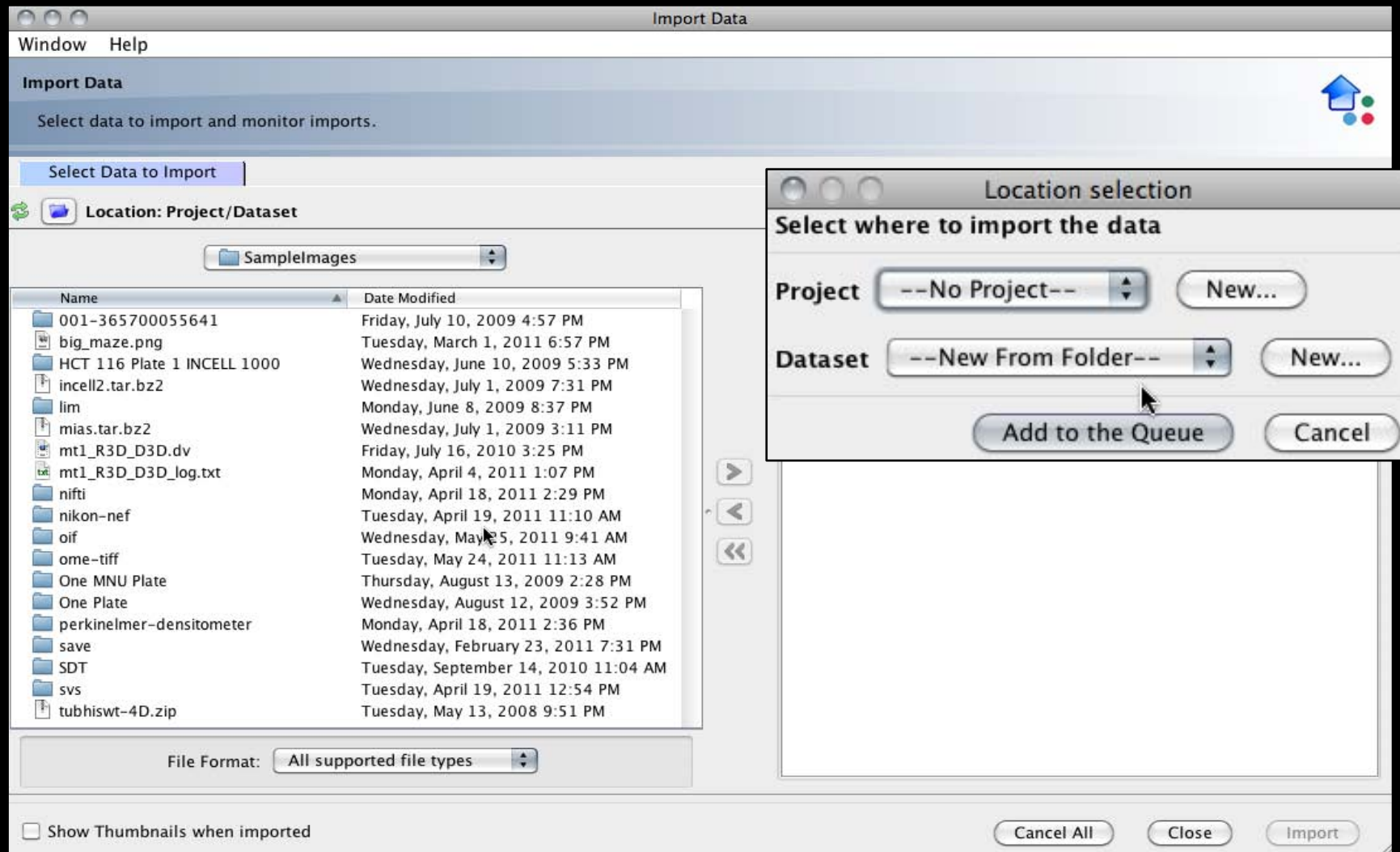
# Import in Insight



... for scientists and developers

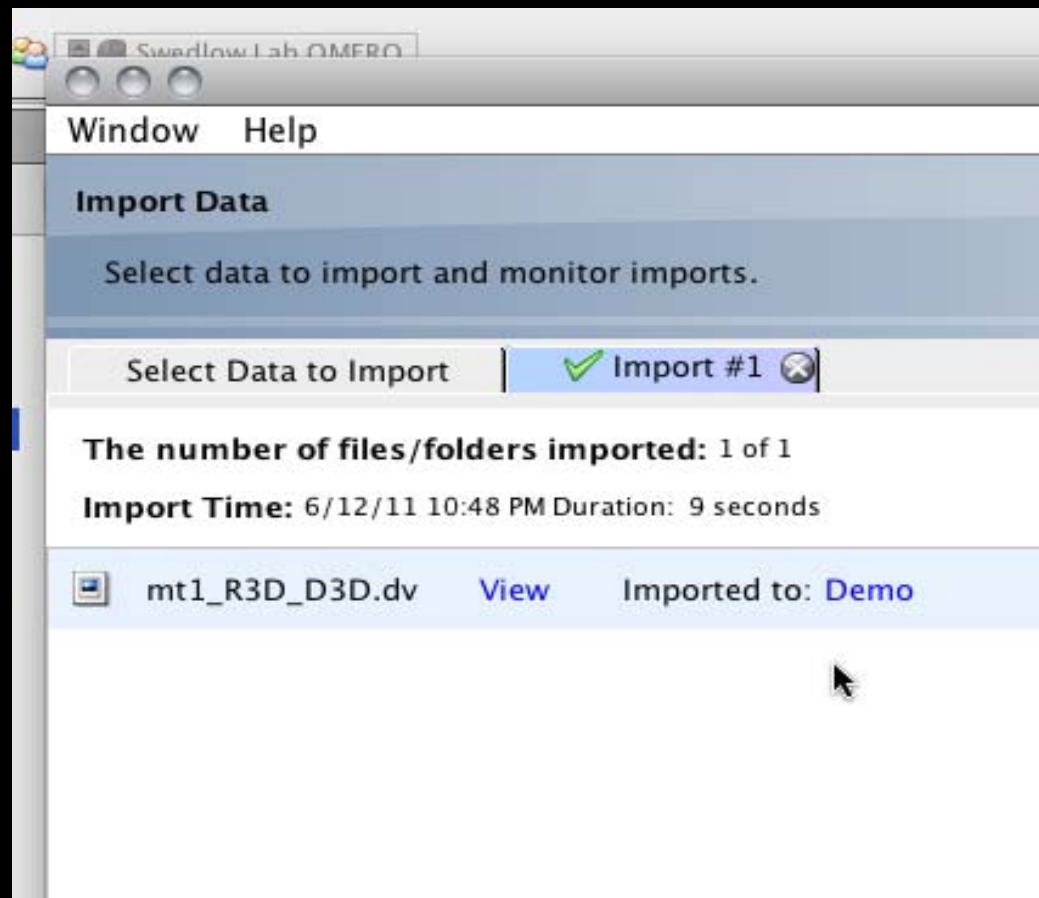


# Import in Insight



# ... for scientists and developers

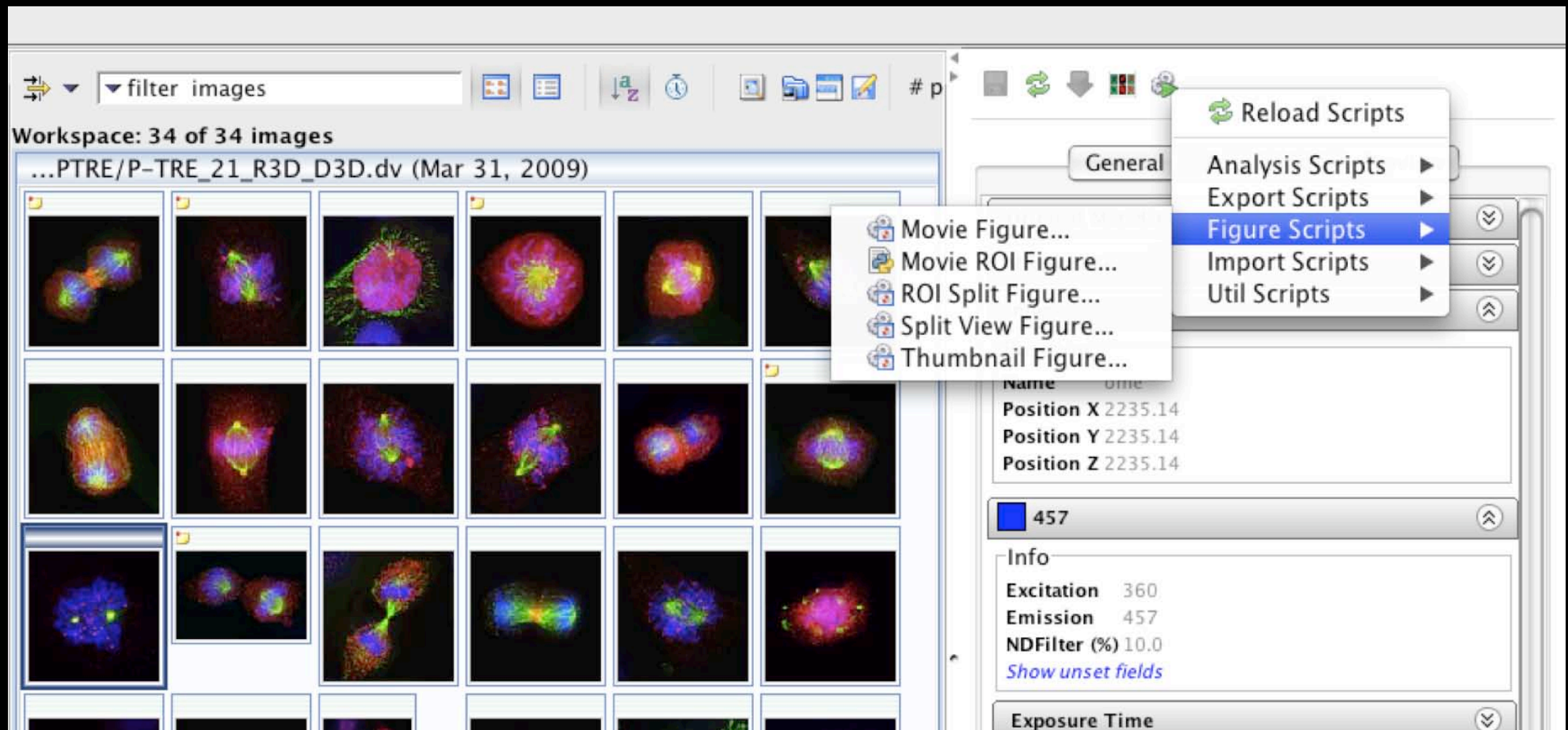
## Import in Insight





# ... for scientists and developers

## Scripting



# ... for scientists and developers

## Scripting



**Run Script**  
Set the parameters of the selected script: Batch Image Export

Save multiple images as jpegs or pngs in a zip file available for download as a batch export.  
See <http://www.openmicroscopy.org/site/support/omero4/getting-started/tutorial/running-util-scripts>  
Authors: William Moore, OME Team  
Contact: ome-users@lists.openmicroscopy.org.uk  
Version: 4.3.0

Data Type

IDs \*

Export Individual Channels ☒  
Individual Channels Grey ☐  
Channel Names

Export Merged Image ☒

Choose Z Section   
OR specify Z index  Min: 0  
OR specify Z start AND...  Min: 0  
...specify Z end  Min: 0

Choose T Section   
OR specify T index  Min: 0  
OR specify T start AND...  Min: 0  
...specify T end  Min: 0

Image Width  Min: 1

Format

Folder Name

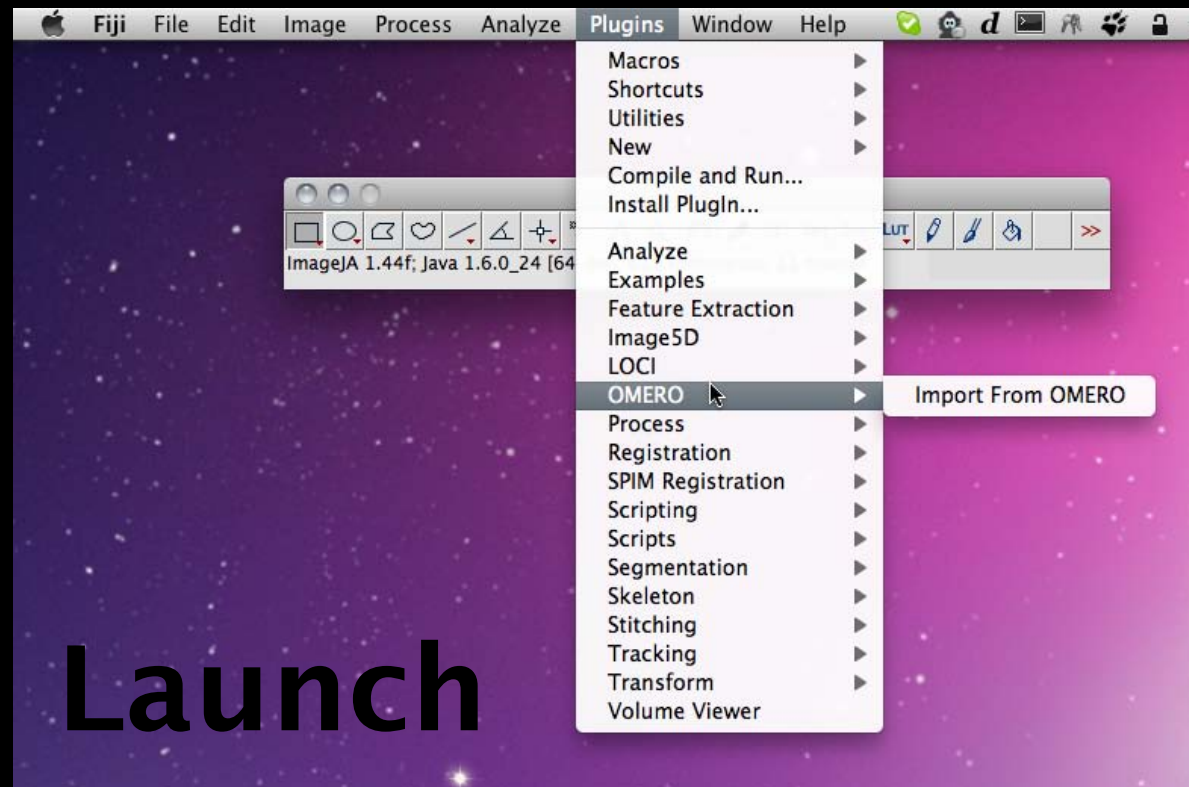
\* indicates the required parameter.

Script

... for scientists and developers



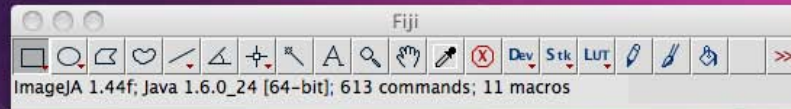
# ImageJ plugin



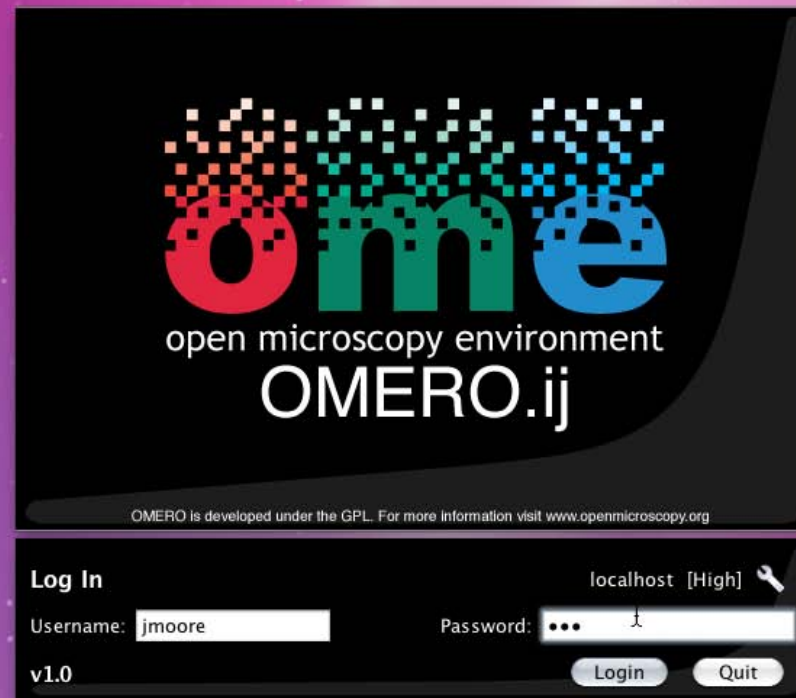
... for scientists and developers



# ImageJ plugin



# Login

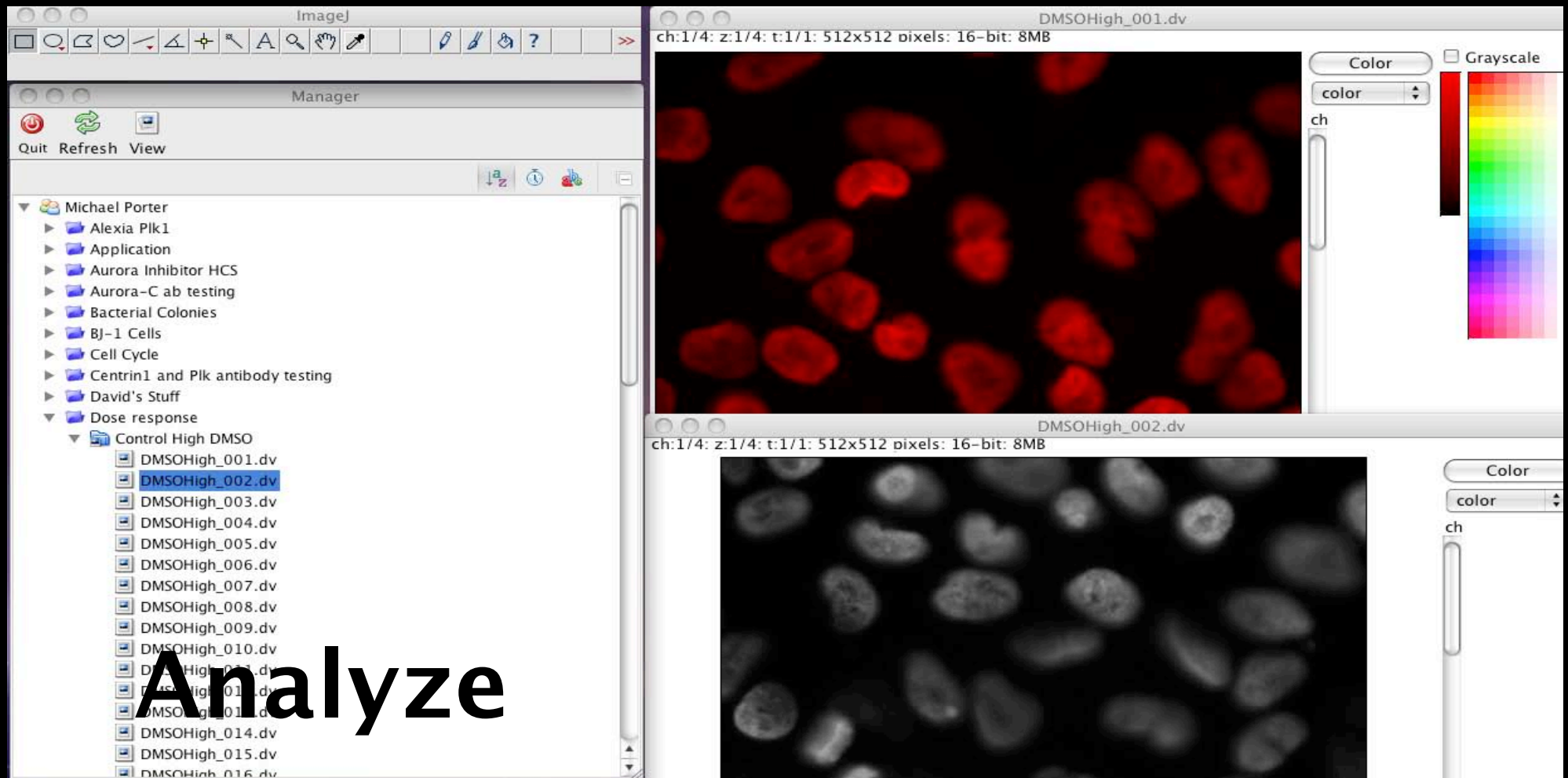




... for scientists and developers



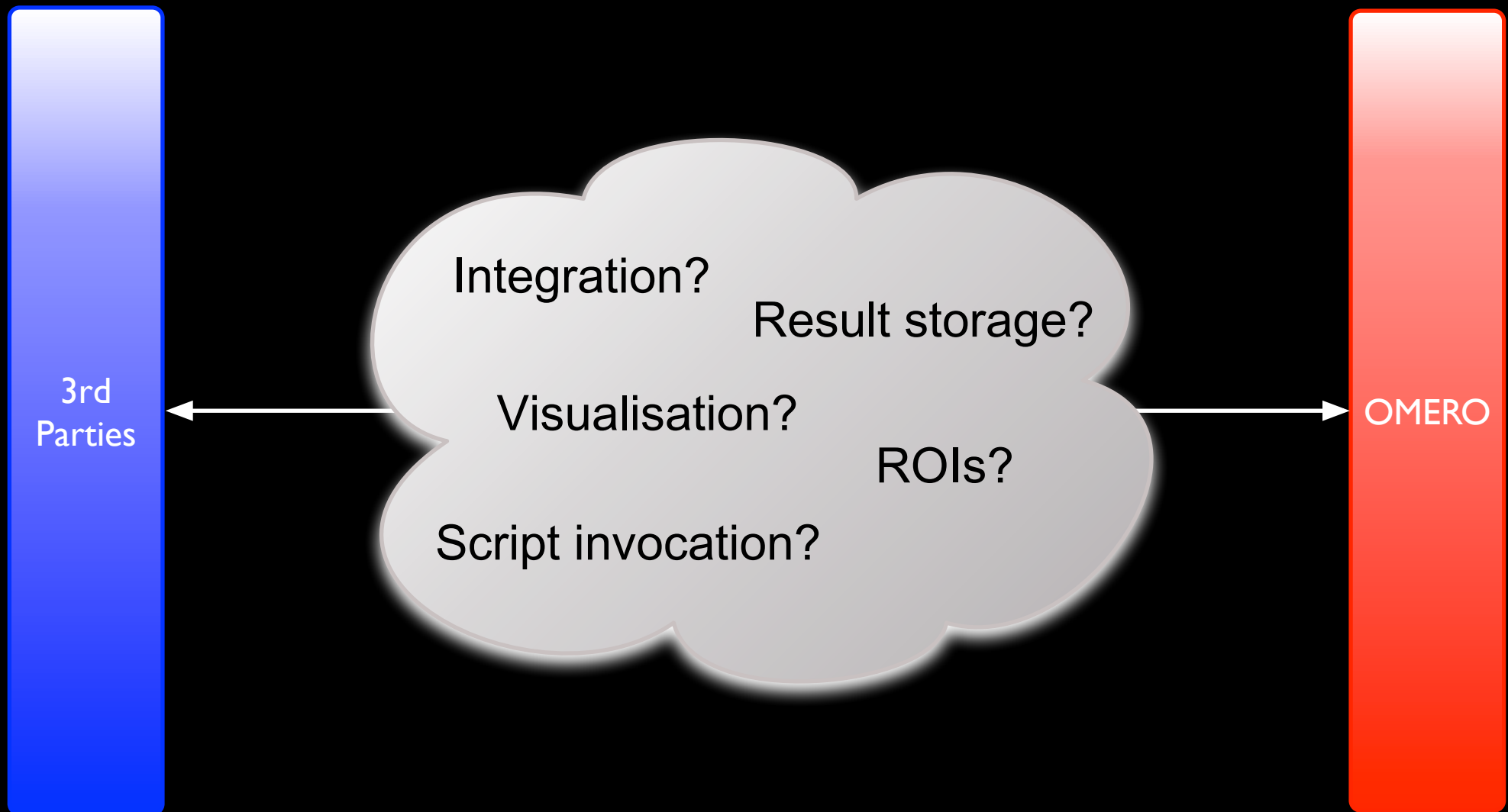
# ImageJ plugin



... for scientists and developers



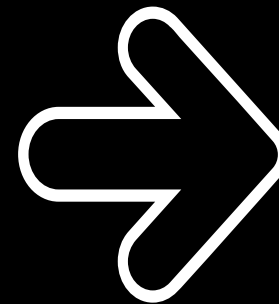
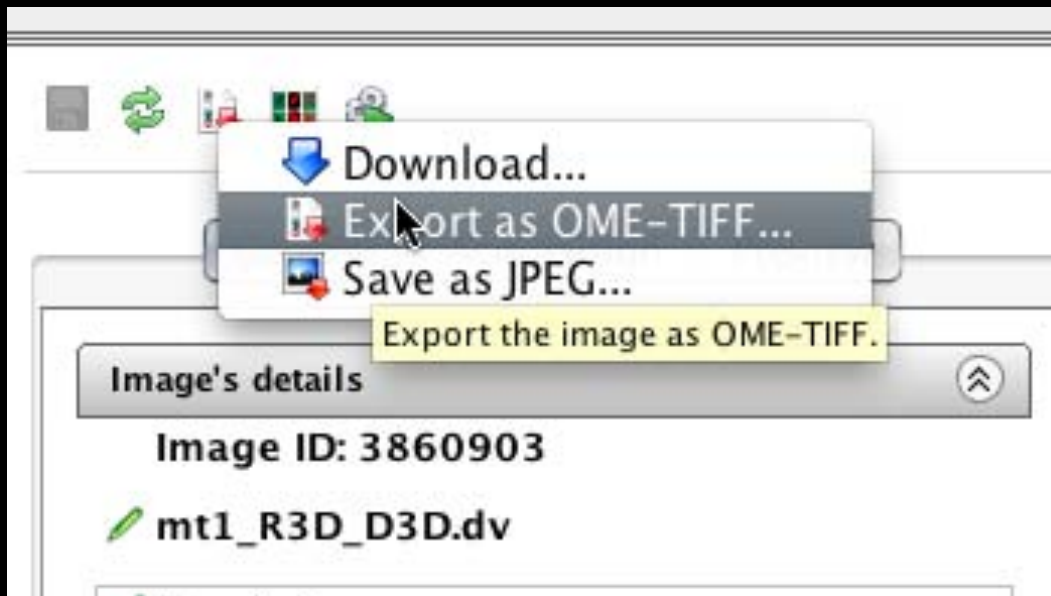
# Future directions for analysis...



... for scientists and developers



## Export of OME-TIFF



**3rd party  
applications**

... for scientists and developers



# FS Lite and Big Images





... for scientists and developers



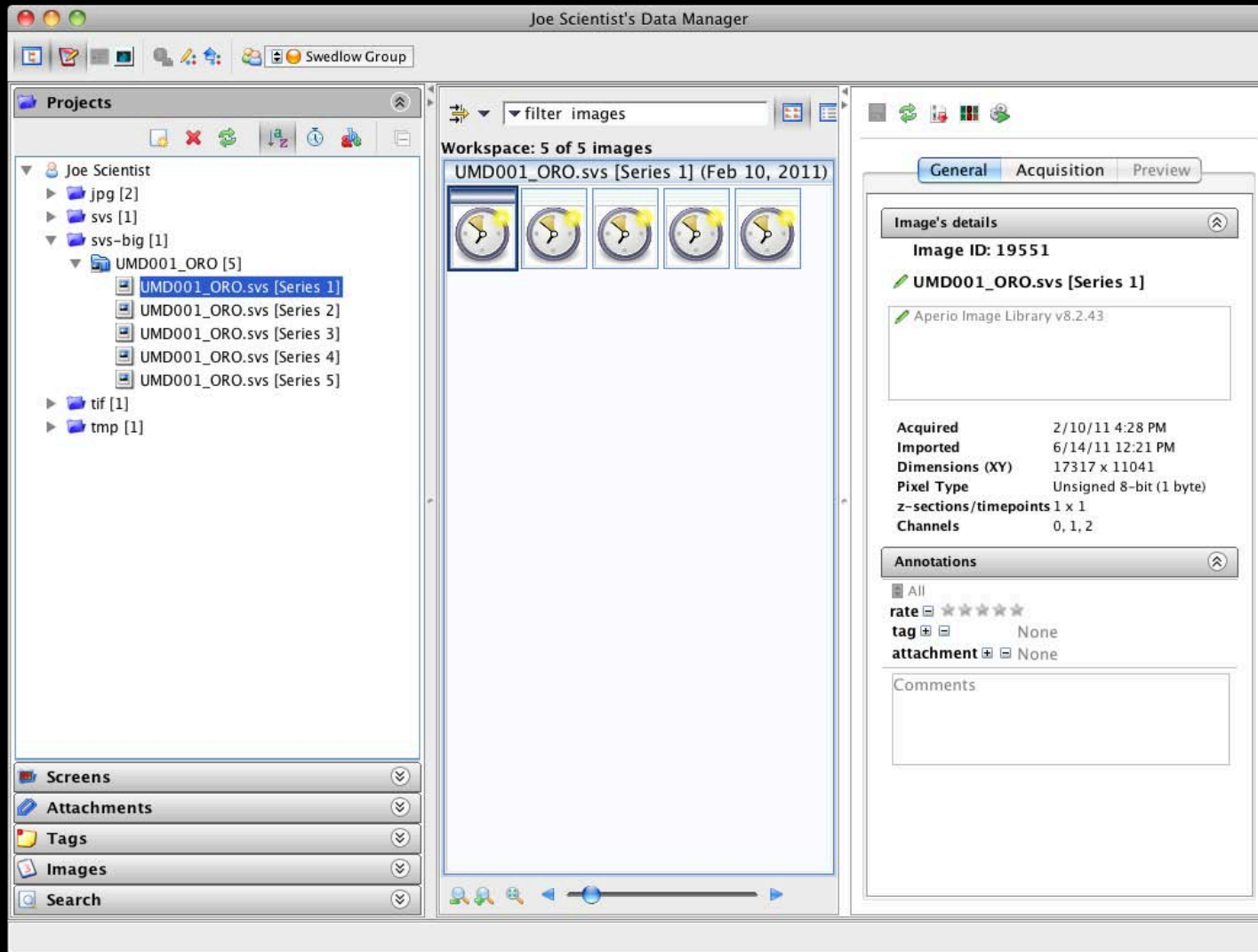
## FS Lite and Big Images



- Single file PFFs
- Pyramid generation server side
- Uses "archive" functionality
- Aperio SVS, JPEG, PNG, TIFF, JPEG 2000

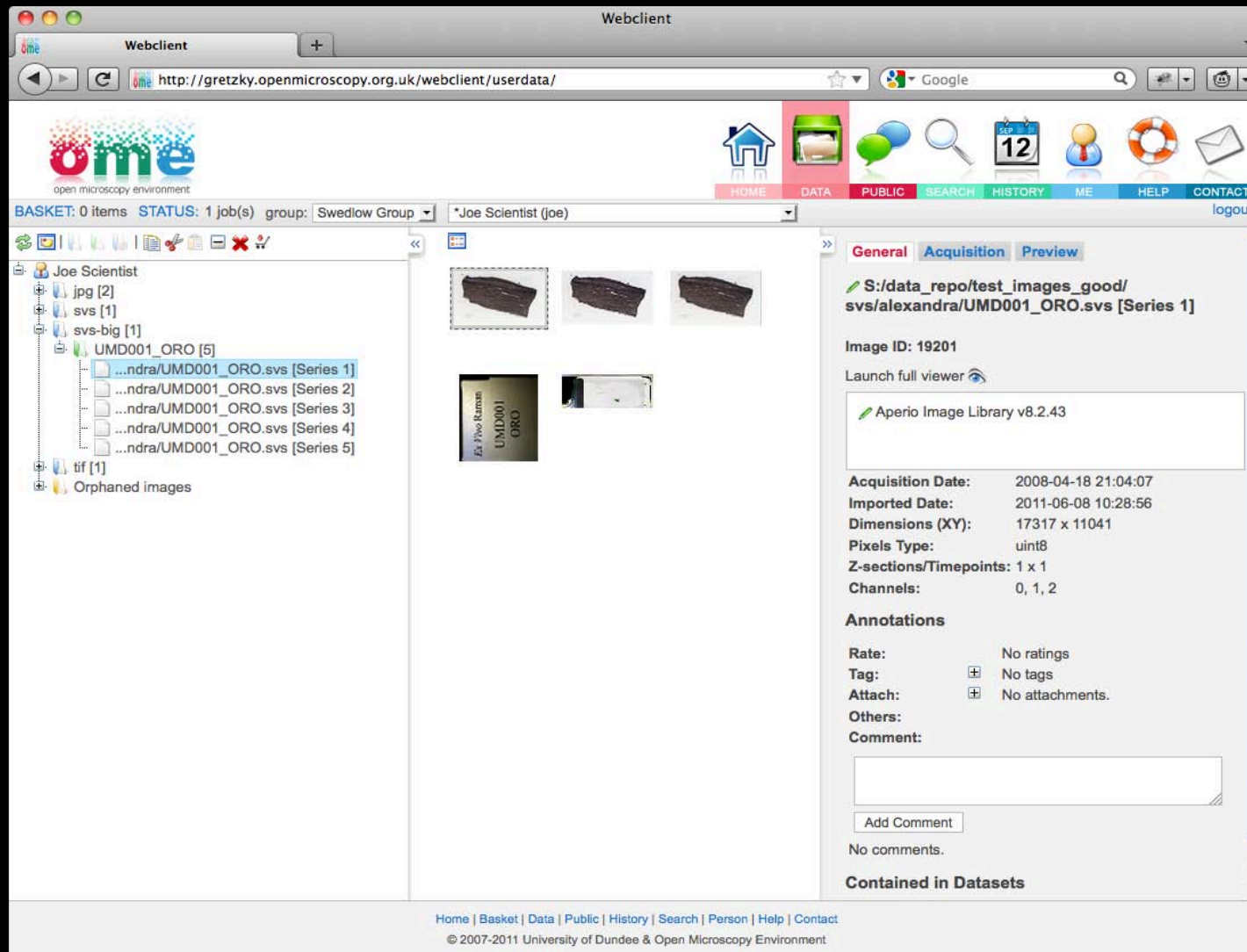
# ... for scientists and developers

## FS Lite and Big Images



# ... for scientists and developers

## FS Lite and Big Images

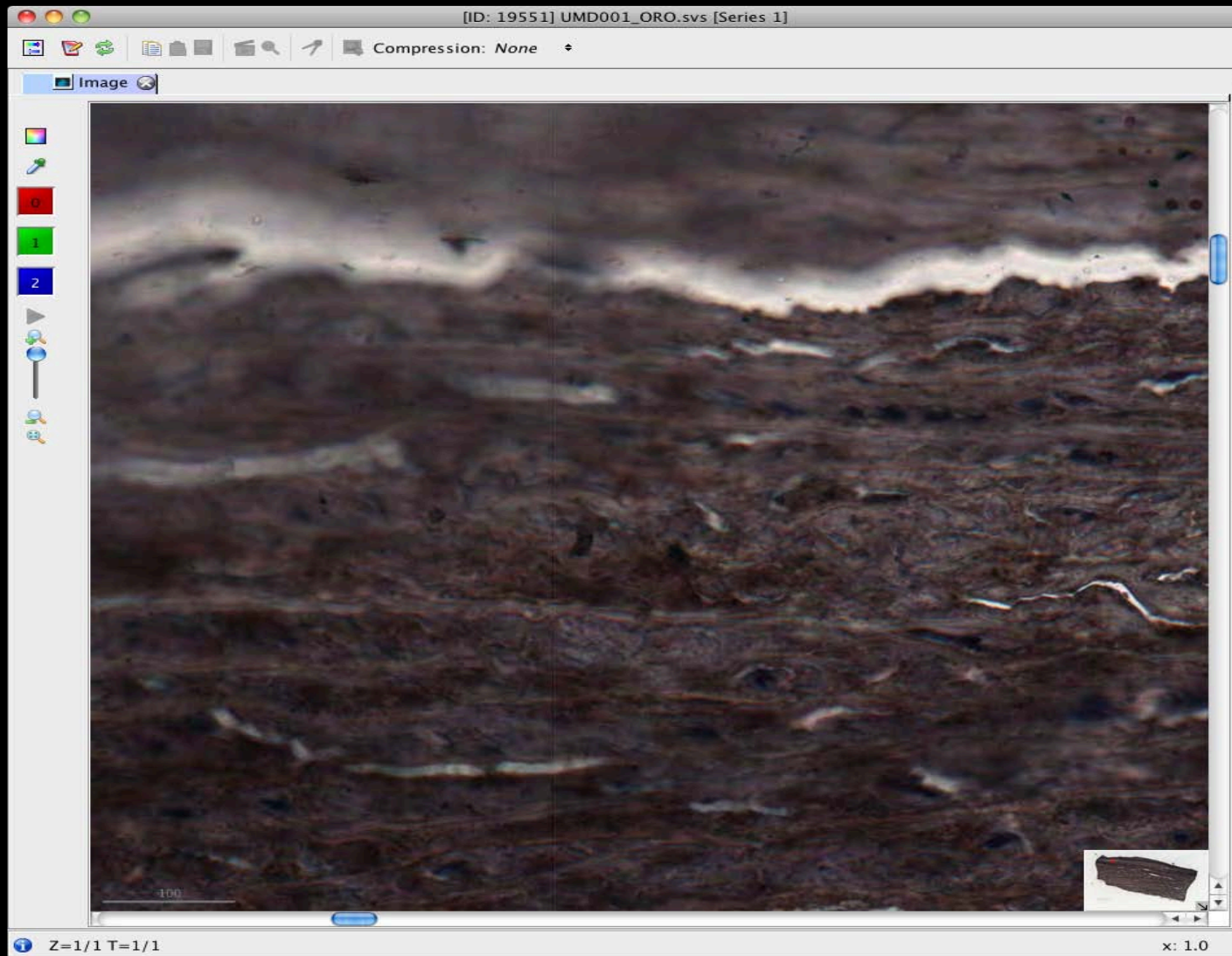
The screenshot shows the OME Webclient interface. The top navigation bar includes links for HOME, DATA, PUBLIC, SEARCH, HISTORY, ME, HELP, and CONTACT. The main content area is divided into three sections:

- Left Panel (File Browser):** Displays a tree view of files under the user 'Joe Scientist'. The selected file is '...ndra/UMD001\_ORO.svs [Series 1]'.
- Center Panel (Image Viewer):** Shows a grid of image thumbnails. The selected image is a microscopy image of a cell.
- Right Panel (Image Details):** Provides detailed information about the selected image, including its ID (19201), acquisition date (2008-04-18 21:04:07), and dimensions (17317 x 11041).

The right panel also includes a section for 'Annotations' with fields for Rate, Tag, Attach, and Comment. The bottom of the interface features a footer with the text '© 2007-2011 University of Dundee & Open Microscopy Environment'.

# ... for scientists and developers

## FS Lite and Big Images





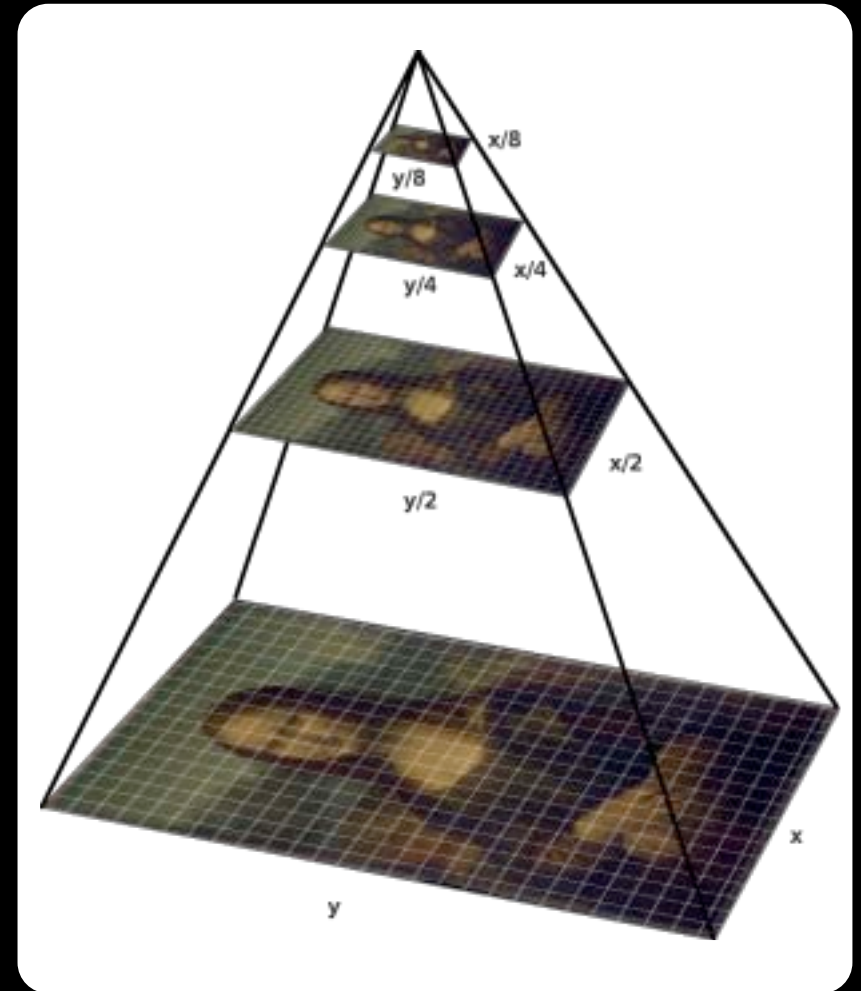
... for scientists and developers



# FS Lite and Big Images

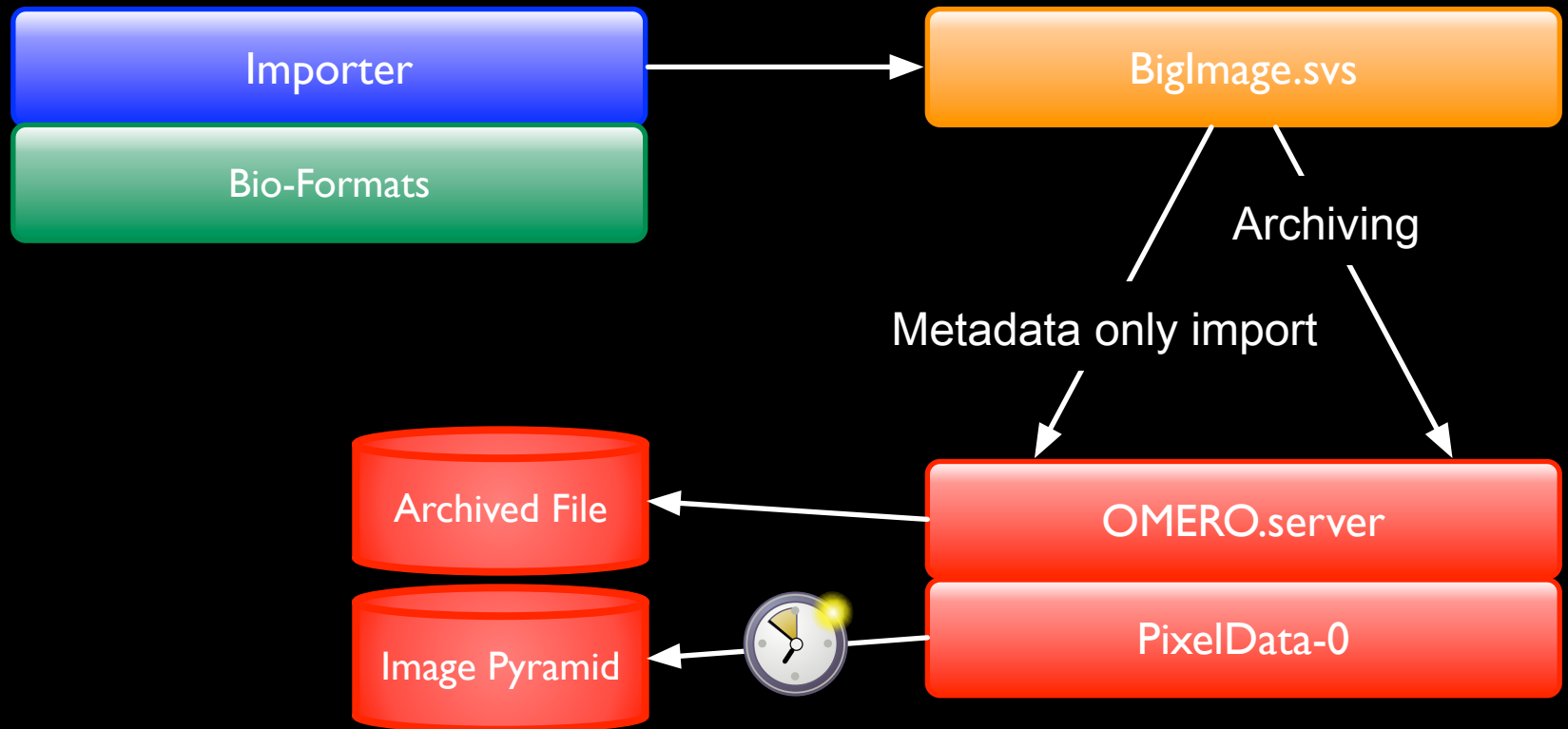


- Compression realities
- Image tiling
- Original file format details



# ... for scientists and developers

## FS Lite and Big Images





# Features for developers and admins



## Advanced LDAP

```
omero config set omero.ldap.new_user_group  
":query:(member=@{dn})"
```

## FastCGI

```
omero config nginx > nginx.conf  
nginx -c `pwd`/nginx.conf
```

## Improved delete

Immediately removes binary data,  
freeing up system resources.

## OMERO.tables API

Storage of tabular data on the server  
with efficient retrieval.



# OMERO 4.3 Previews

Bulk Annotation

Webmobile

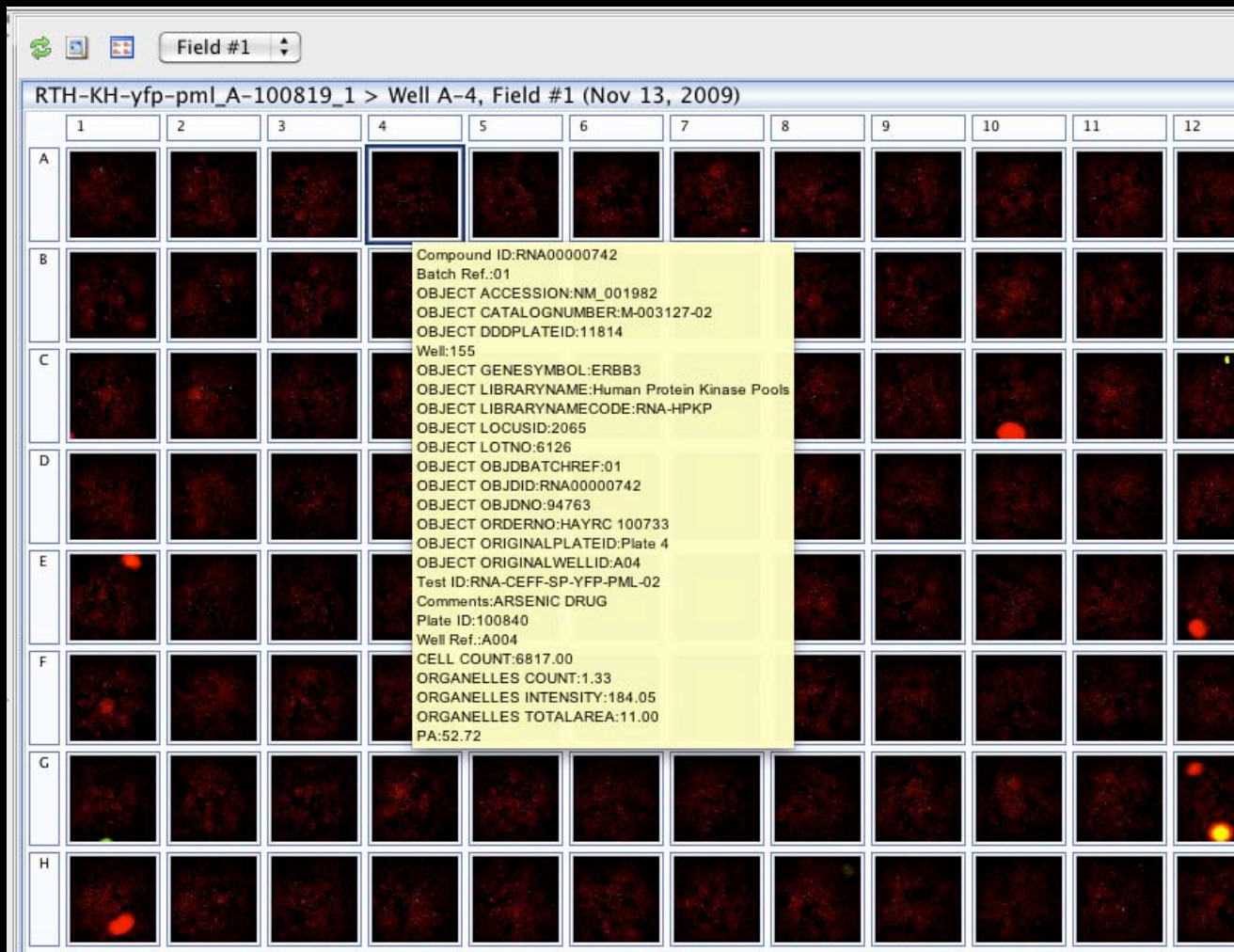
FLIM



... for scientists and developers



# Bulk annotation



Attach tabular  
data and view it  
from Insight

... for scientists and developers



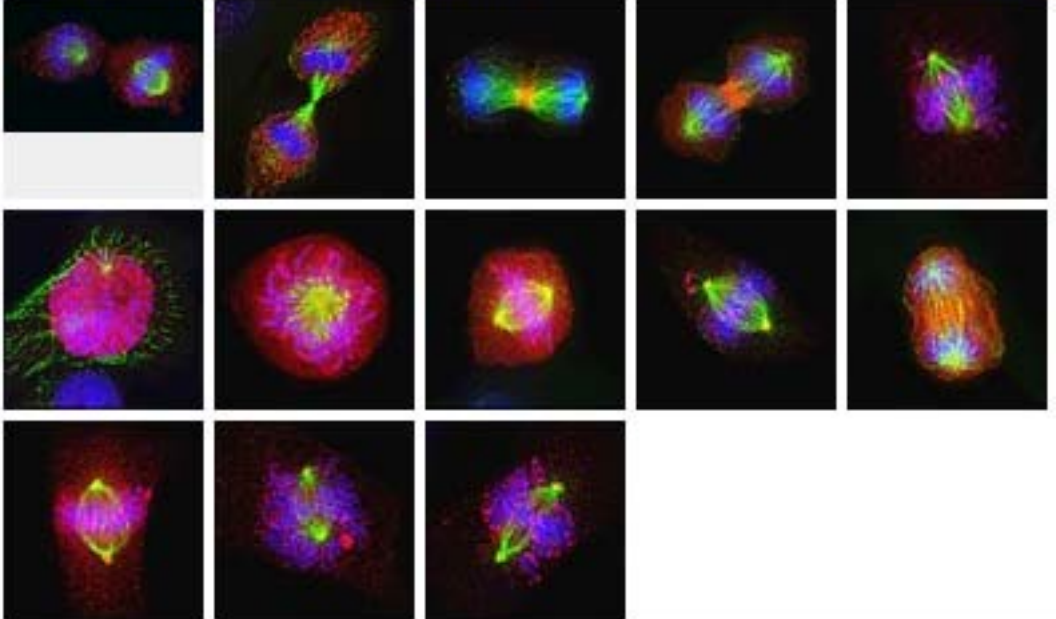
# ROIs in OMERO.Web

Work-in-progress  
webmobile

**ome** Group: Swedlow Group >

Dataset: PTRE

[Back to Project: INCENP Staining](#) [details](#)

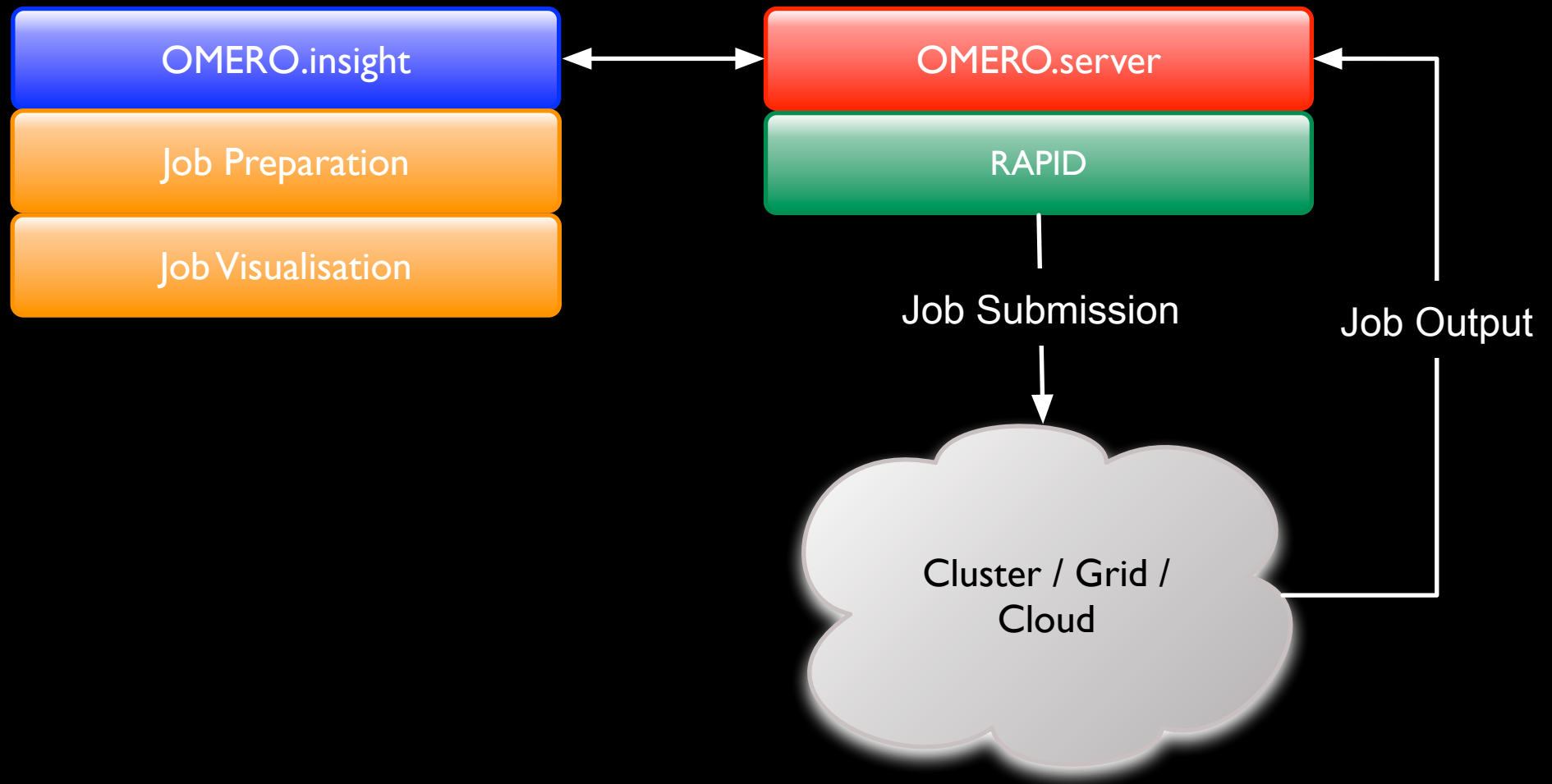


[logout](#)

... for scientists and developers

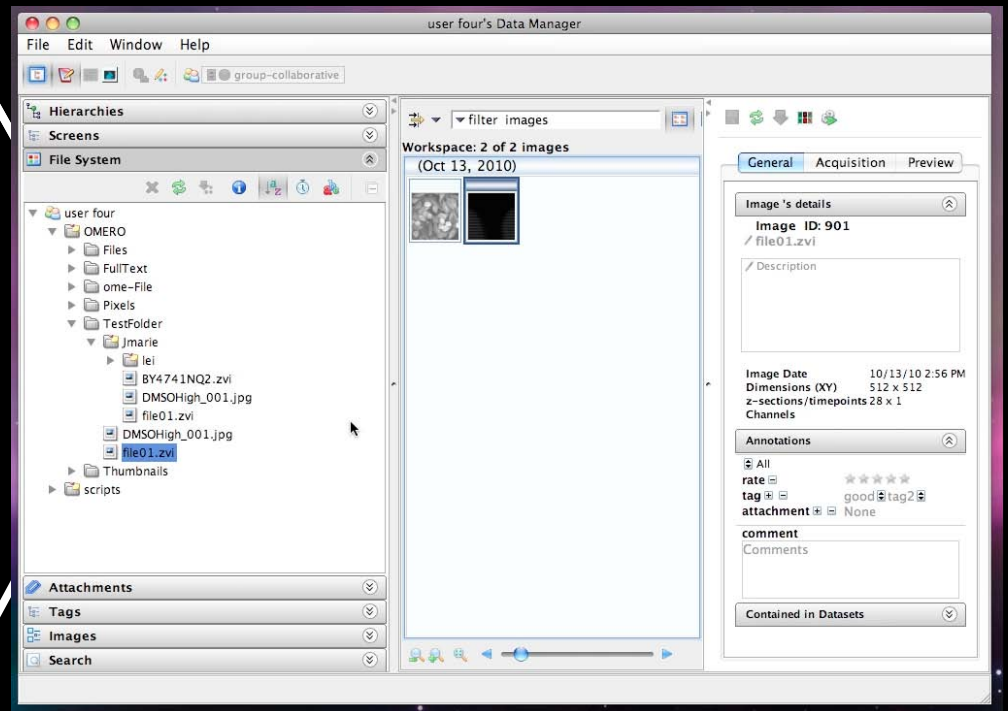
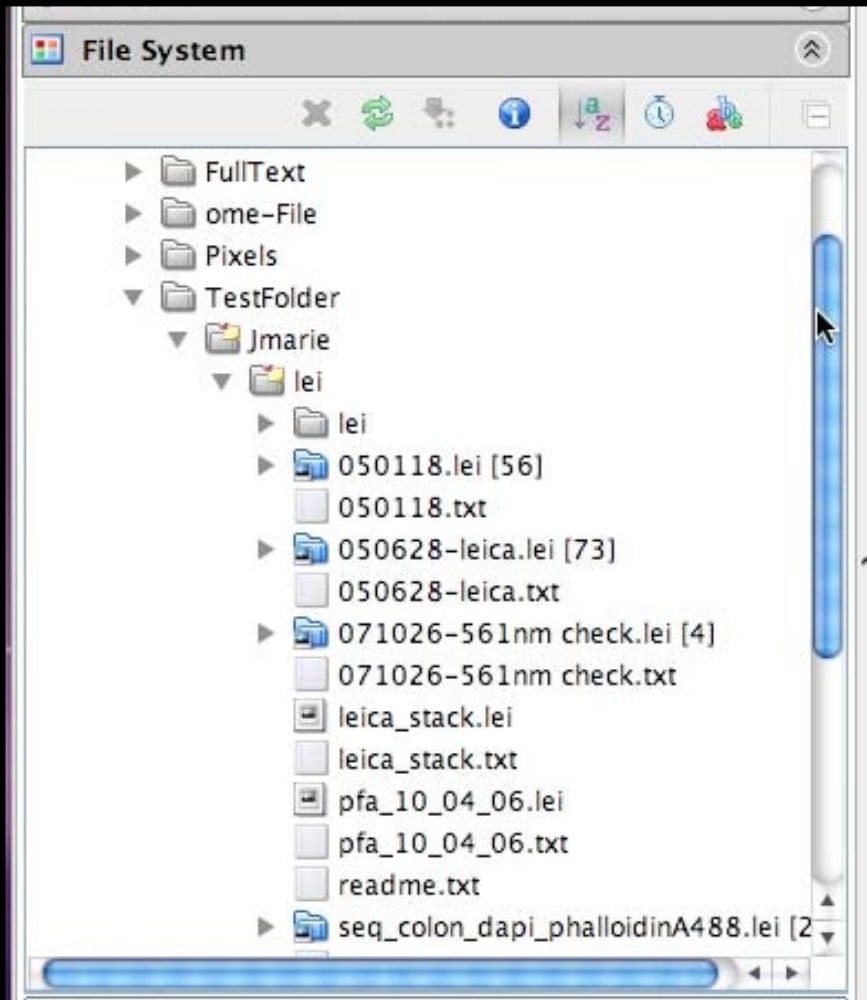


# FLIM and RAPID



# Questions?

# Next major efforts: FS...



## ...and also:

### Group permission tools

Move data between groups; reassign data from old group members to new group members.

### More 3rd party analysis

Improve the ImageJ plugin; integrate with other clients. CellProfiler? Others?

### Improve OME-TIFF Export

Include export as older OME-XML versions for backwards compatibility.

### Imported analysis results

Import, view, and analyze tabular, etc. data in OMERO.



# OMERO Ecosystem

