

Galaxy meets OMERO!

Overview on the Galaxy OMERO-suite and Vizarr Viewer

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Galaxy (<https://galaxyproject.org>) is an online computational platform used by a global community of thousands of scientists to process datasets. This collective effort includes the development of the Galaxy software framework, the integration of analysis tool and visualizations, and the operation of public servers that provide access to Galaxy through web browsers.

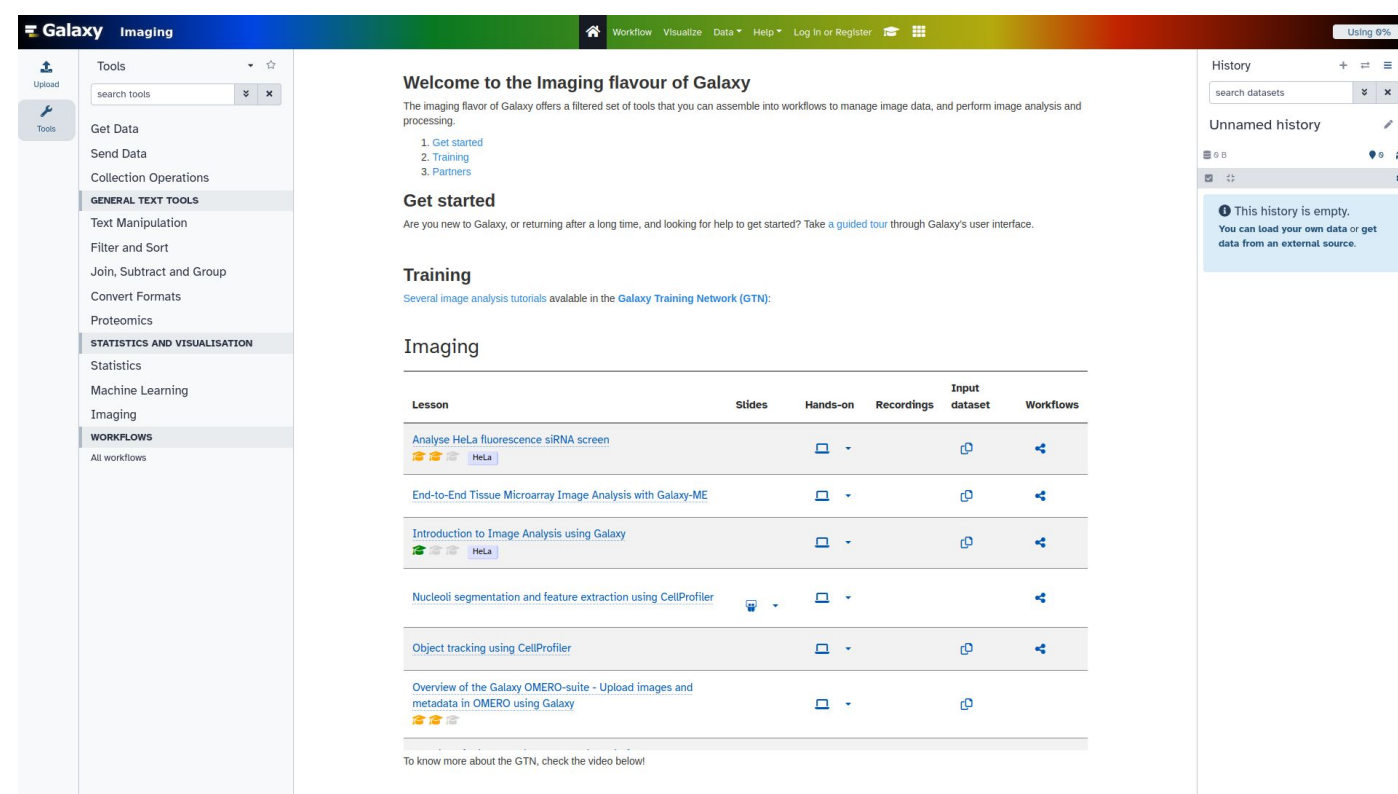
(source: <https://doi.org/10.1093/nar/gkaa554>)

Threshold image with scikit-image (Galaxy Version 0.18.1+galaxy3)

Since tools are versioned and workflows can be annotated, shared with collaborators, or made public, workflows developed in Galaxy are highly increasing the FAIRness of data analysis pipelines.

Galaxy Imaging Flavor

A dedicated Galaxy interface for Image data Analysis

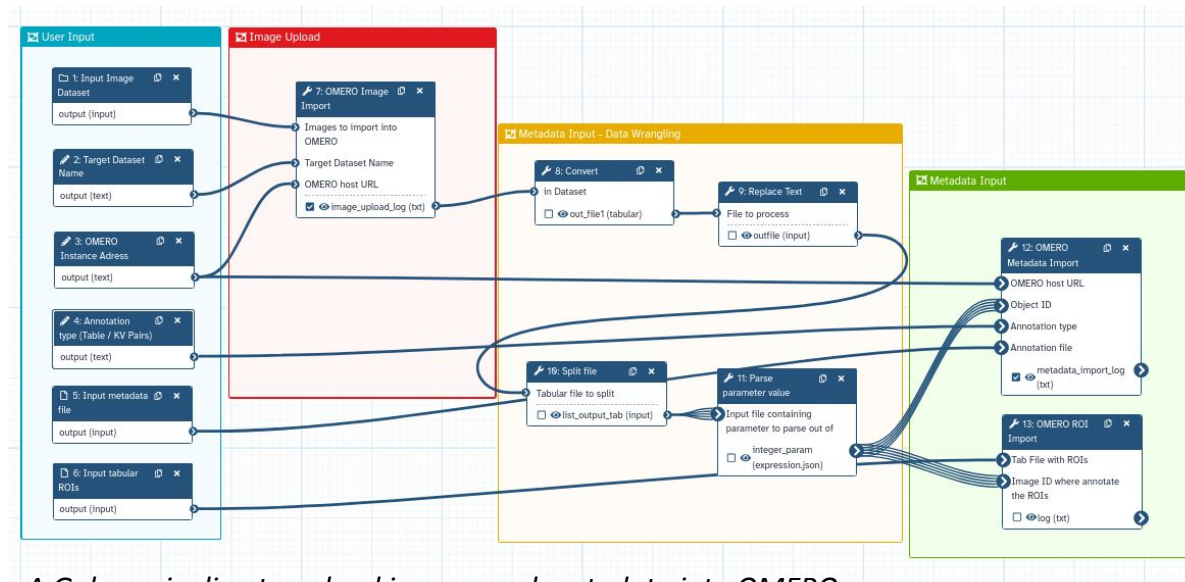


Galaxy has a dedicated interface for image data analysis—imaging.usegalaxy.eu—providing a comprehensive suite of tools and workflows tailored specifically for imaging scientists.

Galaxy OMERO-suite - Upload images and metadata in OMERO using Galaxy

The Galaxy OMERO-suite is based on the Python packages omero-py and ezomero, and it allows interactively building pipelines to upload/fetch image data in an arbitrary OMERO server using a Galaxy workflow.

Images can automatically be enriched with metadata (i.e. key-value pairs, tags, raw data, regions of interest) and uploaded to an OMERO server. The tools give the possibility to the user to intuitively fetch images from the local server and perform image analysis.



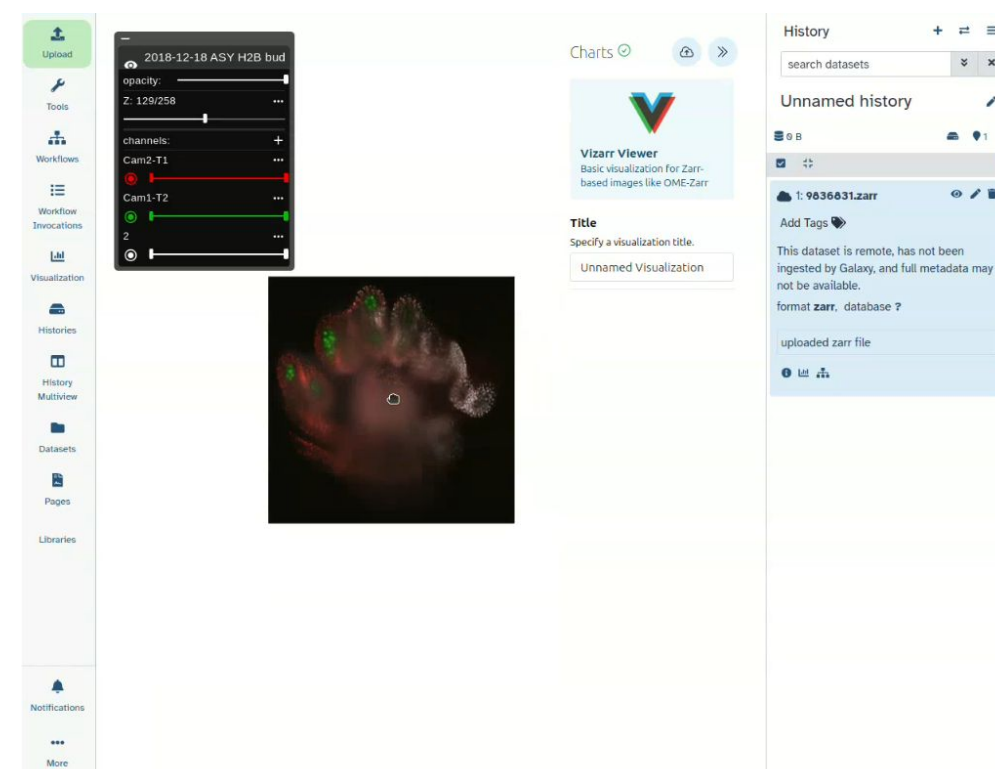
A Galaxy pipeline to upload images and metadata into OMERO

Training: <https://training.galaxyproject.org/training-material/topics/imaging/tutorials/omero-suite/tutorial.html>

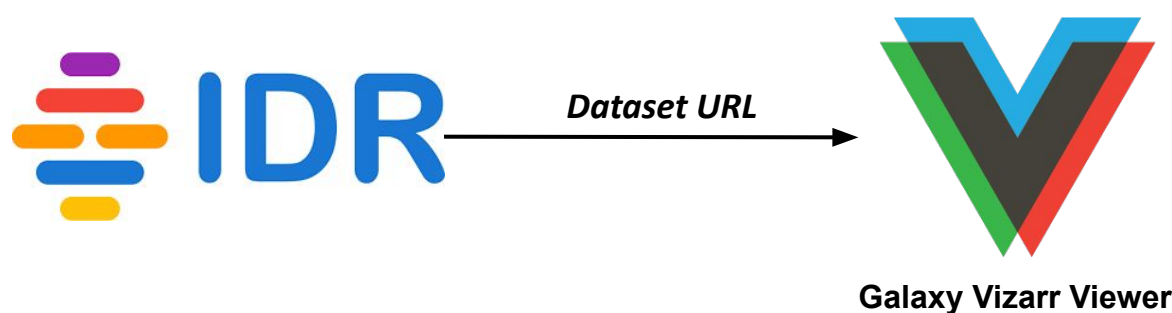
Vizarr Viewer - OME-Zarr Interactive Visualization

The [zarr](https://vizarr.org) format is becoming a standard for storing large image data. With various adaptations like [OME-Zarr](https://ome-zarr.org) and [GEOZarr](https://geozarr.org), this interoperable format enhances data re-usability across disciplines.

Galaxy infrastructure works to support Zarr! The Image Analysis Community in Galaxy supports zarr-based visualization through tools like vizarr, helping bring this dream of cross-discipline interoperability to life.



Visualizing the IDR dataset idr0077 in Galaxy using Vizarr Viewer



Do you want to know more about Image Analysis Community in Galaxy?
Scan the QR Code!



Check out Training and Tutorials on image analysis tools!



<https://training.galaxyproject.org/training-material/topics/imaging/>