OMERO – An image data management platform for bioimaging data at the DKFZ

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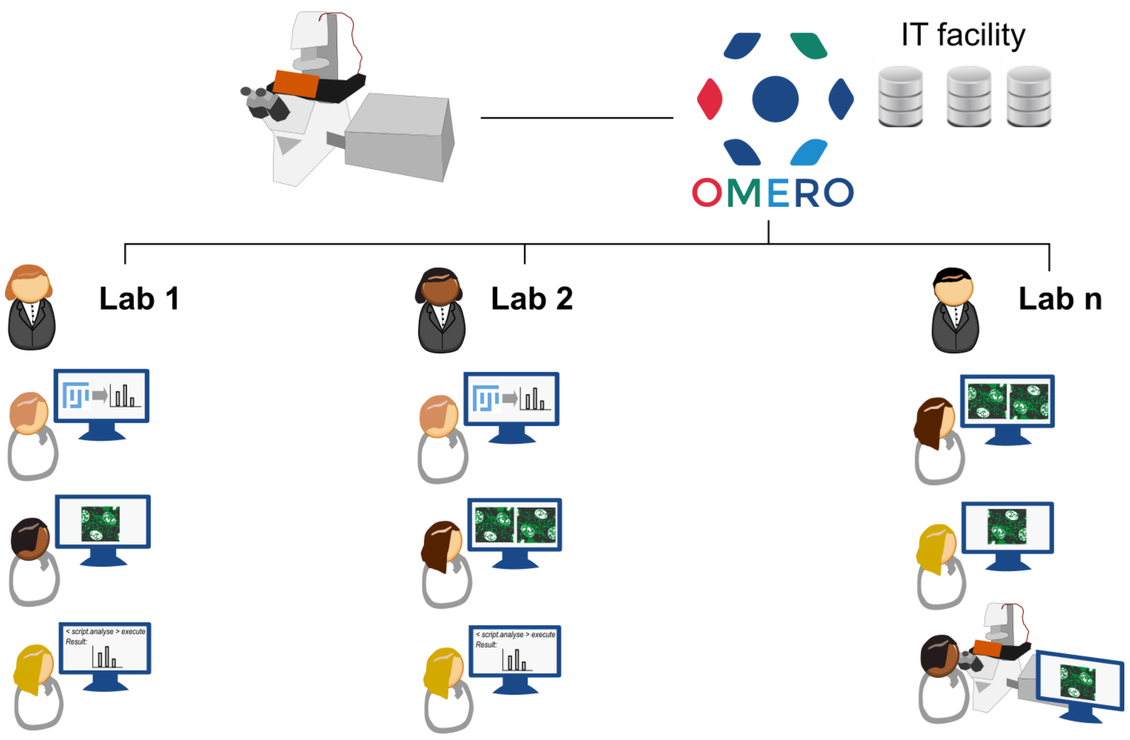
DEUTSCHES KREBSFORSCHUNGSZENTRUM
IN DER HELMHOLTZ-GEMEINSCHAFT

OMERO is a centralized research data management system for biological images. The OMERO project was started in 2021 as a cooperative effort between the Enabling Technology, Single-cell Open Lab, Light Microscopy, Omics IT and Data Management, and IT core facilities, and first became available in 2023. The aim of this project is to support DKFZ scientists with the handling, storing, and organizing of biological images in order to enable them to more easily follow FAIR (Findable, Accessible, Interoperable, and Reproducible) data management practices.

What is OMERO?



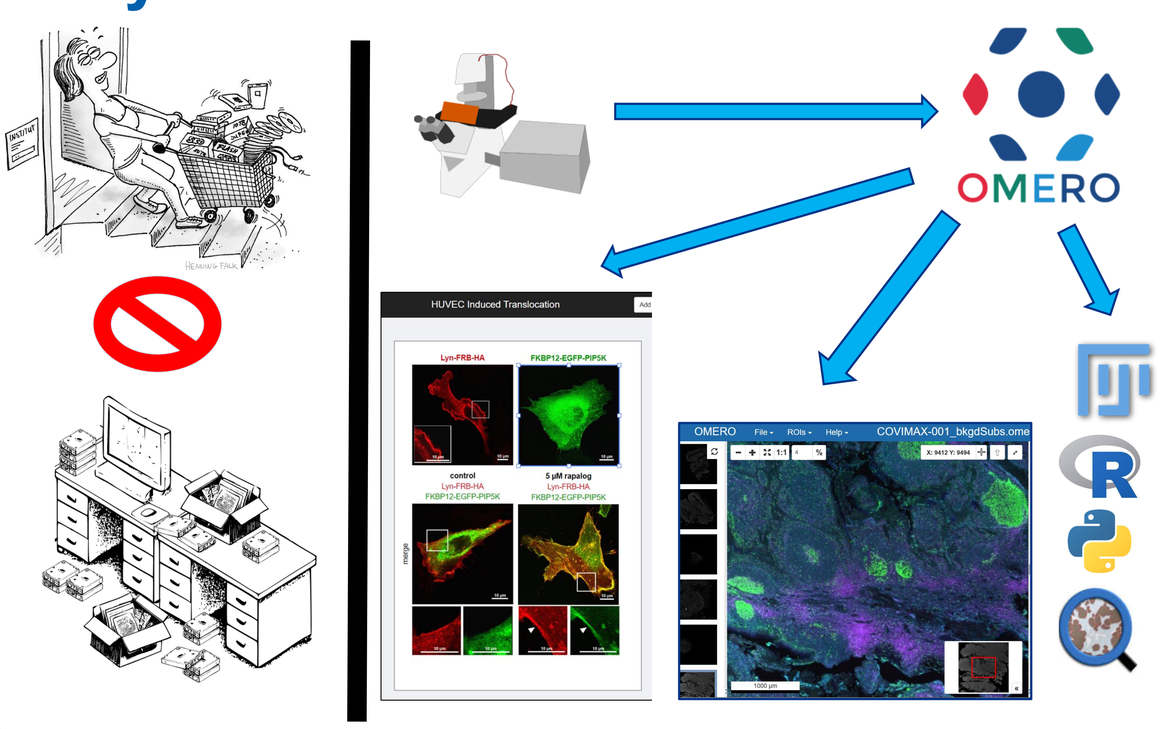
OMERO is a platform for bioimaging data management available for all DKFZ members. OMERO handles all your images using a secure central repository, from the microscope to publication.

What types of data can I use in OMERO?
OMERO is specifically recommended for researchers who work with light microscopy data, but it can also handle imaging data of all kinds including also electron microscopy images; through the Bio-Formats library OMERO supports over 140 image file formats, including all major microscope formats.

Please note that **OMERO is not to be used for privacy-protected data like non-anonymized patient-derived data.**

OMERO should be used for “hot” data that are currently being used/worked on, old data that need to be kept but are no longer actively used need to be archived.

Why use OMERO?



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Safe and Efficient Storage
- The data is safely backed-up in the central storage from the ITCF
- No quotas for groups/users
- Reduces dat duplication

Easily share imaging data with your collaborators
- OMERO facilitates cooperative workflows for annotation and analysis
- OMERO makes it easy to share data with your group members
- Images can be viewed directly from the browser, without additional software

OMERO can easily fit your workflow
- Supports most microscopy image formats
- Plugin support for open source image analysis tools (FiJi, QuPath, …)
- Prepare high-quality figures, while keeping track of all images and settings

What do we offer?

Support for Research Data Management with OMERO:
- Advice for RDM with OMERO
- Setup of OMERO groups for working with external collaborators
- RDM help through NFDI4Bioimage data stewards: https://nfdi4bioimage.de/en/helpdesk/

Training:
- Regular workshops on RDM for bioimaging data
- Introduction to OMERO at the PhD Initial Course
- Internal training website: https://intracoop.dkfz-heidelberg.de/sites/OMERO-DKFZ/
- NFDI4Bioimage training website: https://nfdi4bioimage.github.io/training/readme.html

What are we working on to improve?

Archiving data to the system from OMERO
We are working to allow the archiving of data that is no longer actively used, but would need to be kept, withouting having to export it first.

Better access for external collaborators
We would like to streamline the access to OMERO for collaborators external to the DKFZ.

Migration of OMERO to the new DKFZ SCI infrastructure

openstack CLOUD SOFTWARE → HARVESTER

Acknowledgements

We thank Manuela, Brom, Damir Krunic, Marko Lampe, Mahsa Shakouri, Johannes Beisiegel, and our pilot users.

Funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) under the National Research Data Infrastructure – NFDI 46/1 – 501864659