

WWU
MÜNSTER



MÜNSTER IMAGING NETWORK - MICROSCOPY

Service Overview



TEAM



Sarah Weischer

Application specialist / Advanced Image
Analysis ✉



Dr. Thomas Zobel

Head of Imaging Network Microscopy
Application specialist / RDM / Image
Analysis ✉



Jens Wendt

System Administrator / High Content
Screening / OMERO & Booking Schedule ✉

MÜNSTER IMAGING NETWORK - Overview

Central Booking Schedule



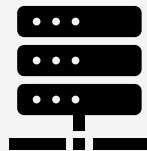
Microscopes



Data Storage & OMERO



The HIVE Analysis Server



Additional Services

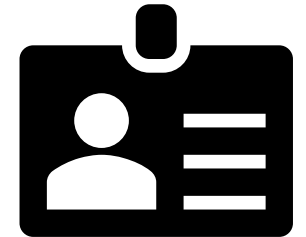


Website:

go.wwu.de/imagingnetwork

Confluence Wiki

Subscribe
Mailing list



Support via Mattermost



Imaging@uni-muenster.de

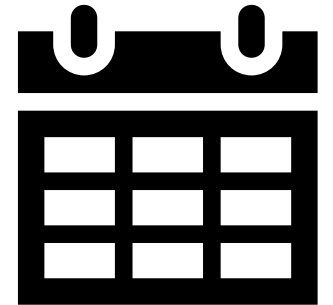
Go to:
Team

Central Booking Schedule

- Microscopes within the MÜNSTER IMAGING NETWORK can be booked self-dependent in the central booking schedule after prior instruction.
 - > **40 registered groups**
 - > **400 users**
 - > **40 different microscopes & software licenses**
- Based on the statistics of the booking schedule, the MÜNSTER IMAGING NETWORK accounts bookings from “external users” twice a year.
 - ➔ How are the groups organized and what is an external user?
- For microscopes listed in the central booking schedule, it`s possible to apply for funds for microscopy usage. Also for “own” microscopes.
 - ➔ How can I do it?



- ➔ booking-imaging.uni-muenster.de (via intranet / VPN)
- ➔ [User guidelines](#)
- ➔ [User fees](#)
- ➔ [Wiki / FAQ](#)
- ➔ [Mattermost channel](#)



Go to:
[Main Content](#)
[Booking Schedule Funds](#)
[Booking Schedule Group Management](#)

Group Management

The MIN will create **three** different groups for each workgroup in the booking system.

1. Admin Group

- Users with administrative rights
- Also unpersonal accounts for admin tasks are possible

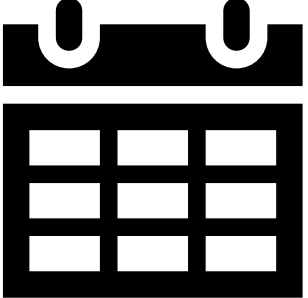
2. Main Group

Users who are normally **not** get accounted!

- All users of your group, institute or cooperation partners
 - Admins can add users to this group
- ➔ How can I get funds for the use of own microscopes?

3. External Group / External users


Users who **are** accounted! Users must also be in a different main group!

- ➔ [booking-imaging.uni-muenster.de](#) (via intranet / VPN)
 - ➔ [User guidelines](#)
 - ➔ [User fees](#)
 - ➔ [Wiki / FAQ](#)
 - ➔  [Mattermost channel](#)
- 

Go to:
[Main Content](#)
[Booking Schedule Overview](#)
[Booking Schedule Funds](#)

Applying for Funds

If a microscope is part of the MIN and is booked via the central booking schedule, it is possible to apply for funds for its usage. This also applies to microscopes operated by the own working group.

 Imaging costs are additional funds and do not belong to other consumable funds.

For Applications:

Please refer to the MÜNSTER IMAGING NETWORK and state the following DFG registration number: **RI_00497**

Example:

The proposed project requires extensive imaging work, which will be performed on microscopes run by the MÜNSTER IMAGING NETWORK (**DFG Research Infrastructure RI_00497**).

The scientists working on the project will use several TIRF microscopes with 300 h/year. Given the cost of 20€ / hour for a TIRF system this amounts to 6000€. We request half of the costs with 3000€ / year.

- ➔ booking-imaging.uni-muenster.de (via intranet / VPN)
 - ➔ [User guidelines](#)
 - ➔ [User fees](#)
 - ➔ [Wiki / FAQ](#)
 -  [Mattermost channel](#)
- 

Go to:

[Main Content](#)

[Booking Schedule **Overview**](#)

[Booking Schedule **Group Management**](#)

Microscopes

A list of all microscopes available for booking through the MIN can be found at the following links:

- ➔ [Microscopes sorted by location and technique \(Wiki\)](#)
- ➔ [All microscopes with detailed configuration and features in a searchable list \(Wiki\)](#)

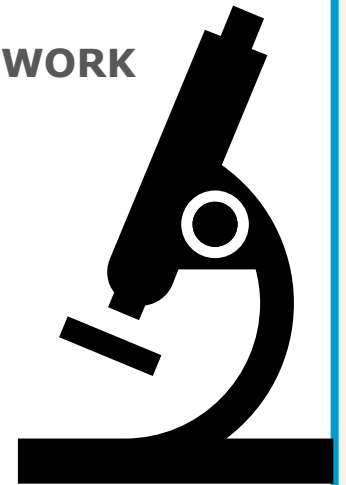


In the section [“Central Booking Schedule”](#) you will find information on how to add a microscope to the MIN and how to apply for funds for usage!

Over **40** different microscopes are available within the **MÜNSTER IMAGING NETWORK**

Techniques:

TIRF / FLIM / FRAP
FRET / DCV / HCS
Lightsheet / SMLM
Spinnig Disc / SIM
2-Photon /
Super-Resolution ...



Go to:
[Main Content](#)
[Booking Schedule Overview](#)

Data Storage & OMERO

The Münster Imaging Network provides or recommend 3 different storage solutions in cooperation with the WWU-IT. All services are **free of charge**.

1. OMERO

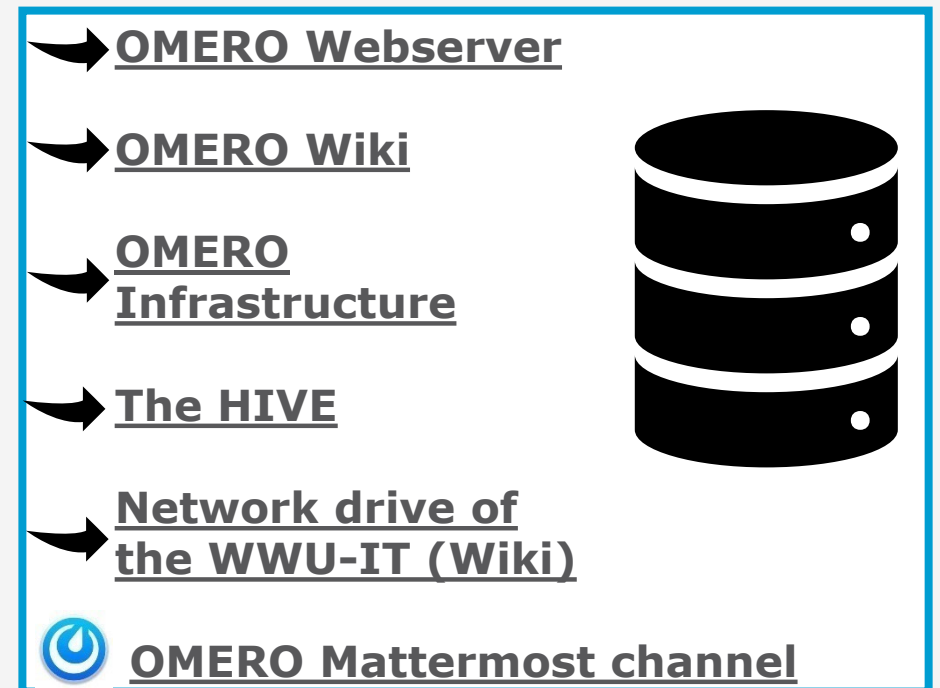
OMERO is a special designed database for microscopy data and gives you a lot of useful functions. Data stored in OMERO fulfil the FAIR principles and the new mandatory guidelines about data handling of the DFG. OMERO should be used for longterm storage.

2. Data on HIVE

The “HIVE” is the analysis server of the MiN. You can temporary store data on the HIVE you are currently working with and that requires quick access. Data on the HIVE is not intended for long-term storage or backup.

3. Storage in the WWU-Cloud

The WWU-IT offers free storage within the WWU-Cloud. If necessary, the MIN helps you to set up a network drive for your group.



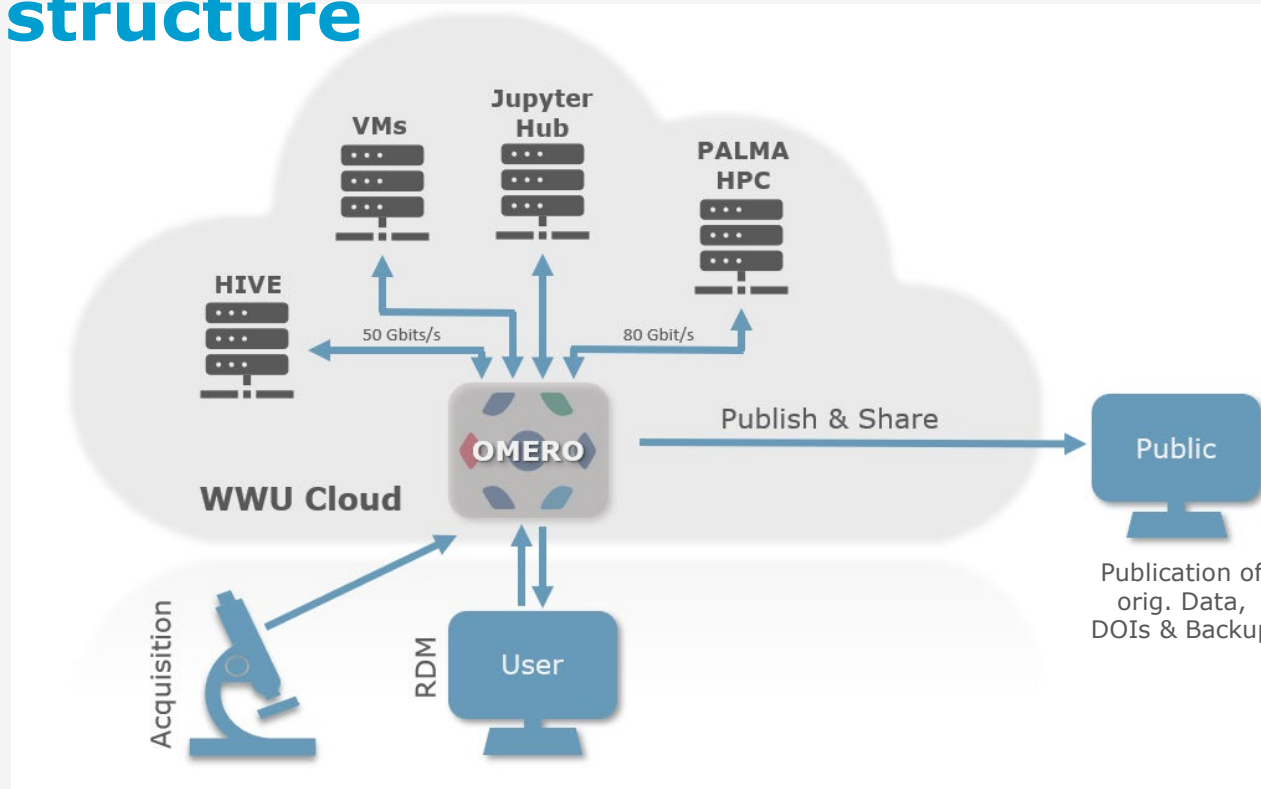
Go to:

Main Content

Data Storage & OMERO - Infrastructure

Data Storage & OMERO - Tools & Functions

OMERO - Infrastructure



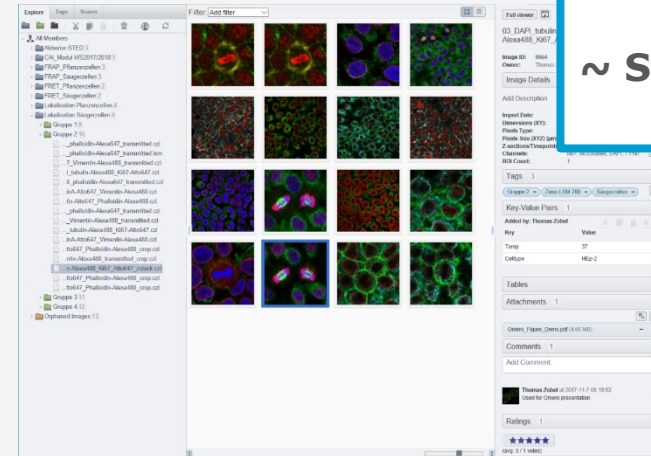
OMERO is fully integrated into the WWU-Cloud. Therefore, the data in OMERO can directly be used with other services of the WWU-Cloud without copying and duplicating data.

Go to:
[Main Content](#)
[Data Storage & **OMERO** - Overview](#)
[Data Storage & OMERO Tools & Functions](#)

OMERO – Tools & Functions

OMERO gives you a lot of useful functions, here are some of them:

- **Unique image ID for each image (link to images from PowerPoint, ELNs etc.)**
- **OMERO.figure** → easy and rapid figures creation
- **OMERO.Parade** → Inspect measurements of your data
- **OMERO.Openlink** → Directly create download links to share your data
- **Publishing with DOIs (in progress)**
- **Tag Search / Key-Value Pairs** → Add Metadata to you images
- **OMERO interacts with Fiji / Matlab / R / Python**
- ...



OMERO @ MiN



- ~ **950 Users**
incl. students from courses
- ~ **20 TB of Data**
- ~ **Active Directory / Ldap**
- ~ **Server in OpenStack**

Go to:

[Main Content](#)

[Data Storage & OMERO - Overview](#)

[Data Storage & OMERO - Infrastructure](#)

The HIVE – Analysis Server

The HIVE is a high-end analysis server based on Windows Server 2019.

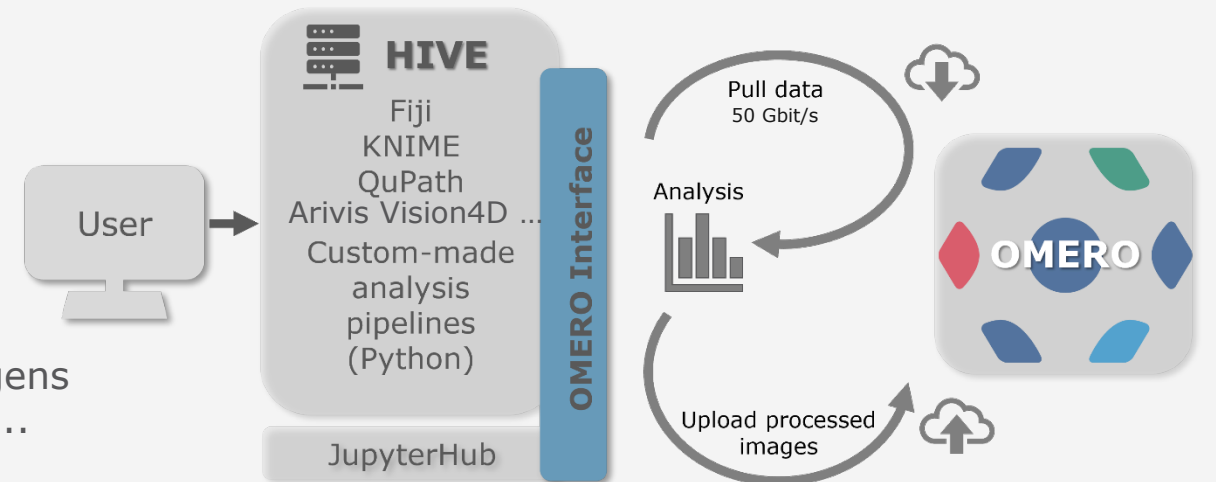
- Available to all users via remote desktop connection, via VPN also from home
- Centrally connected to the WWU-Cloud
 - extra fast connection to your data in the WWU-Cloud
 - extra fast connection to OMERO

Specifications:

CPU: **256 Cores** (AMD EPYC 7702)
RAM: **1024 GB**
GPU: **Quattro RTX 8000 42GB**
Storage: **12 TB SSD RAID + 2 TB M2 SSD** with 3200MB/s
OS: Windows Server 2019

Software:

Fiji / ImageJ / CellProfiler / ilastik / Knime / Zen / LASX / Huygens Professional / DeepLearning Tools / Python / Arivis Vision4D / ...



Additional Services

- **Image analysis courses** (at least once a year)
 - Fiji / ImageJ for Beginner
 - Fiji / ImageJ Advanced (Macro programming)
 - Advanced Image Analysis (iLastik / Cellprofiler / Huygens DCV / Imaris ...)
- **Microscopy seminar series**
 - 8 lectures about microscopy. From basics to advanced techniques like FRAP, FLIM, Super-Resolution and more.
- **Maintenance Support**
 - System documentation for admins within the Wiki
- **Image Analysis / Project discussions / Method development**



➔ **Microscopy Seminar series dates**

➔ **Subscribe Mailing list**



 **Support via Mattermost**

➔ **Imaging@uni-muenster.de**

Go to:
Main Content