



NFDI4
BIOIMAGE

GLOBAL
BIOIMAGING
growing collaboration

Building a National Research Data Infrastructure for Microscopy and BioImage Analysis

Josh Moore

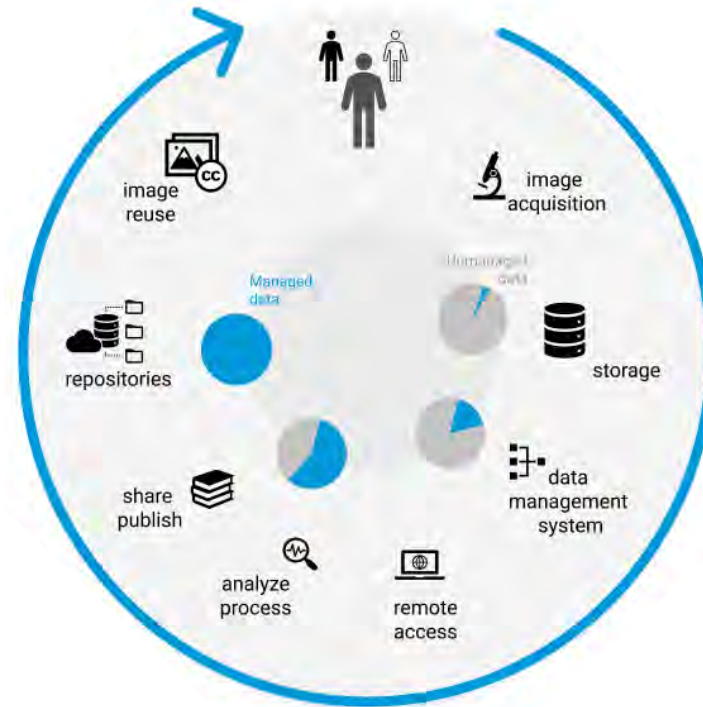
German BioImaging, e.V.

...and lessons learned

National Objectives



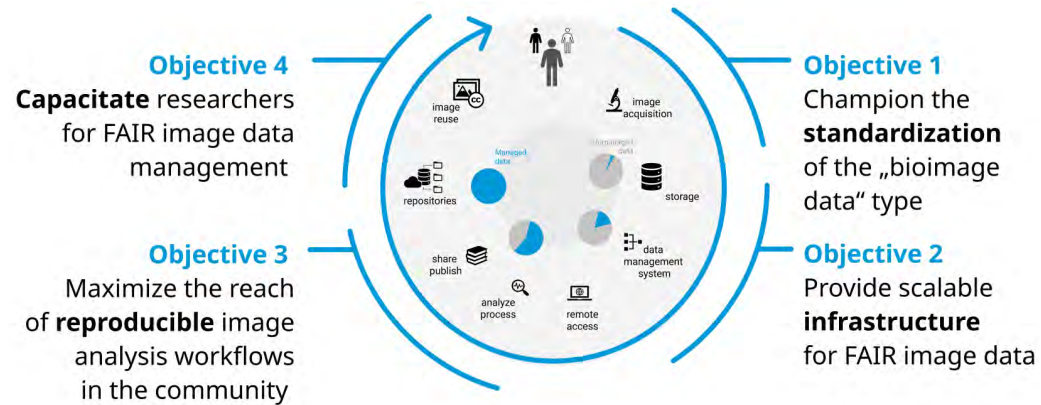
National Objectives



National Objectives

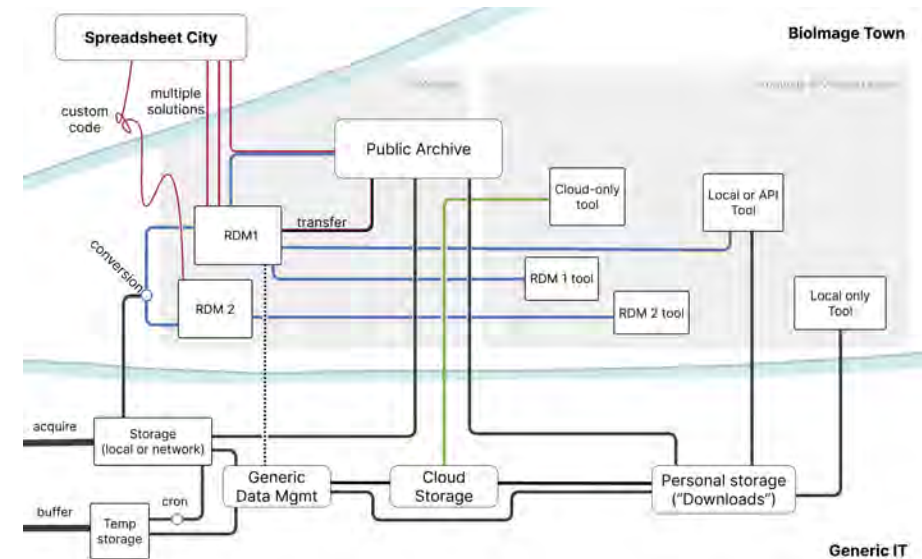


National Objectives



<https://bit.ly/n4bi-proposal>

...enable user workflows

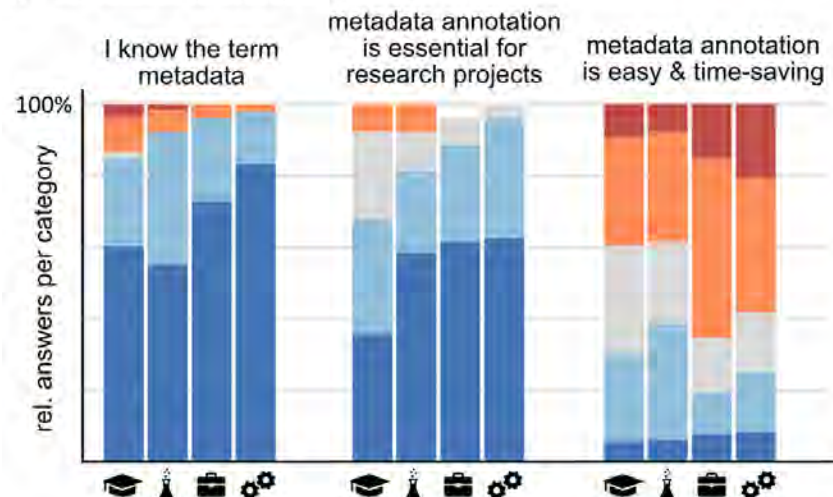


<https://doi.org/10.5281/zenodo.8130314>

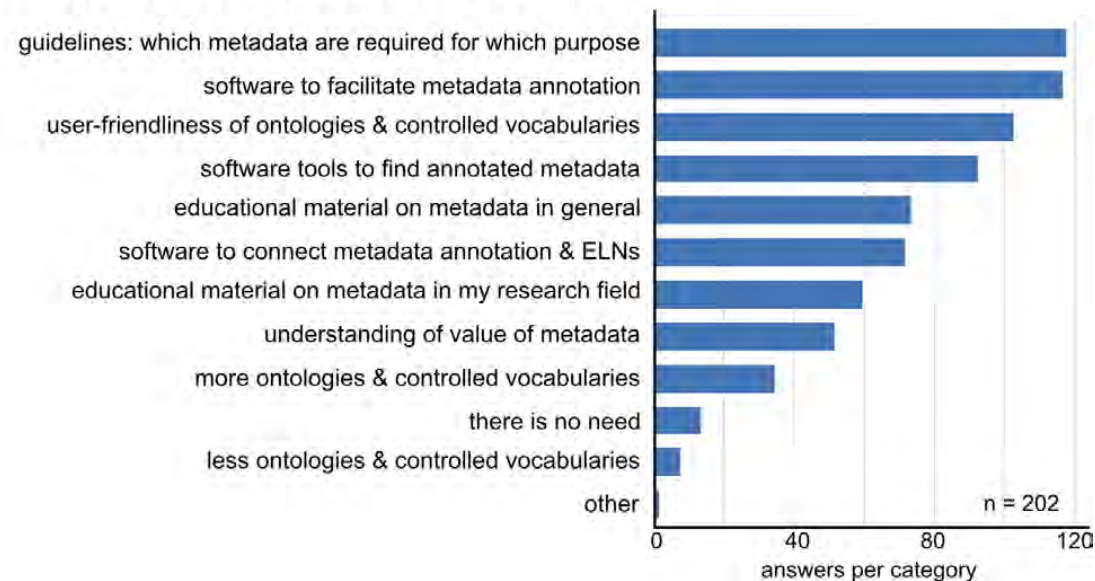
Survey results

...can be frustrating

a) metadata & annotation



b) needs to improve metadata handling & annotation



The 2021 NFDI4BIOIMAGE community survey.

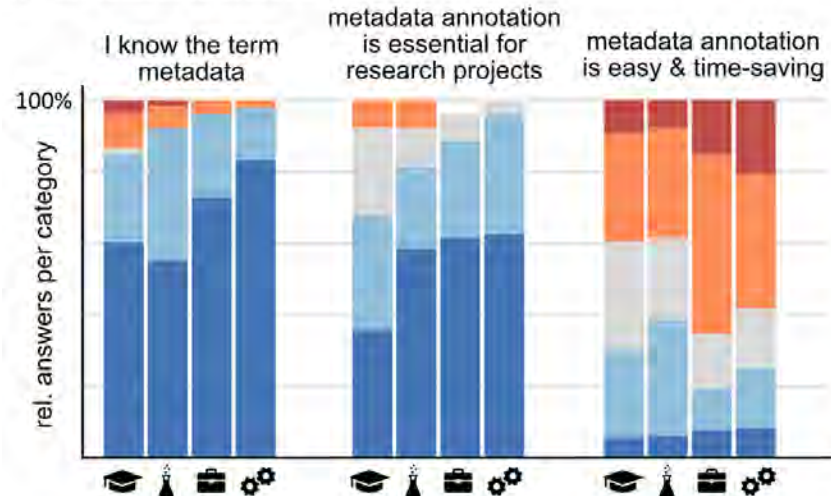
Schmidt C, Hanne J, Moore J, Meesters C, Ferrando-May E, Weidtkamp-Peters S, and members of the NFDI4BIOIMAGE initiative: Research data management for bioimaging: *F1000Research* 2022, 11:638

<https://doi.org/10.12688/f1000research.121714.2>

Survey results

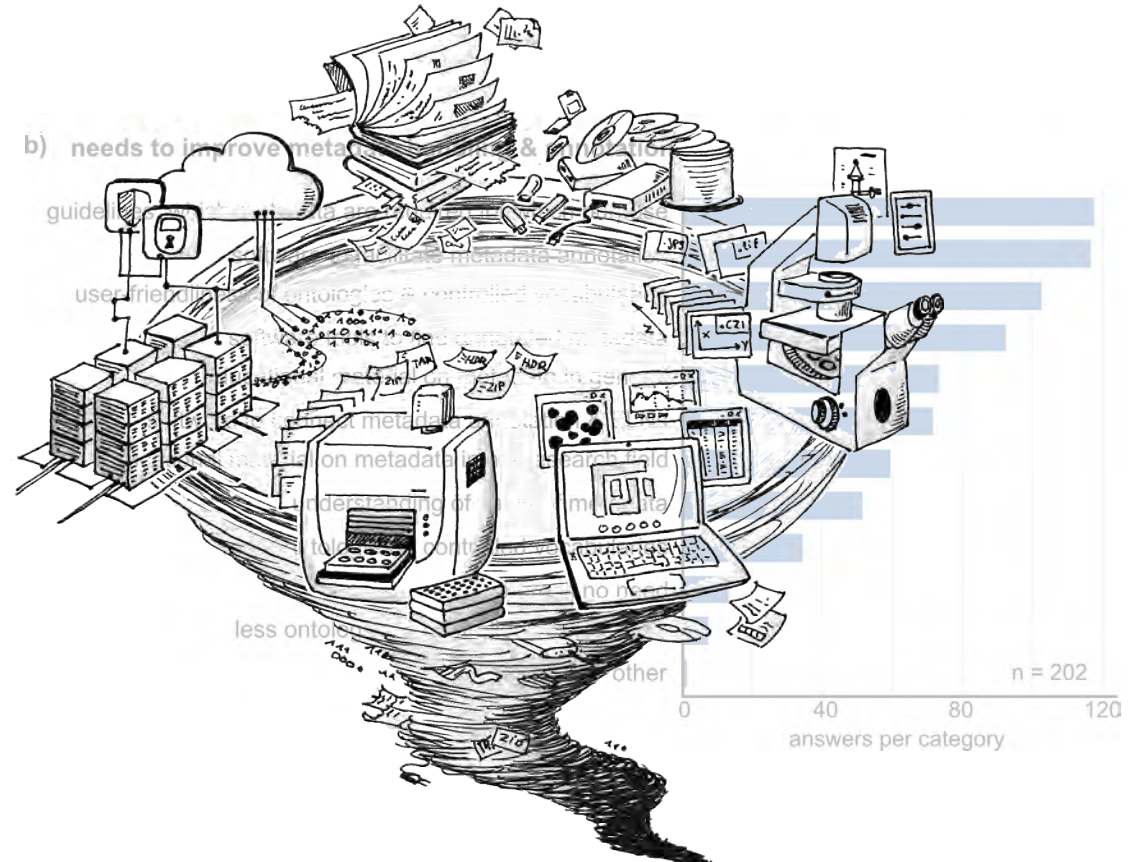
...can be frustrating

a) metadata & annotation



- I fully agree
- I partially agree
- undecided
- I rather disagree
- I disagree fully

- PhD & undergrads
- PostDoc & permanent staff
- junior & senior group leaders
- research support staff



The 2021 NFDI4BIOIMAGE community survey.

Schmidt C, Hanne J, Moore J, Meesters C, Ferrando-May E, Weidtkamp-Peters S, and members of the NFDI4BIOIMAGE initiative: Research data management for bioimaging: *F1000Research* 2022, 11:638

<https://doi.org/10.12688/f1000research.121714.2>



Bring experts together

...but drive convergence!



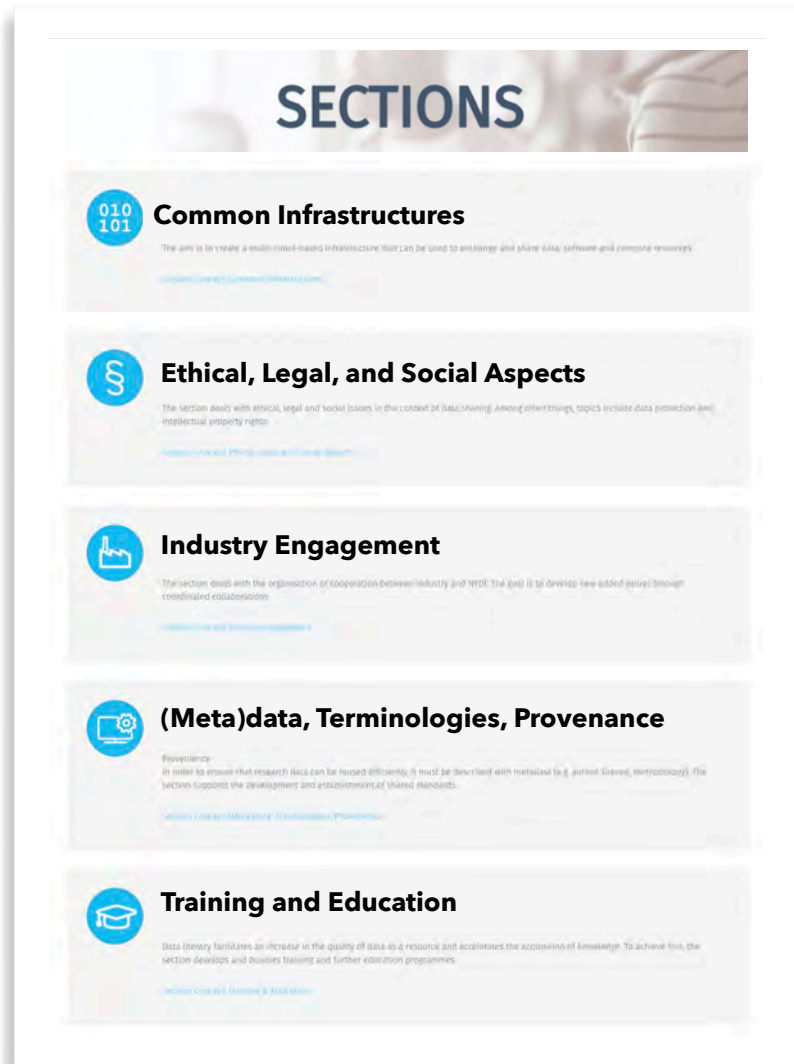
<https://nfdi4bioimage.de/about-us/members/co-applicants/>



<https://founding-gide.eurobioimaging.eu/>

Convergence

...requires Capacity



- ▶ ~ 20 FTE: work on practical RDM solutions & training
- ▶ Collaborate
 - ▶ with other NFDI consortia
 - ▶ with industry (via QUAREP-LiMi, GerBI & others)
 - ▶ international partners from the bioimaging community
 - ▶ ...

<https://www.nfdi.de/sections/?lang=en>

Data Stewards

THE DATA STEWARDS TEAM OF NFDI4BIOIMAGE

Mohsen Ahmadi Background: Biochemistry & Microscopy Affiliation: INP Greifswald 	Vanessa Fuchs Background: Plant Sciences Affiliation: Heinrich-Heine University Düsseldorf 	Riccardo Massei Background: Environmental Sciences and Toxicology Affiliation: Helmholtz Center f. Env. Res. (UFZ), Leipzig 
Maximilian Müller Background: Ecotoxicology Affiliation: University of Konstanz 	Jens Wendt Background: Electrical Eng./ Information Tech. & Biomedical Eng. Affiliation: University of Münster 	Cornelia Wetzker Background: Molecular Biology, Immunology, Zoology Affiliation: Dresden Technical University 

Research Data Management for Microscopy and BioImage Analysis

NFDI4 BIOIMAGE

Startseite > Community Integration

Community Integration

NFDI4BIOIMAGE works from the community for the community.
Find out about our community integration concepts on the following pages:
Find our community training and education offers under the **Resources and Services** section:

Newsletter Subscribe to our quarterly newsletter to stay informed.	Help Desk Concept Review our ideas for direct community support through our Data Stewardship Team	Community Use Case Concept Find out about how to become a Community Use Case
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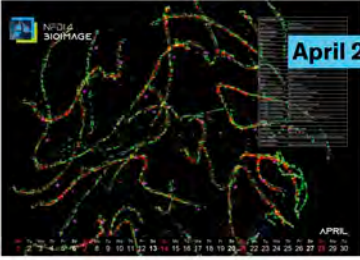
Research Data Management for Microscopy and BioImage Analysis

NFDI4 BIOIMAGE

Startseite > Resources and Services > Wall Calendar > 2024-04

Publications
Deliverables
Training & Education
Wall Calendar
Success Stories

2024-01
2024-02
2024-03
2024-04



April 2024: A FAIRy tale of meiosis

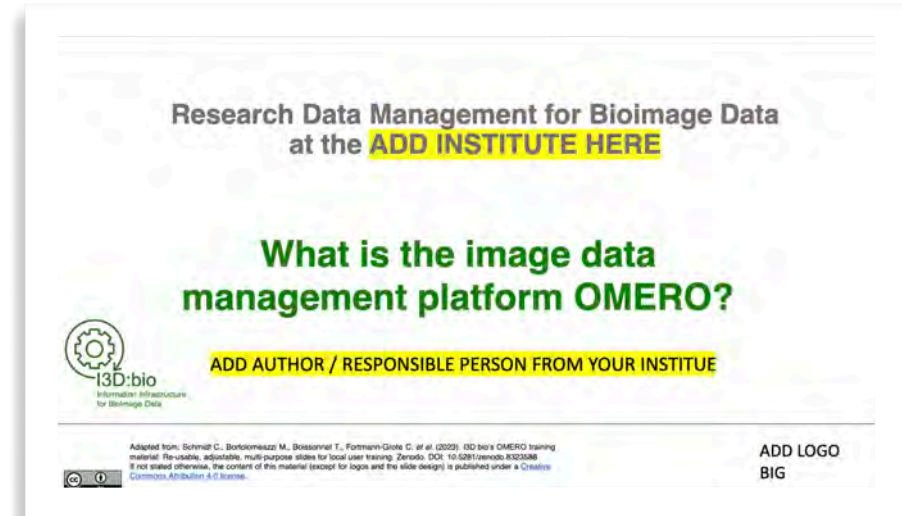
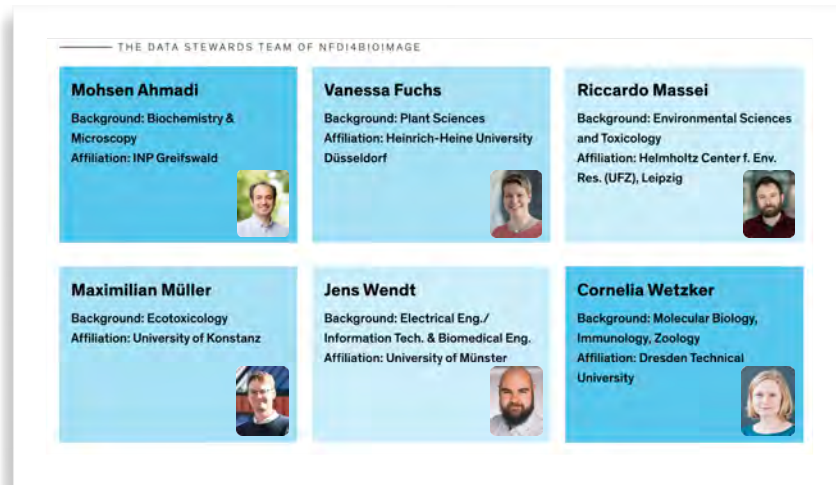
The image of the month April was kindly contributed by **Nadja Rotte** who explored

Next step:
Image Data Resource stewarding

<https://nfdi4bioimage.de/about-us/data-stewardship-team/>

Data Stewards

...are laying the groundwork



*OMERO training material:
Re-usable, adjustable, multi-purpose slides
for local user training*

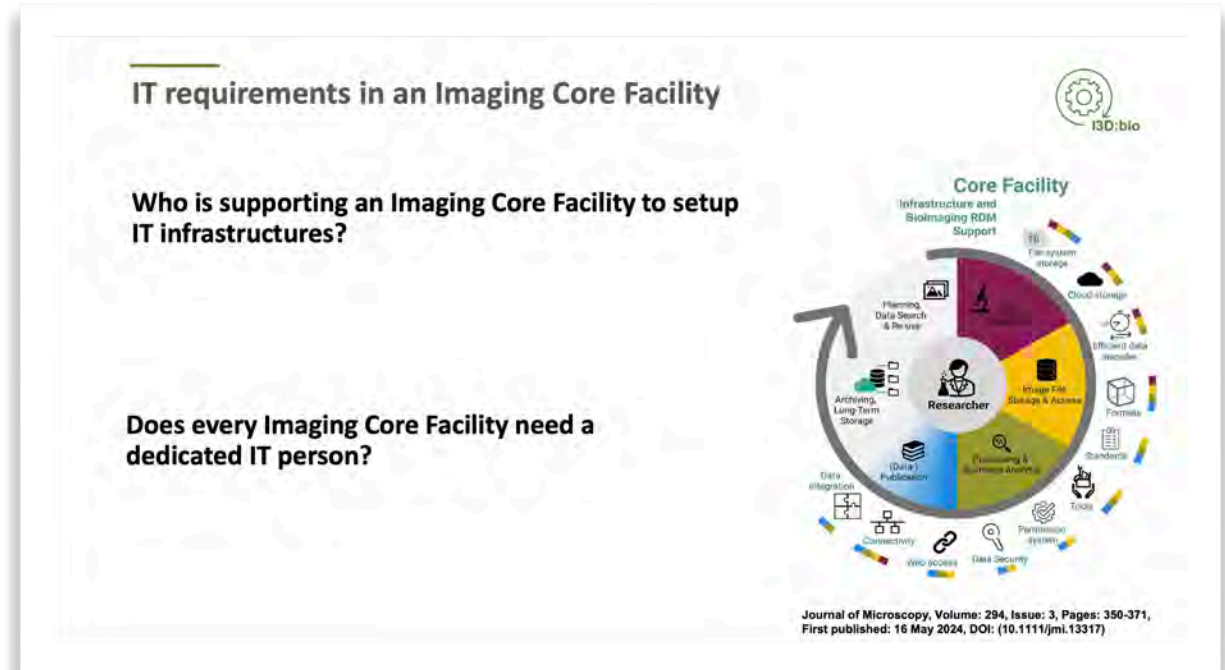
<https://doi.org/10.5281/zenodo.8323587>

Getting “Fit for OMERO”

...takes IT engagement



<https://doi.org/10.5281/zenodo.14013025>



Credit: Tom Boissonnet, Bettina Hagen, Susanne Kunis,
Christian Schmidt, Stefanie Weidtkamp-Peters

Must-Haves for IT?



GLOBAL BIOIMAGING
growing collaboration

Image Data Management

Advancing Standards and Collaboration in Image Data Management

Welcome to Global Bioimaging's Image Data Management Working Group, where we address data management, analysis, and the broader ecosystem of data sharing. Our mission is to develop and promote recommendations for data formats, facilitate the reuse of analysis technologies, and foster international collaboration among image data repositories.

Our group plays a key role in shaping the Global Bioimaging international recommendation documents and engages with various international initiatives, developer communities, and national and regional databases. By contributing to these efforts, we aim to enhance the development of effective solutions for managing, analyzing, and sharing image data.

Join us and

- define requirements for **standard data formats**
- share your experiences with **data analysis technologies**
- propose ideal models for international **collaboration among image data repositories**

Together, we strive to advance the standards and practices that underpin successful image data management!

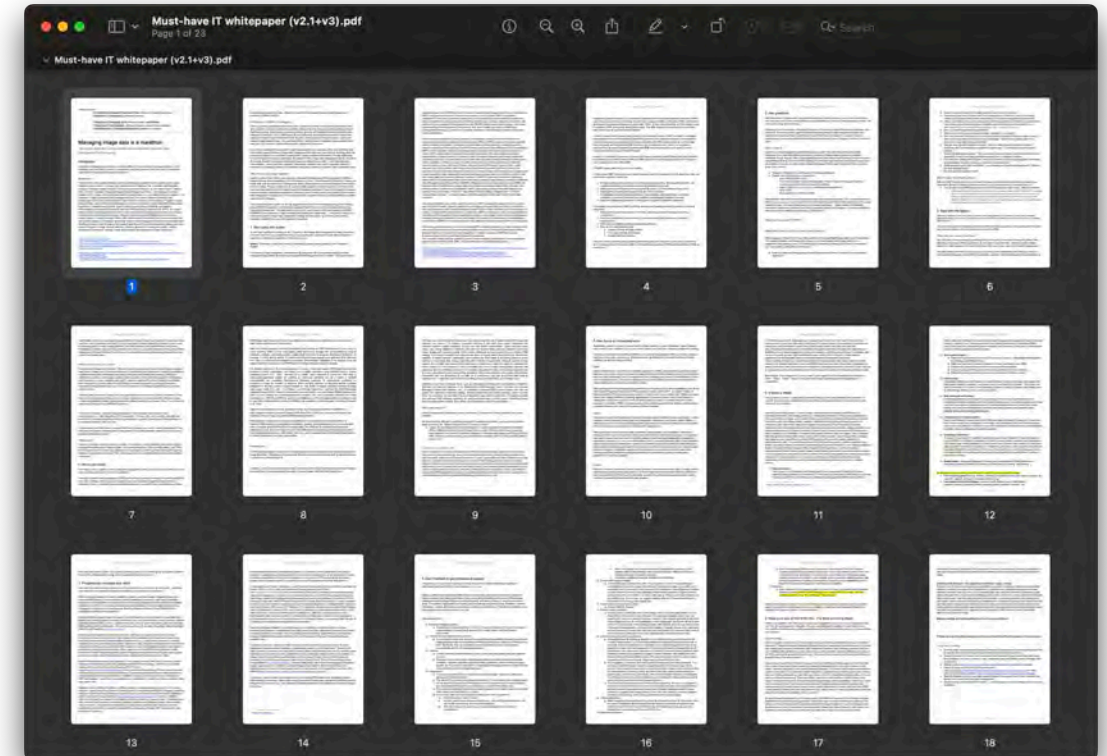
Chairs



Josh Moore (German Bioimaging, Germany) and Shuichi Onami (RIKEN, Kobe, Japan)

<https://globalbioimaging.org/working-groups/image-data-management>

Too many!



Must-Haves for IT?



<https://globalbioimaging.org/working-groups/image-data-management>

Managing image data is a marathon

Ten simple steps for running durable and sustainable research data management in bioimaging

1. Start early with a plan

2. Ask questions

DMP

3. Start with the basics

4. Know your limits

Iterate

5. then focus on immediate wins

6. It takes a village

Community

7. Progressively increase your effort

8. Don't hesitate to get professional support

9. Keep your eye on the finish line

Growth

10. Prepare for the next level

Acknowledgments



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



▲ NFDI4BIOIMAGE All-Hands Meeting

October 2023 in Düsseldorf including:
participants, coordinators, data stewards, research
software engineers, inter-/national collaborators



Slides available

<https://doi.org/10.5281/zenodo.15756866>

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Interactive Feedback **Slido**



Or, go to slido.com
and enter: **#1129973**

1. Ranking the proposed training modules

2. In-person training attendance

Interactive Feedback **Old-school**



3. Is there anything missing/
not covered by the training
modules?

**Use post-its, stick on the
relevant part of the data life
cycle if covered**

4. Where's your pain point/
challenge in this life cycle?

**Choose 3 and rank by colour
coding** **Bad, Worse, Worst**

5. What are the barriers for
you in image data
management? Or anything
else you want us to be aware
of?

Use post-its

