Data management and storage policy

The ALMC does not store data or guarantee that data will be stored on your behalf. It is our policy that you are personally responsible for your data stored on our computers. It is therefore your responsible to transfer data and maintain your own backups.

Please note that:

- The microscope and analysis workstations are not backed up. Critical failures may result in the loss of any and all data that were on the computer.
- If storage space is needed, data could also be deleted without further notice from our computers. This is to avoid users having to reschedule their experiments because the hard drives are full.

  In other words, please back up your data after each imaging or analysis session.

What data should I store?

We recommend that you store all imaging data in its native file format. For our Nikon microscopes, this will be the ND2 format.

If you must export images (e.g., if you are using the Opera Phenix), you should always select "Uncompressed TIFF". This format will preserve the raw pixel values, as captured by the camera.

All other formats, including compressed TIFFs, JPEGs, and GIFs, will apply a compression algorithm to reduce file size which modifies the original values of the image. This is fine for display purposes but could constitute image manipulation if used for quantitative image analysis.

Reading native file formats

The native image file formats can generally be opened using Fiji (ImageJ) or by using our BioformatsImage toolbox in MATLAB. If you need help working with these tools, please email Jian at biof-imaging@colorado.edu.

Data storage options

Below is a list of several places to consider for data storage. We have tried to list the pros and cons of each option, so please read carefully.

BIT storage

If you are eligible, we strongly recommend using the BioFrontiers IT (BIT) storage servers for data storage. The servers can be mounted as network drives directly on our microscope and analysis computers, and file transfers are generally fast as they are directly connected via the university's network. The servers are also backed up in case of hardware issues. However, you currently cannot share files with users who are not affiliated with the university (i.e., if they do not have an identikey)

This service is available if you are a BioFrontiers faculty or affiliated with the BioFrontiers Institute (e.g., council members). This option is unfortunately not available for external researchers or commercial entities.

To learn more about this service, determine if you are eligible, and receive the latest usage fees, please email bit-help@colorado.edu.

PetaLibrary

The PetaLibrary is a CU Boulder Research Computing service that can be used to store and share your data. This service does allow you to share data with external researchers. However, please note that the service only stores a single copy of your data, which could be lost if there is a critical hardware failure. Hence, you should take steps to maintain a separate backup of your data.

For more details, please contact rc-help@colorado.edu.

Commercial cloud storage options

Commercial cloud storage options, such as Google Drive, Microsoft OneDrive, and AWS are also potentially good locations for data backup and sharing. However, please note that usage fees can be quite high depending on the service you pick.

We strongly discourage the use of your CU Boulder Google or Microsoft OneDrive account for storage as upon your departure, the data will be deleted. If you plan to use these services, we suggest you sign up and pay for your own personal account.

External hard drives

External hard drives can be used to transfer your data from our computers. However, we strongly recommend that you maintain at least a second copy of the hard drive as a backup. In general, we do not recommend using a single external hard drives as your primary data backup method as the data are not readily shareable nor backed up in case of disk failure. Instead, we encourage you to consider cloud storage options as they often have several layers of backups in case something goes wrong.

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