Overview

With our microscopes you can generate large complex multidimensional data sets. The analysis tools have to be powerful enough to deal with the data. While there is good open software for some applications, there are data sets where you may need commercial software and more powerful workstations.

Workstations: HSC Room 60, HCI Room 1470

The Cell Imaging core has two image analysis workstations for your use. These workstations have many large hard drives to accommodate image data sets. Graphics cards are installed for faster analysis. Commercial and open image processing software is installed. The workstations and software are available for reservation through the Resource Calendar.

Imaris

Imaris is made for 2D, 3D and 4D image visualization and analysis of multichannel fluorescence images. It can handle large data sets, extract objects, make measurements, and make graphics and movies for presentations and publication.

Strengths:

- Accepts any common data format for (CZI, ND2, LIF, TIFF,...) through its FileConverter.
- Handles large data sets with fast interactive response by creating a scale pyramid data structure.
- 3D and 4D data visualizations.
- Identification of image elements with Spots, Surface, Cell, and Filament tools. These tools have set up Wizards to guide in the interactive selection of analysis parameters.
- Tracking elements over time series.
- Surface tool now includes pixel classifier machine learning.
- Export of measurements to spreadsheets for further analysis.
- Internal graphing of measurements.

We have a one-seat floating license for this software. Please reserve time on the software in the Resource Calendar.

We have additional week long licenses available for rent for use on your own workstation. Please inquire with the Cell Imaging staff for more information.

A free image viewer is available for Window or Macintosh. Imaris Viewer.

Nikon Elements AR ai

Nikon Elements provides 2D, 3D and 4D image visualization of multichannel images. It provides a large set of tools for image manipulation, analysis and measurement. Analysis programs can be written as macros (a C like language) or using the General Analysis tool (a graphical programming environment). These can then be applied in batch across many images.

Strengths:

- Accepts ND2, TIFF and OME.TIFF formats.
- 2D presentation of multidimensional data sets in a clear interface.
- Volumetric presentation.
- Large set of image annotation, processing, and analysis tools.
- Programming through Macro language or graphical programming tools.
- ai (deep learning) tools for image processing (de-noise, clarify) and analysis (segmentation).

We have a one-seat floating license for this software. Please reserve time on the software in the Resource Calendar.

A free image viewer is available for Windows or Macintosh. NIS Viewer.

Zeiss Zen Desk (only at HCI 1470)

Zen provides several image visualization, image analysis, and measurement tools.

Strengths:

- Accepts CZI and TIFF formats.
- 2D presentation of multidimensional data sets in a clear interface.
- Volumetric presentation
- Image annotation, processing and analysis tools.
- Programming through saved processes.
- Option to integrate trained ai (deep learning) tools for image processing and analysis.

We have one license for this software. It is only available at HCI 1470.

A free image viewer is available for Windows. Zen-Lite. Zen-Lite also provides some image processing tools and is especially useful for image export to other formats.

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