

- Beginner learning path videos tutorials
- Link to a tutorial video - Short video
- Link to a Homeschool webinar - Long video
- [Link to all webinars: scientific, new version launch ...](#)
- [Link to users show cases examples](#)
- [Link to all tutorial videos](#)
- [Link to all Homeschool webinars](#)
- [Link to system requirements](#)
- [Link to contacts](#)

ENVIRONMENT & NAVIGATION

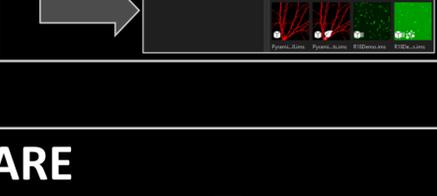
- [Imaris Tour - Imaris environment](#)
- Navigation panel
- How to zoom into histograms

IMPORT

- IMPORT LABEL IMAGES FROM ILASTIK**
- IMPORT/EXPORT WIREFRAME OBJECTS**
- IMPORT SPOTS & TRACKS from MaMuT / TrackMate**

IMAGE LIBRARY « ARENA »

- New Imaris Arena microscopy image browser (> version 9.3)
- Migrate your old Arena database from version < 9.3 to the new Arena microscopy image browser from version > 9.3



PREPARE

ALIGN

Load multiple images

PRE-PROCESS

- Deconvolution
- Attenuation Correction & remove background noise (mask)
- Batch image processing

STITCH

- Start with tile stitching
- Advanced stitching

VISUALISE

Intensity rendering

- Mixed model rendering
- Blend/opaue mode
- Custom Color LUT
- Multiple Light Sources

Visualisation tools

- MeasurementPoints & Ortho/Oblique Slicers
- Clipping Plane & Ortho/Oblique Slicers

Isolate a structure from the rest of the image

Mask

Videos and Snapshots

- Video recording
- Snapshot capture

DETECT

- Define a free hand drawn region of interest (mask)
- Store, load and re-use creation parameters

- Using statistics in Imaris
- Similarity between objects Normalizing objects statistics

SPOT

- Count Spots inside a region of interest
- Clusturize spots

SURFACE

- Surface by Machine Learning Pixel Classification / Labkit
- Rendering Surface
- Manual Surface - Masks
- Contour tool - drawing
- Bounding box statistical variable

CELL

- for membrane staining
- for intracellular component detection
- Edit Cell - Import Surfaces & Spots

FILAMENT

- for neurosciences
- for complicated cases Soma (18:00 mins)
- Spine classification
- Convex hull
- Prepare the image for optimal Filament detection (mask)

Which Imaris model is the best for my image ?

	Spot	Surface	Cell	Filament
Structure Shape	Spherical	Irregular	Irregular	Filamentous
Membrane Staining	X	X	✓	X
Intensity ...	✓	✓	✓	X
Counts, Positions	✓	✓	✓	✓
Diameters	✓	X	X Only for vesicles	✓
Volume, Area & Morphology (Bounding Box, Sphericity ...)	X Est. Volume	✓	✓ Cells & Nuclei	X Filament Est. Volume Soma Vol. & Morph.
Network Complexity: Lengths, Branches, Scholl, Straightness, Orientation, Spines ...	X	X	X	✓
Intracellular Component Analysis	X	X	Num. Vesicles / Cell&Nucleus Num. Nuclei / Cell	X
Inter-Objects Distances	Spot-Spot Nearest Spot Shortest Distance Average Distance to the 3,5 or 9 Nearest Spots * Spot-Surface Shortest Distance	Surface-Surface Shortest Distance, Volume Overlap * Surface-Spot Shortest Distance	Intracellular relationships Vesicles Distances to the Cell and Nuc. membranes...	Filament-Spot XT Find Spots Close to Filament
Tracking	✓	✓	✓	✓

TIME LAPSES TRACKING

- 3D Tracking
- 2D Tracking
- Export Lineage Tree
- Tracks manual corrections
- Filter tracks inside Surfaces
- Advanced technics for time lapse
- Label tracks
- Import Spots & Tracks from MaMuT / TrackMate
- Analyze time events (9:34 min)

ANALYSE

CLASSIFICATION

- Filter objects using statistics, label objects and duplicate objects
- Manual classification/labeling
- Machine Learning classification

INTERACTIONS AND AFFINITIES

- 3D manual distance measurement
- Colour Code Spots/Surfaces by distance from a reference Surface
- Filter Spots in a specific distance band outside or inside surfaces
- Surface-Surface distances
- Filter Surfaces that are in contact

REFERENCE FRAME

- Get distances from a new reference point
- Using multiple Reference Frames

ATTRACTION TO A SURFACE

- Spots accumulation around a Surface
- Intensity profile around a Surface

COLOCALISATION

- Intensity versus Object Based Colocalisation
- Overlapped volume

VANTAGE PLOTS

- Create object plots
- Add box plots
- Adjust object plots display
- Scatter plots with multiple classes

BATCH

- Shortest Distance for multiple datasets
- Batch image processing
- Gather the Statistics of Multiple Images

CUSTOMISATION – SCRIPTING

[Link to Imaris Open webpage – Xtension repository](#)

- Write your own Imaris Xtension
- Activate ImageJ Fiji and MATLAB plugins
- Integrate an Xtension downloaded from Imaris Open webpage
- Configuring Imaris 9.9 to work with Labkit – Pixel classification (Machine Learning)
- Convex Hull Xtension
- Split Spots Xtension
- Classify Spines Xtension