

**The world's leading Interactive Microscopy Image Analysis software company, actively shaping the way microscopic images are processed through constant innovation and a clear focus on 3D and 4D imaging.**

## **Imaris Stitcher** Big Data Capable Image Stitching

Imaris Stitcher is the newest member of the Imaris family and is a stand-alone application made for precise alignment and fusing of multiple microscopy image tiles into one 2D, 3D or 4D volume. Stitch multiple image tiles in XYZ while also correcting for a common acquisition condition: camera rotation relative to the microscope stage. Imaris Stitcher's interface and workflow allow you to easily align and stitch image tiles to export images terabytes in size.

## **Imaris File Converter** The First Step for Fast Visualization

The Imaris File Converter allows you to save time by first converting your original image files to high performance IMS files. It excels at efficient batch conversion of multiple large images using configurable multi-threaded processing. The read-write progresses are constantly updated and new files can be added to the queue at any time. As soon as your files are converted to IMS use Imaris for immediate and interactive 3D rendering of your images.

## **ImarisTrackLineage** Explore Motion and Detect Cell Divisions

ImarisTrackLineage is the cutting-edge scientific solution for 3D and 4D object tracking

Automatically track objects in 2D or 3D + time Choose from the multiple tracking algorithms depending on the motion type you need to study Handle thousands of objects per time point Handle thousands of time points Interactively edit, create and revise tracks and tracked objects Report numerous object and track related parameters, such as speed, displacement, straightness, shape, intensity and size. Automatically detect cell division events to determine cell cycle duration and generation Interactive lineage tree.

## **MeasurementPro** Quantitative Analysis of Extremely Large and Complex Images

- Imaris Measurement Pro adds geometric and intensity measurement capabilities to Imaris.
- Interactively render massive surfaces & millions of spots.
- Create Surfaces & Spots from extremely large images.
- Measure intensity on a per channel basis.
- Color-code detected objects based on any calculated parameter and intuitively select objects to extract key parameters Interactively sort and classify objects based on calculated parameters.
- Determine angles and distances between points of interest.
- Calculate measurements relative to a specific position or orientation within an image Select many objects and assign label names and colors.
- Build and measure 3D objects based on 2D contours

## ImarisColoc Isolate, Visualize and Quantify Colocalized Regions

ImarisColoc assesses the distribution of one label relative to another.

Multiple colocalization selection methods including an automatic mode based on an established algorithm.

Obtain statistics in real time Present data as a new 3D or 4D color channel Expand or narrow the computed histogram region.

Perform analysis on specific ROIs Co-localization of entire time series analyzed in fewer steps.

## Imaris ClearView GPU-Accelerated Deconvolution

Imaris ClearView includes integrated deconvolution algorithms.

Optimized for GPU processing on NVidia and AMD boards Available for both Mac and PC computers

## ImarisXT Expanding Horizons Through Customization

ImarisXT is an API that enables programmers to add functions and transfer data to and from Imaris.

## ImarisVantage Created for Scientific Discovery

Imaris Vantage allows users to interpret their results using interactive multi-dimensional plots.

Extend Imaris functionality with your own plugin (XTension).

Two-way data exchange between Imaris and Matlab, Java and Python Supported by the Imaris Open web platform. ([open.bitplane.com](http://open.bitplane.com)) Powered by members of the "ImarisXT Developer Program".

Free download of 70+ documented XTensions.

## FilamentTracer Intelligently Trace Neurons in 3D Image with TorchTM

FilamentTracer allows for the detection, tracing and analysis of filament like structures.

## ImarisCell Making Sense of your Cells' Relationships

ImarisCell allows analysis of cell groups and individual cells and their components on a per cell basis.

Examine relationships between cells and cellular components within a cell Utilize biologically meaningful image analysis units (cells, nuclei and vesicles) Detect cells based on cytoplasm or plasma membrane staining (new cell detection algorithm when only membrane labeling is available) Detect and classify multiple populations of vesicular objects Examine the behavior of cells in 2D to 4D data sets Measure mechanical and structural cell functions involved in cell-to-cell communication Save time by utilizing an advanced, structured and intuitive creation wizard.

Interactive 3D tracing methods available: Wizard Guided Automatic or AutoPath and AutoDepth revised for optimal performance in big images Automatic detection and morphological characteristics of dendritic spines Facilitated tracing in dense neural networks with Imaris TorchTM tool.

Statistics such as branch length, diameter, area, volume, spine density, filament topology and many more Direct interaction with the whole filament, individual branches, segments or particular points with multiple editing possibilities Premier 3D filament and spine model visualization options (e.g. size, color) together with non-filamentous objects.

Tracking and detection of temporal changes in shape and position (with ImarisTrackLineage)

## ImarisBatch The Ultimate Imaris Productivity Tool

Imaris Batch allows for processing and analysis of multiple 2D/3D + time images in batch mode.

Select from five classes of plots: gallery, xyz "real world", xyz "time", xyz "scatter" and side-by-side univariate plots Box and Whisker Plots, 5-Number Summary and Projection Plots Compare two or more groups of images (control with test groups) Use calculated parameters to drive each of the axis, color coding, scale and display order (in gallery view) Identify trends and outliers Get preview of the results of: Wilcoxon, T-test, F-test and Kolmogorov- Smirnov and export the results for further statistical analysis

Create visually powerful data representations and at the same time facilitate a better understanding of intrinsically complex data Create 3D/4D annotations within the Surpass view; annotations can be free text or a real-time display of statistical parameters

Save valuable time by batch processing/analysis – apply an analysis protocol to large groups of images automatically Reproduce exact analytical procedures Interactively define the image analysis protocol which will be applied to "n" images Seamlessly integrated into the Imaris workflow (Arena-Surpass-Vantage) Unified pipeline of Image Processing into Object Detection

Run batch jobs for Spots, Surfaces, Cells and Filaments Optimize the usage of Imaris licenses by running batch jobs autonomously when computing resources are less busy (e.g. overnight)

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