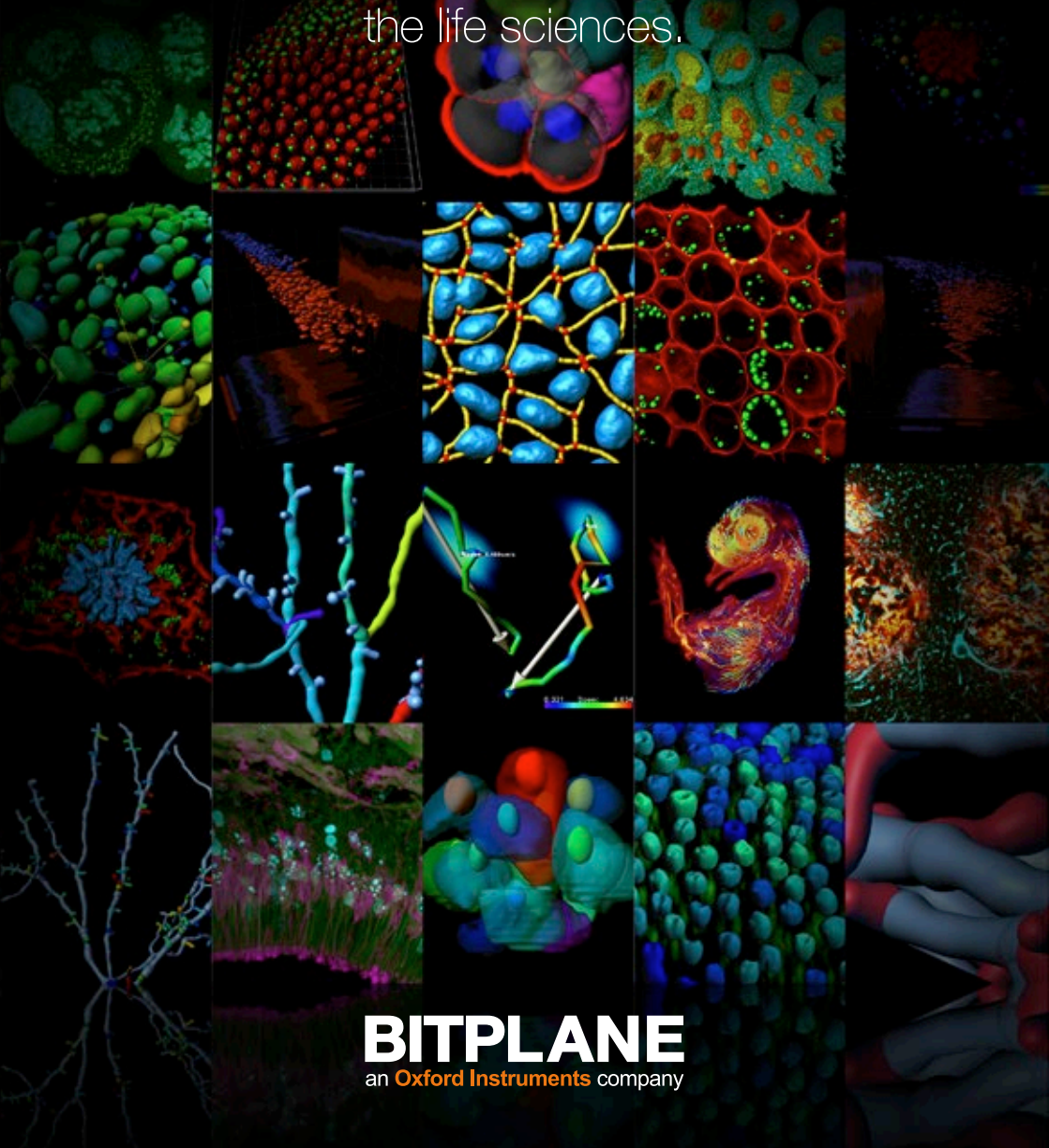


IMARIS

3D and 4D interactive analysis
and visualization solutions for
the life sciences.



BITPLANE

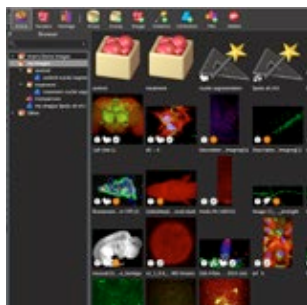
an Oxford Instruments company

IMARIS®

A Brief History

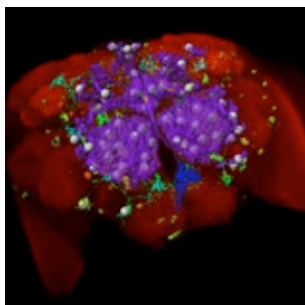
For over 20 years Bitplane has offered enabling scientific software tools for the life science community. Imaris v1.0, from 1992, focused purely on the visualization of 3D fluorescence images being generated by early point scanning confocal systems. Gradually we have introduced a range of analytical tools for Cell Biologists, Neuroscientists and a wide range of other life science disciplines.

More recently we have expanded the Imaris environment to include data management and results exploration / data mining. At your disposal you have a fully integrated platform, which allows you to organize/explore your data, visualize it, (batch) analyze it, test hypotheses and present your conclusions in the best possible manner.



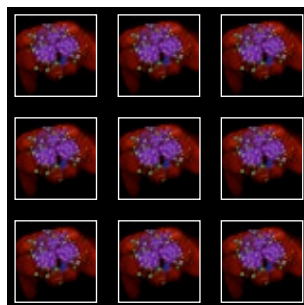
Organize

The Arena view (new with Imaris 8) is going to help you get organized and as a result increase your productivity. Arena is Imaris's new central hub and it allows you to group your images into logical groups thus preserving and displaying your experiment's logic. In this new Imaris view it is also possible to tag images and groups of images as well as perform intelligent searches across all images, groups and tags.



Visualize

Imaris can interactively display 2D/3D data sets with 100s of Gigabytes and 1000s of time points. The Surpass view offers a range of highly efficient, top quality visualization tools. GPU accelerated Volume and Surface rendering can be used in conjunction with orthogonal and oblique projection planes thus enabling for the dissection of even the most complex 3D biological spaces.



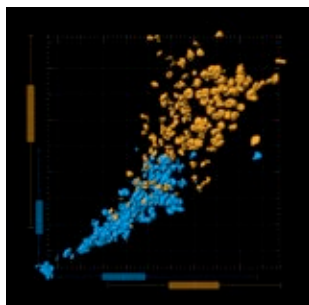
Analyze and Batch Process

Imaris includes a comprehensive array of powerful analytical tools – each of them presented in an easy to use wizard. The key application areas include: tissue, cellular and organelle detection, object motion tracking, and filament tracing (e.g. dendritic trees, spines, cytoskeleton, blood vessels). During an interactive session in the Surpass view you will define the image analysis protocol which can then be applied automatically, via Arena, to analyze large groups of images (e.g. a full experiment). Batch processing makes use of all CPU power available - the ultimate productivity tool.

The Bitplane Team and the Imaris Community

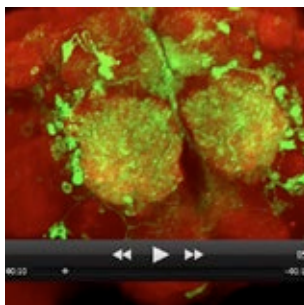
Imaris is developed and presented by a team of scientifically focused individuals. In order to provide training and gather your suggestions for future developments our team of experts organizes and runs an average of ten onsite Imaris workshops per week.

Our community is composed of 10,000 scientists in 2,000 laboratories or microscopy facilities distributed by 40 countries. The Imaris Open web platform fosters the exchange of expertise between Imaris users and enables collaborative efforts (open.bitplane.com). Imaris users have a high scientific output and in the last 5 years alone, Imaris has cited in 5,000 peer-reviewed publications.



Compare

At the heart of every scientific investigation lies the question: is the “test” group significantly different from the “control”? In Arena you select which experimental groups you want to compare before moving to Vantage where you can create the relevant plot and test your hypotheses. Vantage allows you to map up to five calculated parameters on the different plot axis (x,y,z) and object properties (color and scale). Such flexibility enables you to quickly cycle through different key parameters and identify trends and outliers. With a single click you can export the data of interest to run statistical tests in your favorite statistics package.



Present

When all the hard work is done, Imaris offers you a complete suite of tools to create professional-grade visual output. Use text annotations to label key structures or features in 3D space. Frame your results (Vantage plots or Surpass scenes) in the best possible angle and lighting before capturing them in high definition still images for your upcoming publication. Allow your creativity to run wild when defining the script for your video animation. Your publications and presentations will gain a new life, helping you tell the story and giving your findings the best chance of being noticed.



Imaris Open

This platform fosters collaborations between microscopists, life scientists and computer scientists. Imaris Open offers two distinct but linked spaces: the Discussion Forum and the File Exchange.

There are four main activities you can engage with while using Imaris Open:

- 1) download a existing XTension
- 2) request a new XTension
- 3) submit a new XTension
- 4) discuss any topic related to Imaris, image visualization, analysis and interpretation.

Imaris Open and all its content are free to use.

MeasurementPro

Realizing the importance of quantitative image analysis

Imaris MeasurementPro adds geometric and intensity measurement capabilities to Imapris.

Color code detected objects based on any calculated parameter

Obtain precise measurements of intensity values for groups of selected voxels on a per channel basis

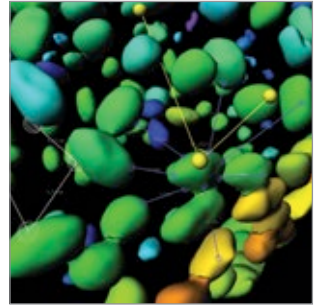
Intuitively select objects of interest for extracting key statistical parameters

Interactively sort and classify objects in real-time based on calculated statistical parameters

Determine angles and distances between points of interest

Build and measure 3D objects based on a 2D contour

Create masks to selectively include or exclude ROIs



ImarisColoc

Isolate, visualize and quantify colocalized regions

ImarisColoc enables you to obtain key information about the relative position of labelled components within a specimen.

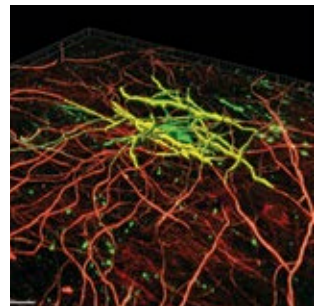
Utilize multiple methods to identify colocalization in images

Automated threshold method included

Obtain colocalization statistics in real-time and easily export the results for processing

Present colocalization data as a new 3D or 4D color channel in Surpass

Apply any of Imapris's analysis tools to the calculated colocalization channel



IMARIS® - Enabling Science

ImarisTrack

Discover the meaning of motion

ImarisTrack 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

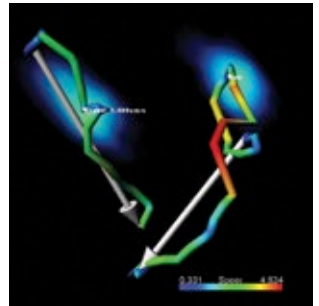
Handle thousands of time points

Interactively edit, create and revise tracks and tracked objects

Determine numerous object and track related parameters, such as speed, displacement, straightness, shape, intensity, size and number

Simultaneously visualise and interact with the raw image and the detected objects + tracks

There are numerous XTensions available for Track specific applications (requires ImarisXT)



ImarisXT

Expanding horizons through customization

ImarisXT is an API that enables programmers to add functions to Imaris.

Extend Imaris's core functionality with your own plugin (XTension)

Two-way data exchange between Imaris and Matlab, Java and Python

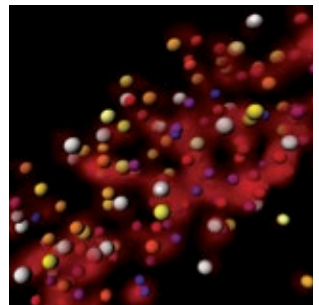
Supported by the Imaris Open web platform (open.bitplane.com)

Powered by Bitplane staff developers and the community members who are part of the "ImarisXT Developer Program"

Seamlessly integrate your XTension into Imaris

XTensions for multiple apps including super resolution, cell tracking, filament tracing, object detection, GPU deconvolution, inter object relationships, batch analysis, colocalisation, image processing and plotting

Free download of 70+ documented XTensions



Scientific Discovery Since 1992

ImarisCell

Making sense of your cell's 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 labeling or based on plasma membrane labeling (two algorithms available)

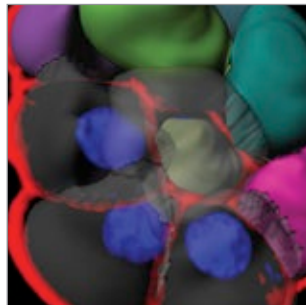
Detect and classify vesicular objects of various populations

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

There are numerous XTensions available for Cell specific applications (requires ImarisXT)



ImarisBatch

The ultimate Imaris productivity tool

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

Save valuable time by batch processing/analysis – apply an analysis protocol to large groups of images automatically

Reproduce exact analytical procedures

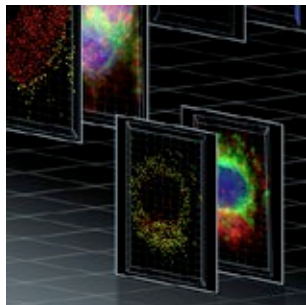
Interactively define the image analysis protocol which will be applied to “n” images

Seamlessly integrated into the Imaris workflow (Arena-Surpass-Vantage)

Automatic concatenation of batch results

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)



FilamentTracer

Intelligently visualize and analysis filamentous structures

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

Four interactive tracing methods available: Automatic, AutoPath, AutoDepth and Manual

Control the maximum gap allowed before filament tracer halts

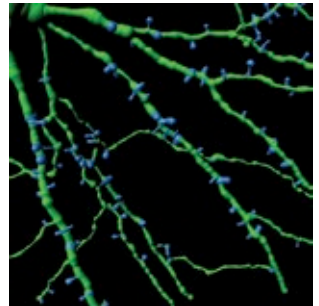
Obtain numerous statistics such as branch length, diameter, volume and filament topology

Manually draw segments with automatic centering and region growing

Directly interact with the whole filament, individual branches, segments, or particular points (e.g. branches)

Visualize filaments together with non-filamentous structures using Imaris's leading collection of specific visualization functions

There are numerous XTensions available for Filament Tracer specific applications (requires ImarisXT)



ImarisVantage

Created for scientific discovery

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

Select from four classes of plots: gallery, xyz "real world", xyz "time" and xyz "scatter"

Box and Whisker Plots, 5-Number Summary and Projection Plots

Compare two or more groups of images

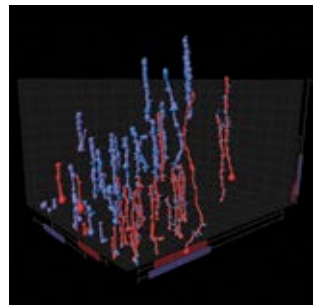
Use calculated parameters to drive each of the axis, color coding, scale and display order (in gallery view)

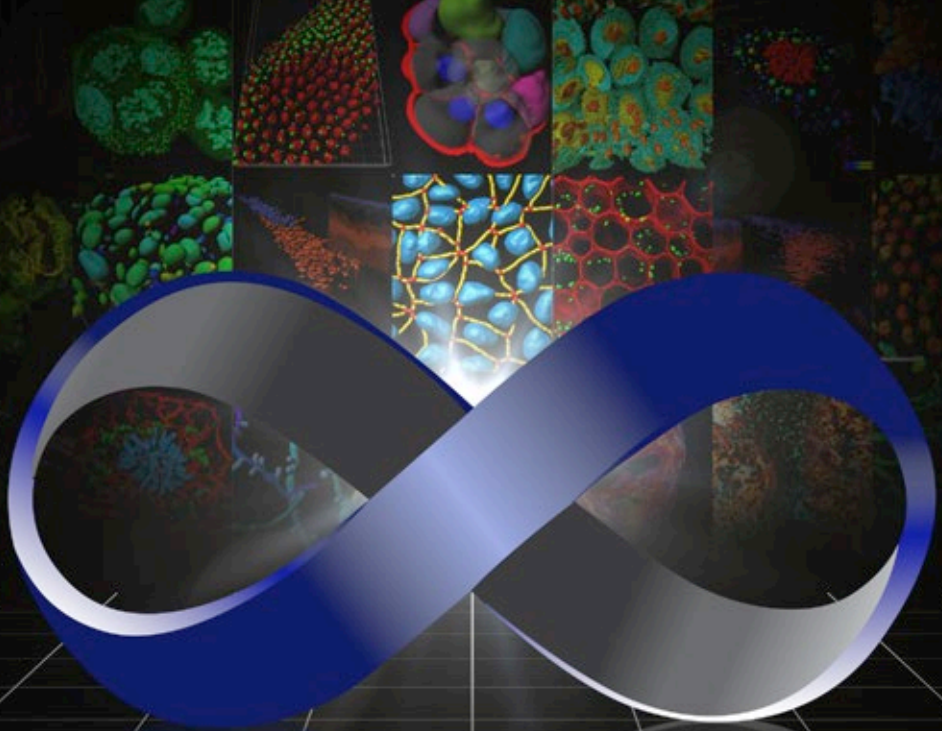
Identify trends and outliers

Easily export the results to third party tool for 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





Imaris Infinity

Much more than a maintenance contract

Find out more today at bitplane.com/infinity

Operating system requirements

For full list of supported hardware please visit bitplane.com/go/support/system-requirements

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