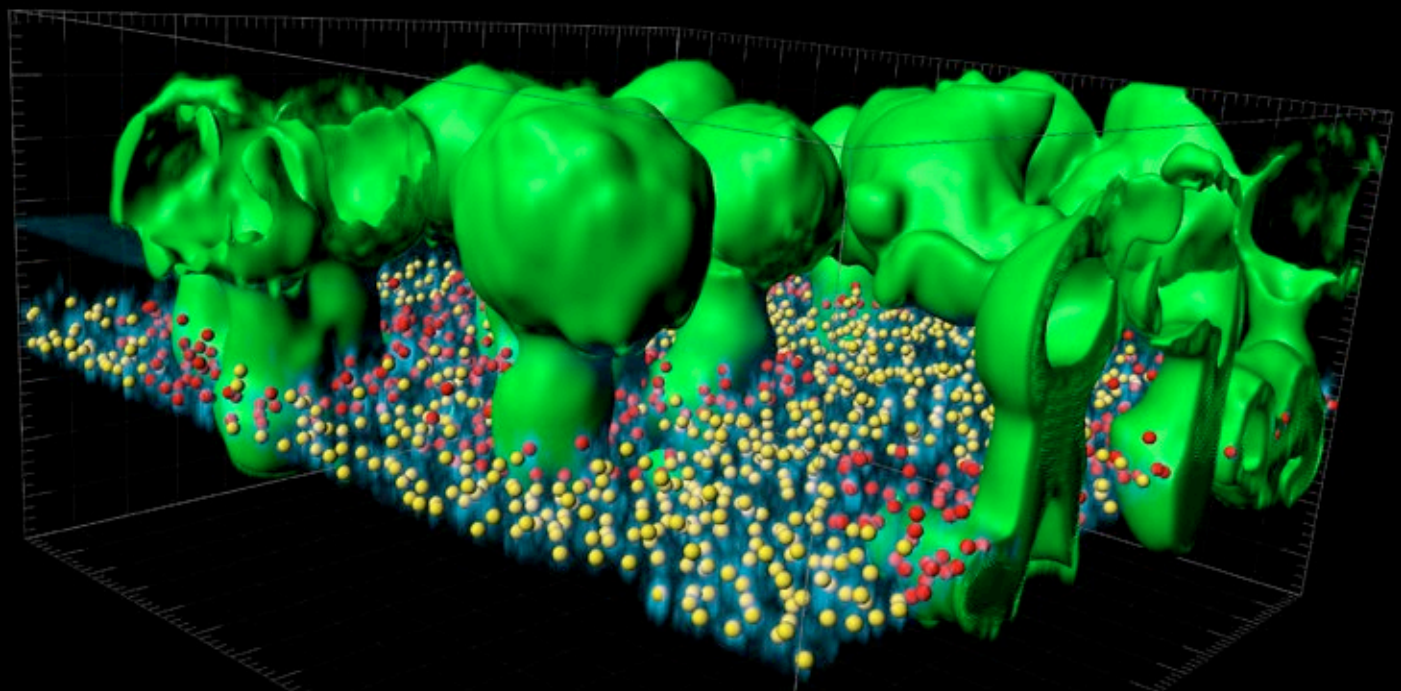
ImarisXT

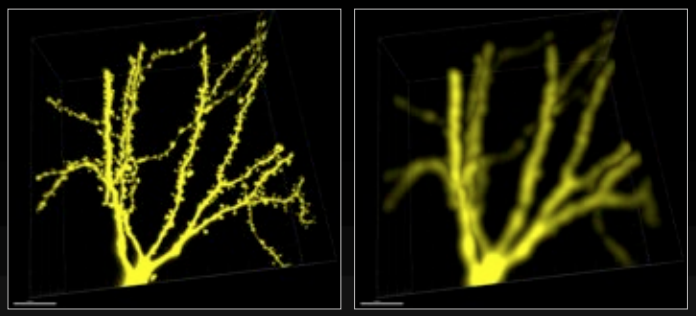
Revolutionizing Microscope Imaging and Analysis

BITPLANE



Imaris XT links life sciences researchers and community software developers. This module is designed to enable mass customization and foster scientific collaborations.

With **ImarisXT** you can perform task-specific segmentations and analyses to boost the analytical output of **Imaris** and its modules. With the ability to read virtually all microscopic formats, Imaris provides a fast, powerful, interactive and easy to use environment to visualize and analyze image data. **ImarisXT** is a multi-functional two-way interface from (to) several popular programing languages.



ImarisXT allows integration of task-oriented algorithms image processing, segmentation, classification, or reporting into provides a customizable user interface for seamless integration of new modules.

Left: A volume rendered pyramidal cell processed with the Fiji smoothing filter in Imaris. Right: processed cell.

Main Image: 3D data set processed with an ImarisXT XTension visualizing two pools of vesicles located at a defined distance (closer than 5 µm - red, and farther than 5 µm - yellow) from surface-rendered structures (green). Images courtesy of Tomoko Shibutani, DAIICHI Pharmaceutical Co.

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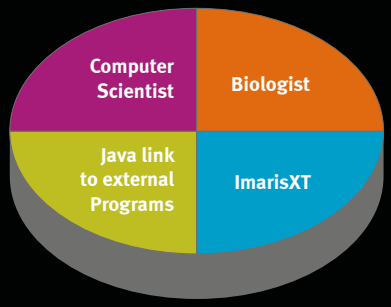
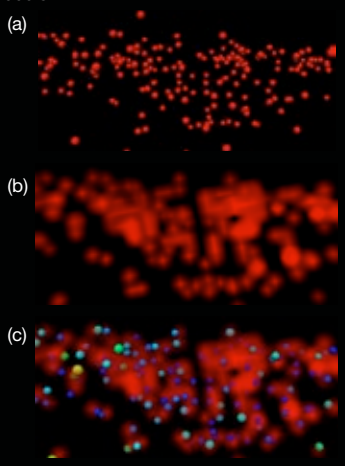


Allowing Biologists and Computer Scientists to develop and share their custom analysis protocols.



A super-resolution dataset (a) imported to Imaris for analysis and transformed into a volume object (b), which was ultimately surface rendered and analyzed in ImarisMeasurementPro.

Imaris Open

The Imaris Open 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.

open.bitplane.com

Flexibility

Java MATLAB python

Your Benefits

Answer challenging questions with targeted tools.

Integrate your custom algorithms into **Imaris.**

Tap into Fiji/imageJ image processing algorithms.

Visualize and analyze results in **Imaris**.

Profit from **Imaris**' ease of use in Mac OS and Windows.

Quickly develop custom tools and see results of their performance.

Efficiently link biologists, computer scientists and image analysts.

XTensions - Imaris XT Open Source plugins

- Program your own analysis and profit from modules developed by other Imaris users - visit open.bitplane.com/file-exchange
- Pre-Existing Library - Over 45 free and open source XTensions are fully documented and packaged with each Imaris XT installation.
- Exchange - XTensions can be exchanged peer-to-peer or can be made publicly available in Bitplane's XTension library
- XTension Lists - Lists are available for all XTensions for MATLAB, Python and ImageJ.

Custom programming interface

- Java Interface - **ImarisXT** provides a Java interface to exchange image data and derived image data from Imaris with another application.
- Programming Languages – Programming languages like Matlab, Java, Python, C#, C++, and VisualBasic support easy integration of Java interface and can be used with **ImarisXT**
- Imaris XT is equally compliant with both Mac OS and Windows based systems
- ImageJ Plug-In - Use readily available functions in the ImageJ software with the advanced visualization features of Imaris via an ImageJ plug-in that uses the **ImarisXT** interface

Open Source community - link to ImageJ / Fiji

- **Imaris** provides Fiji / ImageJ compatible plug-ins aimed at performing additional image processing. Fiji / ImageJ offers a solution for specific problems with image analysis and boosts the analytical capability of **Imaris**.
- Use your current Fiji/ImageJ routines while working within the **Imaris** structure
- Enhance and extend the functions of **Imaris** with Fiji/ImageJ plug-ins

Customizable User Interface

- Insert custom-written image-processing XTensions, into **Imaris**' Image Processing Menu.
- Create custom objects with algorithms that can be inserted as a custom Surpass Tool Bar button.
- Surpass Tool Tab - algorithms that are directly related to or require existing Surpass components (spots, surfaces, filaments) can be inserted in the "tools" tab of Surpass.

Data Exchange via Java interface.

- Exchange Image Data - voxel intensities, voxel size, channel description, time calibration and image metadata can be exchanged between **ImarisXT** and external applications
- Data including spot coordinates and other Derived Image Data like diameters, surface objects (triangle coordinates), tracks (connections of spots and surfaces), filament graphs (coordinates, diameters), cell components (cell body, nuclei, vesicles) and new statistical values can also be exchanged between **ImarisXT** and external applications.

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Software requirements

ImarisXT depends on installed **Imaris** modules and may require **Imaris MeasurementPro**, **FilamentTracer, ImarisCell** and **ImarisTrack** as well as development environment (compiler, editor etc.) for creating new or editing existing XTensions.

Operating system requirement

ImarisXT runs on PCs with Microsoft® Windows® XP, Vista, 7 (32 and 64-bit) and MacOS (10.6 or later).

Windows systems - we recommend using 64-bit OS with 16GB RAM, 3.3 GHz (or faster) quad-core CPU with 64-bit support.

Mac systems - we recommend using Intel 2.8 GHz (or faster) quad-core CPU and 16GB RAM

Graphics boards - ATI/nVidia graphics card with 512 MB RAM. For full list of supported hardware please visit bitplane.com/go/support/system-requirements

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