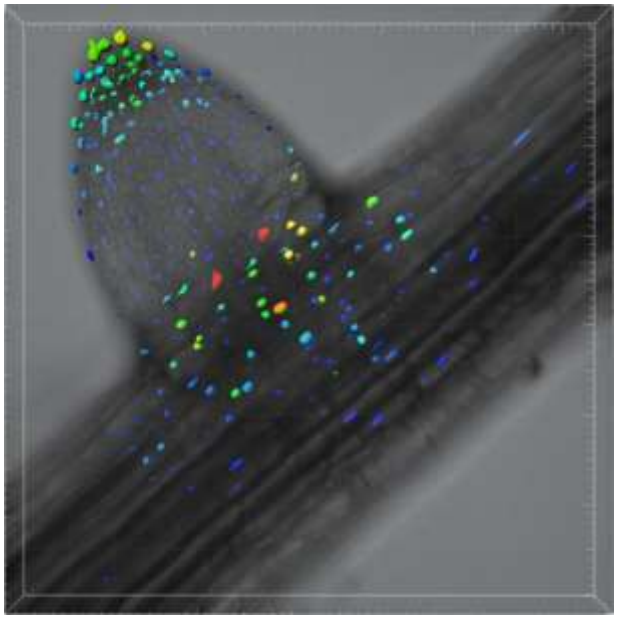
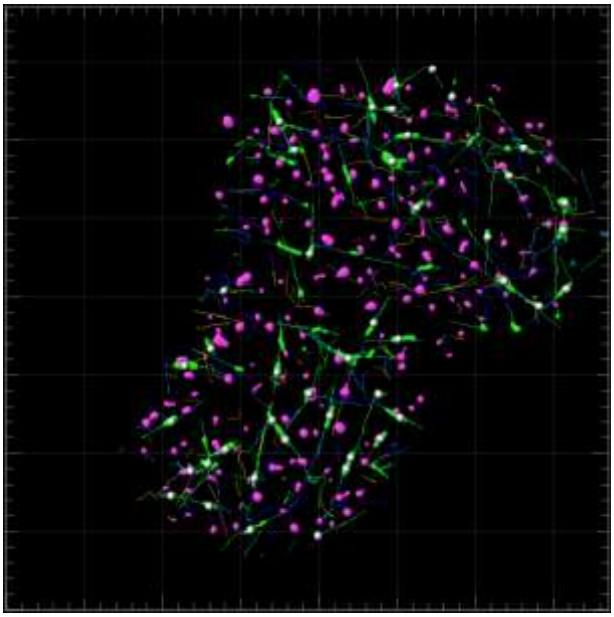
IMARIS

Imaris is Bitplane's core scientific software module that delivers all the necessary functionality for data visualization, analysis, segmentation and interpretation of 3D and 4D microscopy datasets. Combining speed, precision and ease-of-use, Imaris provides a complete set of features for working with three- and four-dimensional multi-channel images of any size, from a few megabytes to multiple gigabytes in size.

- Premier Volume Rendering
- Surfaces, Segmentation and Interaction
- Spots, Segmentation and Interaction
- Interactive, Intuitive; Navigation and Selection
- Smart Handling of Huge Images

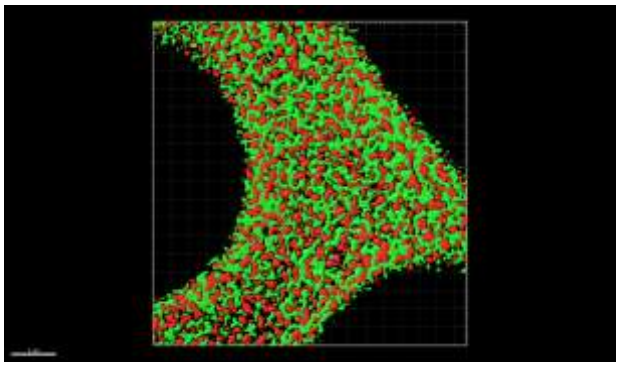
Imaris contains multiple high-class volume rendering algorithms to produce exceptional 3D and 4D images.

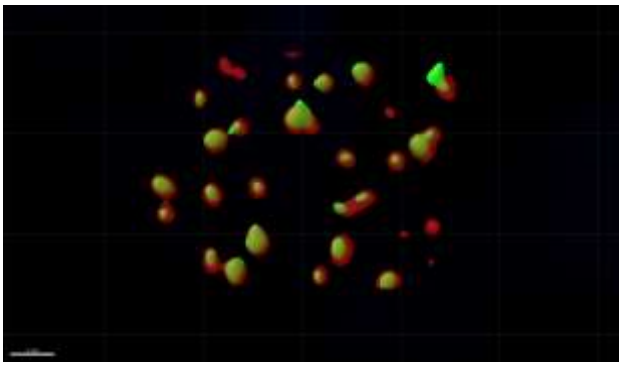




Surfaces, Segmentation and Interaction

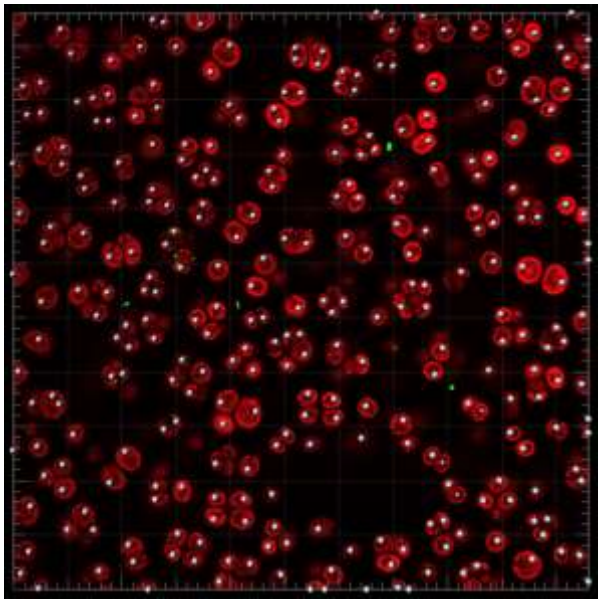
The "Surface Object" is a computer-generated representation of a specified region of interest in the data set. This surface object is visualized as an artificial solid object, and allows you to verify the accuracy of segmentation against the original data in an interactive manner. The surface object acts as a container from which statistics can be calculated with the Imaris MeasurementPro module. "Surface Objects" can also be tracked with the ImarisTrack module.

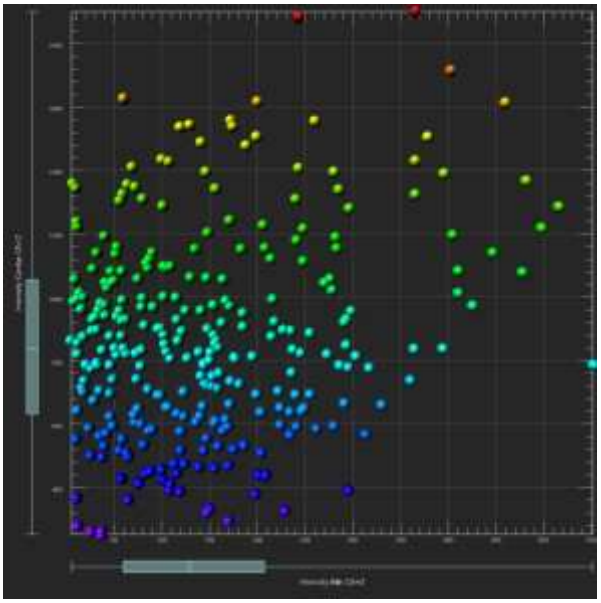




Spots, Segmentation and Interaction

The “Spot Object” is available to model point-like structures in the data. Like the “Surface Object” above, a Creation Wizard guides the user through the step-by-step procedure to automatically detect point-like structures, an editor to manually correct detection errors if necessary, and a viewer to visualize the point-like structures as spheres. The advantage of the “Spots Object” is that local maxima can be identified and images with 10’s or 100’s of thousands of objects can be individually identified quickly.





Animations and Movies

Imaris allows for the simple and straightforward creation of movies from simple rotations to complex animations with objects being turned on and off or cut away and fly through's being performed.E:\ABA 20min.avi

Multithreading & Advanced Computer Graphics

The speed and performance of Imaris is enhanced through the use of advanced computer graphics and multiple processors / cores. Using a top-of-the-line computer graphics card allows visualization tasks to be completed at a much faster rate, which can be especially convenient for larger datasets. Utilizing multiple processors or multi-core processors can significantly speed calculation times.

Image Editing

One of the key strengths of Imaris is its usability. Automation and hidden image processing intelligence allows users to focus on experiments rather than on the technicalities of the software. However, if more control over the software is needed, Imaris provides the necessary tools to edit datasets manually but effortlessly. The combination of all these tools, which take a matter of seconds to use, will result in a dataset that can provide amazing pictures.

Time

For 4D data, a simple to use time-slider extends all 3D functionality to 3D + time (4D). Imaris memory management and caching mechanisms allow processing large datasets and achieving extraordinary visualization performance. Often images can be rotated in real-time in 3D as they play over time.