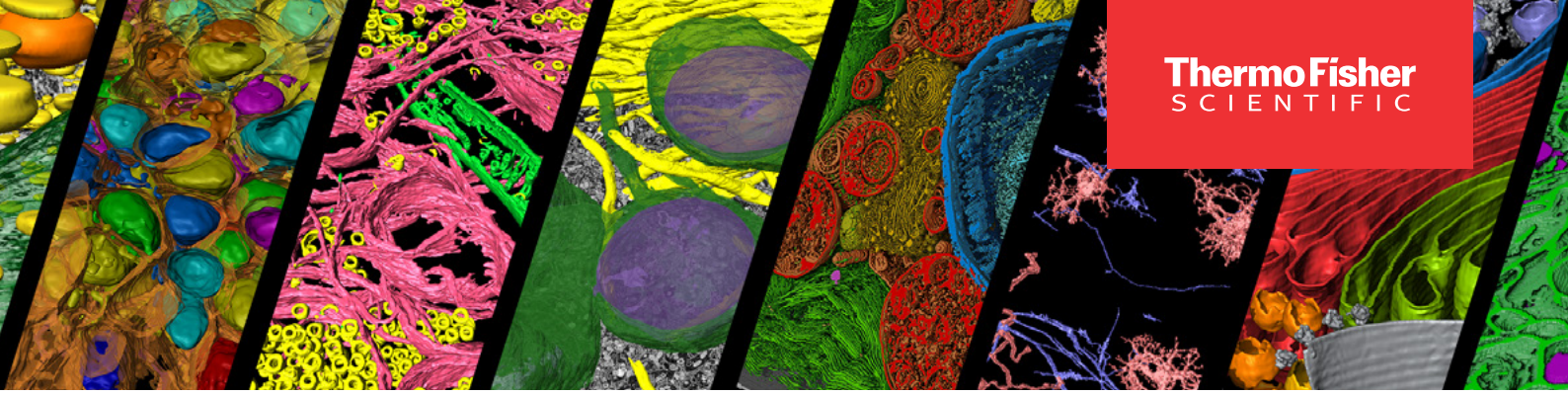


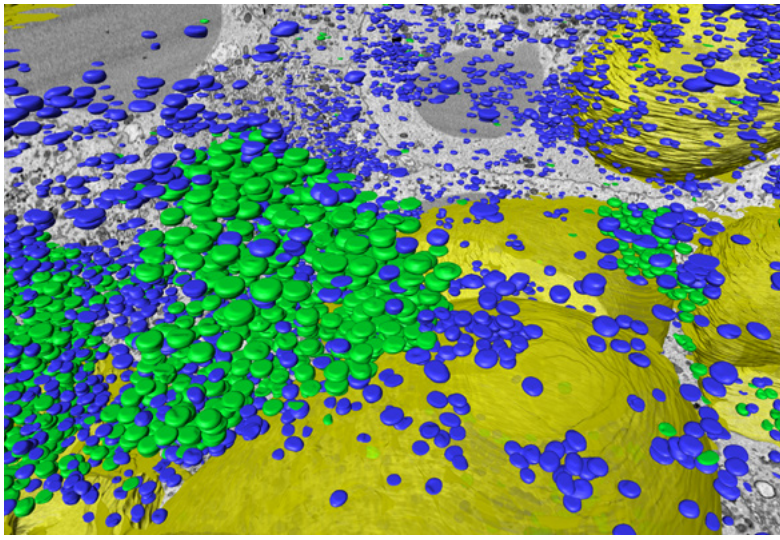
Amira 3D Software for Cellular Biology

Comprehensive solution for cell biologists

Thermo Scientific™ Amira™ 3D Software for Cellular Biology is designed specifically for cell biologists, integrating advanced tools for visualization, animation, and processing of large multi-channel and time series data.

This edition includes:

- Amira 3D Pro Software
- XPlore5D Extension
- XBio-Formats Extension
- XFiber Extension



What's Included

Amira 3D Pro Software

Amira 3D Pro Software provides a robust set of advanced image processing and quantification tools, enabling you to:

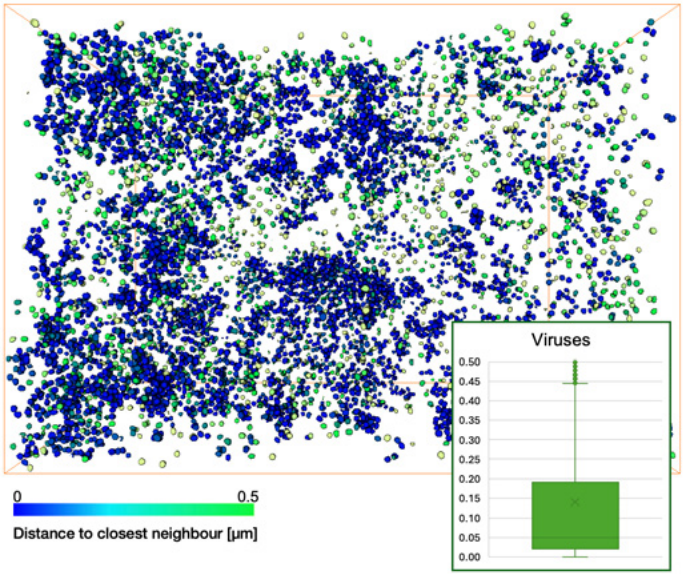
- Enhance images
- Create automated segmentation workflows
- Perform extensive measurements and quantification

Image quantification and analysis

Amira 3D Software for Cellular Biology provides a wide array of tools for advanced image processing and quantification.

Capabilities include:

- Extract profiles, values, and correlation histograms from image data.
- Measure areas, volumes, and intensity statistics from segmented images.
- Over 200 built-in measurements including counts, volumes, areas, perimeters, aspect ratios, and orientations.
- User-defined measures.
- Results viewer with spreadsheet tool and charting.
- Automatic feature measurements, 3D localization, and spreadsheet selection.
- Automated statistics and distribution graphs.
- Feature filtering using measurement criteria.
- Data registration, deformation, comparison, and measurements.



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XPand Extension

- Create custom components such as file readers, writers, computation modules, and new visualization modules using C++.

ToGo Viewer

- Freely available application dedicated to visualizing ToGo project files.
- Provides interactive visualization features for Amira-Avizo Software, allowing direct manipulation in viewer windows or through ports in the properties panel.
- Enable the Project View to select modules or modify input connections.
- •Supports the playback of exported animations within the viewer, enhancing the presentation and review of data.

XPlore5D Extension

- The XPlore5D Extension allows for seamless visualization, correlation, and processing of large multi-channel and time series data.

Key features:

- **Visualization and processing**—Handle large multi-channel and time-series data in a single environment.
- **Data conversion and compression**—Convert and compress data with immediate visual feedback.
- **Interaction and communication**—Interact with and communicate on large 3D–4D+ data.

Supports:

- 3D-5D images and multichannel time-series data that can exceed available memory (RAM).
- Smart multichannel series (SMS) data type and SMS file format (.sms).
- SMS converter for converting images from native formats into SMS files.
- Dedicated modules for displaying and manipulating SMS data.

XBioFormats Extension

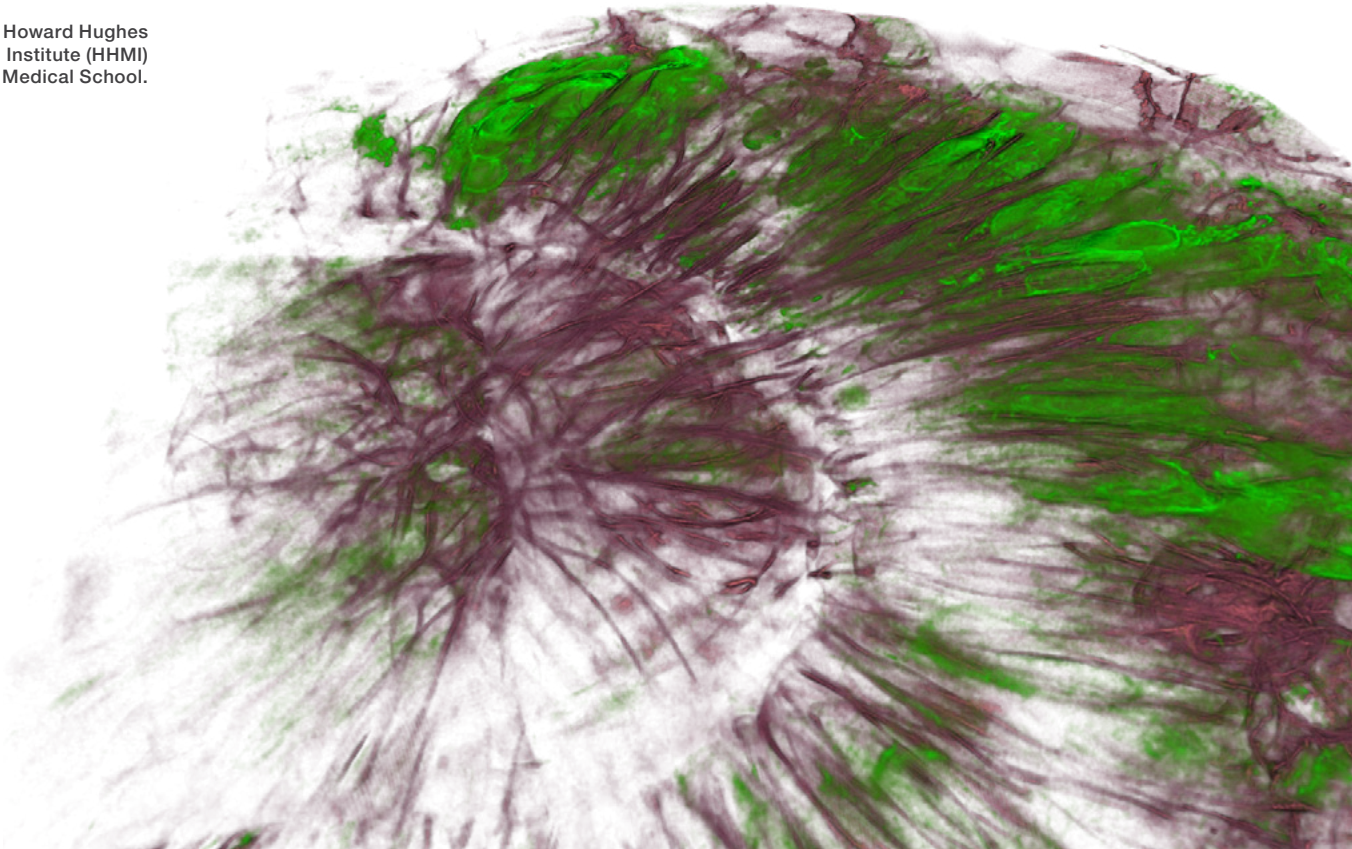
- The XBioFormats Extension enhances file format support, enabling seamless integration and metadata management.

Key features:

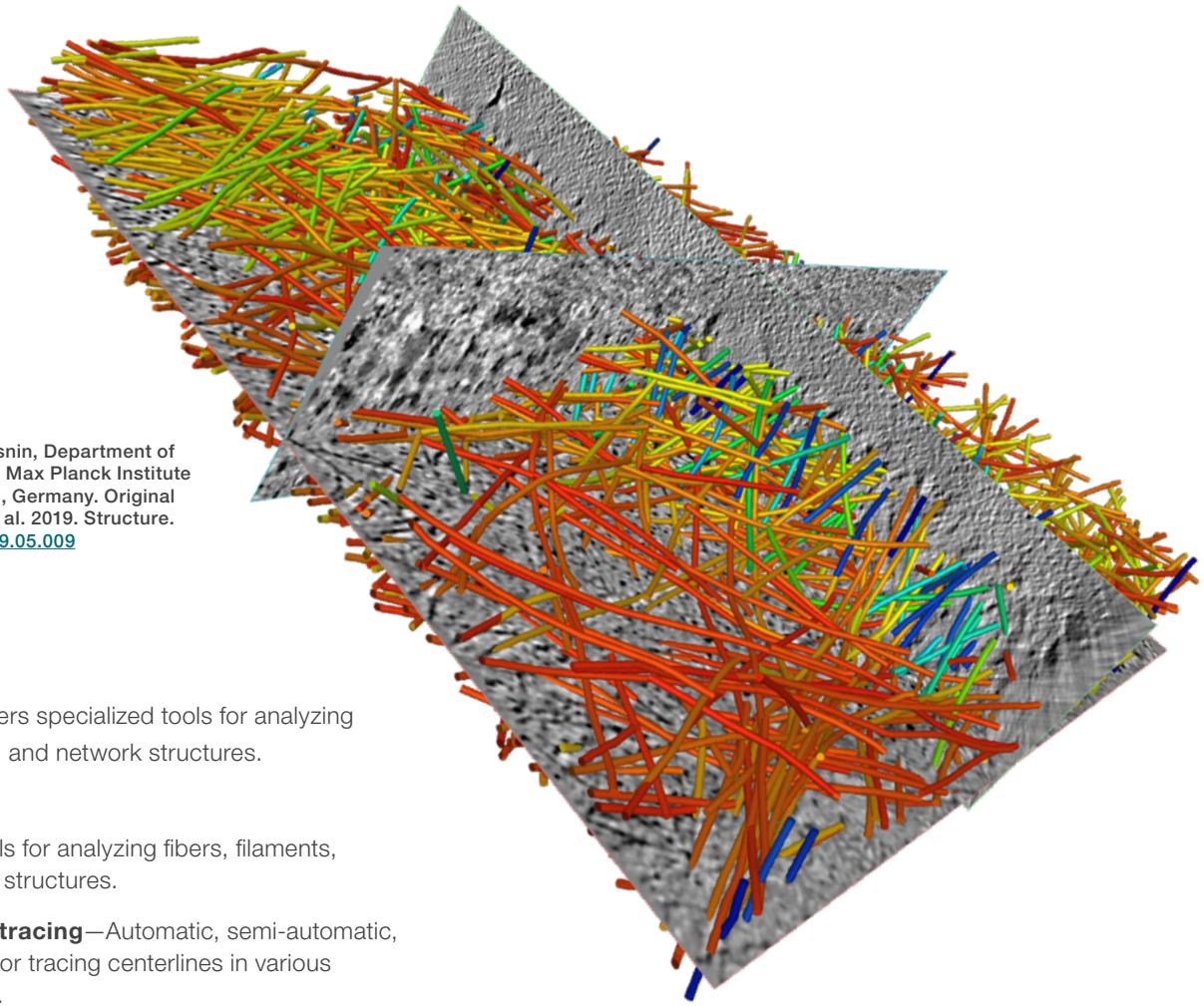
- **Extended file format support**—Import nearly any file format used in cell biology, including all metadata.
- **Bio-formats integration**—Read image and metadata from over 140 file formats.
- **Metadata management**—Organize image and metadata into the native Amira-Avizo Software data structure.

Bio-formats metadata:

- **Core metadata**—Basic structure information including image dimensions, focal planes, time points, channels, and more.
- **Original metadata**—Format-specific key/value pairs.
- **OME metadata**—Standardized metadata for compatibility.



Data courtesy: Howard Hughes Medical Institute (HHMI) and Harvard Medical School.



Data courtesy: Dr. Marion Jasnin, Department of Molecular Structural Biology, Max Planck Institute for Biochemistry, Martinsried, Germany. Original publication of data: Jasnin et al. 2019. Structure. DOI: doi.org/10.1016/j.str.2019.05.009

XFiber Extension

The XFiber Extension offers specialized tools for analyzing fibers, filaments, tunnels, and network structures.

Key features:

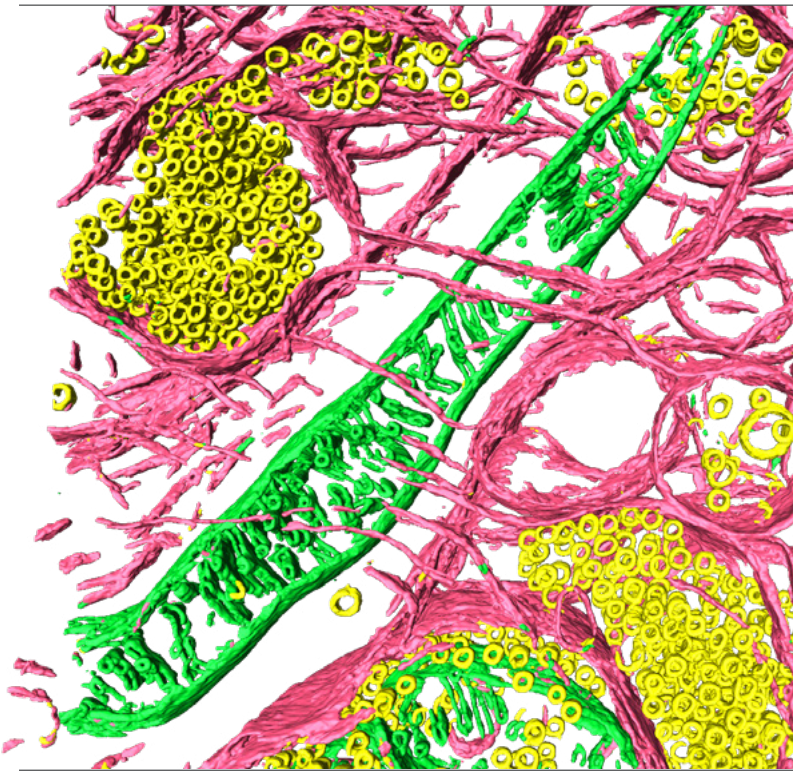
- **Fiber analysis**—Tools for analyzing fibers, filaments, tunnels, and network structures.
- **Segmentation and tracing**—Automatic, semi-automatic, and interactive tools for tracing centerlines in various modality acquisitions.
- **Advanced statistics**—Compute and plot fiber statistics, filter fibers based on properties, and use interactive tools for detailed analysis.

AI and deep learning

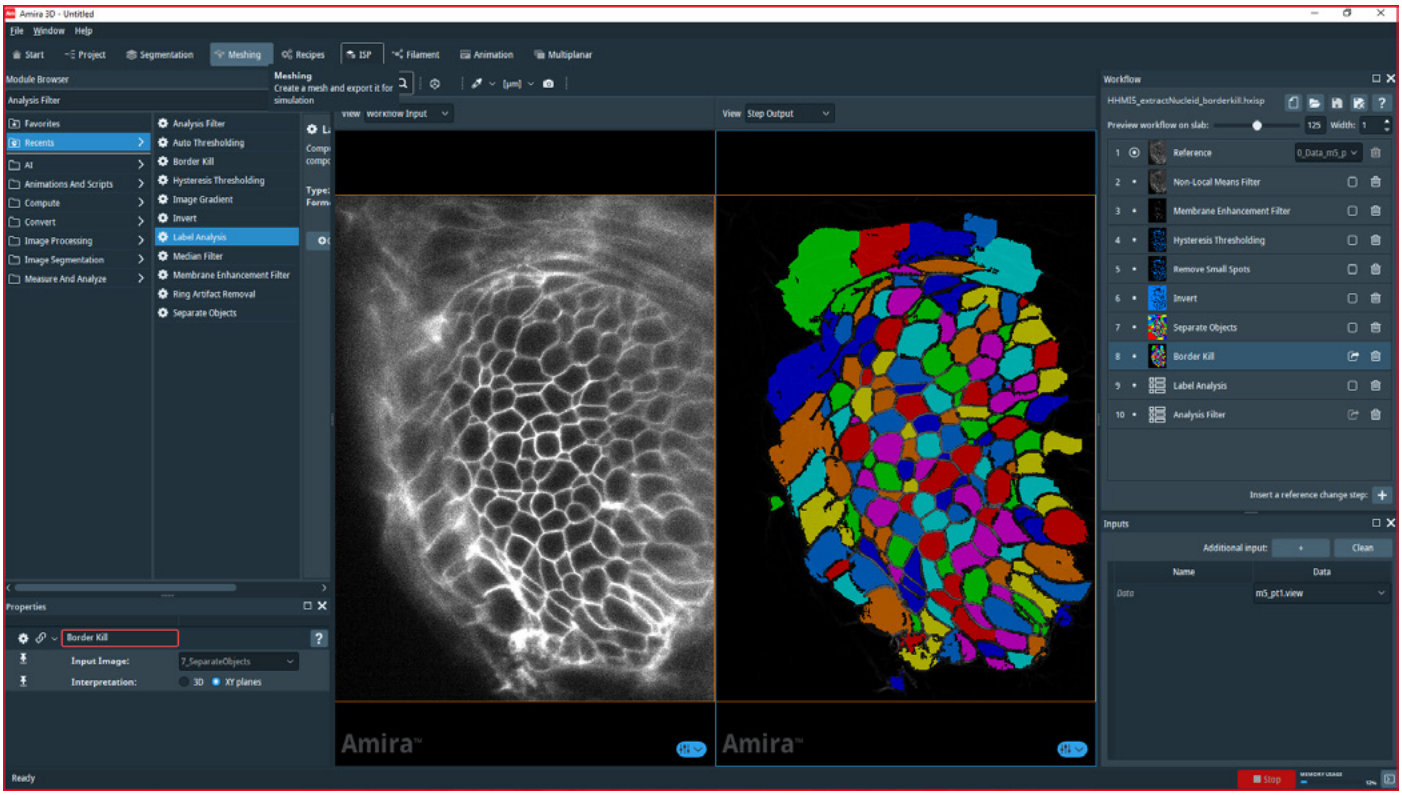
Leverage AI and deep learning tools to enhance your data processing and analysis capabilities.

Available tools:

- **AI-assisted segmentation tool**—Train an AI model to automatically create a label image.
- **Denoising with deep learning**—Remove noise and improve image quality.
- **Deep learning segmentation**—Train a model on a representative grayscale image and label image, then apply it to new datasets.
- **Deep learning prediction workflow**—Apply trained models for denoising or segmentation to new datasets.
- **Texture classification tool**—Use machine learning to identify textures and create new label images.



Data courtesy: Benjamin Cooper, Max Planck Institute for Experimental Medicine, Göttingen Germany.



Data Courtesy: Howard Hughes Medical Institute (HHMI) and Harvard Medical School.

Workflow automation

Automate repetitive processing and analytical tasks to increase efficiency and reproducibility.

Tools include:

- **Templates**—Predefined workflows for common tasks.
- **Image recipe designer workroom:** Create and customize automated workflows.

Benefits:

- Save and reuse recipes for consistency.
- Handle large datasets efficiently.
- Merge existing recipes to enhance productivity and simplify image analysis.
- Unlock the full potential of your cellular biology research with Amira 3D Software for Cellular Biology. For more information and personalized assistance, contact your Thermo Fisher representative today.

Learn more at **thermofisher.com/amira**