

MediaCybernetics
From Images to Answers

IMAGING SOFTWARE



AutoQuant X3

Advanced Image Deconvolution
and Visualization Software

AutoQuant X₃

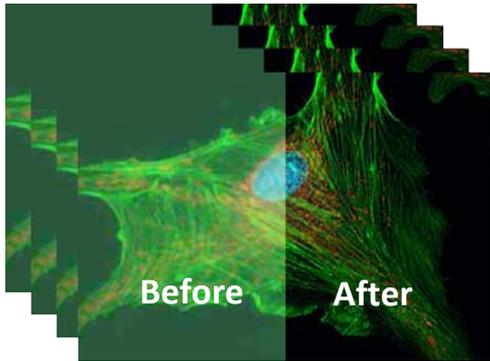
ADVANCED DECONVOLUTION TECHNOLOGY

Restore Your Datasets' Vital Details

AutoQuant is the life science industry's leading image deconvolution software. Retrieve better data from your images using the most complete suite of 2D and 3D restoration algorithms available, including the industry's best blind deconvolution algorithm. Microscopy experts worldwide trust AutoQuant for the accuracy and beauty of its stunning quantitative results, while newcomers to the product love the user-friendly workflow and intuitive interface that helps make learning a breeze.

EXTENSIVE ALGORITHM SELECTION

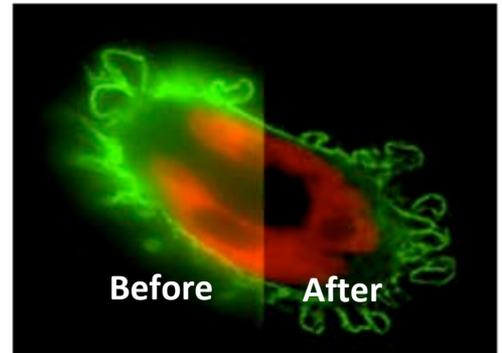
3D Deconvolution



Blind Adaptive Point Spread Function (PSF)
Entire Volume + Channels + Time
Constrained Iterative
Noise Reduction

Non-Blind Fixed Point Spread Function (PSF)
Entire Volume + Channels + Time
Constrained Iterative
Noise Reduction

2D Deconvolution



Blind Adaptive Point Spread Function (PSF)
Single Plane + Channels + Time
Constrained Iterative
Noise Reduction

Non-Blind Fixed Point Spread Function (PSF)
Single Plane + Channels + Time
Constrained Iterative
Noise Reduction

Features	Benefits
Intuitive Four-Step Process	AutoQuant is truly the most intuitive deconvolution software in the industry, using a simple yet elegant workflow to direct any user through the necessary steps to achieve repeatable image restoration.
Microscopy Modalities	Work with all widefield, brightfield, spinning disk & laser scan confocal, and multi-photon image sets.
PSF Refinement	Create an optimal PSF iteratively derived from an entire volume of beads with just a single click.
PSF Modeling Algorithms	The newest Gibson & Lanni modeling algorithms refine your theoretical PSF for stunning results.
Automatic SA Correction	Tune your optical system's unique theoretical PSF with spherical aberration detection and correction.
Multi-Time/Channel Support	Load, view, and control multiple channels and timepoints to create vibrant multidimensional results.

For complete product information, please visit:
www.mediacy.com/autoquant

AutoQuant CONNECT

Workflow Accelerator
– Reduces Mouse Clicks

Media Cybernetics® understands that AutoQuant's impressive deconvolution capability is but one key aspect of your imaging workflow. Sample preparation, image acquisition, deconvolution, processing, analysis, and storage solutions must all function seamlessly and effectively. For this reason, AutoQuant X3 implements the newest, most sophisticated workflow accelerator available for single-user workstations, connecting many of your imaging software applications without additional effort.

From your partnering software application, a single click can trigger an automatic connection with AutoQuant X3 (installed on the same PC), send the active CONNECT Image Set, deconvolve the set using any of AutoQuant's industry-leading algorithms, and complete the connection by returning the image set to the partnering software application.

SOFTWARE PARTNER*

AutoQuant X3

CONNECT Image Set

- Image set
- Image meta-data
- Deconvolution settings
- Completion commands

CONNECT

...with AutoQuant X3 (installed on the same PC) by **sending** a CONNECT Image Set.

DECONVOLVE

...using any of AutoQuant's industry-leading algorithms along with the necessary deconvolution settings.

Image Restoration

Iteratively restore image intensities to their origin for beautiful, quantitative results.

Batch Ready

Continue to send image sets and AutoQuant X3 will automatically queue each set in its Batch Processing Viewer to launch as the next task.

COMPLETE Image Set

- Ready for...
- Viewing
 - Analysis
 - Movie making
 - Sharing

COMPLETE

...by automatically **returning** the deconvolved results to the location of your choice.



Save
to custom
system folder.



Display
in AutoQuant X3
for review.

* For the full list of CONNECT Software Partners, go to: www.mediacy.com/autoquant

DECONVOLUTION TOOLS



ROI deconvolution preview quickly tests for optimal settings



Save optical parameters and deconvolution settings



Batch-process your image sets sequentially in an instant or on a timer



Spacing calculator computes the optimal XY and Z optical spacing

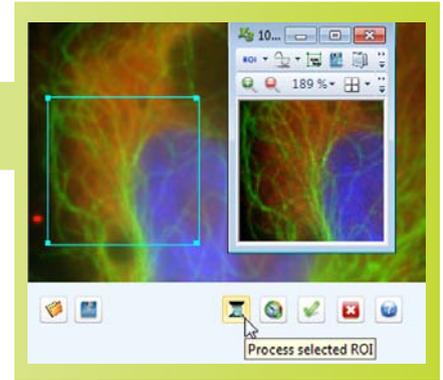


IMAGE CORRECTION



Stabilize your sample using:

- Slice-to-slice alignment
- Channel-to-channel alignment



Advanced cropping and reshaping



Image correction tools for photobleaching, attenuation, optical density variability, and many other imaging problems



VISUALIZATION



View 5D datasets (X, Y, Z, time, and channel)



Display multiple viewers simultaneously



Multiple volume projection modes (max, min, and sum projections)



Slicer view compares XY, YZ, XZ, ortho, and oblique slice views



Surface-render objects to measure individual volumes



Synchronize multiple viewers for easy comparison



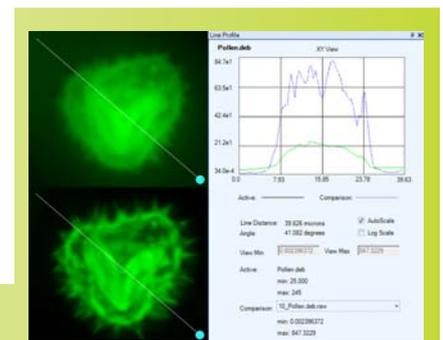
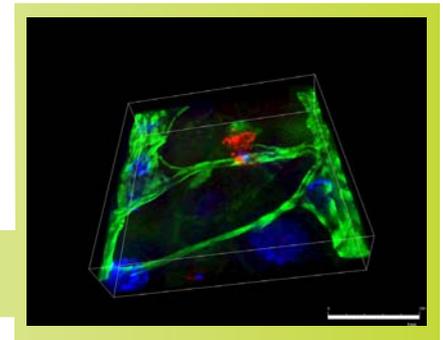
Movie Maker and Save to AVI Movie for easy sharing of results



Individual channel controls for brightness, contrast, and gamma



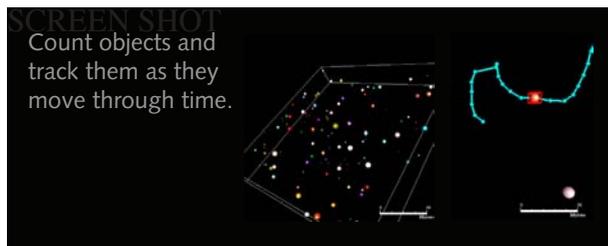
Sync multiple line profiles and measurements to facilitate comparison



ANALYSIS TOOLS

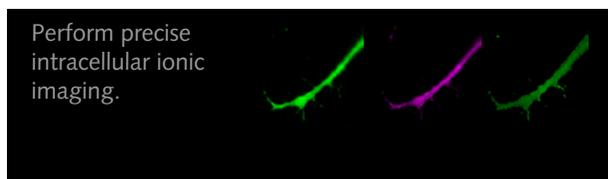
(Available with AutoQuant X3 Total)

Counting and Tracking



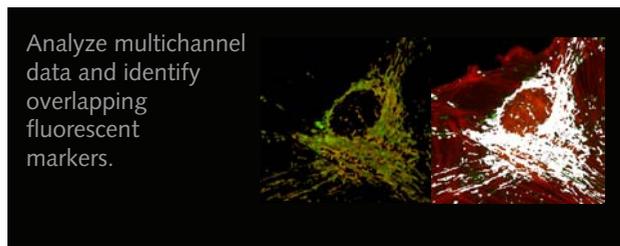
Count and track a virtually limitless number of objects through time. Load and process 3D time-series datasets. Utilize powerful and intuitive preprocessing tools. Once counted, objects can be tracked and displayed using easy-to-follow tracking lines for a vivid, graphic depiction of the objects' activities. Export complete data measurements to a spreadsheet for later analysis.

Ratiometrics



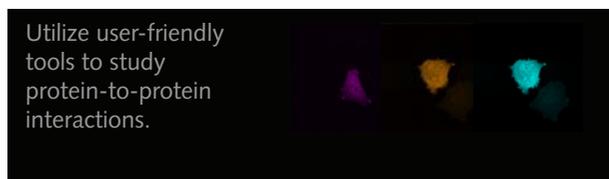
Study the effects of differing concentrations of calcium or shifting pH values on a standard sample environment. Employ the Grynkiewicz equation for ion concentration and produce accurate results with visually emphasized color mapping. Use pre- and post-processing steps such as automatic alignment, noise removal, and Gaussian smoothing for cleaner resultant images. Use ROIs and threshold controls to obtain statistics about relative changes within datasets.

Colocalization



Easily analyze sections where two or more dyes overlap. Identify overlapping areas, display them, and generate statistics for user-selected ROIs. Easily load a multichannel dataset, create an intensity mask to display colocalized areas, and generate a new "colocalized" dataset displaying only areas with colocalization. Work with algorithms such as Pearson's correlation coefficient and Manders' overlap coefficient; then generate and export the resultant statistics to .csv format.

FRET



AutoQuant's proprietary algorithm for measuring protein-to-protein interactions stems from the two most commonly accepted algorithms, Elangovan & Periasamy and Gordon & Herman, to correct for crosstalk. This algorithm goes one step further by using our sophisticated Maximum Likelihood Estimation algorithm to mathematically solve for crosstalk, generating more accurate results and analysis. Easily create as many ROIs as you desire, run statistical analyses on those ROIs, and export the results.

JOIN THE AutoQuant IMAGING COMMUNITY

Get Started with Free Video Tutorials

As an AutoQuant user, you'll have access to a growing library of free 3- to 5-minute video tutorials. Learn time-saving tips and familiarize yourself with a wide range of preprocessing techniques, deconvolution algorithms, and application-specific analysis tools available to you – without ever having to leave your computer.

Technical Support

Register your copy of AutoQuant to receive 90 days of complimentary technical support. Receive installation and configuration troubleshooting from our technical support engineers via phone, email, or Skype®. Extend your technical support beyond 90 days to receive expert support year-round.

AutoQuant Users Email List

When you choose AutoQuant software, you instantly join a community of image analysis professionals. Join the free AutoQuant users email list to ask questions and learn from other users.

Join today at <http://listserv.mediacy.com>.

Automatic Updates

Download the latest updates for your AutoQuant software right from within your product. With a high-speed internet connection you'll always be on the cutting edge of deconvolution technology.

SYSTEM REQUIREMENTS

Minimum Requirements

- **Processor:** Intel® dual-core processor
- **RAM:** 3 GB memory
- **Free disk space:** 2 GB on installation drive plus free space for images (20 GB or higher)
- **OS:** Microsoft® Windows XP® (32 bits) or Windows® 7 (32 or 64 bits)
- **Graphics card:** NVIDIA® graphics card (for 5D viewer performance)

Recommended Requirements

- **Processor:** Intel quad-core 64-bit processor (current recommended model: Core™ i7-2600) or better
- **RAM:** 8 GB memory or higher
- **Free disk space:** 2 GB on installation drive plus dedicated data drive (500 GB or higher)
- **OS:** Windows 7 (64 bits)
- **Graphics card:** NVIDIA Quadro® 600 or better

Super Number Cruncher

- **Processor:** dual Intel quad-core 64-bit processors (current recommended model: 2x Xeon® 5600 series) or better
- **RAM:** 48 GB memory or higher
- **Free disk space:** 2 GB on installation drive plus one or more dedicated SATA 6 Gb/s data drives (2 TB or higher)
- **OS:** Windows 7 (64 bits)
- **Graphics card:** NVIDIA Quadro 4000 or better

Specifications are subject to change. Please contact Media Cybernetics or your local reseller for the latest features.

SUPPORTED FILE FORMATS

Description	Extension(s)	Write	Read
AutoQuant X Dataset	*.xml		X
Legacy AutoQuant Dataset	*.aqh		X
TIFF Image	*.tif, *.tiff	X	X
Raw Binary Data File	*.raw, *.deb, *.avz	X	X
Microsoft Windows Bitmap	*.bmp	X	X
Image-Pro® Sequence	*.seq	X	X
Image Cytometry Standard	*.ics, *.ids	X	X
Bio-Rad® PIC	*.pic	X	X
Bitplane® Imaris®	*.ims	X	X
Leica® LEI	*.lei		X
Leica LIF	*.lif		X
Olympus® FluoView® FV1000	*.oif, *.oib	X	X
Carl Zeiss® AxioVision® ZVI	*.zvi		X
Carl Zeiss LSM	*.lsm	X	X
Nikon® NIS-Elements	*.nd2		X
Scanalytics IPLab™	*.ipl, *.iplab	X	X
Molecular Devices® MetaMorph®	*.stk	X	X
Molecular Devices MetaMorph	*.nd		X

Please check our website
www.mediacy.com
as we add new file
formats regularly.



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