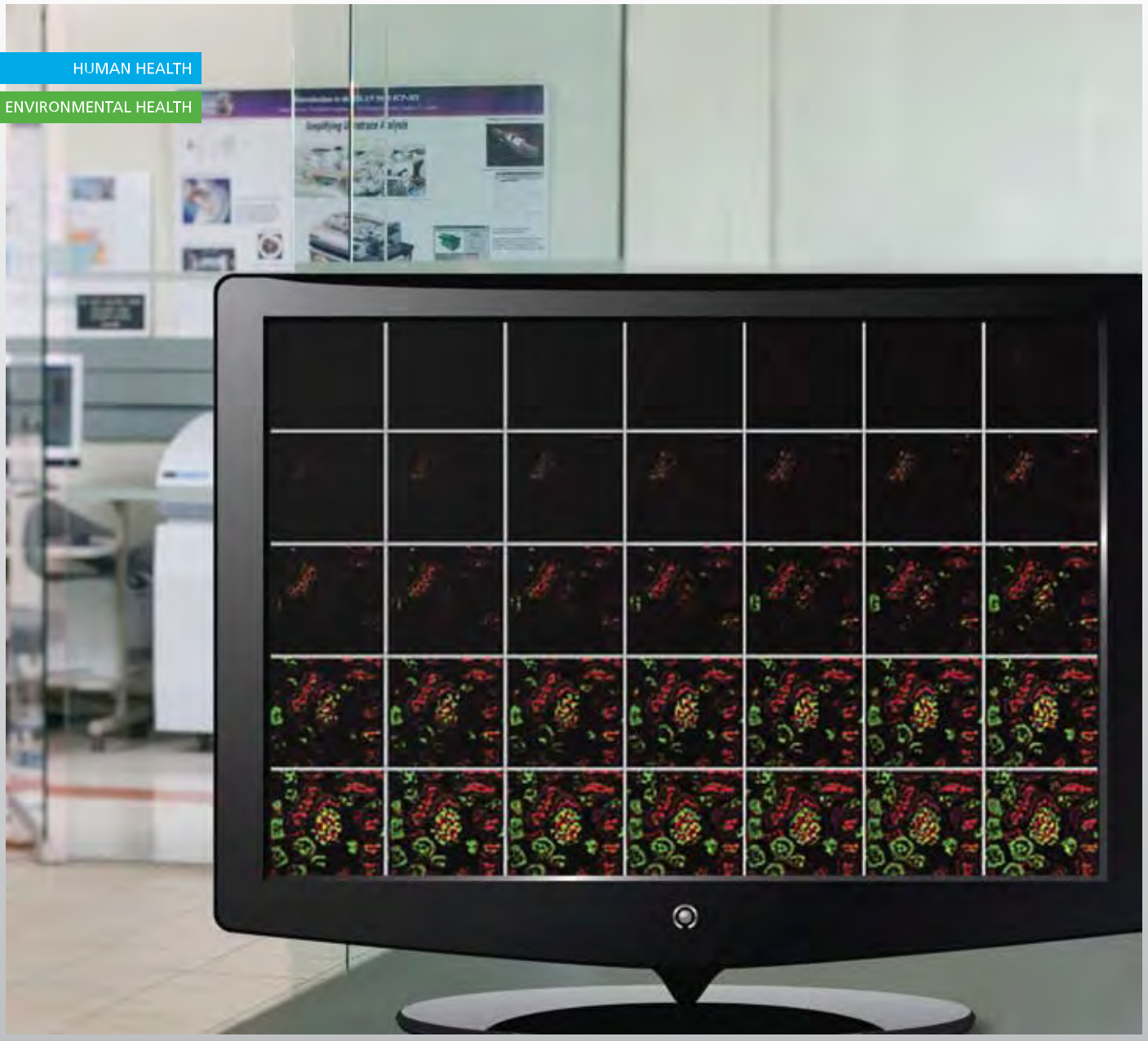
HUMAN HEALTH

ENVIRONMENTAL HEALTH



FOR FASTER 3D IMAGE CAPTURE

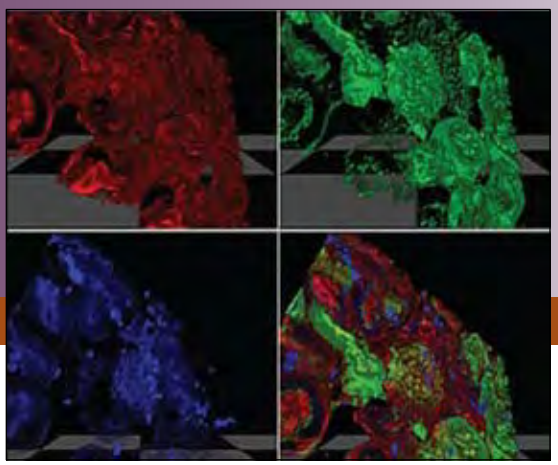
Volocity Acquisition

High speed, time resolved 3D image acquisition

Quorum

light at work

high speed, time resolved, 3d image acquisition

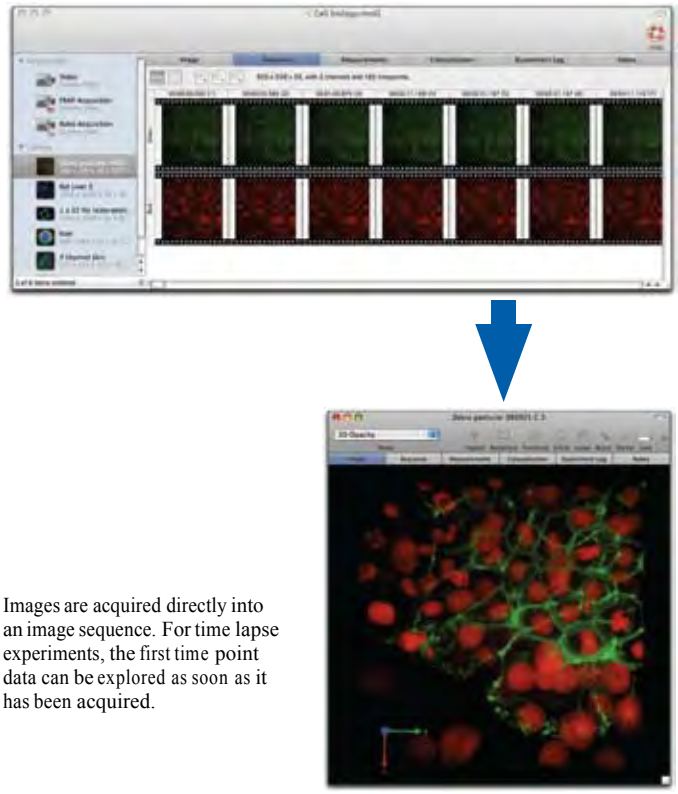


View tiled 2D or 3D channels with Volocity Acquisition.

Volocity® Acquisition is designed for high speed, 3D image capture. It provides a flexible capture interface to a wide range of cameras, microscopes and associated hardware, so that you can select the most suitable hardware items for your application without compromise. Capture protocols can be quickly constructed using the clear and easy to use Acquisition dialogue – from simple 2D image capture to multi-channel 4D experiments.

Time lapse imaging with confidence

When using Volocity to acquire images over time, you don't have to wait until the end of the experiment to see the results; you can review the data as soon as the first time point has been captured, so that you can be sure that your protocol is working correctly right away. This means that you don't waste valuable hours acquiring a data set that has failed to develop as expected.



Images are acquired directly into an image sequence. For time lapse experiments, the first time point data can be explored as soon as it has been acquired.

Key Features

- Easy to use, versatile protocol design for 2D, 3D and 4D experiments.
- Parallel processing for faster image acquisition and simultaneous image processing.
- Video streaming architecture for high speed image capture direct to disk.
- Compatible with a range of cameras, microscopes and associated hardware for maximum flexibility.
- Designed for Mac® OS X, 64-bit and 32-bit Windows®.

Parallel processing and streaming technology for fast acquisition

Volocity Acquisition uses parallel processing, which means that data acquisition and online processing of image data is much faster when using Volocity with a computer that has multiple processors. The video streaming architecture is designed to acquire image sequences direct to hard disk at the maximum frame rate possible from each supported camera. This means that with the right combination of hardware, high speed, 3D time lapse experiments can be performed with ease. The direct to disk streaming technology has the additional benefit of continuously saving acquired data, so that if your system should experience a power failure, your images will be preserved up to the time of the failure.

A RANGE OF TOOLS FOR EASY AND FLEXIBLE 3D IMAGE ACQUISITION

Flexible protocol design for all your imaging experiments

Tailor your experiment to the biology: Volocity Acquisition is configurable with different hardware, and once set up in preferences you can construct complex and varied acquisition and analysis protocols without the need for complex macro writing skills.

Image acquisition made easy

You can view your sample in the Video Preview before you start to capture images. You have the option to apply a color look-up table and Auto Contrast to both the Video Preview and to the images as they are acquired. Auto Contrast allows you to set a shorter camera exposure without reducing the apparent brightness of the image – ideal for fast focusing or very rapid image acquisition. Customize the hardware interface controls on the Video Preview palette to hide items you don't use, so that navigation is easier. Once you have set up your acquisition hardware for a particular task, you can save the settings in the Light Path Manager. Properties that can be saved include filter position, objective turret, camera exposure and binning for use with a particular fluorochrome. This means that when you want to use the same settings again, you can simply click on the appropriate light manager button and they will be restored, saving you time and providing consistency.

Multi-parameter protocols

Protocols that involve scanning multiple points on a well plate or slide are easy to configure by first creating a Well Overlay of the selected or random points from which you wish to acquire images. Well overlays can be saved for reuse. By selecting the XY Stage in the Acquisition Setup dialog, images will be captured at the points set in the well overlay. The acquisition protocol can include image capture at multiple wavelengths, multiple time points and in 3D at each point you have selected, for complete flexibility. Supports XYZ stitching for high resolution imaging in large fields of view.

Volocity 3D Acquisition Solutions

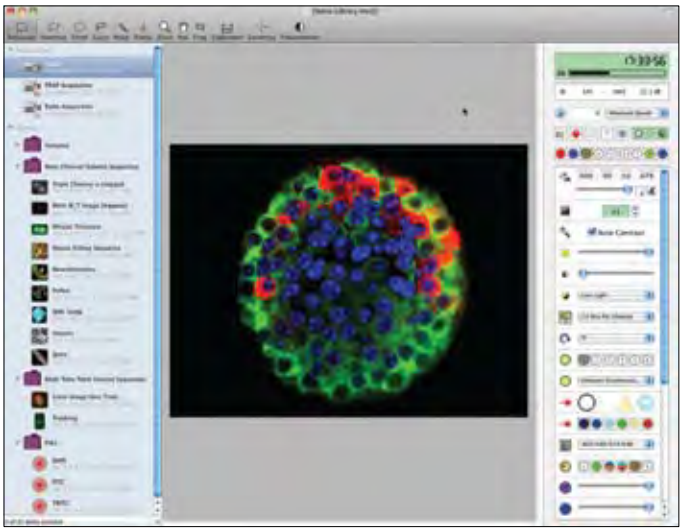
Volocity Acquisition drives a range of 3D imaging solutions, designed for applications ranging from multi-channel fixed cell imaging to 4D live cell confocal imaging using spinning disk technology – the UltraVIEW® VoX. We can provide a complete hardware and software system, or drive your existing hardware where appropriate, for a cost effective and flexible approach to your imaging requirements.

FRAP and Ratio Acquisition

Volocity Acquisition can be used to acquire and analyze FRAP and ratiometric imaging experiments, by adding the optional FRAP Plugin and Ratio Plugin to your system. Volocity Quantitation must be included in the Volocity configuration in order to perform analysis.

The FRAP Plugin supports the PhotoKinesis™ Accessory, which is an option to the UltraVIEW VoX spinning disk confocal imaging system. This configuration provides all the tools required to acquire and analyze FRAP images, providing both raw and graphical data. In addition to FRAP experiments, the unit can be used for techniques such as FLIP, photoswitching (photoconversion) and acceptor photobleaching.

The Ratio Plugin provides the ability to acquire 2D and 3D ratiometric image pairs, with simultaneous online analysis, or post-acquisition analysis and charting of results.



Acquisition controls are integrated into the preview window for convenience. The display can be customized to show only those controls you require.

Volocity, a family of integrated software products that can be used independently for image acquisition or analysis, or grouped together to provide a complete range of cellular imaging tools. Volocity is available for Windows® platforms.

Volocity Acquisition	High performance image capture software controlling a wide range of microscopes, cameras and
Volocity Visualization	Interactive multi-channel time-resolved 3D rendering and publication software for wide field and confocal image stacks
Volocity Quantitation	Volumetric measurement and analysis software for quantitative fluorescence imaging
Volocity Restoration	Image deconvolution software improves image quality of wide field and confocal data
Imaging License Server	Flexible cross platform software licensing to combine and share software licenses across networks
Imaging Computing Server	Advanced computing power improves performance of processing intensive tasks
Volocity FRAP plug-in	Extends the functionality of Acquisition and Quantitation for on-line FRAP acquisition and analysis
Volocity Ratio plug-in	Extends the functionality of Acquisition and Quantitation for on-line Ratio acquisition and analysis

For more information, visit www.quorumtechnologies.com

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