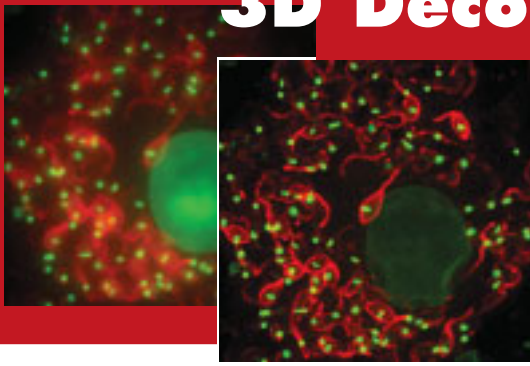# 3D Deconvolution Software
• EPR
• MicroTome with HazeBuster

## For High Resolution 3D & 2D Fluorescence Microscopy

Scanalytics provides a choice of leading 3D deconvolution algorithms at a range of speed and precision

- **Accuracy that challenges confocal microscopy for high resolution and quantitation in fluorescence microscopy**
- **IPLab compatible: giving you convenient 3D image acquisition, processing, and visualization capabilities**

Scanalytics' image deconvolution products correct for optical blurring and remove out-of-focus haze from 3D images. Scanalytics offers a choice of 3D deconvolution algorithms, both of which are constrained-iterative algorithms. We sell **MicroTome**, a constrained-iterative program from VayTek, Inc., and our own **Exhaustive Photon Reassignment** software. EPR is a quantitative, constrained-iterative program based on the constrained iterative algorithm by Dr. Frederic Fay, of the University of Massachusetts Medical School. MicroTome for Macintosh also comes with **HazeBuster**, a nearest-neighbor program produced by VayTek and Scanalytics.

Please see the next page for a description of software features, applications, and technical specifications.

With IPLab, Scanalytics' image analysis program, and the optional Motion Control extension, you can collect a stack of images from your microscope and fully control your motorized microscope hardware. Scanalytics built 3D acquisition commands into the IPLab core program, and included our 3D visualization extension (for free) with the software. Any of our deconvolution programs can then deconvolve the images acquired by IPLab.
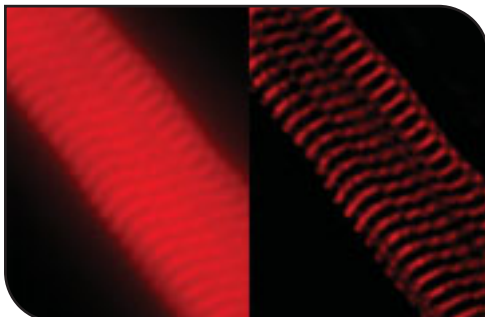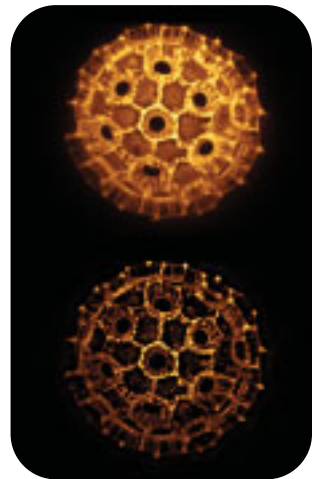
After deconvolution, you can open the sharper, clearer images again in IPLab for viewing, measurement, analysis, and further processing. IPLab, with its 3D/3D Projector extension, displays 3D data sets as either a rotating (or tumbling) three-dimensional object or a through-focus scan of serial sections. You can also export movies of your data sets for viewing outside of IPLab (*e.g.* on the lab's web site).

Make Scanalytics' software your choice for 3D image deconvolution. These programs are ideal for the serious user who needs quantitative results, an interactive interface, optimized software, and the speed to deconvolve many images quickly.

3D DECONVOLUTION SOLUTIONS

	MicroTome with HazeBuster	EPR
Algorithms:	• Constrained Iterative Algorithm by Drs. Agard & Sedat, University of California-San Francisco • Nearest Neighbor • VayTek's Proprietary Single Image Haze Removal	• Constrained Iterative Algorithm by Dr. Frederic Fay, University of Massachusetts Medical School
Operating System:	Macintosh and Windows	Windows
Applications:	Algorithms for: • Expert deconvolution of fluorescence and brightfield images • Fast deconvolution of fluorescence and brightfield images	• Expert and quantitative deconvolution of fluorescence images
Technical Specifications:	• Accepts 8- to 16-bit grayscale, and 24-bit color images • Input and output TIFF, PICT, binary, raw data, and other formats • User supplies wavelength, calibrated pixel size, the thickness of the optical slide, oil index, and numerical aperture • MicroTome is a stand-alone program on Windows, and an extension to IPLab on the Macintosh	• Accepts 8- to 16-bit grayscale images • Input and output TIFF and raw data • User-adjustable settings for noise reduction and convergence criteria • User supplies the thickness of the optical slide, numerical aperture, and the calibrated pixel size • EPR is a stand-alone program, but works in coordination with IPLab
System Requirements:	**Macintosh:** • IPLab for Macintosh • Power Macintosh (includes G3, G4, etc.) running OS 8 or later • 500 MB hard drive • 256 MB RAM **Windows:** • Windows 98, NT 4, 2000, or XP • Pentium or better • 500 MB hard drive • 32 MB RAM or more	**Windows:** • Windows 98, Windows NT 4, and 2000 • Pentium III or better processor • 10 GB hard drive • 512 MB RAM or more

Acquisition of 3D Image Sequences:

To acquire three-dimensional image sequences to be deconvolved, all you need is:

- IPLab for Macintosh or Windows
- the Motion Control extension
- a video or digital camera
- and a Z-focus motor, piezo-electric focus drive, or motorized microscope

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