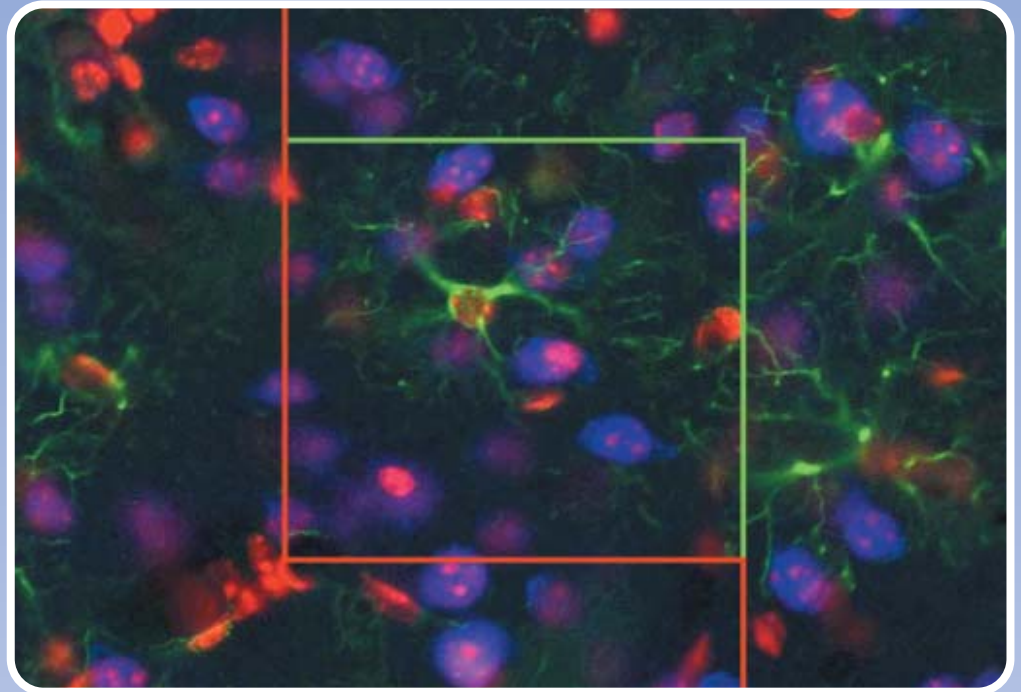## mbf BIOSCIENCE

MicroBrightField, Inc.

**Quantify cell counts, lengths, areas and volumes using the world's foremost system for stereology**

# Stereo Investigator®

## SYSTEM FOR STEREOLOGY



### STEREO INVESTIGATOR BENEFITS

Use our powerful analysis tool to achieve more accurate results than biased techniques, in less time than direct measurement methods.

**Reliable Analysis:** Stereo Investigator uses unbiased methods to produce reliable results. The software's use of systematic random sampling conforms to the most rigorous stereological protocols.

**Reduced Effort:** Stereo Investigator pairs the most efficient methods with automated stage movement, sampling site placement, and easy-to-read graphical displays for rapid evaluation of your tissue. Stereo Investigator shortens the time between experiment and result.

**Meets Your Research Needs:** Stereo Investigator is compatible with all research microscopes—working with brightfield, fluorescent, or confocal. The software includes image analysis, mapping, graphical output and measurement tools all in one package.

**Proven Results:** Stereo Investigator is the recognized leader in stereology

analysis tools and is used more than any other stereology analysis system—we are the proven source for stereology analysis systems.

**Most Widely Published:** More scientific papers (10 times more) cite Stereo Investigator as the tool of choice than any other stereological analysis product.*

**Outstanding Support:** MBF has been successfully providing our expertise, training, and support to researchers worldwide for over 18 years. Our Live Remote Control support is used to diagnose problems remotely and keep your system running properly.

*\* Source: PubMed database 2006*
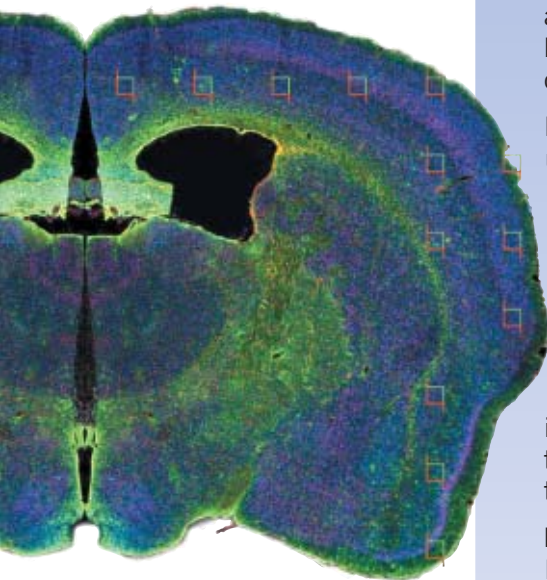
$$\sum Q^- \cdot \frac{t}{h} \cdot \frac{1}{asf} \cdot \frac{1}{ssf}$$

## WHAT IS STEREOLOGY?

Stereology is a method used to quantify properties of 3D and 2D objects. The proper use of stereology results in unbiased and accurate estimates. The basic tool of stereology is the "probe"— a graphical overlay used to sample randomly selected subsets of the object of interest. Stereo Investigator automates the probe layout and stage movement, making analysis of tissue specimens simple and efficient.
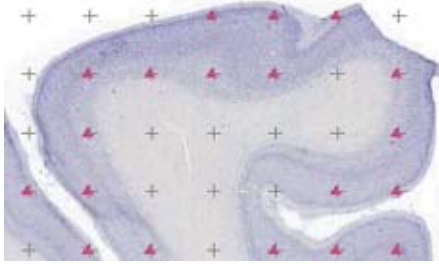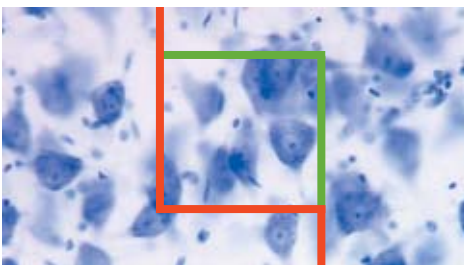


Cavalieri estimator for volume
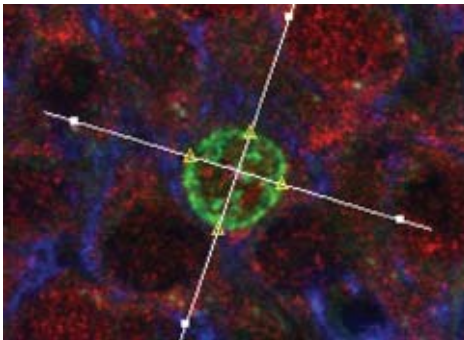


The nucleator analyzes cell volume
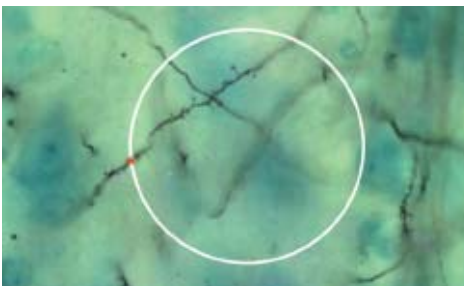


Quantify length with space balls or isotropic virtual planes



Works with brightfield, widefield fluorescence, and confocal images

## ABOUT STEREO INVESTIGATOR

Stereo Investigator is advanced scientific software for design-based stereology. Stereo Investigator can analyze data from multiple modalities: using live images from digital or video cameras; stored image sets from confocal microscopes, electron microscopes, and scanning tomographic sources, or through the microscope oculars using our patented Lucivid™. Stereo Investigator controls a motorized XYZ stage for integrated navigation through tissue sections, allowing for effortless measurement through many fields-of-view. Stereo Investigator's Serial Section Manager integrates unlimited sections into a single data file, maintaining each section in aligned 3D space for stereological analysis and systematic random sampling. Stereo Investigator may be used to analyze isotropic, vertical, or preferentially cut sections.

The estimation results and confidence levels are calculated and displayed on demand, or can be exported.

Stereo Investigator also features sophisticated tools for anatomical mapping. These mapping tools can be used to delineate regions of interest for stereological estimators, to map cell distributions, to prepare anatomical maps for publication, and to perform detailed morphometric analyses.

Stereo Investigator offers the most comprehensive implementation of stereological probes and methods available. Plug-in modules are available for confocal and MRI analysis, 3D solid modeling, and virtual slide creation.

>> **www.StereoInvestigator.com**

## SELECTED FEATURES

- Stereology Workflow reduces training time — walks you through every step of the optical fractionator and the physical fractionator counting methods
- Additional workstation licenses are available for offline processing
- Count multiple cell types simultaneously
- Automated guard zone support
- In-bounds visual indicators in X,Y, and Z
- Combine counting with local probes

- Automated stage movement speeds data collection
- Quality control and data review features
- Complete editing capabilities

- Individual and grouped results
- Coefficient of Error (CE) and Variance (CV) calculations
- Documentation of equations and formulae
- Comprehensive user manual and HTML help

- Integrate data from serial sections
- Automatic serial section alignment tools
- Automatically compensate for missing sections

- Flexible hardware support for all research microscopes
- Support for Olympus Fluoview 300, 500, & 1000 confocal microscopes
- Support for Olympus DSU confocal
- Automated image stack acquisition for offline analysis

- Switch between live and stored images
- Data calibrated to your microscope objective lenses
- Automatic parcentric and parfocal correction
- Image processing and morphometric analysis tools included

**Design-Based Stereological Estimators**

- Optical fractionator
- Physical fractionator
- Space Balls
- Nucleator
- Spatial distribution
- Cavalieri estimator for area and volume
- Over 20 additional probes

**For a full list of the over 300 features of Stereo Investigator,** visit **www.stereoinvestigator.com**

**SciTech**
the imaging specialists

Melb : (03) 9480 4999
Syd : (02) 9705 8059
Email: sales@scitech.com.au
www.scitech.com.au

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