

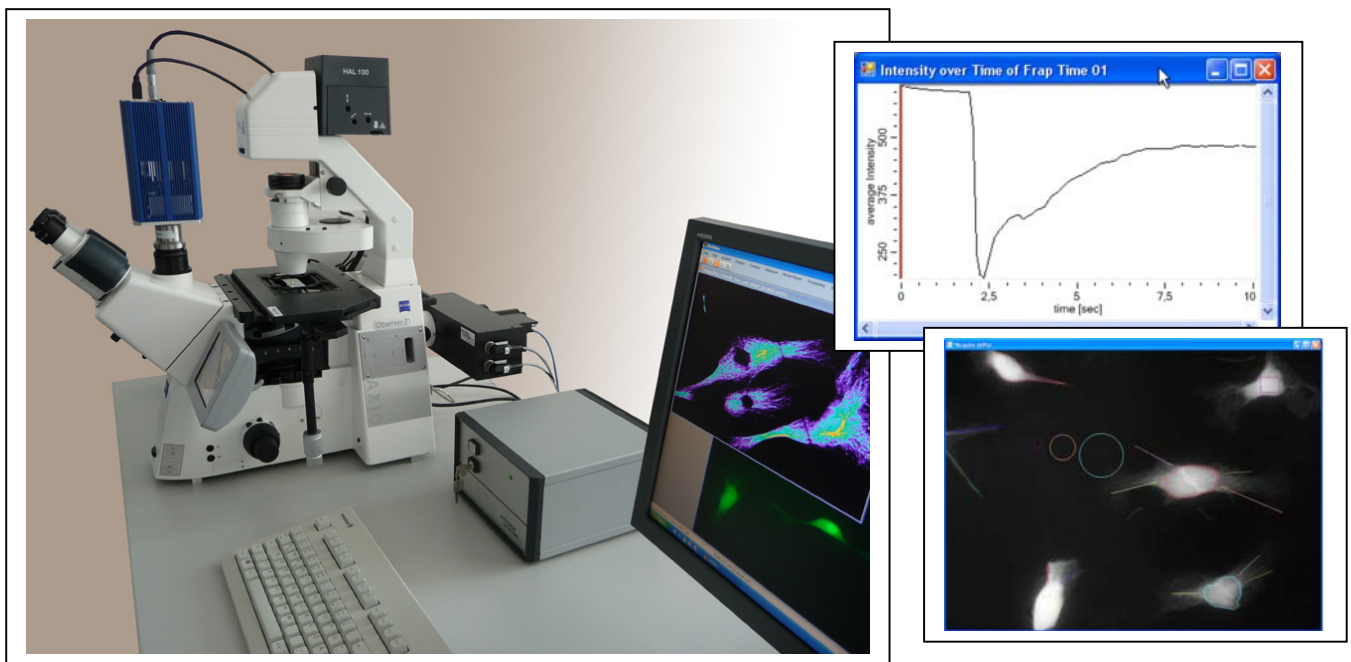
2D VisiFRAP Microscopy Imaging System

2D-VisiFRAP Realtime Scanner

Fluorescence Recovery After Photobleaching Imaging System

**New: with unlimited number and size of regions
and auto-calibration**

Fluorescent dyes show an emission of a specific wavelength after they have absorbed light of a shorter wavelength. Dyes, exposed to high intensity light, e.g. in the near UV, respond with permanent photobleaching. The intense light renders the dyes unable to emit fluorescence anymore. Fluorescence recovery is based on this phenomenon and is typically used to measure the dynamics of molecular motility of fluorescence labeled molecules. It is also possible to measure the exchange of molecules between separate compartments in the cells.

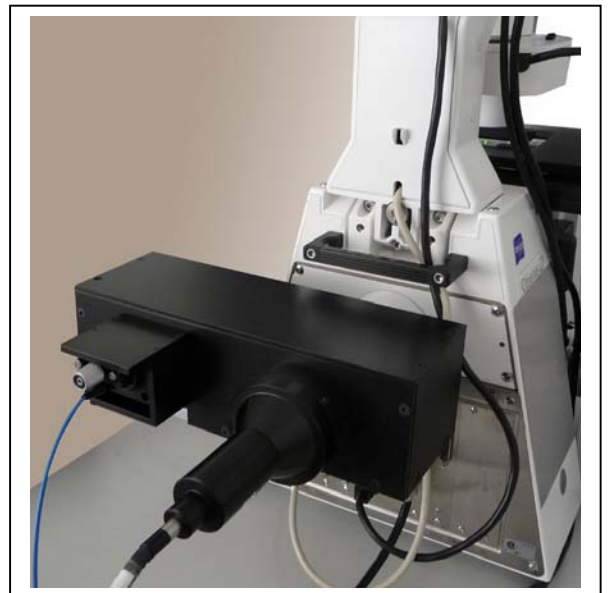


The 2D-VisiFRAP system from Visitron Systems GmbH is a microscope based imaging solution especially designed for fluorescence recovery or photoactivation studies. The system is based on a 2D galvanometer realtime scanner, a highly sensitive CCD camera and a research microscope.

The 2D galvanometer scanner head is typically mounted on the epi-fluorescence condenser of the microscope. The laser light can be simply adapted via standard FC-connector. Customer's requirements can be easily integrated due to the flexibility of the system. Realtime multi-point confocal technology can be easily combined with the 2D-VisiFRAP to enhance resolution and image quality.

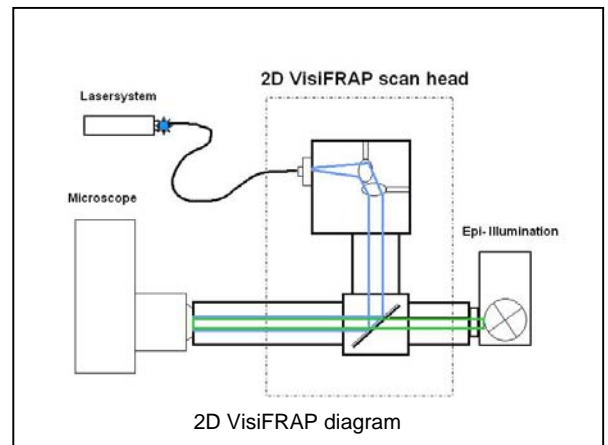
Key Features:

- Galvanometer controlled 2D module for illumination of i multiple ROIs
- optimized optics for high photon efficiency
- choice of single or multiple wavelengths and laser lines
- simultaneous observation of stained cells and laser while the FRAP process is running
- point size of laser spot about $1\mu\text{m}$ for 100x objective with high aperture of $> 1.33 \text{ NA}$
- FC fiber connector for laser system
- VisiView[®] FRAP software module



Typical Application:

- 1D and 2D FRAP for cell biology
- Monitoring of surface trafficking
- Nucleocytoplasmic shuttling
- Protein diffusion studies
- Photoactivation
- Acceptor photobleaching
- Photoconversion studies



Example:

BPAE cells, bleaching of FITC-stained tubulin with 405nm laser at 10mW power. Figure shows a cell before bleaching, region drawings before and after UV-laser application, and finally the bleached compartments without region drawings (upper left to lower right).

