BREAKTHROUGH INNOVATION IN **MULTIPHOTON MICROSCOPY**

The **FEMTO3D ATLAS** and **ATLAS P&P** microscope combine high-tech science, engineering, refinement in 3D measurements and technology into an all-in-one solution. The unique properties of Atlas enable researchers to image neuronal, dendritic, and other neuropil activities.

FUNCTIONAL REAL-TIME 3D IMAGING
calcium imaging, voltage imaging

DEEP PENETRATION
low phototoxicity, high optical quality

UNIQUE FLEXIBLE IMAGING METHODS
supporting most neurobiological applications

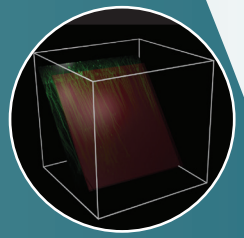
NETWORK IMAGING
of over 2000 soma distributed in 3D

DENDRITIC IMAGING
without interruption through layers

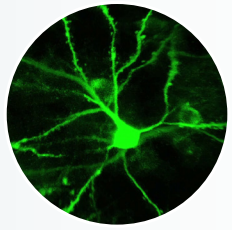
SPINE MAPPING
simultaneous imaging of thousands of spines

BEHAVIOR EXPERIMENTS
with an advanced toolset

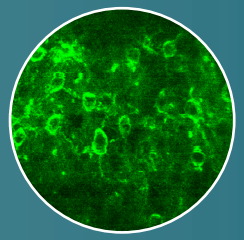
REAL-TIME 3D MOTION CORRECTION
for *in vivo* behavior experiments



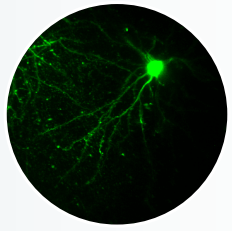
high-speed arbitrary frame scanning with 40 fps



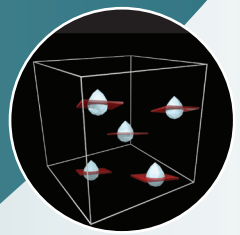
online 3D motion correction during behavior



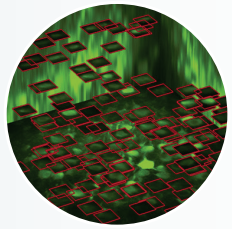
voltage imaging



3D dendritic imaging and spine mapping

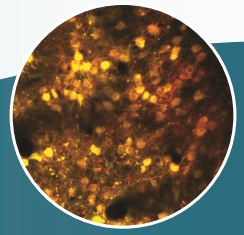


versatile scanning methods for all applications



3D network imaging of over 2000 neurons

3D random-access ROI scanning with 100 kHz



3D photostimulation

www.femtonics.eu
info@femtonics.eu

THINKING AHEAD FEMTONICS MICROSCOPY

FEMTO 3D ATLAS & 3D ATLAS Plug & Play

ACOUSTO-OPTIC, SCANNER-BASED 2-PHOTON MICROSCOPES

THE ALL-IN-ONE SOLUTIONS

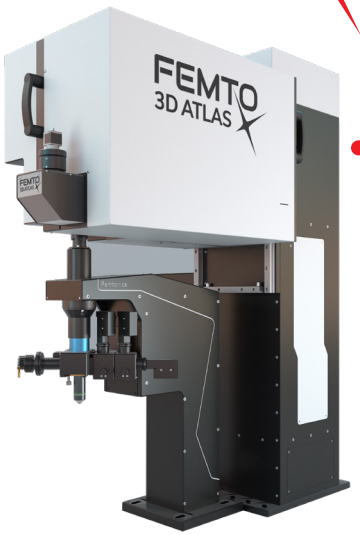
for extremely high-speed 3D imaging

THINKING AHEAD FEMTONICS MICROSCOPY

ALL-IN-ONE MICROSCOPE SOLUTION

The **FEMTO3D ATLAS** seamlessly integrates the capabilities of both traditional galvo and resonant scanner-based two-photon microscopy with the exceptional fast 3D imaging feature of the acousto-optic scanner-based microscope.
This innovative system serves as an all-in-one solution for scientists, offering the versatility to be added as an extension to existing upright microscopes or function independently.
It empowers researchers to unlock rapid 3D functional imaging capabilities with ease.

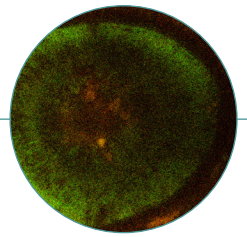
FEMTO 3D ATLAS



1. 3D ROI scanning with 100 kHz
2. high-speed arbitrary frame scanning with 40 fps
3. FLIM integration available
4. 3D photo-stimulation
5. microscopy for deep imaging
6. real-time 3D motion correction with the Femtonics FocusPinner

FEMTO3D ATLAS PLUG & PLAY

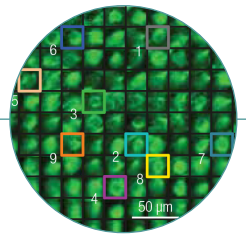
The FEMTO3D ATLAS PLUG & PLAY microscope is a turnkey multiphoton solution: following a smooth delivery to the laboratory, it is ready to operate within an hour.
The system can be easily relocated or moved between laboratories, adapting to your ever-changing needs. While compact in size, the microscope is equipped with the latest 3D acousto-optic (AO) technology for ultra-fast *in vivo* 3D imaging and 3D photostimulation.



Example image taken with the FEMTO3D Atlas Plug & Play

HIGH-SPEED ARBITRARY FRAME SCANNING

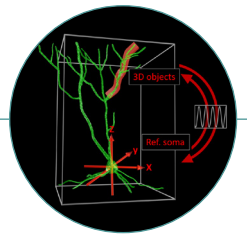
The high-speed arbitrary frame scanning mode of Atlas offers a scanning speed of 40 fps at 510 x 510 pixels, surpassing the speed of most resonant scanning multiphoton scopes, which typically achieve around 30 fps at their highest speed.
Thanks to AO technology, users can freely select the scanning plane in addition to adjusting the speed. This means that the fast-scanned plane can be oriented perpendicularly to the objective's axis or set at an arbitrary angle in the X and/or Y axes.



Chessboard-like arrangement of the squares

FEMTONICS FOCUSPINNER

Our solution takes advantage of acousto-optics technology and elevates it to a whole new level.
The online motion correction is based on calculations derived from selecting stable objects or multiple objects within the field of view (FOV), which serve as reference points during scanning. With our method providing an effortless means to scan in any direction in 3D, reference measurements are equally efficient in the Z direction as they are in the XY direction, which is a unique feature of the Femtonics FocusPinner.



Dendritic imaging with the aid of the Femtonics FocusPinner