

LIFA vTAU

SPAD powered FLIM system



Speed, sensitivity, and simplicity.

LIFA vTAU is a camera-based system for fast fluorescence lifetime imaging microscopy (FLIM), especially well-suited for live cell applications. Featuring vTAU, our versatile SPAD camera, the system allows for near instantaneous acquisition of lifetime images at unprecedented frame rates with high accuracy.

Complete solution

LIFA vTAU works with any brand of fluorescence microscope to form a fully integrated FLIM system for a complete solution from sample to data.

Fast, adaptive dynamic range

Utilising the latest ultra-high sensitive SPAD detector, featuring micro exposures to optimise dynamic range, vTAU can capture up to 100 lifetime images per second in challenging light conditions.

Broad lifetime range

Matching a wide range of capabilities, vTAU operates from the sub microsecond down to picoseconds range.

Multiple configurations

Suitable for Widefield, Spinning-disk Confocal, Lightsheet, and TIRF systems, LIFA vTAU delivers an easy plug-n-play setup experience.

Next level sensitivity

With the unique properties of SPAD, vTAU features excellent light sensitivity to minimise measurement duration, and enables noise free readout of the detector.

Automatic data analysis

Dedicated LIFA software instantly calculates the fluorescence lifetime and presents it as a colour coded overlay on the original image.

System Components



vTAU camera

Versatile, plug-n-play FLIM camera for quick and easy setup.

Ultra-high sensitive SPAD detector for up to 100 lifetime images per sec.

Regular frequency-domain FLIM and time-lapse image modes.



Light Source(s)

Multi-LED and/or Multi-LASER as required for your setup.

Excitation light sources for frequency-domain fluorescence lifetime imaging, supplied according to the wavelengths you require.



LIFA Software

Seamless integration of all hardware for full system control

Guides users through FLIM experiments from start to finish.

Supports third party hardware for a flexible and expandable system.

LIFA vTAU system also includes:

- / Computer with USB connection
- / Installation by a Lambert engineer at your lab

- / One day of hands-on training
- / Phone, email, and remote desktop support

User Benefits

Easy to use

User training is quick.

Versatile and simple setup

No alignment, plug-n-play setup makes switching microscopes easy.

Low phototoxicity

Long term life cell imaging is now possible.

Cost effective

No maintenance, multi wavelengths system, with third party hardware support.

Applications

Molecular interactions

Protein conformation

Biosensors

Oxygen imaging

Metabolism

Protein-protein interactions

Ion imaging

NADH/FAD fluorescence dynamics

Viscosity imaging

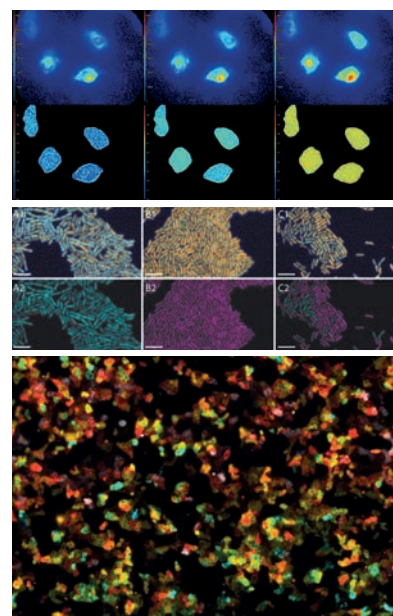
Membrane dynamics

Membrane trafficking

LED inspection

Crude oil characterisation

Solar cell MCL monitoring



Specifications subject to change

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Lambert Instruments is dedicated to development, production and worldwide sales of products for **time resolved imaging at low-light levels.**

Our mission is to enable our users to **reveal previously unseen phenomena.** Our products provide a possibility to record fast events at low-light conditions. Together with our software, we **reimagine detection** to offer complete solutions to challenging imaging problems.