Ultra-Sensitive Time-Resolved Camera

LINCam is the quantum sensor solution for **widefield** time correlated **single photon counting**. The camera resolves x and y positions of individual photons as precise as a CCD with **1000 × 1000 pixels**, together with **40 ps** accuracy timing. Being paired with a pulsed light source LINCam turns any conventional fluorescence microscope into a powerful lifetime measuring instrument. LINCam is just a camera. Handling is as easy as a megapixel CCD camera but extended with high precision timing dimension.

Get in touch & learn more

www.photonscore.de
+49 391 6117 280
email@photonscore.de

Time-Correlated Single-Photon-Counting

Turn any existing widefield microscope setup into a powerful time resolving FLIM system with our hardware and software solutions

Lifetime Estimator
Choose between mean and median estimation

Intensity Contrast
Tune your image for best brightness and visibility

Pipette
Know the lifetime at any given position of the image

Decay Selector
Select the decay you want to observe and remove reflexes by gating the utilized photons

Timeline
Select your image frames indepedently from a scanner

Lifetime Contrast
Choose the best fitting lifetime contrast settings to bring your features into the spot light

Electronic Module
Connect the electronics to your computer and start your FLIM measurement

Detector Head
Attach the detector to any C-Mount port at your existing microscope setup

Applications

3D Lightsheet FLIM

In widefield fluorescence microscopy the whole field of view is illuminated simultaneously, in contrast to confocal imaging. Widefield FLIM enables fast detection of fluorophores under low light conditions with high temporal resolution. Using LINCam you can analyse complex fluorescence decays and generate high quality FLIM images and FLIM movies of living samples.
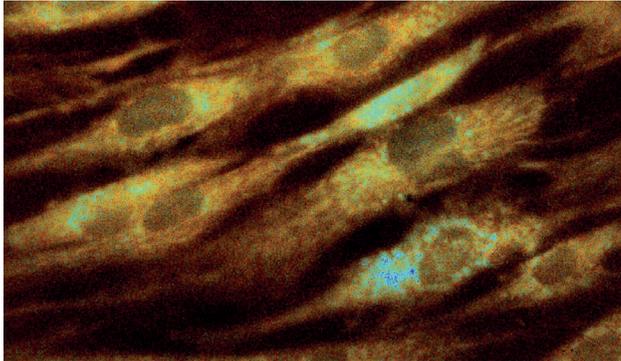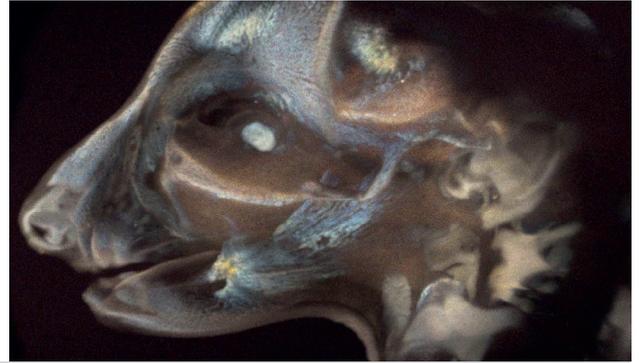

Metabolic & NADH Imaging

Cellular energy production in form of ATP depends on glycolysis and the electron transport chain within mitochondria. With LINCam you can visualize metabolic changes and dysfunctions under various conditions in all cell types by label-free monitoring of the autofluorescence of NAD(P)H and FAD. Even in neurons, it is possible to study the relation between energy metabolism and tiny changes in the electrical activity after stimulation.

Single Molecule Imaging

Different types of single molecules are often spectrally unresolvable. However, they can be characterized and separated by their corresponding fluorescence lifetimes. With LINCam, it is possible to create a contrast between different single molecule emitters with an accuracy of <200 ps in high-resolution widefield lifetime images.
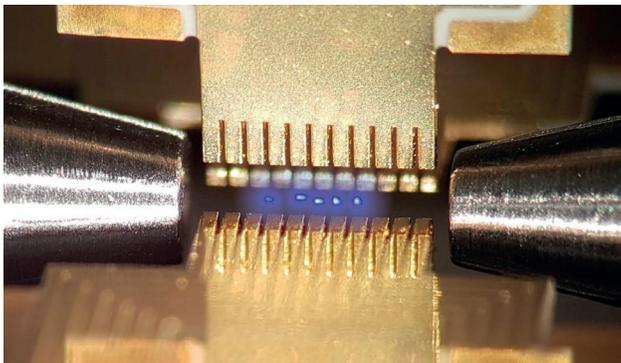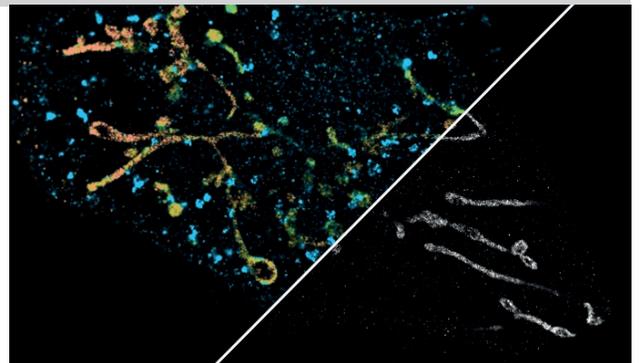
Quantum Optics

To investigate the photon statistics of single-photon sources, a spatially and temporally resolving detector of high accuracy is needed. With synchronized LINCams, a coincident photon stream created by trapped ions can be recorded. From this data, all properties of the photon statistics of the ion crystal, e.g. simultaneous presence of bunching and antibunching, can be measured.

Specifications

Active area diameter, mm	17
Positional resolution, pixels	1000 × 1000
Temporal resolution, ps FWHM	≤ 40
Microscope mount	C-mount
Maximal count rate, MHz	1
Reference input	Positive or negative NIM
Computer interface	USB 3.0 / Ethernet
Operating System	Windows 7 / 10 / 11 (64 Bit) / macOS

Quantum Efficiency