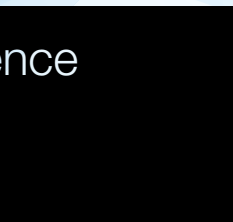
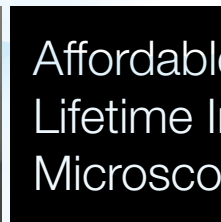
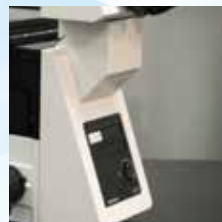
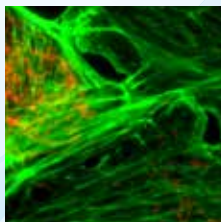
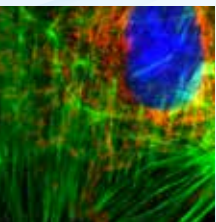
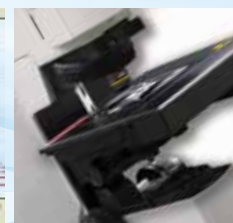
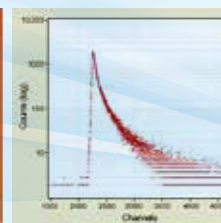
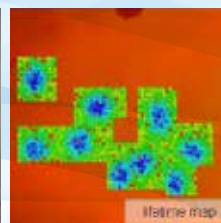
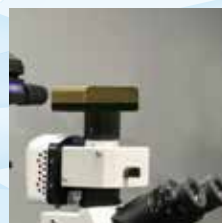
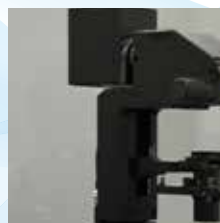
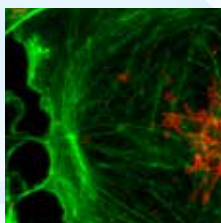
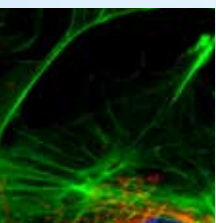
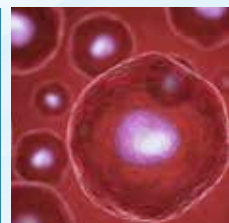
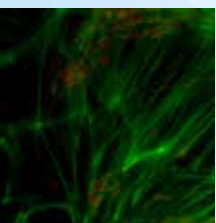


## DeltaMyc

Fluorescence Lifetime Mapping Microscope



Affordable Fluorescence  
Lifetime Imaging  
Microscopy (FLIM)

# DeltaMyc

Affordable  
Fluorescence  
Imaging  
Lifetime  
Microscopy  
(FLIM)



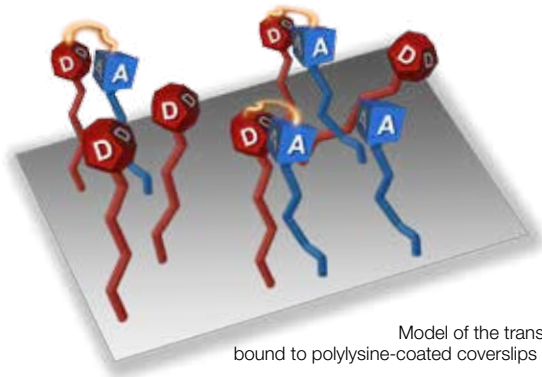
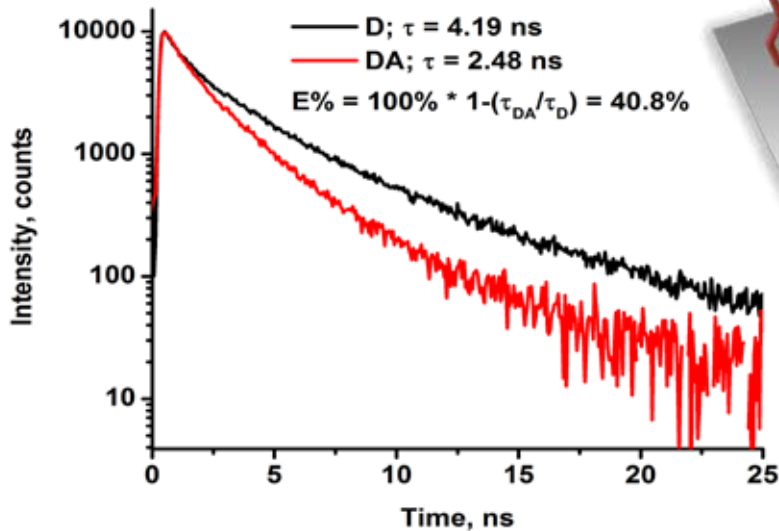
## At last, an affordable yet powerful benchtop FLIM system.

The DeltaMyc is a highly functional, confocal fluorescence microscopy system carefully coordinated to prevent altering the native microscope's optical performance features and capabilities. It supports both upright and inverted microscope bench systems.

For lifetime sample analysis, HORIBA Scientific, the leader in fluorescence lifetime spectroscopy, employs its advanced Delta series electronics components and light sources. Time-resolved fluorescence capabilities employ the precision and sensitivity of Time-Correlated Single-Photon Counting (TCSPC). The DeltaMyc's Fluorescence Lifetime Imaging (FLIM) capabilities utilize an automated X, Y fast scanning stage, which, combined with its confocal ability, can generate rapid fluorescence lifetime mapping with spatial resolution at the micron level.

The DeltaMyc is a highly flexible research-grade tool because it combines a large range of picosecond pulsed laser (DeltaDiode™) sources (spanning wavelengths from 375 to 670 nm), multiple filter and filter-cube configurations, and various detector options to suit your needs. Its imaging capabilities use a CCD camera for the definition of the area of interest, with direct fluorescence imaging possible using the recommended high dynamic range, low noise cooled camera.

The DeltaMyc is easily controlled from the intuitive user interface of our DataStation software, for fluorescence lifetimes. Our DAS6 software facilitates full reconvolution analysis to generate spatial maps of the fit parameters including lifetimes, pre-exponential factors, average lifetimes, and fluorescence intensities.



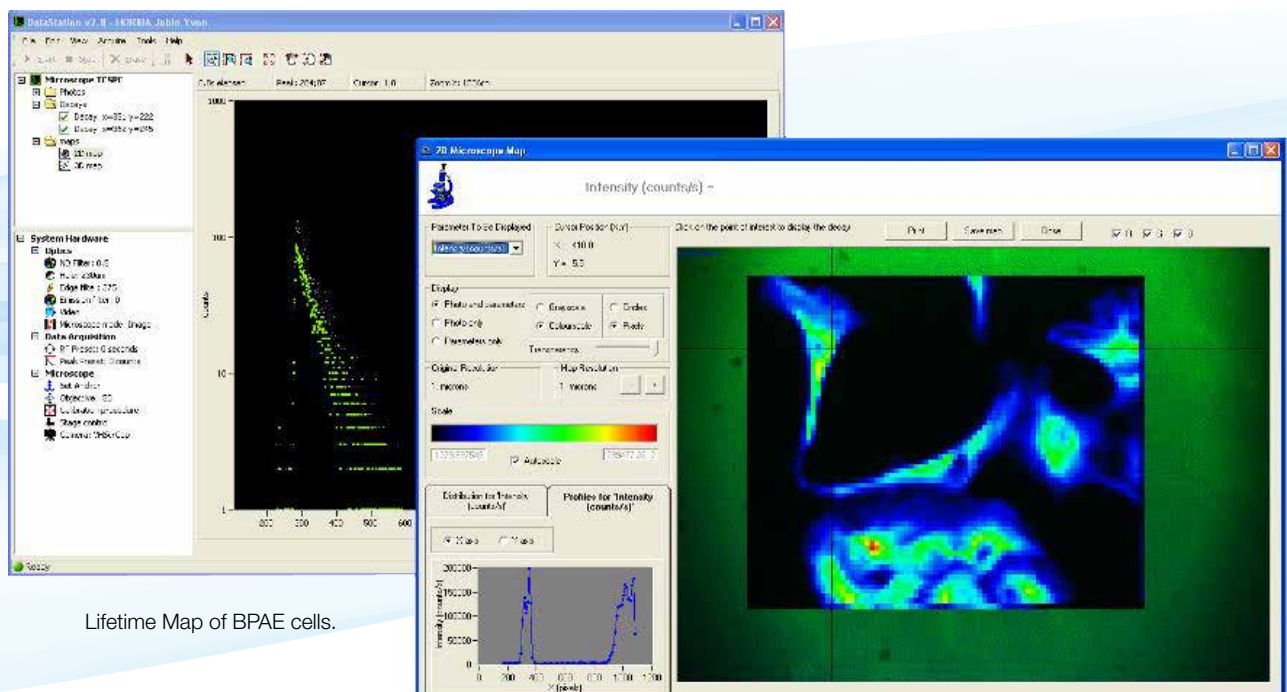
Decay curves for donor (D) only and donor plus acceptor (DA) for the system above. Samples gratefully acknowledged from M. Barroso, Center for CardiovascularSciences, Albany Medical College.

## Applications

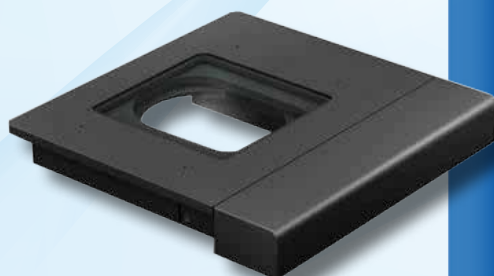
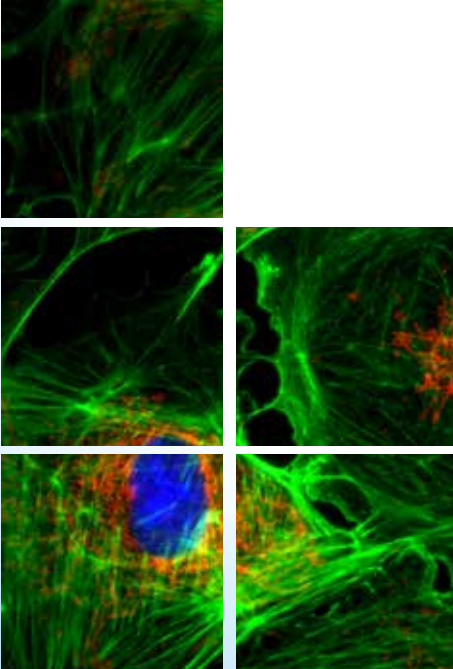
- Biological as well as material science samples
- Cell and tissue analysis intrinsic fluorescence
- Conjugated fluorescence labels and quantum dots
- Thin films and semiconductors
- Fluorescence dyes
- Nanoparticles
- Quantum dots
- FRET

## Unique Features

- Fully-integrated system with direct source coupling, confocal detection and single-photon counting module
- New DeltaDiodes™ high repetition rate lasers, CW or pulsed operation
- Widefield steady state fluorescence for comparative studies
- Lifetime determination from 100 ps to 10  $\mu$ s
- Cooled fluorescence camera
- Fast mapping speed (data in seconds)







# Components

## DeltaHub (TCSPC Electronics)

Time-correlated single photon module

## PPD Series Detectors

Spectral response:

250-900 nm

Dark counts < 80 cps

## DeltaDiode™ Sources

Repetition rate up to 100 MHz

375 nm	485 nm
395 nm	510 nm
405 nm	635 nm
415 nm	650 nm
425 nm	670 nm
440 nm	730 nm
450 nm	785 nm
470 nm	

## X-Y Motorized Stage

Automated X-Y stage

0.5  $\mu$ m resolution

# DeltaMyc Specifications

<b>Microscope</b>	<b>Based on both upright Olympus® BX53 and IX73 inverted microscopes</b>	
Objective	Plan achromat x10 and x60, other magnifications available. 6 position turret	
Kinematic confocal pinholes	6 diameters, 0.1, 0.2, 0.4, 0.6, 0.8, 1 mm	
<b>Camera</b>		
Fluorescence camera	12 bits, 1.4 Mpix, cooled, low noise	
<b>Excitation sources</b>	<b>Direct-coupled pulsed laser sources</b>	
Repetition rate	10 kHz to 100 MHz, with DeltaDiode™ sources	
Wavelength range	From 375 to 670 nm	
<b>Motorized stage</b>		
Resolution	0.5 µm	
Travel range	75 x 50 mm	
Manual control	With joystick	
Automatic control	Through DataStation software	
TCSPC mapping	High-speed scan, down to 5 ms per decay	
<b>TCSPC Electronics</b>	<b>Single-photon counting detection</b>	
Lifetime range	100 ps to 10 µs (depending on sample)	
Dead time	<10 ns	
<b>Detector</b>	<b>PPD picosecond detection module</b>	
Spectral range	250-850 nm	
Transit spread time	<300 ps	
Dark count	<80 cps	
<b>Filters</b>		
ND filter sliders	6 positions: 0, 0.3, 0.6, 1, 2 and 3 OD	
<b>Software</b>		
Operating system	Windows® 7	
<b>Dimensions</b>	<b>Upright</b>	<b>Inverted</b>
	68 cm x 46 cm x 60 cm	90 cm x 50 cm x 75 cm
<b>Weight</b>	40 kg	65 kg

# The Most Complete Line of Fluorescence Instruments



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Scientific

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