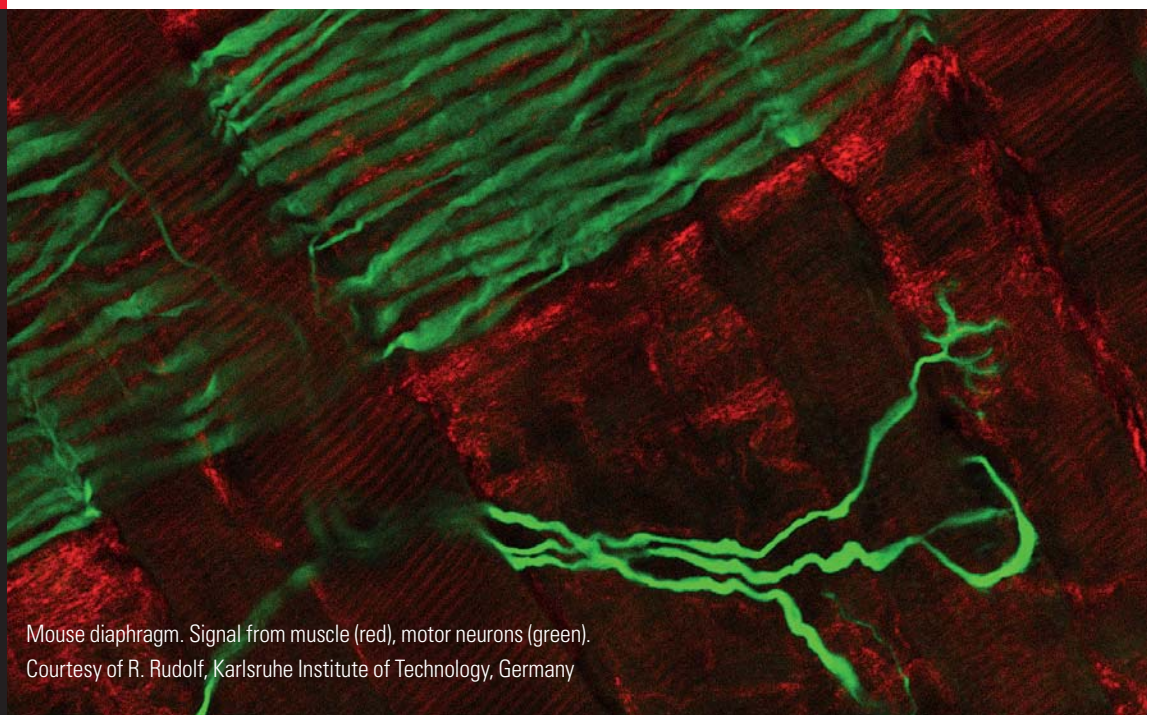
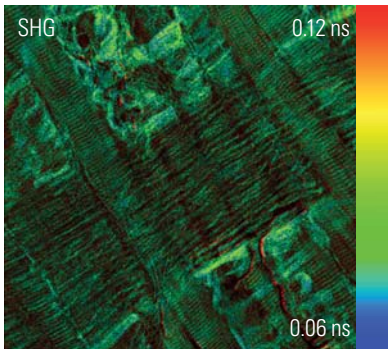
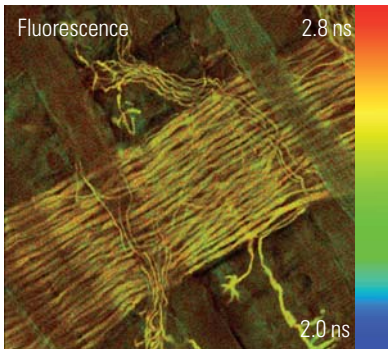
Living up to Life

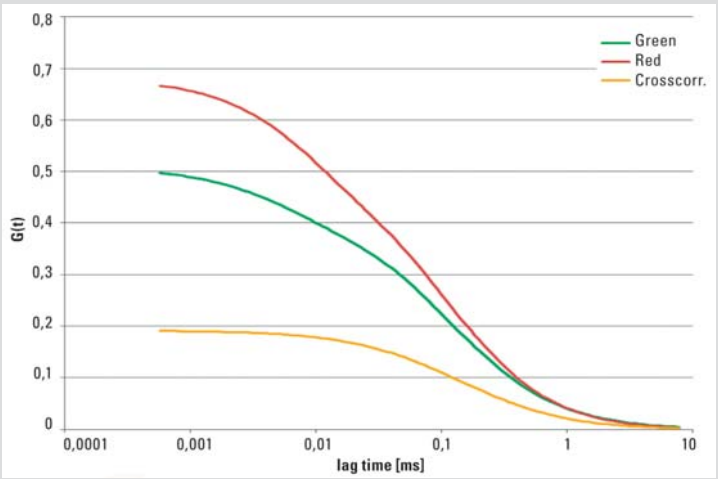
Leica
MICROSYSTEMS



Mouse diaphragm. Signal from muscle (red), motor neurons (green).
Courtesy of R. Rudolf, Karlsruhe Institute of Technology, Germany







Leica TCS SP8 SMD – Learn More from Single Molecules

The Leica TCS SP8 SMD offers all you need for biological quantification – at the push of a button. Advanced imaging procedures combined with sophisticated single molecule detection tools are opening up entirely new areas of research.

- An integrated platform for FCS, FCCS, FLIM, FLIM-FRET, SLIM, FLCS, and imaging methods
- User-friendly implementation of all Leica and PicoQuant components
- Dedicated application wizards for fast, reliable experimental setup

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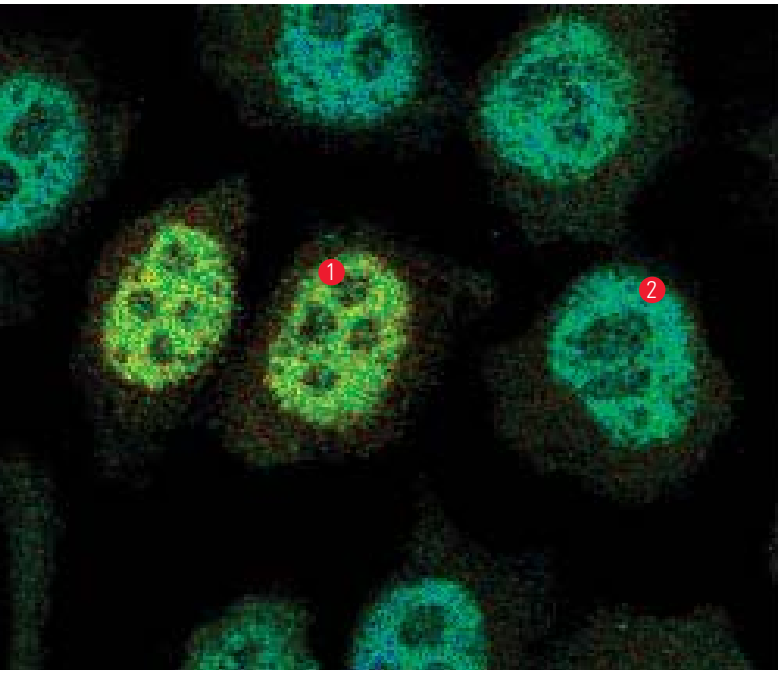

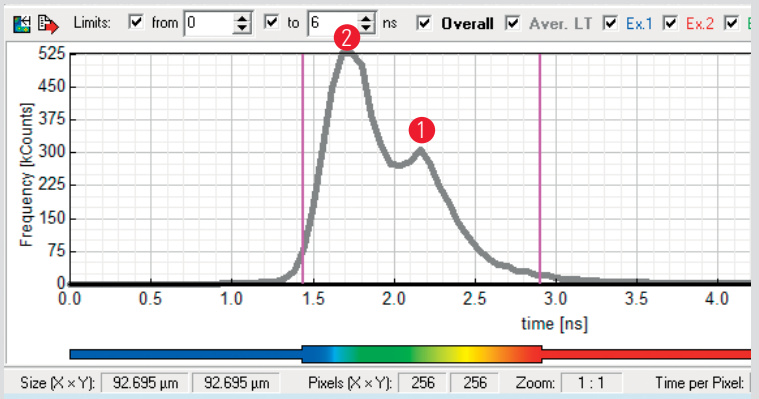

Nuclei of HeLa cells. Polymerase b labeled with Alexa Fluor 488 and Alexa Fluor 555 as a positive control for FRET, and donor bleached cells as negative control. Courtesy of Pascal Kessler and Yves Lutz, IGBMC, Strasbourg, France

LEICA TCS SP8 SMD – HIGH DIMENSIONAL IMAGING AND ANALYSIS

The Leica TCS SP8 SMD provides complete control of an experiment through the full integration of SMD-specific hardware and software from PicoQuant GmbH. A wide variety of lasers – from UV to IR and the unique pulsed White Light Laser – is available. Specific single photon counting detectors for external or internal spectral data acquisition fit all applications:

› FCS and FCCS reveal information on the molecular scale such as diffusion coefficient, particle mass, concentration, and binding. Easy data interpretation is provided by automatic positioning of FC(C)S measurement spots in 3 dimensional image stacks and their relation to the image data.

› FLIM displays the fluorescence lifetime in each pixel of an image. Modern biosensors use that property to very sensitively probe molecular environmental parameters and binding by FLIM-FRET. New dyes are precisely characterized with FLIM methods. High quality FLIM data from large z-stacks is supplied by the combination of femtosecond MP excitation with non-descanned Leica HyD™.

› SLIM (spectral FLIM) combines spectral and lifetime data acquisition into one automated measurement. The combination of the White Light Laser as the FLIM excitation source with spectral tunable FLIM detectors provides the most flexible, filter-free FLIM system that adapts to any dye.

› FLC(C)S combines FCS and lifetime measurement, where lifetime-filtered data are correlated. This approach extracts significant fluctuation data from unwanted noise signals. Even at a low signal-to-noise ratio, concentration measurements reveal true data. Cross-correlation is clearly enhanced by seamless integration of PIE illumination.

Quantify life with the Leica TCS SP8 SMD!