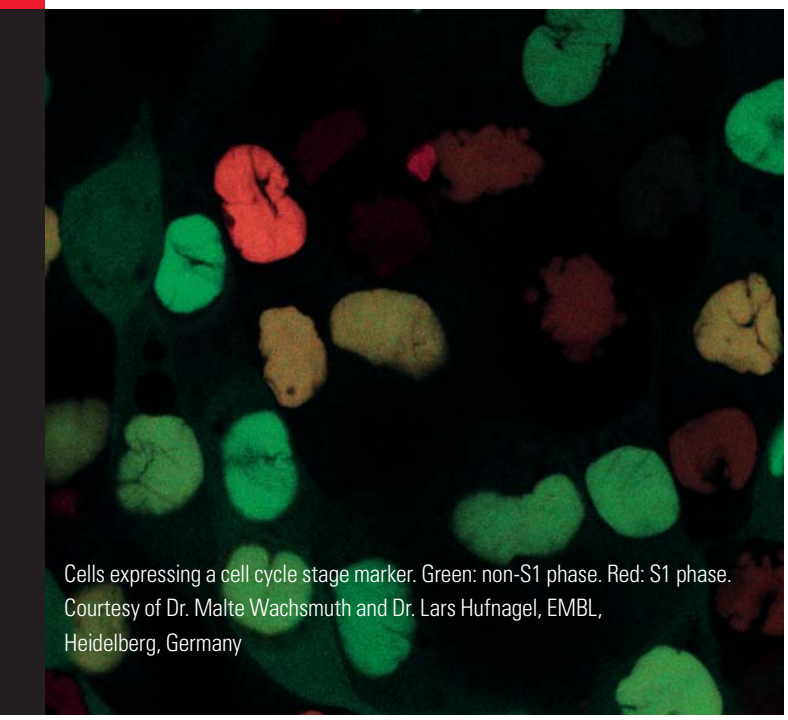
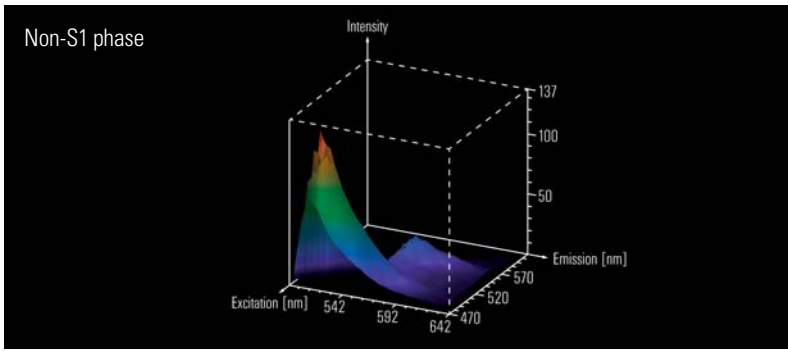
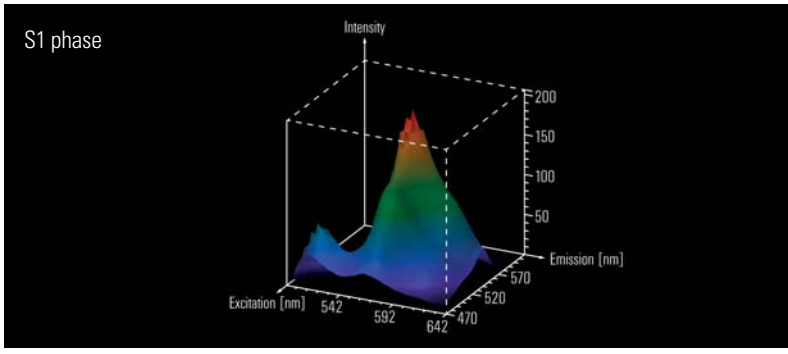
Living up to Life

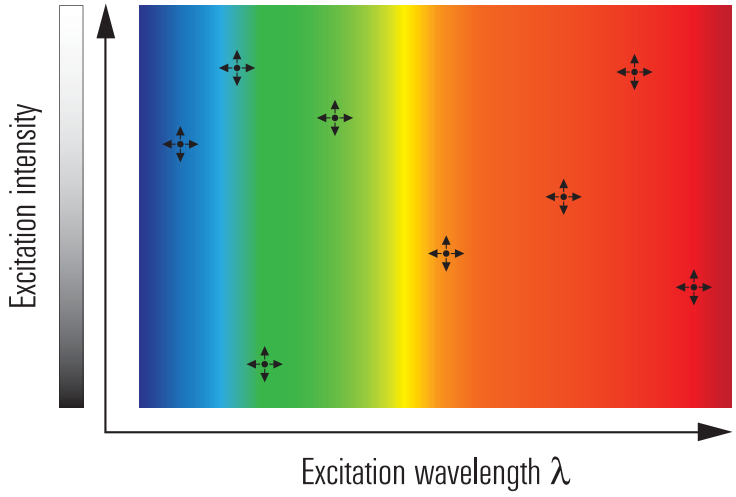
Leica
MICROSYSTEMS



Cells expressing a cell cycle stage marker. Green: non-S1 phase. Red: S1 phase.
Courtesy of Dr. Malte Wachsmuth and Dr. Lars Hufnagel, EMBL,
Heidelberg, Germany







Leica TCS SP8 X – The Only Freely Tunable Confocal System

The white light laser source of the Leica TCS SP8 X perfectly matches the spectral properties of any fluorophore excitable in the visible spectral range. Continuously tunable excitation and detection ensure best image quality and sample protection. Up to eight excitation lines can be used – simultaneously.

- Tuning range of 470 to 670 nm in 1 nm intervals
- Minimum cross-talk in multiple stained specimen
- Change of Illumination regimes within microseconds
- Lambda Square Mapping: full spectral information by excitation-emission correlation
- LightGate: background quenching using time-gated detection
- True FLIM results by adjustable excitation wavelength and variable pulse repetition rate

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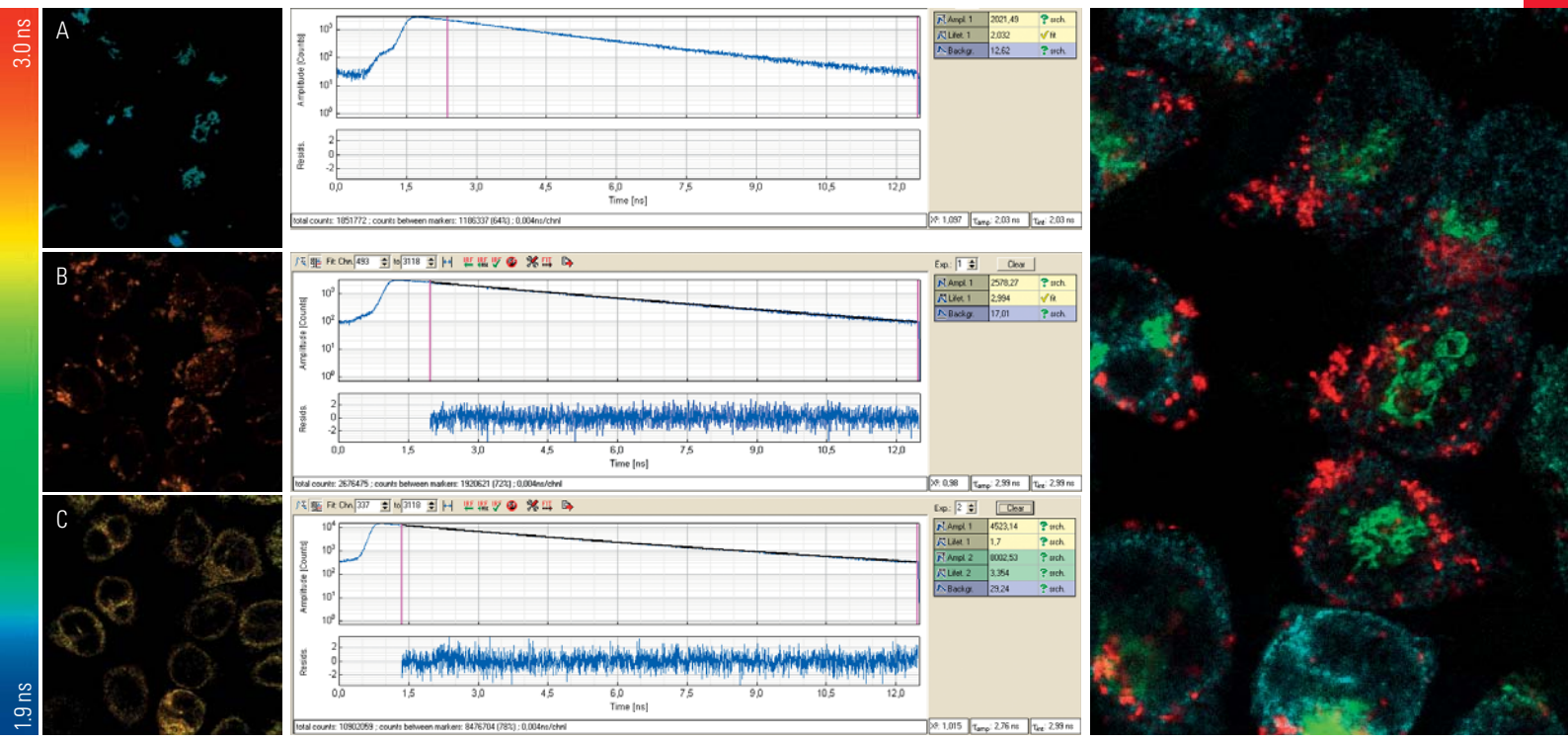

Specimen: fixed cells with triple staining: GalNacT2_GFP (golgi), LAMP-546 (endosomes), Calnexin 594 (ER). FLIM measurements at different excitation wavelengths (A: 486 nm, B: 542 nm, C: 594 nm). Sample: courtesy of Matthias Weiss, Cellular Biophysics Group, Bioquant, Heidelberg, Germany.

FREELY TUNABLE CONFOCAL IMAGING WITH THE LEICA TCS SP8 X

The White Light Laser (WLL) is the optimal excitation source to image any kind of dye combination. The acousto-optical beam splitter (AOBS) is the key to selecting any wavelength from the white spectrum. Completed by the tunable spectral detector (SP), the Leica TCS SP8 X represents the only filter-free versatile confocal microscope.

A two-dimensional excitation-emission spectrum characterizes the spectral properties of any fluorescent specimen. Fluorophores with either identical emission spectra or excitation spectra are immediately discriminated. This is essential for optimizing multi-color fluorescence experiments.

The highest image contrast can be obtained by LightGate. This is an innovative, filter-free method to quench unwanted signals. An adjustable time gate switches off the data collection during the white light laser pulse excluding any reflected photons from the signal. Additionally, non-wanted fluorescence can be removed by adjusting the time gate.

Being a pulsed laser, the WLL is even suitable for FLIM measurements. Its continuous tunability allows you to perform FLIM measurement at any excitation wavelength. The optimal laser repetition rate is selected via an optionally integrated pulse picker, which ensures reliable FLIM results.

Explore photonic landscapes with the Leica TCS SP8 X!