

Leica Stellaris White Light Laser STED & Wide Field Microscope

The innermost room A4-110C houses Leica Stellaris White Light Laser STED Super-resolution Confocal, Leica SP5 4 Laser Scanning Confocal, and one powerful Image Deconvolution, 3D Rendering and Analysis Workstation

Stellaris combines Basic Laser Scanning Confocal (LSC) with White Light Laser (**WLL**) 485-790 nm, STimulated Emission Depletion (**STED**) with 775 nm depletion laser for 1-3 channel Super-resolution imaging, Fluorescence Lifetime Information Imaging Microscopy(**FLIM**), **SpectraPlex**, and Wide Field Imaging, the first combined system in Western Canada.

- New **Navigator** makes Confocal imaging much easier even than modern Wide Field Fluorescence imaging. A whole new stage screen is most convenient to acquire fast multiple overviews, and set multiple complex imaging tasks. Most useful are quick Spiral overviews, defining polygon ROIs, any setting AF points.
- Select maximum excitation at any 8 wavelengths from WLL, along with 405 nm.
- A set of tools on FLIM, τ -sense, τ -gating, τ -contrast, FALCON and τ -STED, reveal the Fluorescence life time info, for live cell/tissue imaging.
- 5 Leica HyDs (hybrid detector) sets the standard for super-sensitive confocal imaging, offers unparalleled contrast for brilliant, publication-ready images. Three **HyD S** for all-around high performance robust detection throughout the spectrum, and two **HyD X** for sensitive 575-725nm Em and **FALCON** (Fast Lifetime CONtrast) and **τ -STED**.
- WLL, Acousto-Optical Beam Splitter(AOBS), and Spectral Photometer(SP) enabled maximum flexibility, bright, low noise images with minimal photo damage at high speed.
- With an auto **Galvo-stage**, 3D stacks and 2D/3D tiling images are automatic and precise.
- Excitation and emission double spectra **Λ scan** spectral imaging to analyze auto-fluorescence, non-specific bonding and specific bonding, for diagnosis.
- Online **Lightning** optimize Confocal scanning parameters for best acquisitions and automated deconvolution processing.
- Wide Field: 8 LEDs from CoolLED pE-800, 2 Quad-dichroic, 4 emission filters on Camera path. Leica K8 2KX2K 16bit monochromatic camera for multi-channel imaging, with single channel fastest full frame rate at 95 fps on 11 bit.

- Small on-stage environmental box with heater, water bath and mixed gas path provide stable temperature, CO₂, and moisture for best **time-lapse 4D live imaging** of cell or tissue on slide or dish.