



Monday, February 21

11:30 AM – 1:00 PM

Esplanade, Room 157

LEICA MICROSYSTEMS INC

Label-Free, Chemically Specific Imaging with the Leica STELLARIS 8 CRS

Coherent Raman Scattering microscopy (CRS) is a powerful new imaging technique that provides label-free, chemically specific image contrast based on the characteristic intrinsic vibrational of the sample molecules. CRS can produce high-resolution (sub-cellular level), dynamic (up to video-rate), and quantifiable information on the biochemical composition and metabolic processes in cells, tissues, and intact model organisms, and it enables imaging of small molecules without perturbing their function. This information is highly synergistic with the types of contrast provided by fluorescence microscopy. Here, I will provide an overview of the wide range of application areas covered by the all-new STELLARIS 8 CRS – Leica's hands-free Coherent Raman Scattering microscope. The instrument offers both CRS modalities – Stimulated Raman Scattering (SRS) and CARS – and allows for the simultaneous acquisition of two-photon fluorescence and second-harmonic generation signals. Importantly, the seamless integration of CRS with the STELLARIS visible confocal fluorescence microscopy platform results in a true multi-modal optical discovery instrument that is capable of capturing a unique combination of biochemical, biophysical and molecular contrasts. Unsurprisingly, the instrument is finding a growing number of applications in fields like neurodegenerative disease, cancer, 3D biology, stem cell and developmental biology, and pharmacology.

Speaker

Volker Schweikhard, Global Application Manager, LEICA MICROSYSTEMS INC