

## Leica SP5 DMI



Video of dye-uptake into cells courtesy of Aislyn Wist, [Ravi Iyengar Lab](#).

This is an inverted confocal microscope enclosed within a CO<sub>2</sub>, humidity, and temperature-controlled chamber for live cell confocal imaging. It has four lasers: a UV Diode (405nm), an Argon laser (458nm, 476nm, 488nm, 514nm), a DPSS laser (561nm), and a HeNe laser (633nm). Its scan head has five PMT detectors and one transmitted light detector. It can perform spectral scanning of fluorescence for generation of dye emission spectra and for separation of dyes with overlapping emission spectra. The "resonance scan" mode enables high speed scanning for time lapse experiments. Its motorized stage contains adapters for different dishes and chamber slides to accommodate a wide range of experimental setups. It also can mark and find multiple points and automate montage acquisition and stitching to generate high resolution images of large areas.

### Confocal Specifications

Laser Lines	Detectors	Emission Filters	Dichroics	Scan Mode	Bit Depth	Resolution
405 Diode	5 PMTs	Tunable	RT 30/70	Line	8, 12, 16	max: 8192 x 8192
Argon (458, 476, 488, 514)	1 Trans PMT		DD 488/561	Frame		min: 16 x 16
DPSS 561			RSP 500	ROI		
HeNe 633			Substrate	Resonance		
			TD	Spectral deconvolution		
			488/561/633	Time lapse		
			DD 458/514	Montage		
				FRAP		
				FRET		
				Live Data		

### Objectives

Magnification	Immersion	NA
<b>10x</b>	Air	0.5
<b>20x</b>	Air	0.7
<b>40x</b>	Oil	1.25
<b>63x</b>	Oil	1.4
<b>63x</b>	Glycerol	1.3
<b>100x</b>	Oil	1.4