

This confocal & Stimulated Emission Depletion (STED) super-resolution microscopy system is built on the fully motorized Olympus IX83 inverted microscope body. It is equipped with the following features:

Objectives

Magnification	Numerical Aperture (NA)	IMM	Working Distance (mm)	Cover glass (CG) thickness (mm)	Aberration Correction	Contrast technique
10X	0.4	DRY	3.1	0.17	Plan-Extended Apochromat	DIC
20X	0.8	DRY	0.6	0.17	Plan-Extended Apochromat	DIC
40X	1.4	OIL	0.13	0.17	Plan-Extended Apochromat	DIC
60X	1.42	OIL	0.15	0.17	Plan-Extended Apochromat	DIC

DIC – Differential Interference Contrast

Widefield epifluorescence observation

Filter Set	Excitation filter	Dichroic mirror	Emission filter	Example fluorophores
QUAD BrightLine	BP 378/474/554/635- 25	FT 409/493/573/652- Di02-25	BP 432/515/595/730- 25	DAPI, Hoechst AF488, eGFP, AF568, Cy3, mCherry, Cy5

BP – Bandpass filter, FT – Farbteiler (*dichroic beamsplitter*)

Light Source: 16-channel fast switching LED illumination

Excitation laser lines

- 405 nm, CW
- 488 nm, pulsed,
- 561 nm, pulsed
- 640 nm, pulsed

Detectors

The system is equipped with 4 ultra-high-sensitivity (65% QE) APD detectors with following detection characteristics:

- 420 – 480 nm
- 505 – 550 nm
- 575 – 625 nm
- 650 – 700 nm

STED Super-resolution module

STED super-resolution is realised via 1.5W pulsed 775 nm STED laser for 2D STED beam generation
STED resolution capabilities: down to 40-30 nm in XY (sample dependent)

Autofocus

The system is equipped with hardware autofocus that will maintain objective distance to the coverslip helping with imaging over large sample areas..

Software

The system is controlled by built-in STEDYCON software, accessible via web browser interface. It also comes coupled to SVI Huygens Pro software for fast image stitching and deconvolution.

For more information on any of these features, please contact Jakub Chojnacki (jchojnacki@igtp.cat)