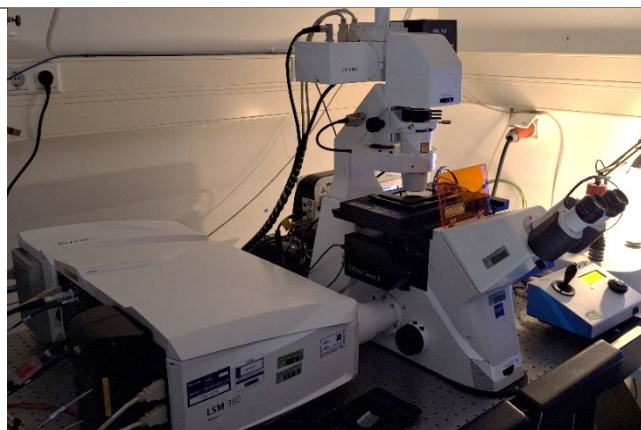


Technical Specifications

Zeiss LSM 980



Inverse point scanning confocal microscope with up to 6 channels (2 alkali PMT, 4 sensitive GaAsP detectors) and the Airyscan-2 detector for multiplexed super-resolution imaging. Spectral imaging (lambda scanning, emission fingerprinting) via sequential acquisition, transmitted light PMT and lasers to image all dyes from DAPI to Cy5. Multi-positioning (Piezo-driven XY stage with Z-Piezo top plate). Biophysical FCS analysis via photon counting modularity possible with dedicated water immersion objectives.

(Last updated: January 2026)

Stand

Zeiss Observer 7, inverse, fully motorized

Objectives

- Plan-Apochromat 20x/0.8
- EC Plan-Neofluar 10x/0.3 M27 (WD 5.2 mm)
- LD LCI Plan-Apochromat 40x/1.2 Imm Corr DIC M27 (WD 0.41 mm) - immersion correction (silicone, glycerol or water)
- Plan-Apochromat 40x/1.4 Oil DIC M27 (WD 0.13 mm)
- Plan-Apochromat 63x/1.4 Oil DIC M27 (WD 0.19 mm)
- C-Apochromat 40x/1.2 W Corr FCS M27 (WD 0.28 mm) – for FCS

Lasers

- 405 nm laser diode (30 mW)
- 445 nm laser diode (30 mW)
- 488 nm laser diode (30 mW)
- 514 nm laser diode (30 mW)
- 561 nm DPSS laser (25 mW)
- 639 nm laser diode (25 mW)

Widefield Illumination

- Colibri 7 (R[G/Y]B-UV), 4 excitation LEDs (385, 475, 555 and 630 nm)
- Halogen lamp (100 W)

Detectors/Filters

- Scanning mirrors with up to 8192 x 8192 pixels

Confocal channels 1-6: slider-based system with free choice of channels (down to 3 nm)

- Ch1, Ch2: alkali PMTs
- Ch3-Ch6: GaAsP detectors (45% QE)

T-PMT (ChD): transmitted light (alkali PMT)

Airyscan 2 (ChA): compound detector consisting of 32 GaAsP detector units

<u>Secondary beam splitters</u>	<u>Clean-up filters</u>
LP490	BP420-480 + BP 495-550
LP515	BP420-480 + BP 570-630
LP545	BP420-500 + LP605
LP635	BP465-505 + BP525-585
SP545	BP495-550 + BP570-630
SP610	BP495-560 + LP660
	BP570-620 + LP655

XYZ-Stage

- ASI PZ-2150 scanning stage (xy travel range 120 x 110 mm), z-piezo top plate (with closed-loop servomotors, travel range 150 μ m, 2.2 nm resolution)
- Standard inserts for slides, dishes and multiwell-plates

Environmental control (stage top)

- Controller: Zeiss TempModule S, CO₂ Module S
- Heated inserts + heated lid for short term live imaging

Software

- Zeiss ZEN 2012 SP5 running on Windows 10 (64-bit)
- Tiles & positions package for stitching and multi-positioning options
- Dynamics profiler package for FCS and dynamics analysis using the Airyscan-2 detector