Equipment name:

ZEISS LSM 880 laser scanning confocal microscope with Airyscan

Brief description:
ZEISS LSM 880 with Airyscan enables confocal superresolution imaging with four times the speed and improved signal-to-noise ratio

ZEISS LSM 880 with Airyscan is a laser scanning confocal that revolutionizes imaging beyond the conventional confocal microscope. Airyscan with GaAsP detector allows you to choose from increased resolution along all axes, increased signal to noise, increased acquisition speed, or any combination of these improvements.

The Fast module for ZEISS LSM 880 with Airyscan enables parallel excitation and detection of four image pixels. The result is a speed improvement by a factor of four, while maintaining the outstanding sensitivity of Airyscan and 1.5x resolution improvement. The gain in imaging speed allows researchers to enter the domain of classic resonant scanning systems, but with a much better signal-to-noise ratio.

Choose the Airyscan detector in combination with a three to thirty-four channel detector. Incorporate GaAsP detectors to image the most challenging, photosensitive samples. Resolve subresolution structures by combining with superresolution. With complete flexibility in experimental design and configuration, you tailor the confocal to the experimental demands of your lab or multiple labs.

Applications:

- Laser scanning confocal imaging
- Super Resolution imagining with AirScan (1.7X improvement over diffraction limited imaging)
- Quantitative Imaging (linear scanner)
- Imaging of weak fluorescence signals with high sensitivity AirScan mode

System specifications:

- Inverted Zeiss Axio Observer Z1 microscope with Definite Focus
- Motorized XY Stage, allowing large images and multi-point time-lapse imaging
- Airyscan Module for super resolution
- High sensitivity GaAsP photodetector plus two PMTs for confocal and additional PMT for transmitted light
- Up to 19 × 2 speed levels, up to 13 images/sec with 512 × 512 pixels (max. 430 images/sec, 512 × 16), up to 6875 lines per second
- Up to 8192 × 8192 pixels resolution

Location:
Bldg. 101, C4-120

Main contact:
Jian Luo
VA extension: #63789
jianl@stanford.edu

Access:
Each lab needs to contact the main contact person (Jian Luo) to set up a user account first before starting using the scope.

Cost to use:
16.75$/hour

Other information:
New users need to be trained and authorized before using the scope.