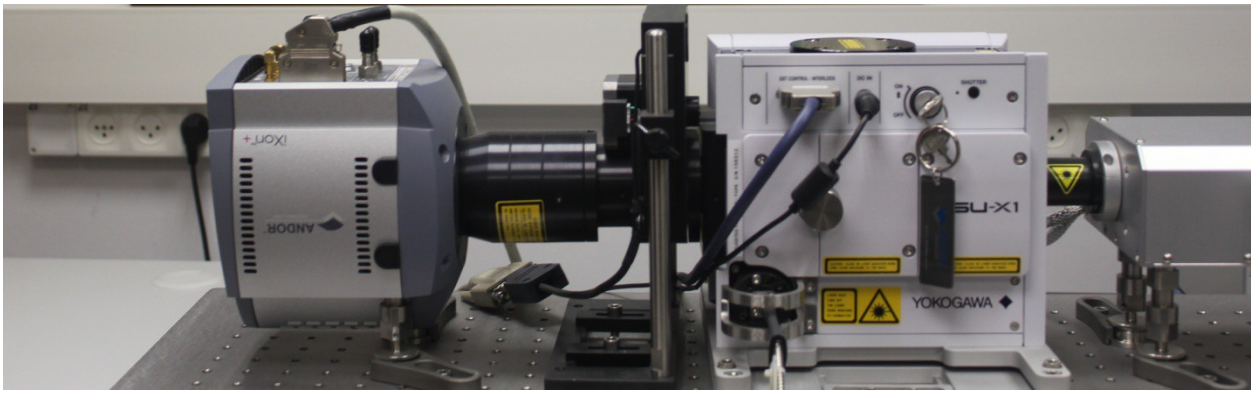
The Andor Spinning Disk Confocal Microscope

The system is capable of capturing high speed (30fps, 512x512) or time-lapse (seconds to hours) confocal data sets from low light emitting specimens. There is also an in-line specialized FRAPPA unit for monitoring fast (msec) multi-point FRAP/FRET events. It does this by combining Yokogawa CSU-XI spinning disk head and an Ixon+ back-illuminated EMCCD camera (Andor) coupled to an Olympus BX61 upright microscope. Location: room 112 Fruit Three building Plant Science institute.



Capabilities:

- High-speed multidimensional imaging with optical sectioning
- Spinning disk modality produces high SNR images with minimal photobleaching
- High sensitivity EMCCD camera
- Laser lines for different classes of fluorescent proteins
- Imaging modes: Multipoint x,y (2D), volume x,y,z (3D), fluorescence, FRAP, FRET, time-lapse x,y,z,t (4D).

Detailed specifications

Scanhead

Yokogawa CSU-XI 10000 rpm

Andor precision control and laser synchronization

Lasers:

Andor AOTF control

445 nm (40 mW) diode

488 nm (50 mW) diode

515 nm (50 mW) diode

561 nm (50 mW) diode

594 nm (50 mW) diode

Microscope:

Olympus BX 61 upright microscope

ASI Motorized stage with linear encoding

Piezo stage for rapid z-control

Emission Filterwheel

Name	Transmission	
Polarized		
CFP	470	
GFP	525/30	
YFP	542/27	
CFP-YFP	470.556	
CFP-YFP-RFP	464.542.639	
GFP-RFP	524.628	
RFP	607/36	
RFP	627/40	
	568LP	

Available objectives

Magnification	Objective type	NA	Immersion	Working distance (mm)
10x	UPLSAPO	0.40	dry	3.1
20x	UPLSAPO	0.75	dry	0.6
40x	UAPO	1.15	WATER	0.26
60x	UPLSAPO	1.20	WATER	0.28
60x	LUMFL	1.10	WATER	1.5
100x	UPLSAPO	1.40	OIL	0.13

Cameras and control:

Andor Ixon+ 512 EMCCD, 1.2x auxilary magnification