**Nikon A1 Confocal**

* **Applications:**
	+ 2D and 3D imaging of cells and tissues stained with multiple fluorophores.
	+ GaAsP detectors have high quantum efficiency i.e. can pick up weak fluorescent signals. Hence, good for detection of weak fluorescent probes.
	+ Multichannel/multipoint/ Z-stacks/large/tile/timelapse imaging.
	+ JOBS module can be used for advanced automated and customized imaging workflows
	+ Easy sample overview/navigation by automated exploration of entire sample.
	+ High speed imaging using resonant scanner. For example, calcium signaling……..,
	+ Spectral imaging and unmixing applications
	+ Live cell imaging
	+ FRET, FRAP, FLIP imaging.
	+ Colocalization experiments
	+ Real time deconvolution
* **Specifications:**
* Microscope body:
	+ Nikon Ti2 microscope
* Sample holder (compatible with)
	+ Glass slides
	+ Chambered glass slides (Ibidi…)
	+ Circular glass/polymer/plastic bottom culture dishes (diameter: 20mm, 25mm, 30mm, 35mm,40mm). Be careful to check the working distance of the objective when using plastic bottom dishes
	+ 4, 12, 24, 48,96 well plates with plastic/glass bottom. Be careful to check the working distance of the objective when using plastic bottom plates
* Objectives:
	+ 4X (Plan, Apo, ʎ, NA 0.2 , WD 20mm)
	+ 10X (Plan, Apo, ʎ, NA 0.45, WD 4mm)
	+ 20X (Plan, Apo, ʎ, Air, NA 0.75, WD 1mm)
	+ 60X (Plan, Apo, VC, Water, NA 1.2, WD 0.31mm)
	+ 100X (Plan, Apo, ʎ, Oil, NA 1.45, WD 0.13mm)
* Light Source:
	+ 407nm laser
	+ 440 nm laser
	+ 488 nm laser
	+ 514 nm laser
	+ 561 nm laser
	+ 637 nm laser
	+ Cool LED pE-300 Unit (for epifluorescence)
	+ LED lamp (for diascopic transmission illumination)
* Scanner:
	+ Galvano scanner (High quality image acquisition upto 10fps at resolution 4096 X4096 pixels)
	+ Resonant scanner (Fast image acquisition **upto 30FPS** at resolution 512 X 512 pixels)
* Detectors:
	+ A1-DUG hybrid 4-channel multi detector (Two GaAsP detectors and two normal PMTs)
	+ A1-DUS spectral detector with 32-channel array detectors (range 400-720nm) with 2.5-10nm resolution
	+ A1-DUVB GaAsP PMT detector with tunable detection bandwidth
	+ Diascopic detector unit.
* Stage:
	+ Fully motorized
	+ Can be programmed and setup for multipoint automated imaging experiments
	+ Nikon Perfect Focus System (PFS) for hardware based autofocus
	+ Water dispenser for 60X Objective
	+ Option to add incubation chamber for temperature control and CO2 supply for live cell imaging
* Software:
	+ NIS Elements (version………..) with ND acquisition and JOBS workflow module