

Nikon A1R Confocal

Location: HSC Room 56

Main features of System:

- Four Photo Multipliers Tube (PMT) detector unit enables simultaneous 12 bit (4096 intensity levels) acquisition of up to 4 fluorescent channels.
- Fifth transmitted light detector available for simultaneous brightfield imaging of samples while scanning confocally.
- Hybrid confocal scan head unit can provide high resolution images up to 4096 x 4096 pixels in size in conventional galvanometer mode and in high speed resonant mode up to 30 frames per second at 512 x 512 pixels.
- Ultra high speed resonant acquisitions up to 420 frames per second at 512 x 32 pixels.
- Fully automated Nikon Ti-E inverted microscope.
- Epifluorescence and DIC (Nomarski) illumination lamps for rapid sample identification and focusing.
- Filter wheel used for epifluorescence viewing of sample is currently outfitted with with DAPI (blue), FITC (green), and TRITC (red), filter cube sets.
- ASI MS-2000 Motorized XY stage with a variety of stage inserts available (slides, dishes, multiwall plates, etc..).
- MCL Piezo Stage (100um range) for high speed 3D (i.e., Z-stack) volume acquisition.
- Perfect Focus System provides focal depth consistency across varying sample regions of interest.
- Nikon NIS-Elements multi-platform acquisition software.

Imaging lasers:

- 405nm diode laser
- 488nm Argon gas laser
- 561nm Sapphire diode laser
- 638nm diode laser

Suggested Applications:

- Multichannel fluorescence and transmitted fixed slide imaging
- Tiling mosaics of fixed or live samples
- Timelapse of dishes or glass bottom well plates

Objectives:

Objective	Magnification	Immersion	Numerical Aperture	Correction Ring	Coverglass	Working Distance
Plan Apo Lambda	4	Air	0.2			20
Plan Apo Lambda	10	Air	0.45		0.17	4
Plan Apo Lambda	20	Air	0.75		0.17	1
Plan Fluor	40	Oil	1.3		0.17	0.2
Plan Apo Lambda	60	Oil	1.4		0.17	0.13

Other objectives available. Please inquire with Core personnel

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