The confocal microscope is the centerpiece of light microscopy core imaging facilities everywhere, and easily one of the largest and most important equipment purchases a researcher or institution can make. But how do you determine which confocal microscope is best suited towards the diverse needs of your institution?

Nikon is excited to announce that the new A1R HD25 confocal system is now available under E&I contract # CNR01457. Our goal for the A1R HD25 confocal was to create an instrument uniquely capable of handling a wide variety of imaging applications. There are two key improvements we have made over other point-scanning confocal microscopes:

1. **High Definition (HD) Resonant Scanning:** Confocal microscopes use a pair of mirrors to scan a focused laser beam through the sample, recording the data from each point to create a high-resolution image. Typical “galvo” confocal scanning mirrors are slow, too slow for reliable imaging of living systems. To get around this limitation, fast “resonant” confocal scanning mirrors were previously introduced. Resonant scanning systems gets around the speed limitation of point-scanning confocal, but can be quite noisy compared to galvo mirrors.

   This is where Nikon’s innovating HD resonant scanning mechanism comes in, matching the speed of the previous generation of resonant scanners, but with dramatically reduced noise, nearly on par with traditional galvo mirrors.

2. **Large Field of View (FOV):** FOV is simply the area that can be recorded in a single image. The larger the FOV, the more data that may be recorded in a given time period, increasing overall system throughput. The larger FOV also makes it easier to image larger samples at higher resolution. The A1R HD25 features an unmatched 25 mm FOV, providing nearly twice the imaging area of most other confocal systems.

If you would like to learn more about the Nikon A1R HD25 resonant-scanning confocal microscope system, please visit the product page on our website:

[www.microscope.healthcare.nikon.com/a1rhd25](http://www.microscope.healthcare.nikon.com/a1rhd25)