



ABL Equipment

Light Microscopy

- Leica SP8-X confocal microscope
 1. **Microscope Stand:** Inverted microscope with a focus maintenance system, DIC transmitted light detector, and X-Y scanning stage for mounting. A galvo stage is included that is a piezo-controlled Z-axis stage control for use when acquiring image stacks with the resonance scanner.
 2. **Objectives (Plan Apo):**
10x 0.3 NA air, 20x 0.5 NA, 40x oil immersion, 1.3 NA, 40x water immersion, 1.1 63x oil immersion, 1.4 NA, 63x water immersion, 1.2 NA, 100x oil immersion, 1.44 NA.
 3. **Scan head:** Tandem scanner, 8 kHz. The scan head contains both a conventional and resonance scanner. The conventional scanner can be used for imaging large fields of view in a single scan. The resonance scanner provides high speed scanning (8,000 lines per second; 27 frames per second, 512 x 512 pixels each).
 4. **Detectors:** There are five detectors, two conventional PMTs and three HyD detectors. Detection bandpasses are custom fitted by using sliding mirrors for each detector that select bandpasses from the emission wavelengths that are dispersed efficiently by a prism. All five can be used when there is a need to detect five different signals. They can also be used for spectral unmixing, using up to five data points, when needed to separate multiple overlapping emission signals.
 5. **Lasers (over 200 lines are available):**
405 nm diode laser for excitation of short wavelength-absorbing dyes and for photo-activation of fluorescent proteins.
Multi-line 100 mW argon laser, emission lines available for selection by the AOBs: 458, 476, 488, 496, 514 nm.
White light laser: broad spectrum emission, 470-670 nm, with any single nm selectable, up to eight total per scan.

- ZEISS AxioZoom Macro Microscope
- Nikon Fluorescence Dissecting Microscope
- Nikon Eclipse 800 Widefield Epifluorescence Microscope
- Bitplane Imaris 3D Reconstruction and Huygens Deconvolution Workstation
- ZEN Connect Correlative Microscopy Software
- Zeiss PALM laser microdissection microscope
- Leica CM 1950 Cryostat,
- Vibratome 1500 Sectioning System

Electron Microscopy

- Hitachi TM-1000 tabletop scanning electron microscope
- Leica EM ICE High Pressure Freezer
- LEO 912 AB Energy Filter Transmission Electron Microscope
- Reichert Ultracut UCT ultramicrotome with Delsci Machines manipulator for array tomography.
- Grid plunge freezer