Physiology Department Imaging Core Facility

2006

1. **Zeiss LSM510 w/NLO Confocal Microscope, in ND13.110B:**

   This system was purchased with an NSF Shared Instrumentation Grant, Institutional funds, Department of Physiology funds, and individual research grants. Additional money was obtained from the Institution to convert it to a multi photon confocal microscope.

   - Lasers: AR laser 458/488/514nm, Hene laser 543 nm, Hene laser 633 nm for confocal fluorescence microscopy; Coherent MiraX/Werdi lasers for multi photon microscopy with range of 700-1000nm.
   - Light Microscope: Zeiss Axiovert 100
     - Three position fluorescence filter slider
     - Fluorescence at 10, 20, 40, 63, 100X (oil immersion for 63X and 100X; water for 40X)
     - Phase at 32, 40X
     - DIC at 63 and 100X (oil)
   - Computer Platform: Pentium III500/100
   - Software: Includes the Comprehensive Physiology software, for multitracking, dual directional scanning, time series, and photobleaching.

2. **Digital Microscope Workstation 1, in ND13.110A**

   - Microscope: Zeiss Axiovert 135
     - 6 position fluorescence filter wheel for excitation and emission
     - Fluorescence at 10, 20, 40, 63, 100X (oil immersion for 63X and 100X)
     - Phase at 32, 40X (oil for 40X)
     - DIC at 63 and 100X (oil)
   - Photometrics Quantix KAF1400 CCD grayscale camera
   - Microscope and Camera Control Software: Open Lab software with automator pro bundle, ratio module, morphology module automation bundle, and digital deconvolution module.
   - Computer Platform: G4 Apple

3. **Digital Microscope Workstation , in ND13.110A**
   - Microscope: Zeiss Axioplan 2
     - 6 position fluorescence filter carousel
     - Fluorescence at 10, 20, 40, 63, 100X (oil immersion for 63X and 100X)
     - Phase at 32, 40X (oil for 40X)
     - DIC at 63 and 100X (oil)
   - Zeiss AxioCamHR CCD camera
   - Microscope and Camera Control Software: AxioVision, imaging module
   - Computer Platform: Pentium 3

4. **Digital Microscope Workstation, in ND13.110A: (mostly used for microinjection)**
   - Microscope: Zeiss Axiovert 35
     - Two position fluorescence filter slider
     - Fluorescence at 10,20, 40, 63, 100X (oil immersion for 63X and 100X)
     - Phase at 32, 40X (oil for 40X)
     - DIC at 63 and 100X (oil)
   - Photometrics Quantix CCD camera
   - Microscope and Camera Control Software: Oncor Image, including ration imaging module, automation bundle, and digital deconvolution module.
   - Computer Platform: PowerMac

5. **Microinjection apparatus:**
   These are currently mounted on the digital light microscope workstations. One system will be relocated to the confocal microscope.

   - System 1:
     - Eppendorf transinjector 5246 Plus
     - Narashige micromanipulators 5171
     - KT thermal controller, with custom chamber to heat stage for live cell work
     - Kopf 720 needle puller
   - System 2:
     - Eppendorf transinjector
     - Narashige micromanipulators
     - KT thermal controller, with custom chamber to heat stage for live cell work

6. **Zeiss carbon dioxide and heating control environmental warm stage for live cell imaging:**

7. **Hardcopy Devices:**

   - Tektronics Phaser 840 for publication quality black-and-white or color prints