Overview of Services – Cell Imaging Core II Resource

University of Pittsburgh Cell Imaging Core II Laboratory
7148 Rangos Research Center

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The University of Pittsburgh Cell Imaging Core II Laboratory based at Rangos Research Center offers imaging services to meet the needs of the research community of the Children’s Hospital of Pittsburgh of UPMC, as well as to provide services to the broader University scientific community. We offer a range of options to facilitate the image-based research needs of the individual investigator, including the provision of training in the use of the imaging equipment within the core, and/or utilizing the technical services of the Rangos Cellular Imaging Core II to perform the acquisition of imaging data as needed.

Equipment available in the Rangos Cellular Imaging Core II Lab includes:

1-2. 3i EVEREST upright digital microscopy workstation “A” and “B”
Wide field fluorescence and transmitted illumination applications, multi-channel fluorescence and ratiometric imaging, FRET, 3D-deconvolution, time lapse, large format montage and stereology with the potential to upgrade to spinning disk confocal microscopy, environmental control, FRAP, rapid-4D, simultaneous and dual camera acquisition.

- Zeiss AxioImager Z.1 microscope
- Complete system motorization
- 10x, 40x (dry) and 40x, 63x (oil) objectives
- Fluorescent filters for DAPI, GFP, Hs-RED, CFP
- CoolSnap HQ2 camera
- Spherical aberration correction setting
- SlideBook software

3. CytoWorks
Automated time-lapse live-cell imaging system for unattended, long-term biological studies.

- Nikon inverted Eclipse Ti-U microscope
- Bright field imaging (ELWD condenser)
- Phase contrast imaging
- Fluorescence imaging – capable of detecting CFP, HcRed-1, DAPI, TOPAZ, GFP for single fluorescent studies and Quad-filter cube for imaging up to 4 fluorescent channels along with the visible image
- X-Cite fluorescence illumination system – pre-aligned, stable, 2000-hour lamp life
- 4x, 10x, 20x, 40x objectives
- Automated stage with incubated environment (CO2, temperature, and humidity control, including a heated air zone below the plate that eliminates the lower window and offers improvement for the use of higher magnification objectives)
- The stage accommodates any standard tissue culture plate (from 6-well to 384-well on a single plate)
- CoolSnap ES camera (Photometrics)
- Open source software for support of image processing to enhance options for time-lapse and live cell image analysis