



## **Live cell imaging anyone?**

We are looking for live cell imaging projects that are of interest to the members of the SWEHSC. In the past we have provided technical expertise for studies such as; overnight time-lapse studies of cellular motility using DIC images (Bowden), use of fluorescent ratiometric dyes to measure changes in pH after exposure of tissue explants to a toxicant (Lantz) and short time-lapse studies using a ROS-sensitive fluorescent dye of cells that are exposed to a toxicant (Gandolfi, and several other labs). Several of these experiments have used the confocal microscope, but the deconvolution microscope and the image analysis workstation are also capable of doing live cell work at physiologic temperatures. All of these studies have been published.

The reason for our interest is because Doug Cromey has been selected to attend an intensive 12 day course on live cell imaging this coming June. The course covers a number of topics including microscope optics, selecting dyes, keeping cells alive, and specialty techniques like FRET, FLIM & TIRF. The course is very lab-oriented, so it would be helpful for Doug to know the kinds of experiments that SWEHSC members are interested in. For more on the course, see: <http://www.3dcourse.ubc.ca/2008/>

## **Update - Spinning disk confocal microscope**

Drs. David Elliott and Carol Gregorio (Cell Biology & Anatomy) have been working to bring a spinning disk/high-speed confocal to the College of Medicine microscopy core facility. The current plan is that internal funding will be used for the purchase. If your lab has an interest in this type of instrument and may have funds to support the purchase, please contact Dr. Elliott (626-7870, [Elliott@arizona.edu](mailto:Elliott@arizona.edu)).

As we mentioned in February's newsletter, the existing campus confocal microscopes are very powerful and versatile, but they cannot acquire images rapidly enough to capture fast biological processes. Spinning disk confocal microscopes use a different optical technique, and some instruments can acquire images as fast as hundreds of frames per second, making them ideal for live cell imaging of fast moving cellular events.

## **AHSC Imaging facility – after hours access**

Due to security issues with a former student user of the imaging facility in LSN, the locks have been changed. There is now a keypad lock available for those who need night or weekend access to the EM or confocal labs. Contact Doug Cromey for more information.

## **Imaging Ethics in the news**

If you read the UA Program for Research Integrity's monthly newsletter in February, March, & April 2008, you'll know that it featured Doug Cromey's Digital Imaging Ethics essay spread out over the three monthly issues. The original ten points in the essay (*since expanded to twelve*) were first published in the Cellular Imaging Core newsletter in February of 2001. A full length article on based on these guidelines has been accepted by the Journal of Science & Engineering Ethics.

The imaging ethics guidelines were also used as the basis for an Office of Research Integrity-funded website developed at the University of Alabama – Birmingham. The website is an interactive, video case-study based tutorial. The video case-study examines ethical issues related to digital images, fluorescence microscopy and interpersonal relationships in a lab setting. The website is expected to be completed this summer, but for a sneak peek see: <http://www.uab.edu/researchintegrityandimages>

In early May 2008, Doug Cromey will be an invited speaker at the annual scientific meeting of the International Society for Magnetic Resonance in Medicine. His presentation is entitled "Good Scientific Conduct - ethics in imaging research".

### **Contacts:**

R. Clark Lantz, Ph.D.

Douglas W. Cromey, M.S.

Core Director

Core Manager

626-6716

626-2824

LSN 447

AHSC 4212A

[lantz@email.arizona.edu](mailto:lantz@email.arizona.edu)

[cromey@arizona.edu](mailto:cromey@arizona.edu)