Center for Toxicology, Southwest Environmental Health Sciences Center (an NIEHS Center, ES06694)

Cellular Imaging Core Newsletter

Summer 2008 http://swehsc.pharmacy.arizona.edu/exppath/

Introduction to using Digital Images in Science – free workshop – August 13, 2008

This workshop is taught by three microscope facility managers and a professional photographer. The goal of the workshop is to give all attendees an appreciation that the image is data, what can be done with that data, and the ease with which the data can be compromised. While the use of digital images is common in a wide variety of scientific disciplines, the majority of examples will come from the world of microscopy. The basic aspects of what constitutes a digital image and what goes into acquiring good images will be discussed. Jargon and concepts associated with digital images, such as pixels, resolution, over-saturation, color space, image format, bit depth, and image processing filters will be described and illustrated. Options and formats for presentation of images will also be presented. A discussion of the ethical (and unethical) use of digital images will close the session. Only general references will be made to software packages, operating systems or hardware. It should be noted that this is NOT a workshop on image analysis, microscope techniques or a Photoshop tutorial.

Date: August 13th, 2008 from 8:30AM to 1PM
Location: Bio Sciences West, room 208
Registration: Space is limited to the first 90 registrants.
To register, go to: http://www.mcb.arizona.edu/imagingWorkshop.cfm

Technical Expertise – ask the Core

One of the important benefits of membership in the SWEHSC is access to the expertise available in the different facility cores. The Cellular Imaging Core has over five decades of combined experience in optical and electron microscopy, digital imaging, and image analysis. All of this expertise is available to the labs of center investigators without a consultation fee. All you have to do is ask. We can help with:

- Experimental design – pre-plan your experiments with us and avoid costly mistakes.
- Interfacing and problem solving with the affiliated campus facilities.*
- Assistance with instrument operation – let an experienced microscopist help you get the best data possible.
- Consultation on the purchase of lab microscopes and digital cameras.
- Troubleshooting problems with your lab's existing microscopes or cameras.
- Individualized training – on microscopy facility instruments or on the microscopes in your lab.
- Image analysis – digital images from just about any source can be measured and counted using powerful software. Add some numbers to the descriptions of morphological changes in your samples.
- Assistance with the preparation of digital images for publication.
- Referrals and assistance with accessing other microscopy/imaging facilities on campus

** NOTE: The campus microscopy facilities (e.g., histology, EM, confocal, deconvolution, flow cytometry, image analysis) that the Core is affiliated with are operated by other UA departments, divisions and centers. We assist, advise, and in some cases oversee these facilities, but they are not "owned" by the SWEHSC. Any billing for instrument time or other specific services provided will come directly from these facilities, not the Core.*

Tips for the care and feeding of optical microscopes

A good microscope can cost tens of thousands of dollars and last for an entire professional career, if it's properly cared for. Here are a few tips to make sure that your microscope works for a long time.

- Cover the microscope when it's not in use. Dust can damage the optical surfaces.
- Have the microscope cleaned and lubricated every 1-2 years, this costs approximately $150.
- Have your staff and students learn how to properly use and align the instrument (call the Core for training).
- Avoid mixing immersion oils from different vendors. These can leave a gummy residue on your expensive lenses. Clean up excess oil with lens cleaner and microscope lens paper (we can help you order these).

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