



Avoiding Twisted Pixels

Doug Cromey's review/tutorial article [Avoiding Twisted Pixels: Ethical Guidelines for the Appropriate Use and Manipulation of Scientific Digital Images](#) was recently published online by *Science & Engineering Ethics*. The article is not overly technical (it includes a glossary) and is intended for lab group discussion. The original list of these image manipulation guidelines first appeared in the Cellular Imaging (then *Experimental Pathology*) Core newsletter in 2001 and has been available on the SWEHSC website since 2002. To obtain a copy of the article, go to:

<http://www.springerlink.com/content/00311qw26613m261/?p=499e7ec2a1174fad863e7b597298edd4&pi=0>

Introduction to Scientific Digital Imaging – workshop

The semi-annual workshop on digital images will be held Aug. 19, 2010. Primary goals of the workshop are to show that the image is really data, to illustrate what can be done with those data and the ease with which they can be compromised. Presentations will include what constitutes a digital image, what goes into acquiring good images, and jargon and concepts associated with digital images. These include such topics as pixels, resolution, over-saturation, color space, image format, bit depth, and image processing filters. 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. Options and formats for presentation of images will also be presented, as will a discussion of the ethical (and not so ethical) use of digital images. It should be noted that this is NOT a workshop on image analysis, microscope techniques or a Photoshop tutorial. (Note: Doug Cromey is one of the instructors for this workshop.)

To register for the workshop, please go to: <http://www.mcb.arizona.edu/imagingWorkshop.cfm>

The workshop will be held on the main campus in Marley 230, from 8:30am-1:00pm on Thursday August 19, 2010.

Autofluorescence

Autofluorescence is a problem of unwanted background staining that often competes with or even overwhelms labels that fluoresce in the blue-green part of the spectrum. The problem can be due to intrinsic fluorescence in the tissue, such as is often found in mammalian liver, kidney, or in most avian tissue. The problem can also be caused by aldehyde fixation. There are a number of techniques that have been proposed to deal with the problem (primarily in formalin-fixed, paraffin-embedded material). The following resources may be of use. Please feel free to contact the Core for more assistance.

- Pontamine sky blue: A counterstain for background autofluorescence in fluorescence and immunofluorescence histochemistry, *Histochemistry* 82: 205-208 (1985)
- Control of Autofluorescence of Archival Formaldehyde-fixed, Paraffin-embedded Tissue in Confocal Laser Scanning Microscopy (CLSM), *Journal of Histochemistry & Cytochemistry* 49(12): 1565-1571 (2001).
- An improved and cost-effective methodology for the reduction of autofluorescence in direct immunofluorescence studies on formalin-fixed paraffin-embedded tissues, *European Journal of Histochemistry* 51(1): 59-66 (2007)
- Autofluorescence: Causes and Cures, Wright Cell Imaging Facility, Toronto Western Research Facility, <http://www.uhnresearch.ca/facilities/wcif/PDF/Autofluorescence.pdf>

What is TACMASS?

While not specifically part of the Cellular Imaging Core, TACMASS is a shared service in the AZ Cancer Center and the service is available for use by SWEHSC investigators. This shared service provides routine histology services as well as a number of specialty services not found in the CBA Histology Service lab. These include: laser capture microdissection, Cytospins, the design and construction of Tissue MicroArrays, and automated immunohistochemistry using a VMS Discovery XT computer-controlled immuno-stainer. TACMASS has validated over 100 human and rodent antibody protocols using the Discovery XT. For more information see:

<http://azcc.arizona.edu/research/shared-services/tacmass>