



## **Does someone in your lab need Responsible Conduct of Research (RCR) training hours?**

The UA Vice-President for Research's Office for the Responsible Conduct of Research will allow NIH and NSF funded graduate students to earn 4 hours of RCR training for attending the [Introduction to Scientific Digital Imaging](#) workshop next month. See: <http://orcr.vpr.arizona.edu/rceducation>

The primary goals of the Introduction to Scientific Digital Imaging 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, as well as 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 in Drachman B109, from 8:30am-1:00pm on Thursday, January 5, 2012.

NOTE: For those who might find it difficult to attend, we will be capturing video of the presentations. We are working on finding a secure location to host the video.

## **Light meets Biology – learn advanced optical microscopy – Spring Semester grad. class**

Many labs own light microscopes, but very few have someone who knows how to get the most out of these expensive instruments. This excellent class will teach you about how to best use the techniques of optical microscopy to answer many of your research questions.

[CMM 565A - Fundamentals of Light Microscopy and Electronic Imaging \(3 units\)](#) - This is a lecture/hands-on course that teaches the essential principles and applications of light microscopy and electronic imaging. By the end of the course you will be able to use and adjust a research microscope for various modes of light microscopy. This class is taught by Dr. David Elliott, Director of the College of Medicine Research Microscopy Service Core. The class meets Wednesdays from 9am-11am; weekly lab exercises will be assigned. [http://www.cmm.arizona.edu/CBA\\_565a](http://www.cmm.arizona.edu/CBA_565a)

## **Image analysis – what's it good for?**

The human eye is easily fooled, but computerized image analysis applies reproducible mathematical algorithms to count and measure (area, perimeter, shape factors) items in an image. In many cases, if the experiment and the software are carefully set up, the analysis can happen automatically. The additional advantage is that you now have numerical data about your images.

Dr. Lantz and Doug Cromey each have over two decades of experience with image analysis. Even if you plan to analyze the images yourself using software available in your lab or ImageJ (*free image analysis software available from the NIH*), a consultation with the Cellular Imaging Core will help you avoid known pitfalls.

Mr. Cromey has experience with two different types of image analysis software. SimplePCI (Hamamatsu) is 2D image analysis software that can be used on just about any type of image where the object being measured stands out pretty clearly from the background. The SWEHSC image analysis workstation can be used with SimplePCI to acquire and analyze greyscale images. The AZCC has recently purchased Definiens Tissue Studio; a high-end product geared toward the analysis of color slide images of immunohistochemical and immunofluorescently stained tissue samples. Doug has received training with the Definiens software and can help with setting it up to analyze an experiment.

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