



Your support is needed for the SWEHSC grant renewal

The RFA for the Center grant significantly limits the number of pages that can be used to describe the activities of the research focus groups. However, each facility core has 25 pages to describe their activities. The Center administration has requested that the Cores highlight the research that they supported for center members. We need your help in identifying significant projects that we've supported. We can come up with how many dollars you've spent in one of the facilities and what grant it was charged to. What we can't do is directly tie that information into a publication or a successful grant application, only investigators know that information.

The following facilities are affiliated with the SWEHSC Cellular Imaging Facility Core:

- Histology Service Lab (Cell Biology & Anatomy)
- Cytometry Shared Service (includes *Reflection* and LSR cytometers in Keating & MRB; AZCC & ARL)
- Confocal microscope facility (located in LSN 410; ARL)
- Electron Microscopy facility (located in LSN 410 and main campus USIF; ARL)
- Deconvolution fluorescence microscope (located in MRB; Cell Biology & Anatomy)
- Image Analysis Workstation (located in LSN 429; Cell Biology & Anatomy)

If your lab used one of these facilities, or if you received other assistance from the Cellular Imaging Core, and that data was useful for a publication and/or a successful grant application would you please contact us as soon as possible?

At times like this it is often good to emphasize the personalized attention that the SWEHSC Cellular Imaging Core makes available to center investigators and their labs. The center grant supports this core so that you can draw from our >55 years of combined microscopy experience. We are available to meet with you, or your lab staff/students, to plan or trouble-shoot experiments, investigate new techniques, operate the instruments for you, and assist with the interpretation & presentation of image data. Other UA investigators have to pay for this kind of technical support, or they go without.

Introduction to Scientific Digital Imaging – workshop

This bi-annual workshop will be formally announced soon. Attendance is by registration only, so look for details in an upcoming email on the SWEHSC listserv. The workshop will be held on the main campus, August 12, 2009.

Using the correct coverslip thickness makes a big difference in Light Microscopy

Most microscope lenses have the designation 0.17 printed somewhere on the lens. This number indicates the expected glass coverslip thickness (mm) that was used to calculate the optical corrections in the lens. Using coverslips of the wrong thickness, particularly with lenses that have numerical apertures higher than 0.65, can add optical aberrations to your images. For example, at a numerical aperture of 0.95 (typically a 40X dry lens), a 0.01 mm difference in thickness reduces image formation by 45% from the ideal image¹.

The Fisher Scientific web site shows that the thicknesses of their glass coverslips are: **#1** (0.13-0.17mm), **#1.5** (0.16-0.19mm) and **#2** (0.17-0.25mm). Other vendors have similar numbers (*the ranges are one standard deviation*).

We recommend that labs always use #1.5 thickness glass coverslips. This thickness is particularly important with cells cultured on a coverslip, since they are attached to the surface of the coverslip and are very close to the microscope objective. Note, there are actually some individuals who use a micrometer to ensure that their coverslips are the correct thickness.

1) G.S. Benham, pg 257 in Cell Biological Applications of Confocal Microscopy, Edited by B. Matsumoto, Academic Press, 2002.

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