

add a second signal processor. Violá! Stereovision. With an appropriately chosen objective lenses, positioned correctly, we now have a 10X digital stereo Mousescope™. 20X and so on are equally doable.

Not being satisfied with this, we are currently working on replacing the single objective with a two element design, with a movable second lens in front of the first lens, acting to zoom the magnification.

Now we can not only zap the bad guys, but take rapid digital micrographs of reasonable quality of any surface on which we place the mouse. Very useful for following live cells, surface reactions and microcorrosion, on-chip micromachines, and just what those bloody dust mites in our pillows are up to anyway.

There is still some fiddling with software, perhaps Photoshop, to integrate the images from the two cameras and processors. These would then be shown on the computer monitor to produce stereo imaging. We admit that this isn't going as well as hoped. Color anaglyph images interfere with the hoped-for color imaging, and polarized images with polarized viewers don't cooperate well with LCD monitors.

But as soon as we link this issue to bioterrorism, we'll be able to get a multi-million dollar DARPA grant, hire a battery of programmers and monitor engineers, and solve the problem in no time. What's a few million dollars for software and monitor design, when with a few simple modifications of the ubiquitous computer mouse we have invented a cordless, go-anywhere \$30 digital stereomicroscope? ☺

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A Quick Method for Safely Restraining Mouse Pups for Microscopy

I visualize green-fluorescent protein labeled mouse pups with a Leica stereoscope setup (not using confocal). On the stereo scope I often look at newborn pups or pups that are a few days old. I have used a piece of plastic wrap to hold them still (not too tight) and it holds the skin taut which helps. To do this without harm to the pups, I have been taping one edge of the plastic down and then holding the other side with my free hand. Light tension is all that is needed, and it never seemed to bother even one day old pups. By using tension the actual pressure is quite light. The pups seem to naturally stop wiggling with this pressure (like having mom sit on you in the nest?) and the light from the scope. To keep the pups warm we got a 37 degree heated mat from Harvard which warms the whole stage when placed underneath.

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A Simple Image Archive That's Cheap, Too!

Our group has many archived Kodachromes, EM micrographs and digital images, and continuously produces new images in all formats. Primarily, these are light micrographs of hematoxylin & eosin stained tissue sections and immunohistochemistry slides, but they also include electron micrographs and confocal micrographs. It has been a continuous problem to keep track of all these images, since

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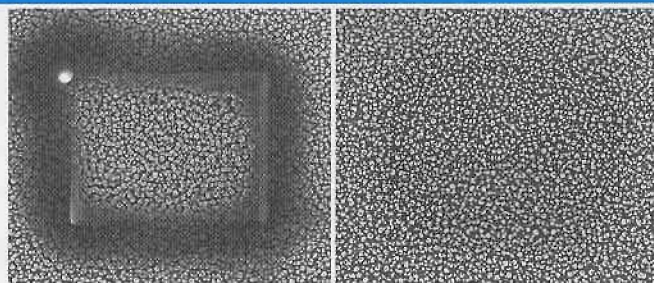
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A silicon "grass" sample irradiated for 10 minutes before (left) and after (right) the use of Evactron SEM-CLEAN device. 50kX - From *Active Monitoring and Control of Electron Beam Induced Contamination* by Andras E. Vladar, Michael T. Postek and Ronald Vane* "Active Monitoring and Control of Electron Beam Induced Contamination" Proc. SPIE Vol. 4344 (2001), 835

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