

There are very serious problems with how the Zeiss 700 confocal microscope in Alexandria East 349 is being handled.

1. Shutdown instructions not being followed.
2. Lenses crashing into the bottom of the microscope stage.
3. Excessive oil.

Please read explanations of each problem below.

## 1.

The shutdown instructions at <http://microscopynotes.com/700/index.html> are very clear:

- If oil lens used, lightly clean.
- Switch to 10X lens.
- Focus the microscope as low as it will go. The touch pad will Say Lowest Z Limit.

## 2.

Lenses are crashing into the bottom of the stage.

There is no reason the 10X lens should ever be high enough to crash the sample. It has a long working distance. This photograph shows not only has the lens been raised too high, but it has repeatedly been smashed into the bottom of the stage hard enough to scrape off its protective coating. This is unacceptable.



The 63X oil immersion lens has also been crashed repeatedly. There are many scratches on the top and they are also very close to the glass lens surface.



If the glass is damaged, the lens will not work. This lens costs more than \$7,000 to replace. This would mean that everybody who uses the scope would lose access to it.

Therefore, make sure the lens is only engaged when centered in the empty space in the stage plate.

Before changing a sample when using an oil immersion lens, focus should be dropped at least  $\frac{1}{4}$  turn of the gross focus wheel before removing the sample. (If in doubt which direction is down, look at the direction written on the right side of the microscope stand or the numbers for Z position on the touch pad.)

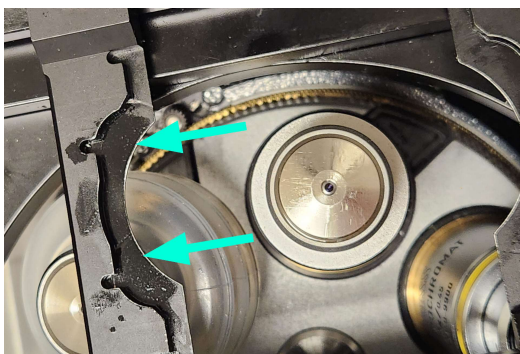
At the beginning of your session, the stage insert should be snapped in to the stage completely flat. This may only be done when the 10X lens is engaged and at the lowest focus position.

### 3.

The 10X and 20X lenses may not be used after oil is added to a sample. You may mark multiple samples on a slide or dish with the 10X or 20X lens BEFORE adding oil. Once oil is added you may not go back to 10X or 20X. (If you want a follow-up lesson how to do this, please ask microscopy core staff.)

Oil should be completely cleaned off every surface. There should be no oil on the side of the oil bottle, on the sides of lenses, on the microscope stage, or on any other table or surface in the room.

This photograph shows oil or other fluid that should not be here.



**Questions:**

When changing a sample using an oil lens, what do you do with the focus before removing the sample?

At the end of every imaging session, regardless whether you turn off the instrument or leave it on for the next user, which lens is engaged and at what focus level?