# DIC
# Differential Interference Contrast on UV510

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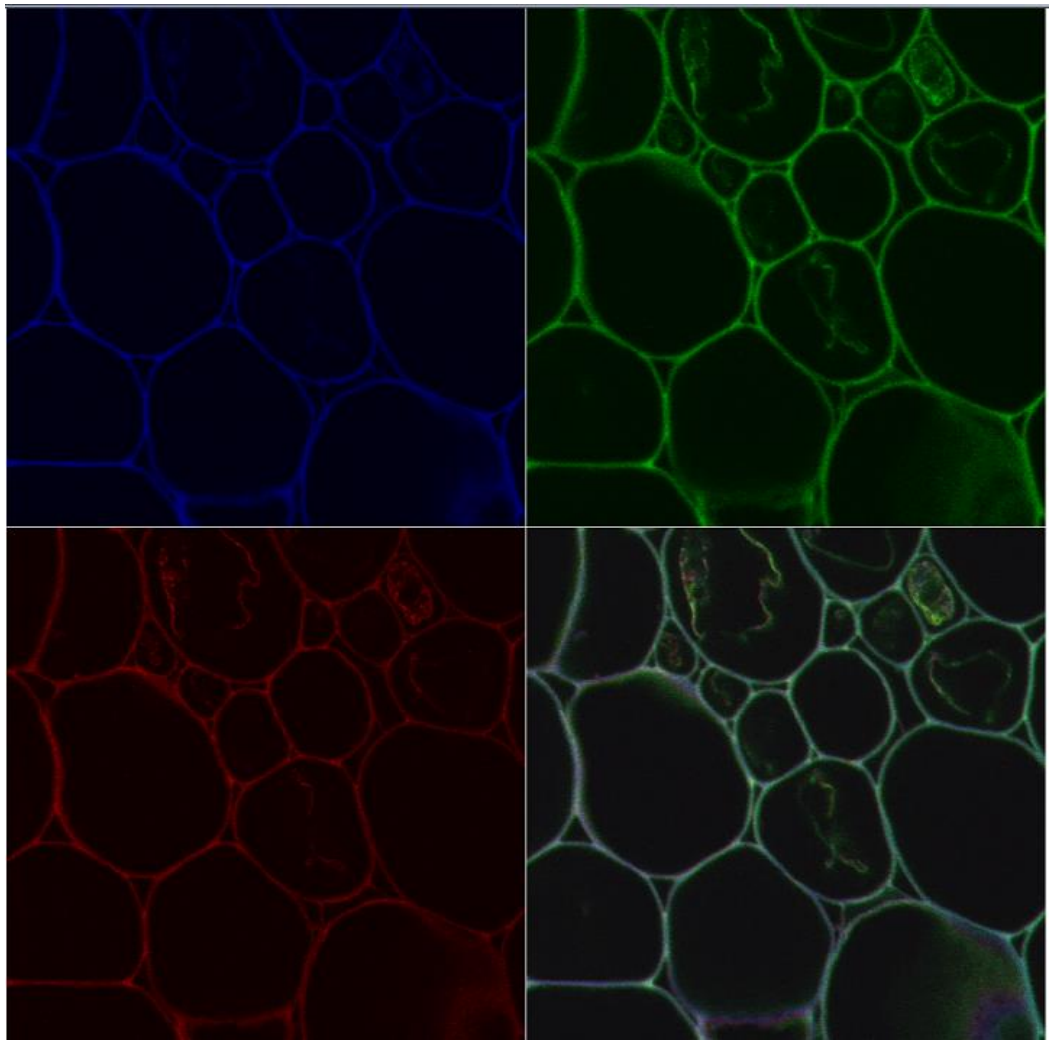
08/14/15

**DIC – Differential Interference Contrast.**

- **Allows you to view thin transparent specimens at high resolution and high contrast.**
- **Only works with glass. It will not work with plastic.**
- **Sample preparation can affect DIC. Mounting medium. Need difference in Refractive index.**

1. **Get a fluorescent image like you normally do.**

*Note: Sometimes it is easier to set up DIC with the 10x dry objective first then go to the oil objective.*



**In the Software:**

2. **Click On VIS.**
3. **Click Condenser.**
4. **Select the Condenser Filter. For the 63x objective it is DICIII.**
5. **Select "None" for Reflector.**
6. **Click Transmitted Light icon.**
7. **Click On.**
8. **Should you need to adjust the light you can do it from the slider or from the microscope. This location will be shown later.**

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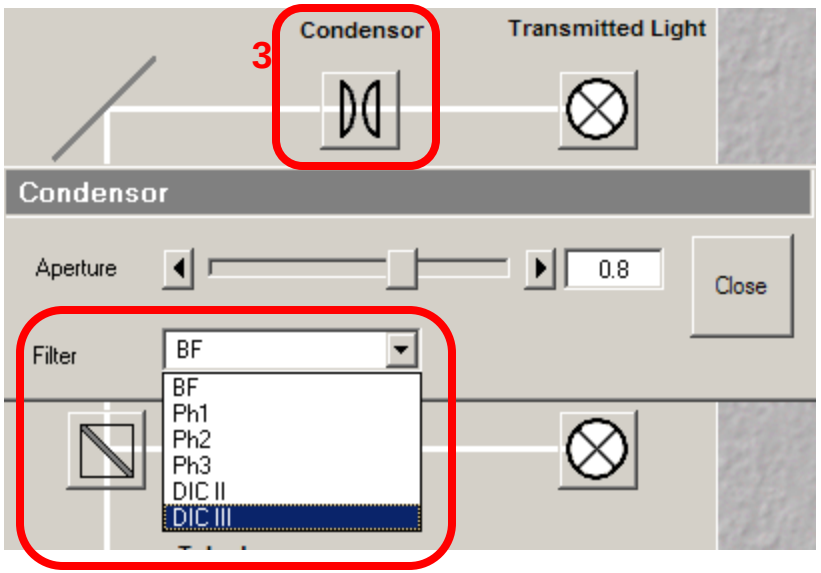


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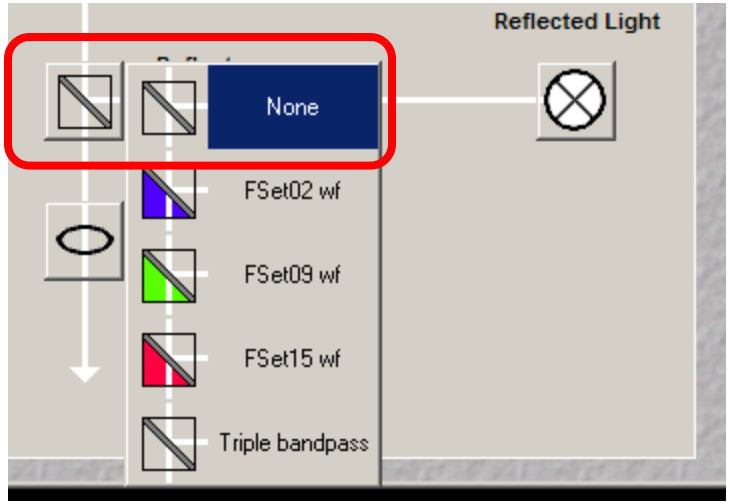


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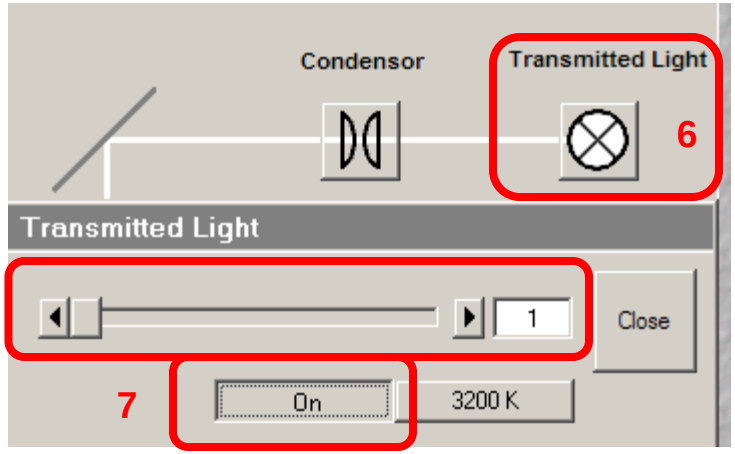
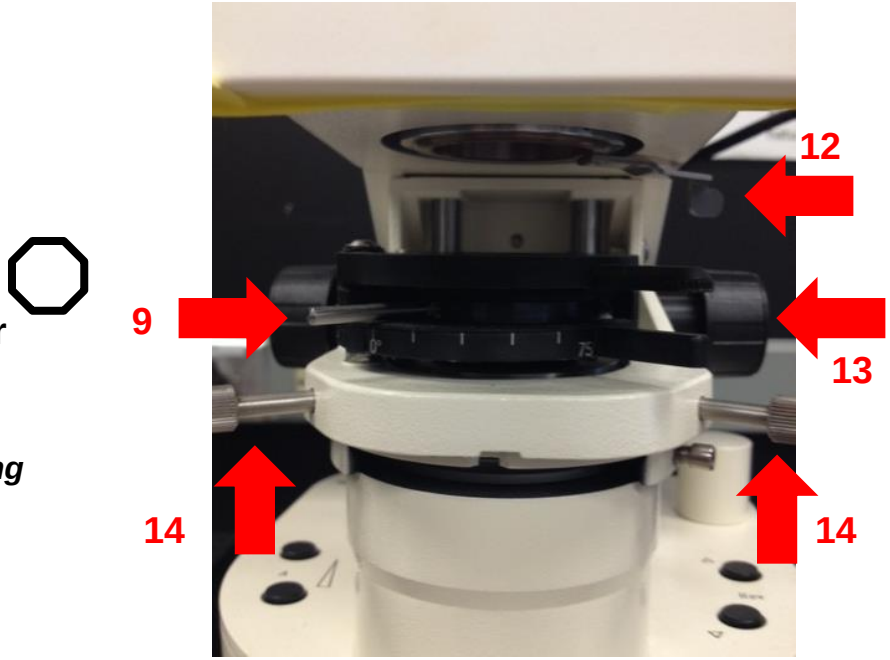


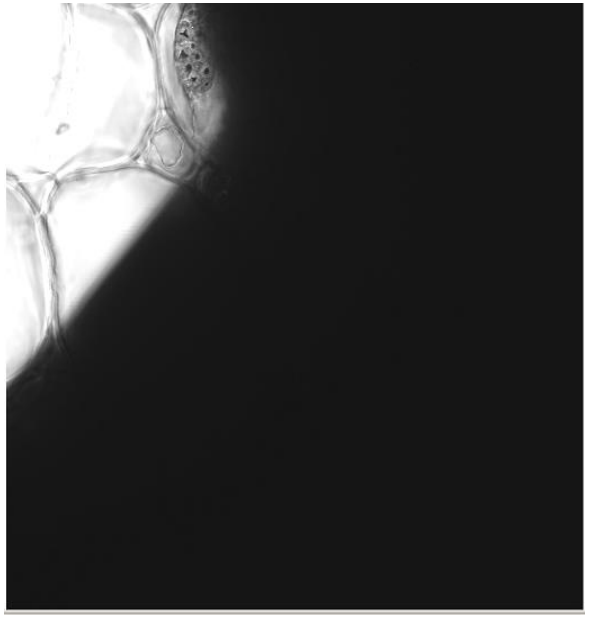
**On Microscope:**

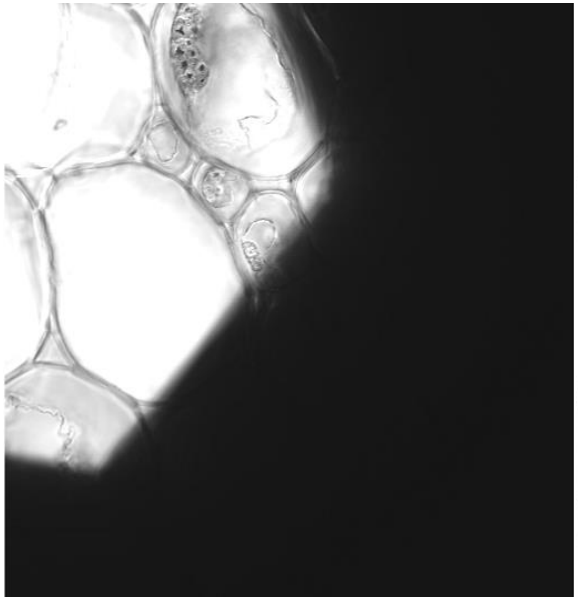
9. **Move the silver lever of the analyzer to the left.**
10. **Put the analyzer slider into the first or far left position.**
11. **Adjust light if necessary.**
12. **Close the field diaphragm until you can see the octagon shape.**
13. **Adjust the condenser focus using the condenser focus knob until the octagon is in sharp focus.**
14. **Using the silver aperture diaphragm knobs on each side to adjust octagon to center.** ***See following slide for illustration of this.***
15. **This is the analyzer slider showing the left hand position having the filter.**

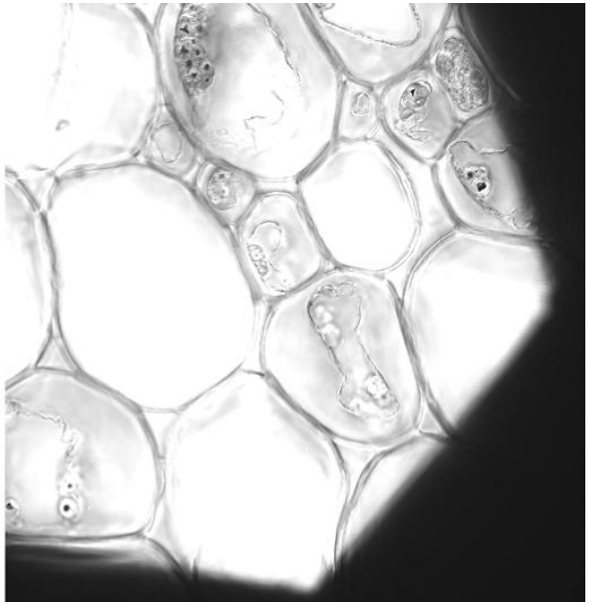



*Steps 12-14 may have to be done in smaller increments and repeated until you can fully see the octagon shape and move it to center. It may also help to do this first with the 10x dry objective then repeat with the 63x oil objective.*

**Step 14: Using the silver aperture diaphragm knobs on each side to adjust octagon to center.**
**Here are 3 images showing the movement of the octagon to the center  aligning the condenser.**

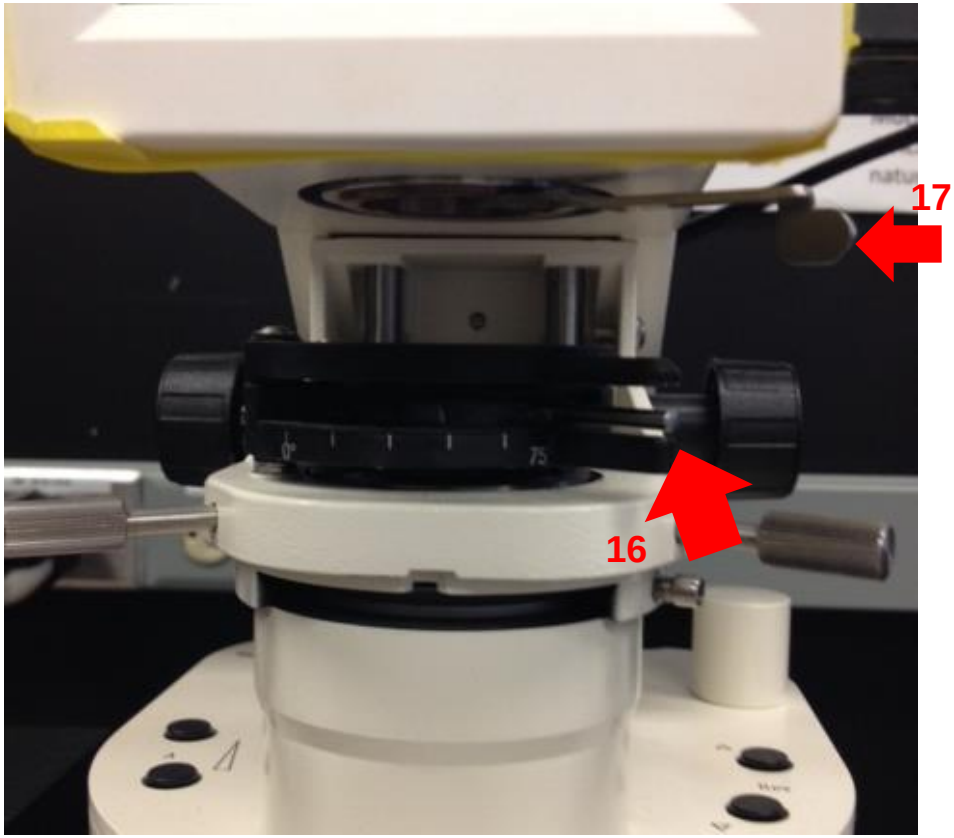






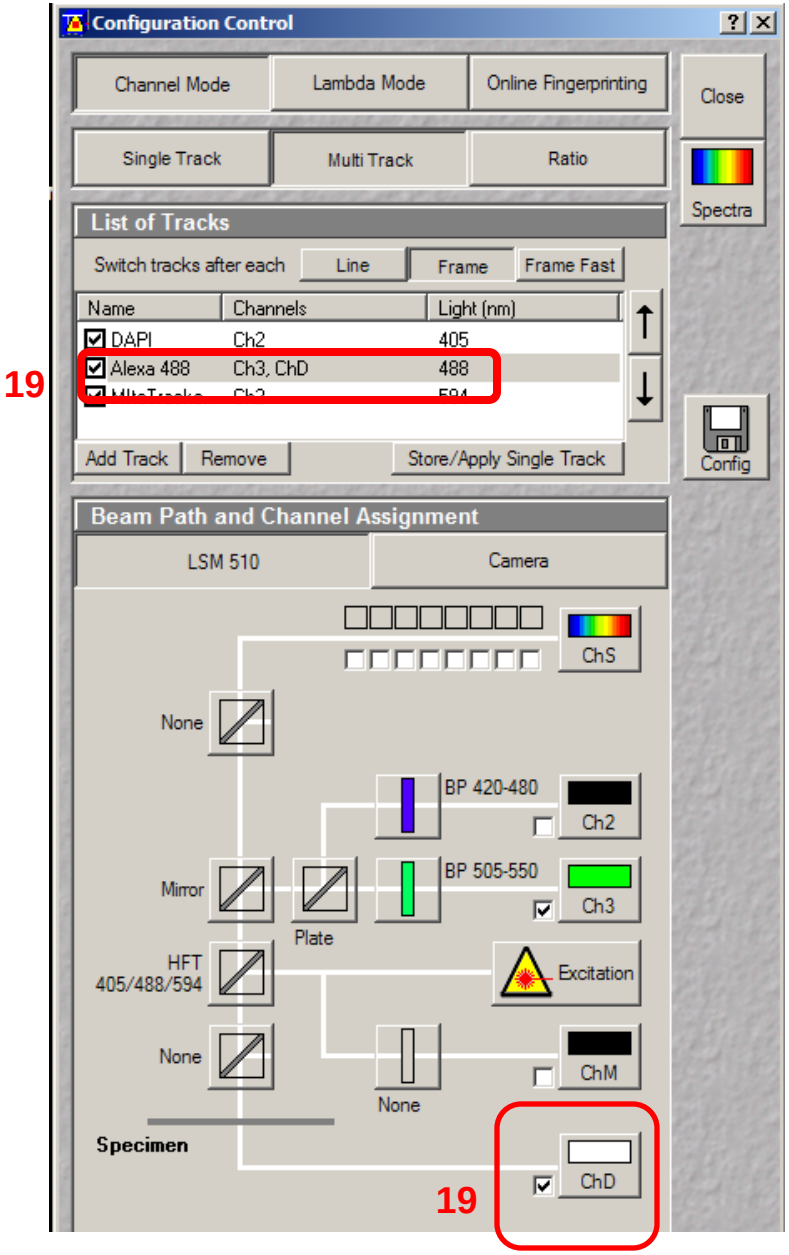
16. **In preparation for imaging, return silver lever of the analyzer to the right 75º position.**
17. **Open up the field diaphragm by pulling the lever towards you.**
18. **Push in on the analyzer slider so it is out of the far left or first position.**

*Note: The right 75º position is for laser scanning. The knob remains on the left for viewing DIC through the eyepiece.*



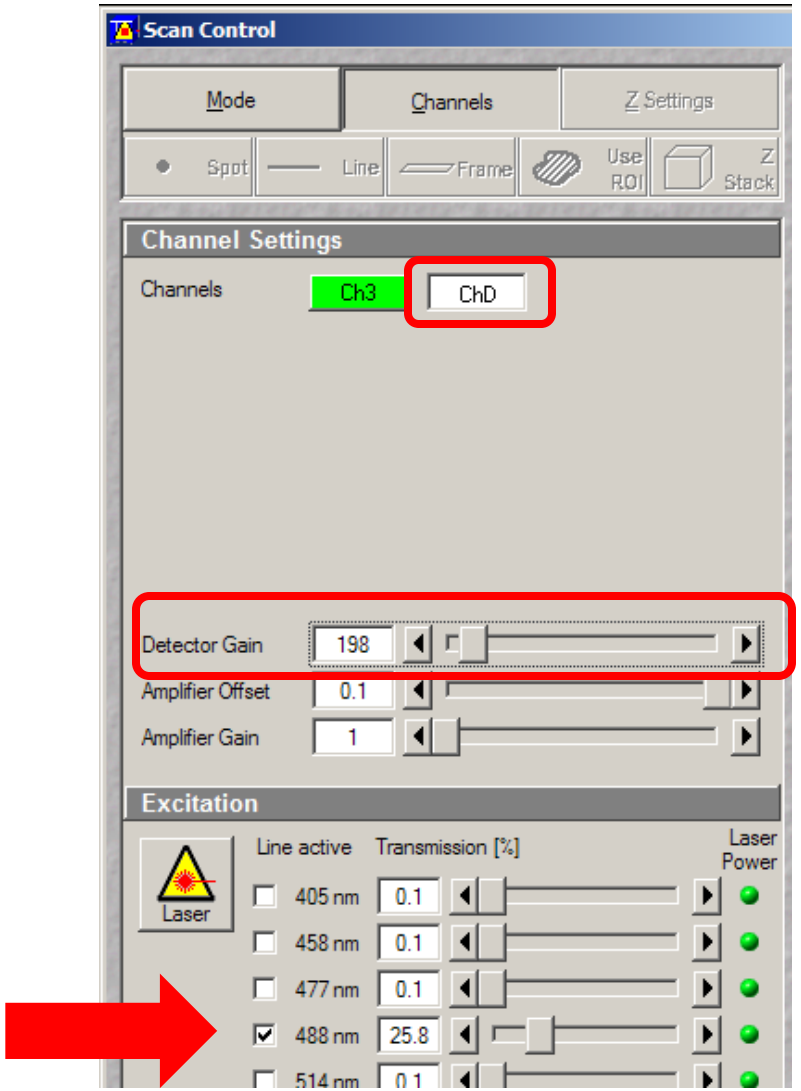
**Back on software:**

19. **In Configuration Control box: Select the track you wish to attach DIC to and check the ChD box.**



20. **While scanning Fast XY, adjust your settings for fluorescence and DIC. For DIC settings select ChD in Scan Control box in order to change the Detector Gain settings.**

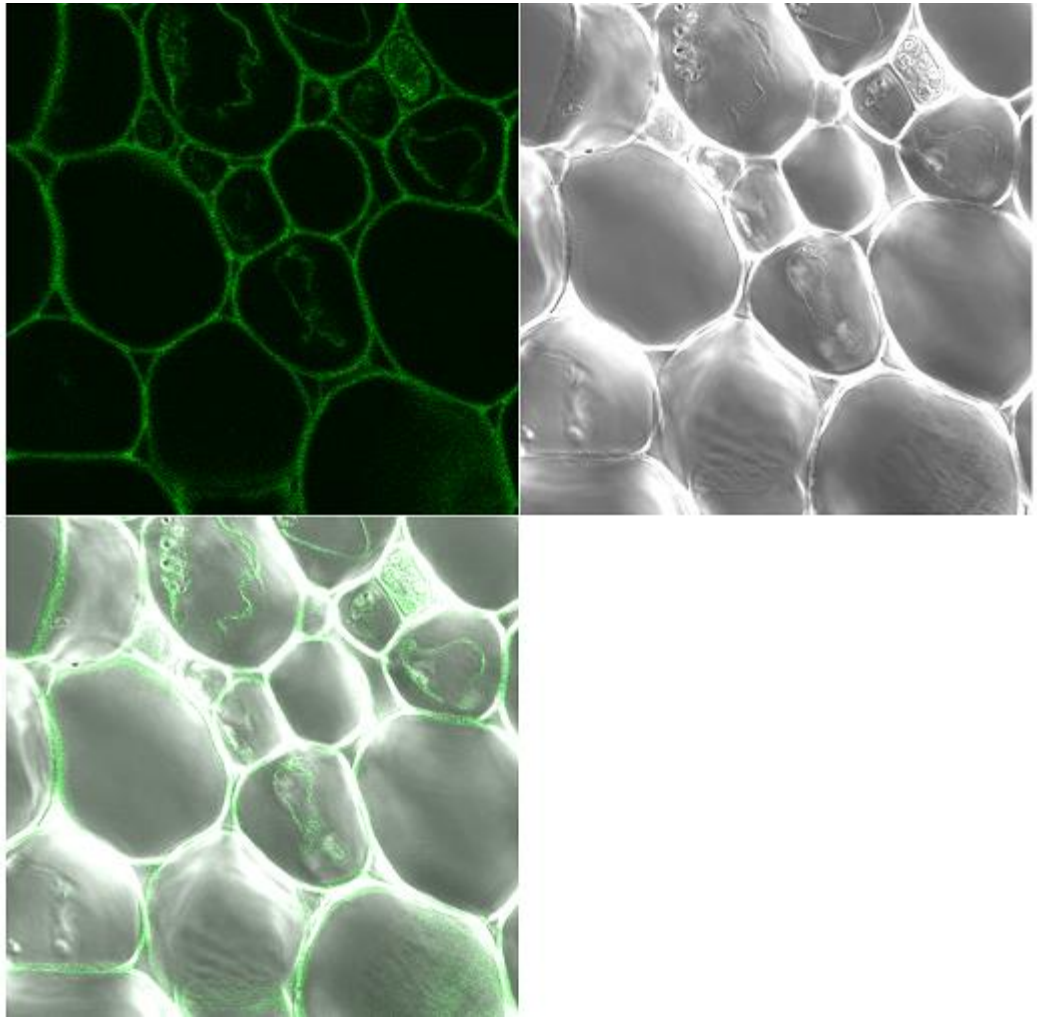
*Note: DIC uses the same laser as the fluorescent channel you selected. If you change the laser power for one Channel you must change the gain settings of the other Channel.*



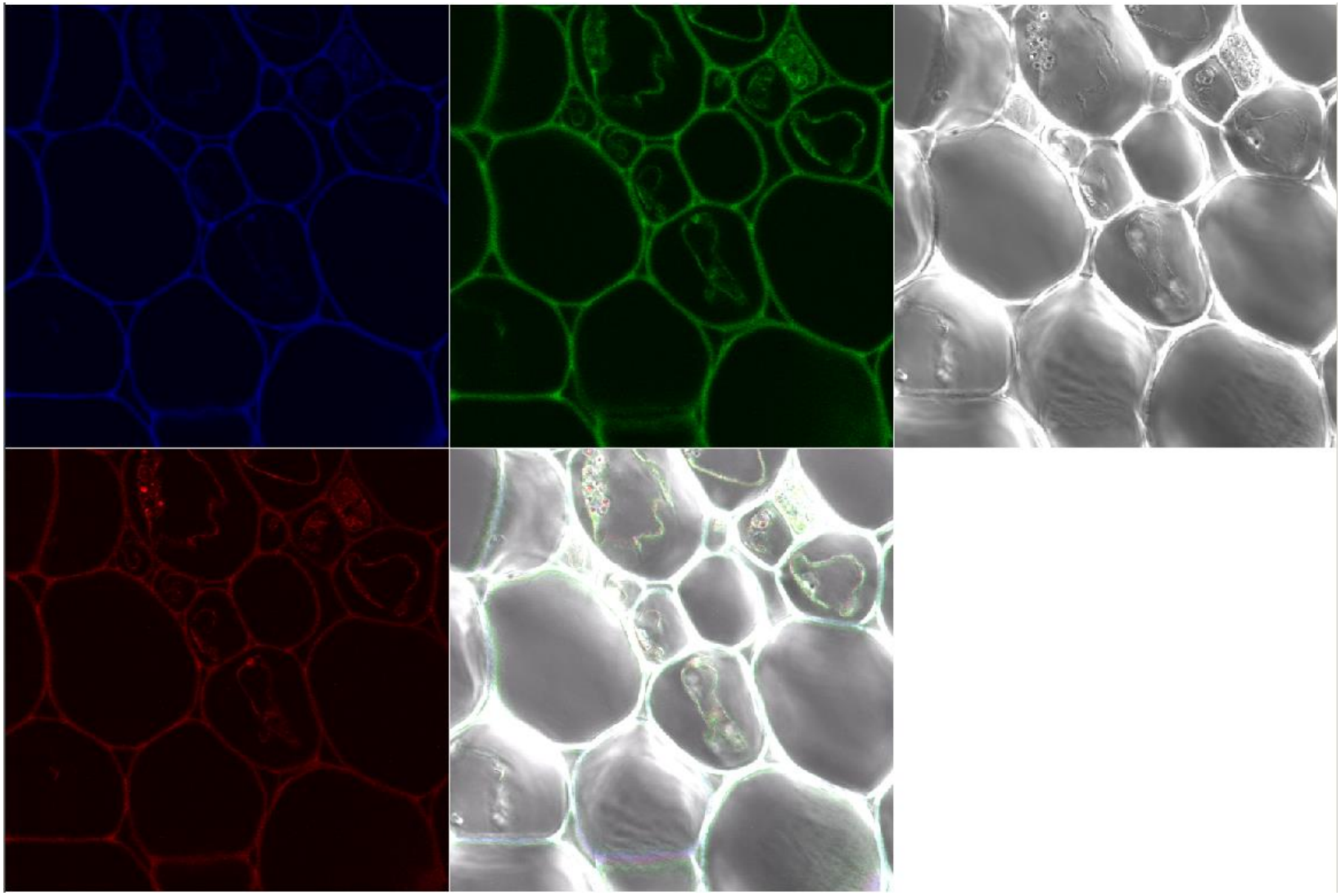
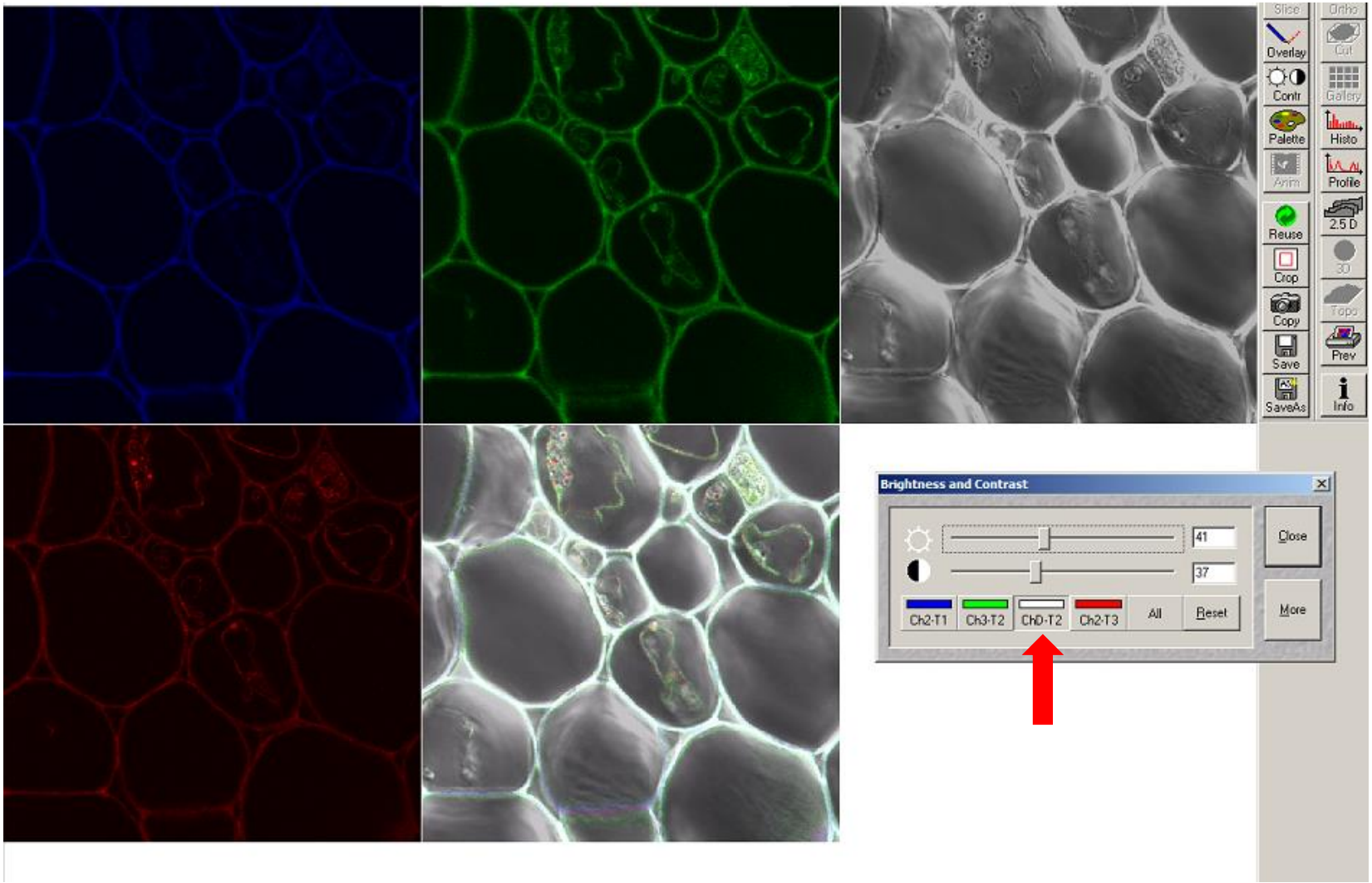
## Adjust  DIC slider below the objective

21. While scanning in Fast XY you will also need to adjust the DIC slider. This is located under the objective on the microscope turret.

**22. This is what the image looks like after the gain and DIC slider have been adjusted.**



**23. Now take your multi-colored image plus DIC. Below is the final image in split channel view.**



24. **DIC images need to be contrast enhanced in the post processing stage. Here we have only selected the DIC – ChD-T2 channel for contrast adjustment.**