

Microscopy

Mentee: Kelli Lofing

Scholar: Radu Moldovan



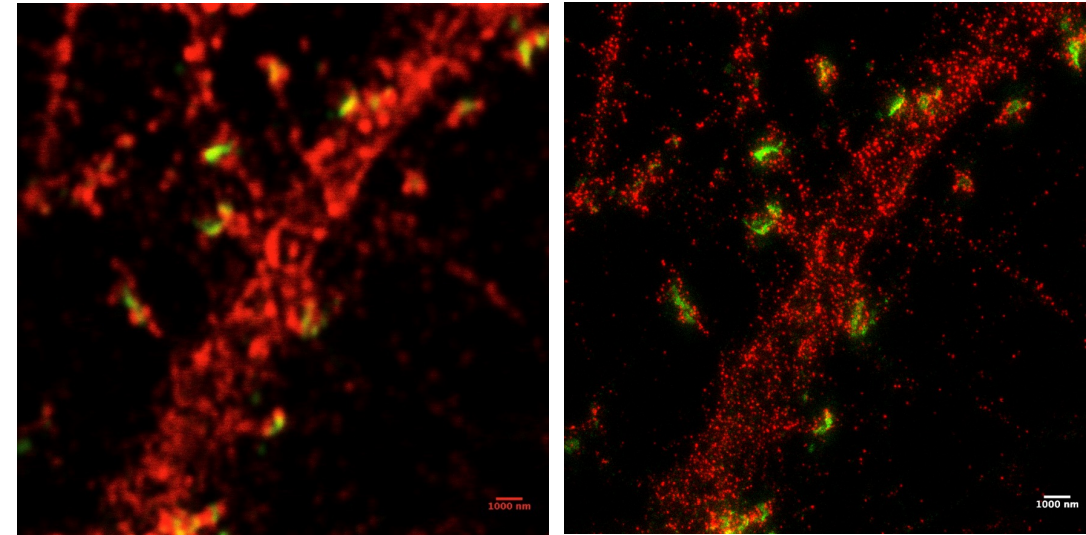
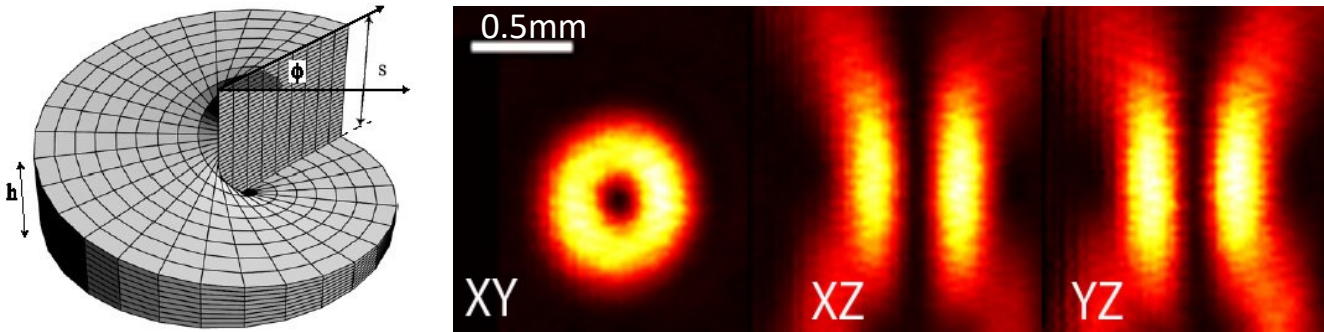
Radu's Grant

Radu was asked to help write a grant to get a new confocal microscope. Here I am helping measure the power of the lasers at varying intensities.



STED - Stimulated Emission Depletion Microscopy

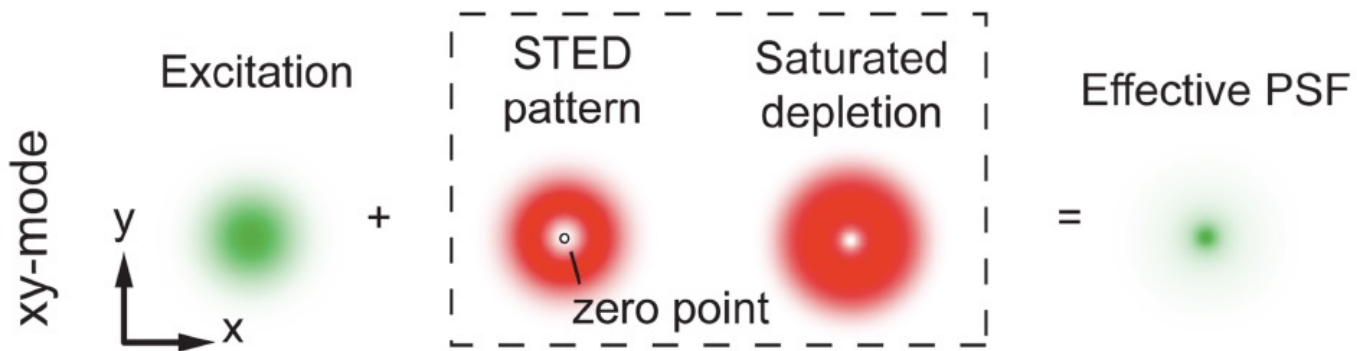
Staircase phase mask in STED beam path generates depletion donut.



PSD95

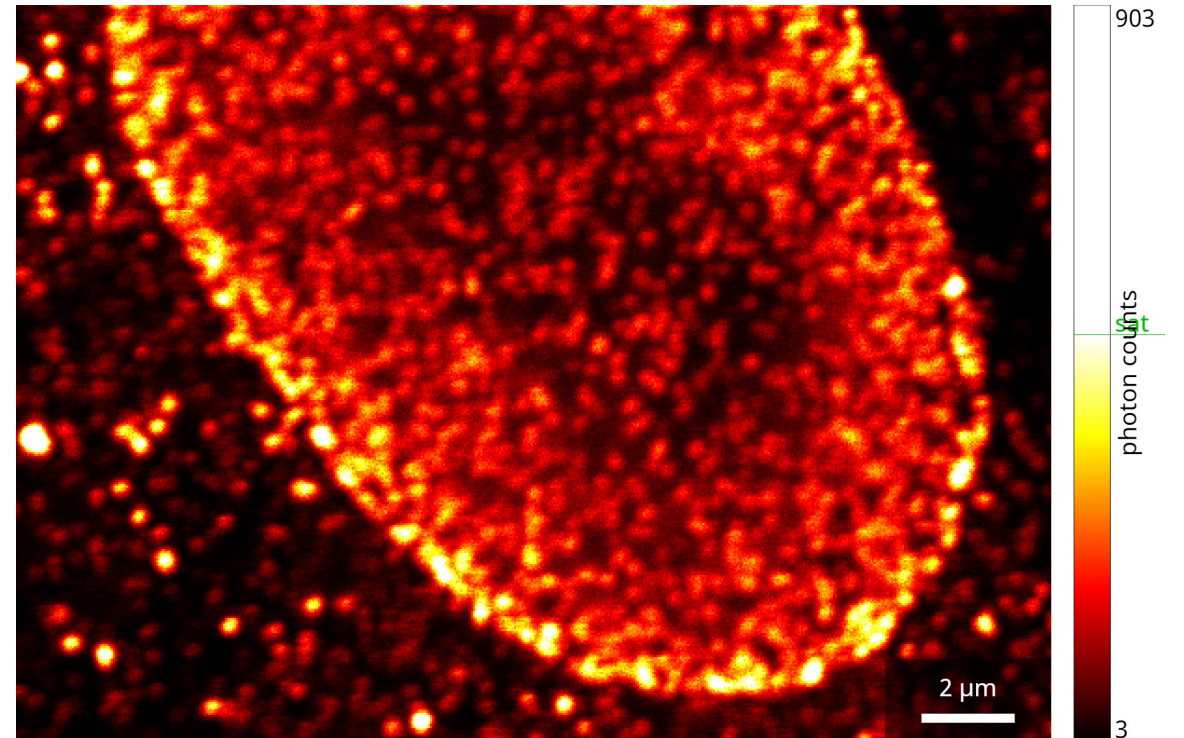
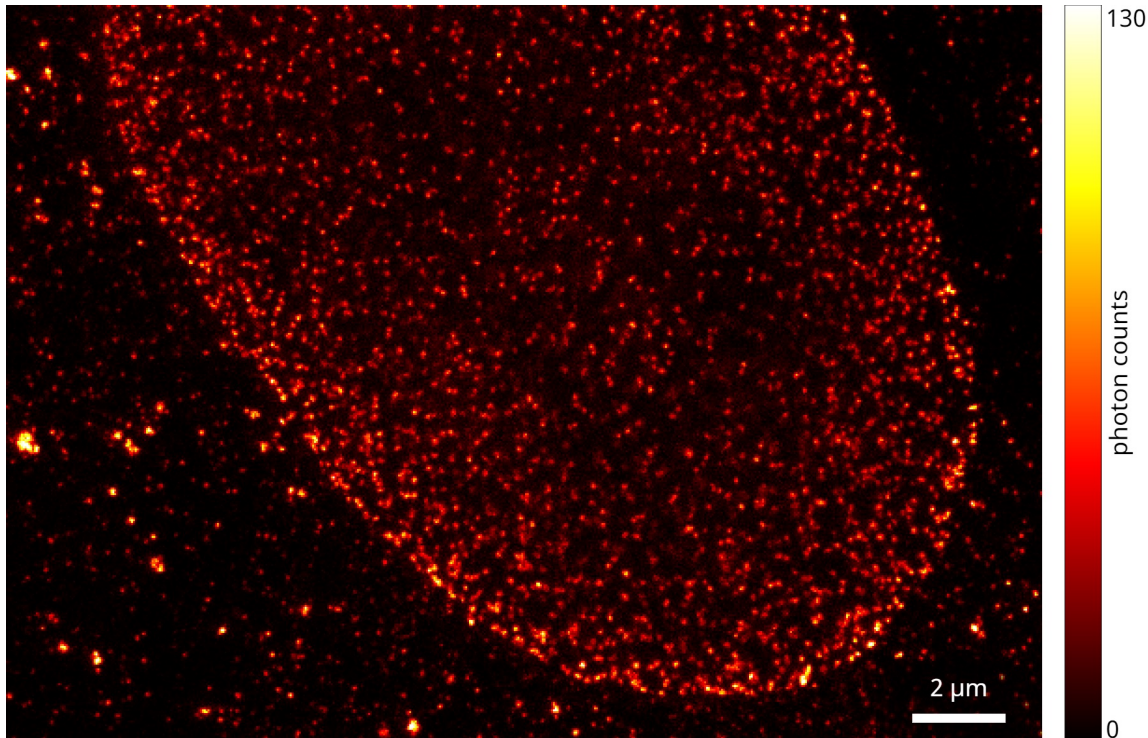
AKAP150

Overlap STED and Ex beams at focus => 40nm resolution in xy plane

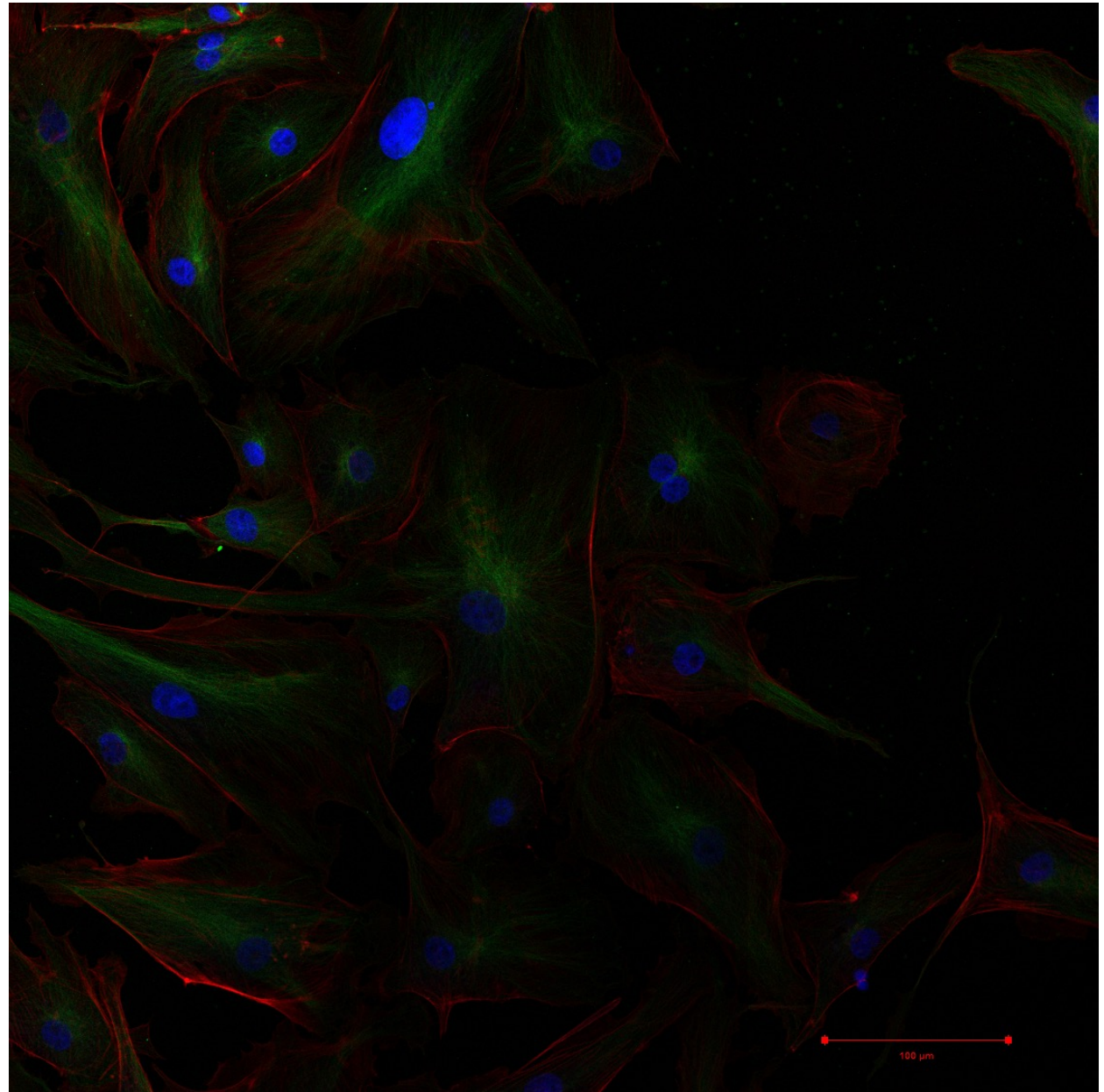


STED

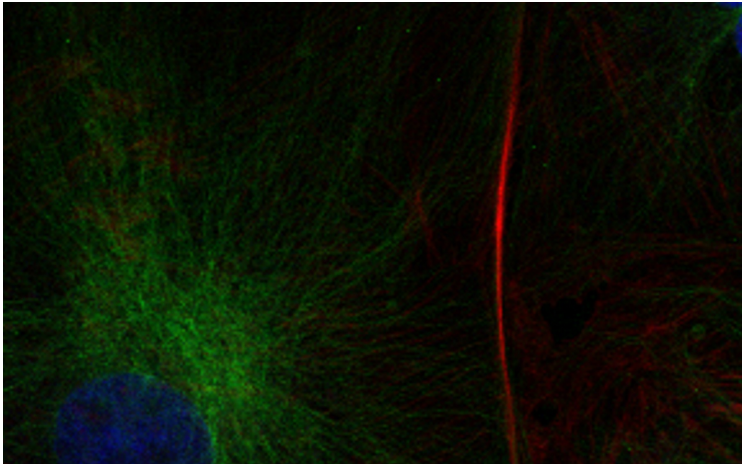
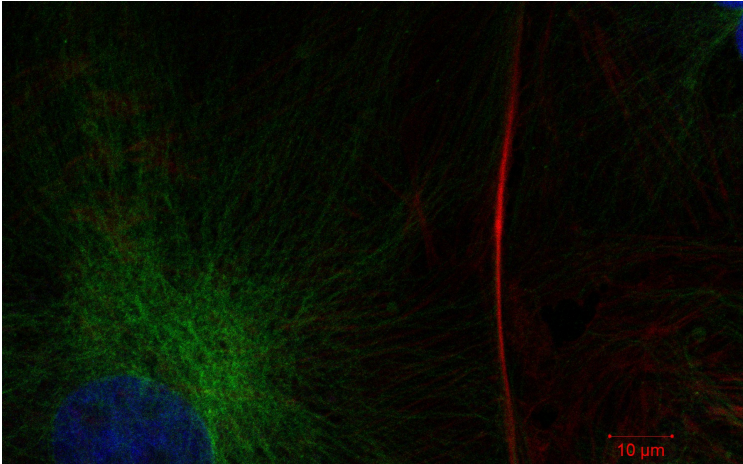
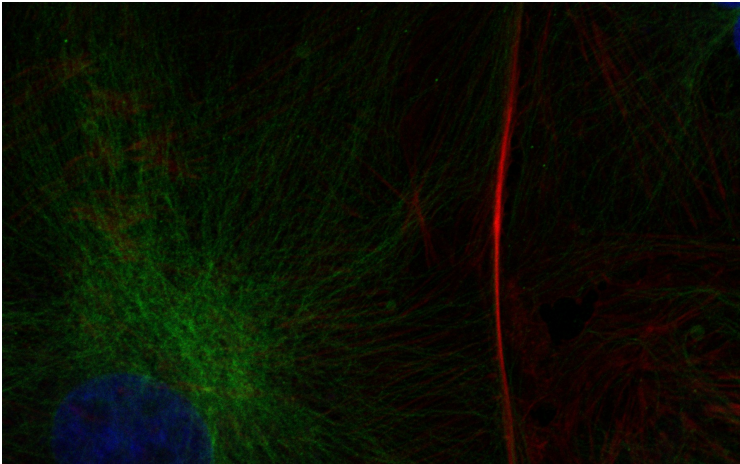
- The image on the left is a STED image, and the image on the right is the same image completed with confocal.

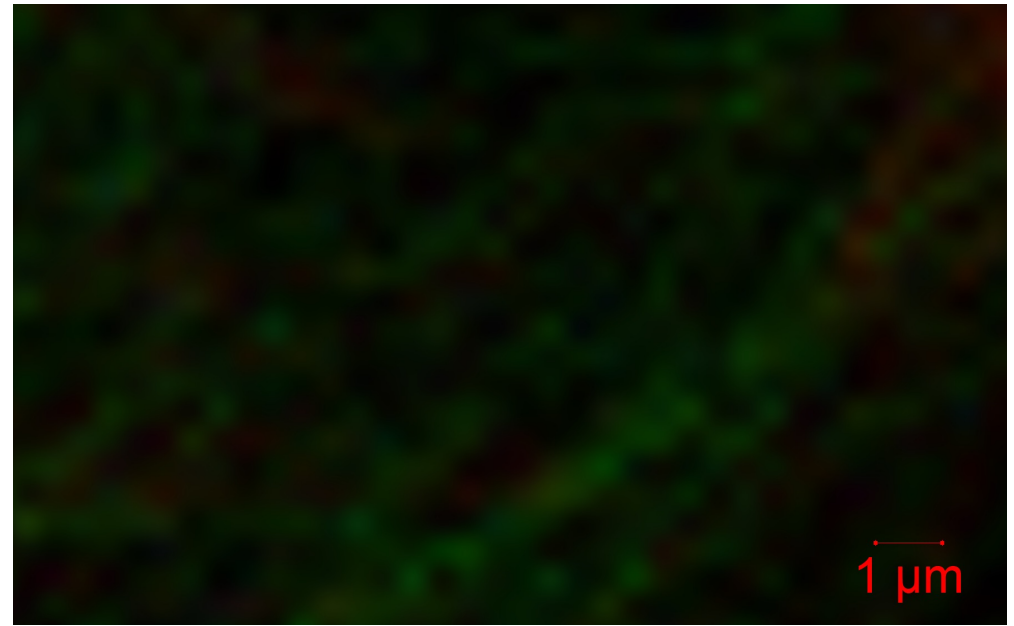
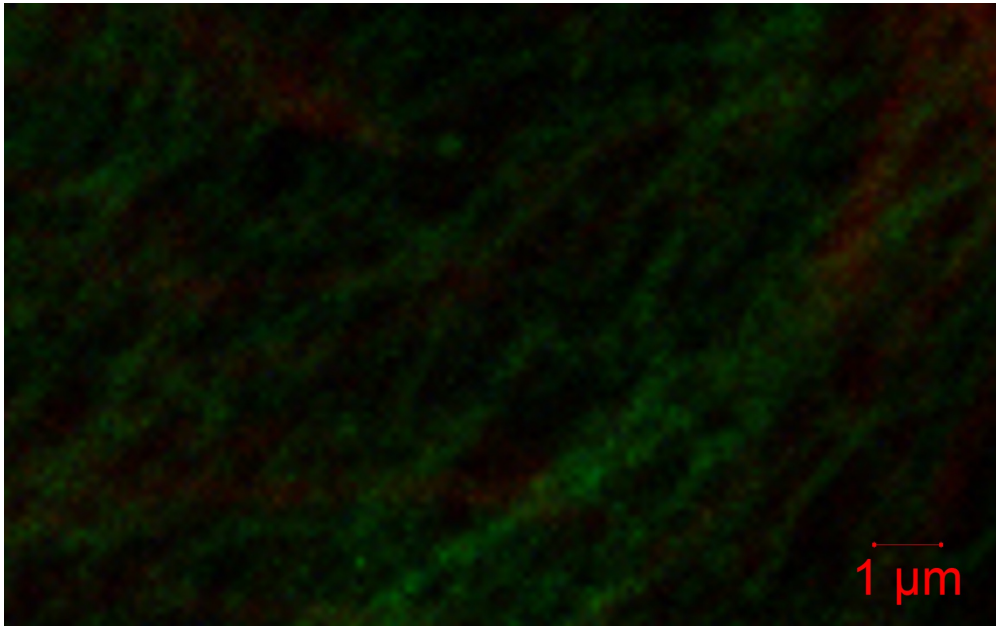


Confocal



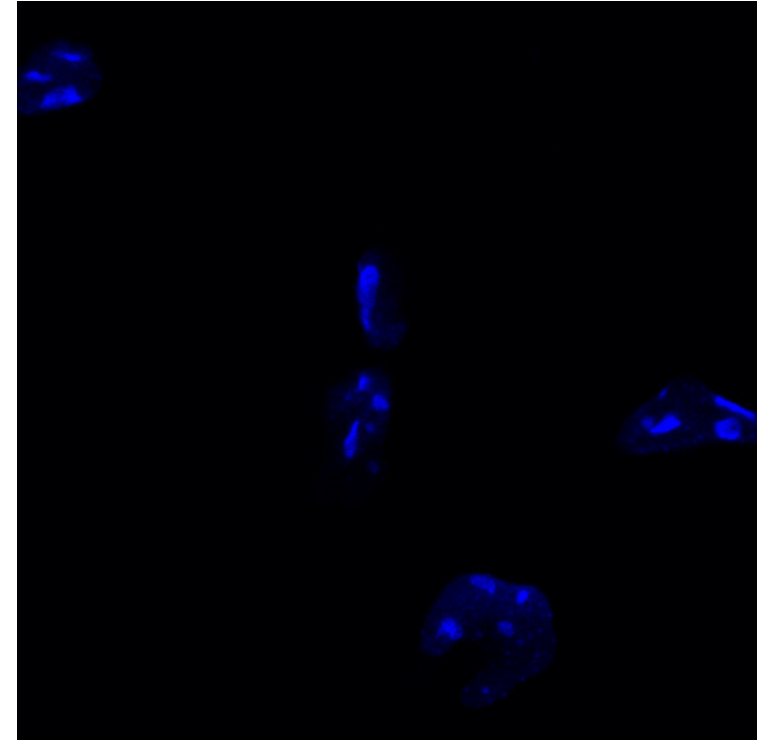
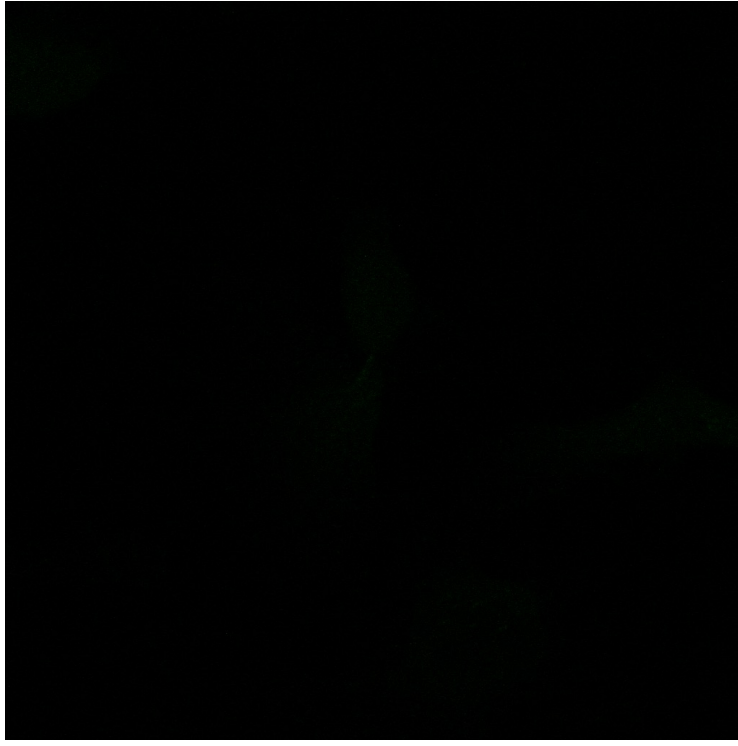
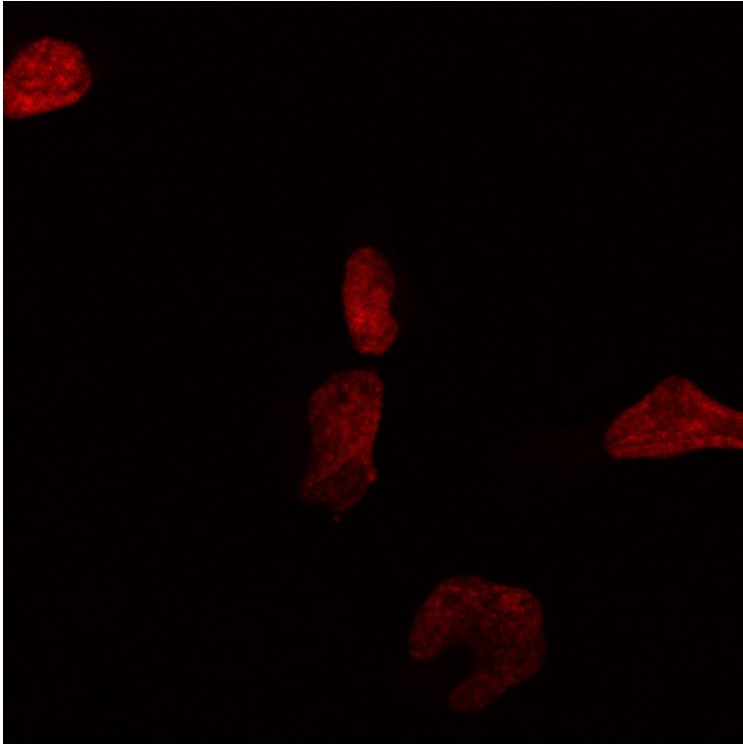
Same image, different settings

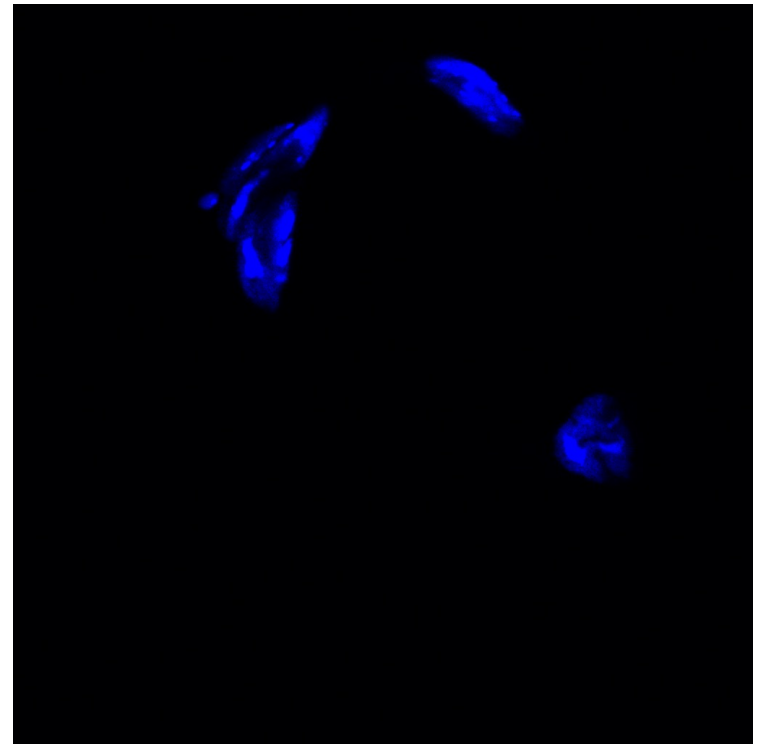
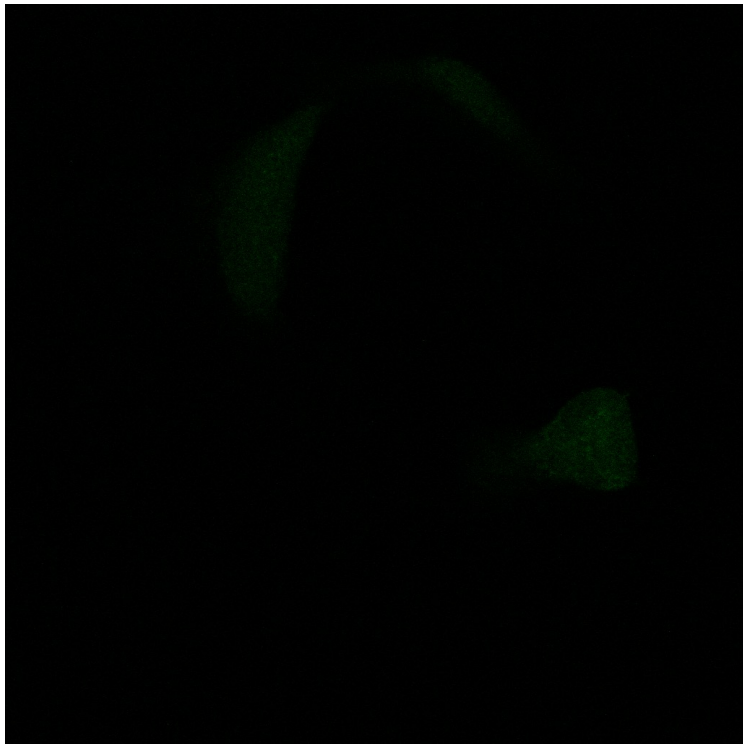
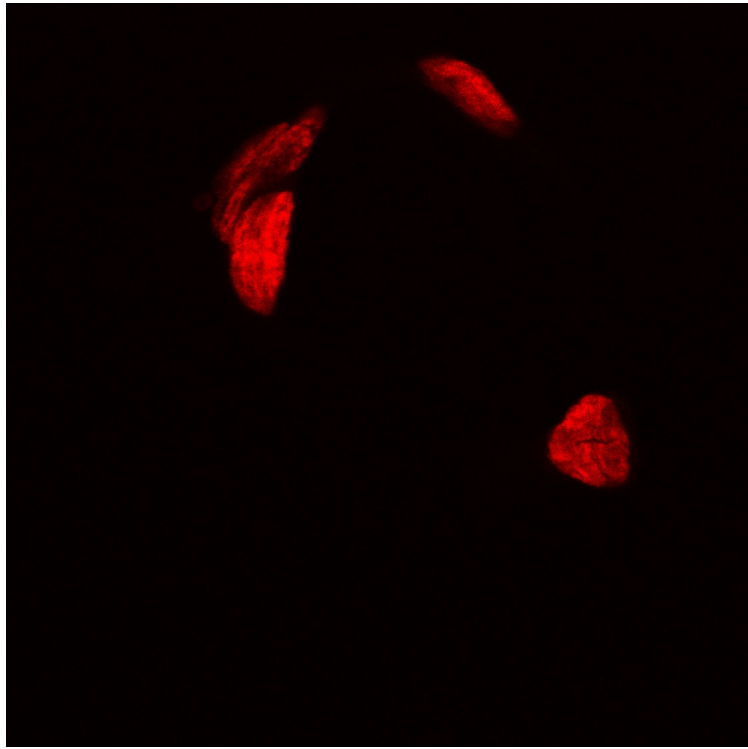


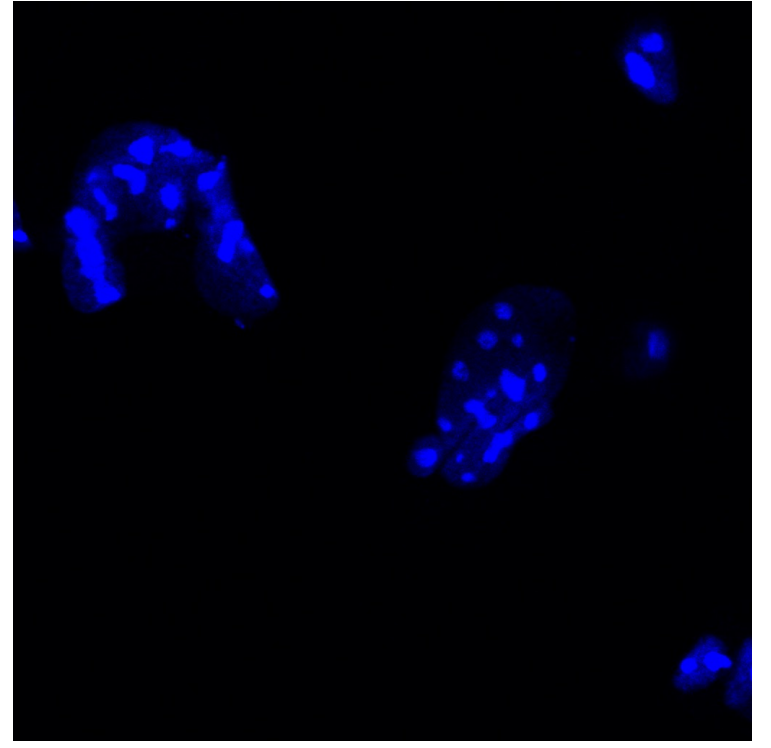
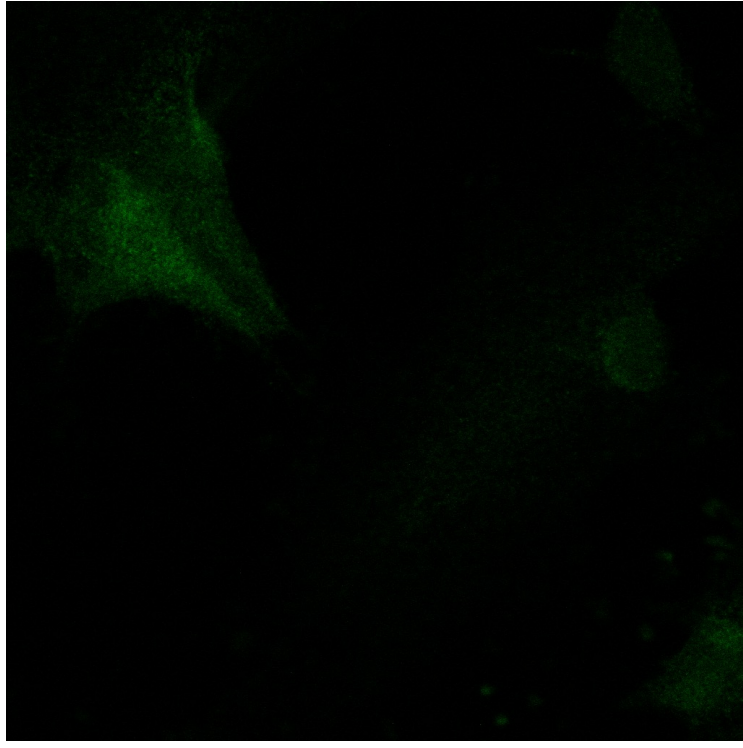
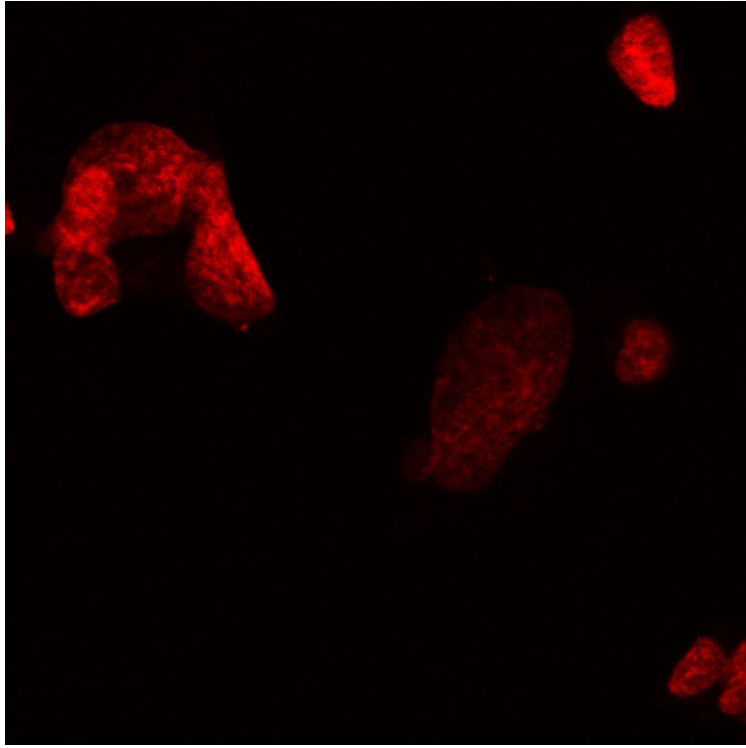


Close up view of previous pictures, the one on the right has less pixels, and therefore has less resolution.

Experimental results I did imaging for:







Thank you!

Special thanks to Dr. Radu Moldavan for his mentorship; Dr. Cristina Cenciarelli and Elizabeth Evans, MSS, for their invaluable contributions in creating a platform that facilitates meaningful interactions and learning opportunities for students and scholars.

