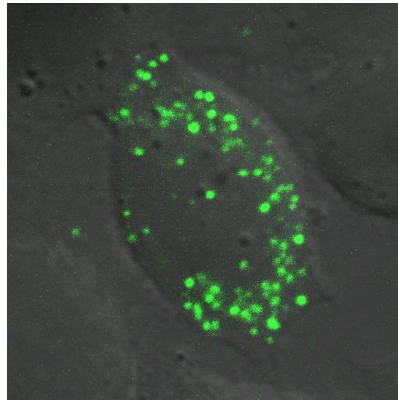


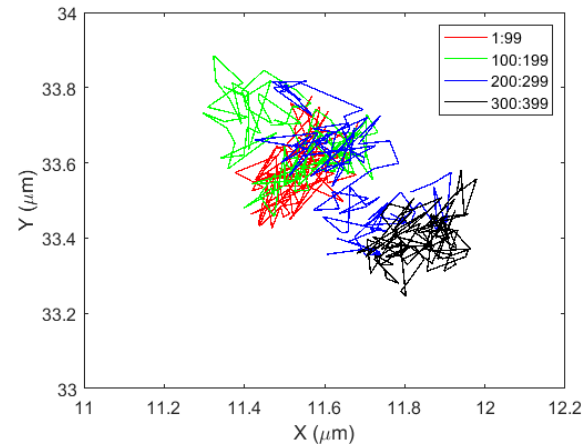
G.Holzwarth's lab—Optical Microscopy, Biophysics, and Machine Learning

Project One: collaboration with Doug Lyles, Biochemistry

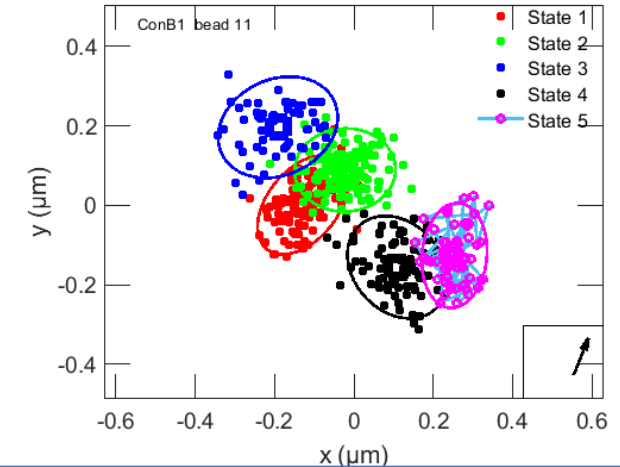
Observe viral particles in cell



Track one particle over time

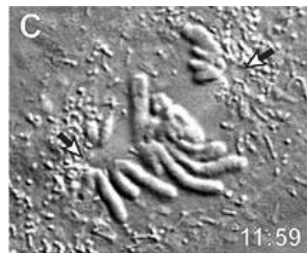


Analyze track with Machine Learning

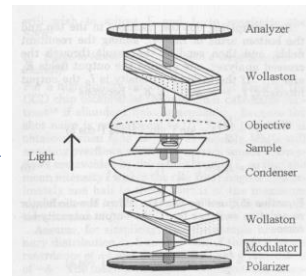


Project Two: observe chromosomal territories in cells during interphase by polarization-modulated interference microscopy and machine learning

Chromosomes visible during cell division



Enhance contrast using modulator



Use Bayesian estimation methods to connect time sequence of images

Result will be a 3D image showing the size and shape of all chromosomes through the cell cycle.