**Measure Fusion Before and After**

Original version by Bob Rawle, Kasson Lab, University of Virginia, 2016-2017, but not published or used in conjunction with any report at that time.

Modifications, updates by:

Bob Rawle, Williams College 2024

Notes: Validated approach using DENV VLP data, etc.

To begin:

To start the program, run the function Start\_Fusion\_Before\_After.

Before starting the program, the options should be specified in Setup\_Options.

Basic description:

This program takes two sets of images stacks. The first is the before images (virus bound to tethered vesicles before fusion trigger). The second is the after images (images in the exact same location in the sample, but some time t after the fusion trigger). The program finds particles in the before image, matches them to the particles in the after image, and quantifies the intensity of both. If the particle increases intensity above a desginated threshold, it is classified as having undergone fusion (fluorescence dequenching).