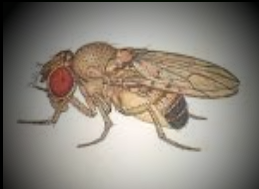
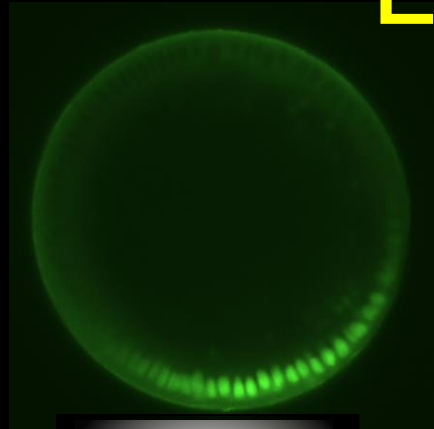
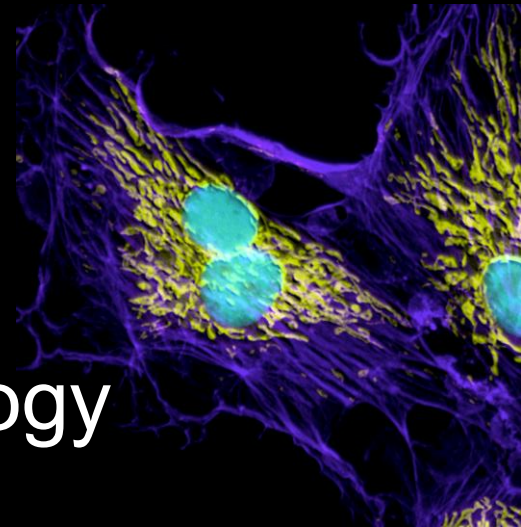


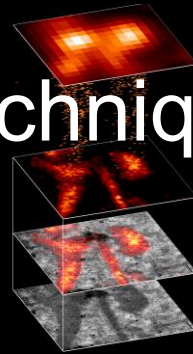
NAVIGATING THE CELLULAR LANDSCAPE THROUGH MICROSCOPY



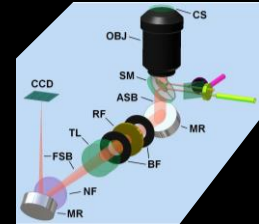
Carolyn Ott
Section on Organelle Biology
NICHD, NIH



Techniques



Microscopes

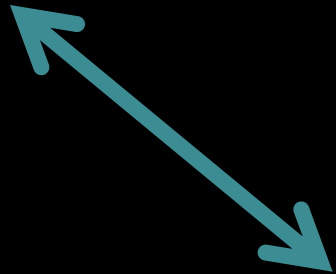
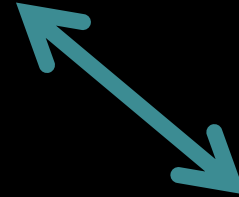
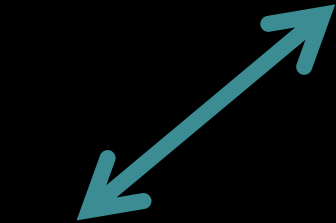
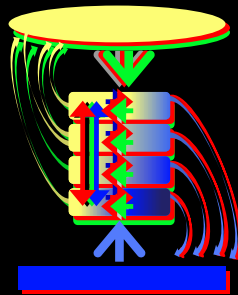


IMAGING

Probes

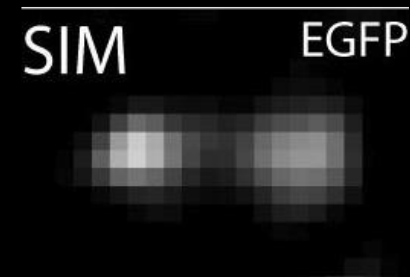
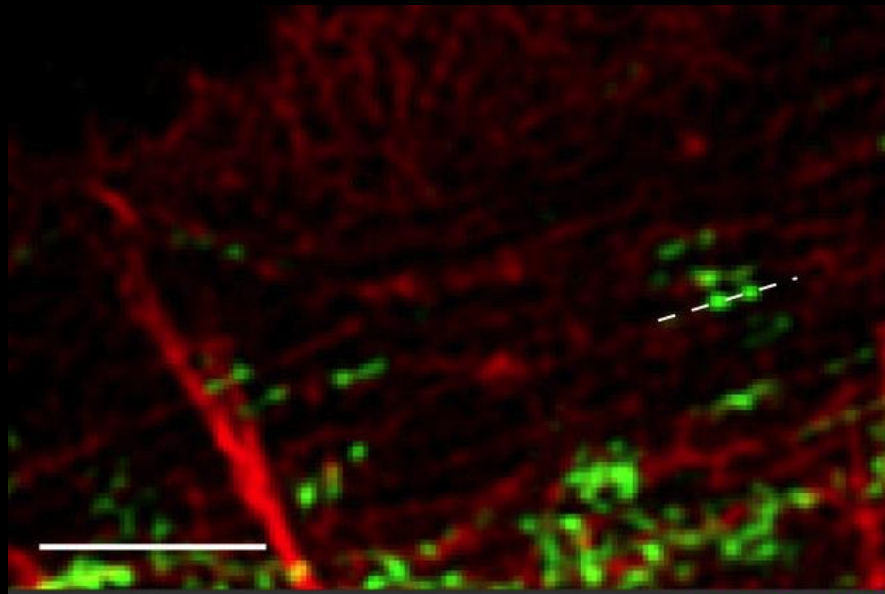
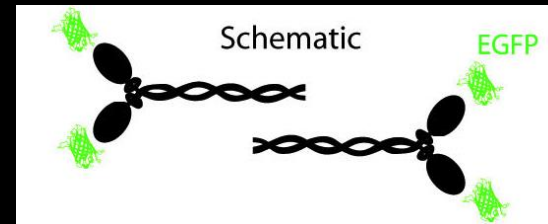


Modeling



Visualize molecular details

Super Resolution Microscopy

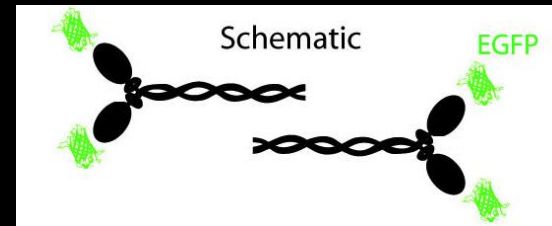


Structured Illumination

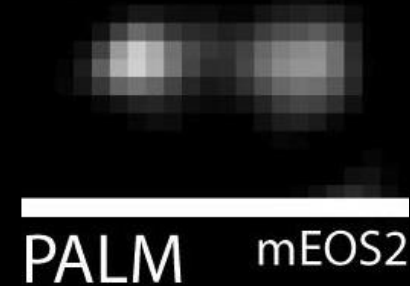
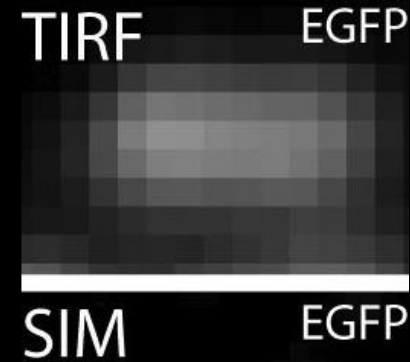
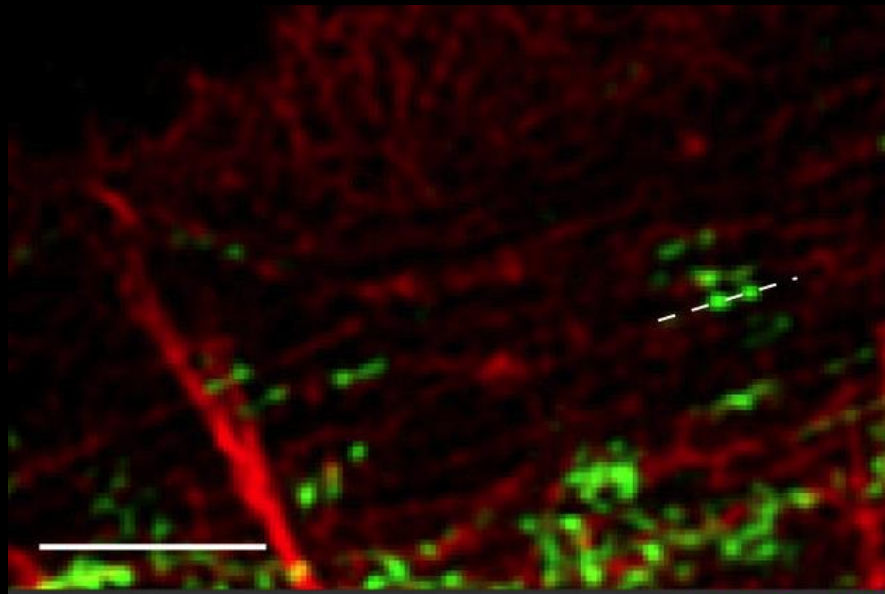
400 nm

Visualize molecular details

Super Resolution Microscopy



Myosin IIA

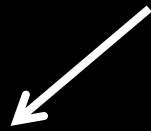


400 nm

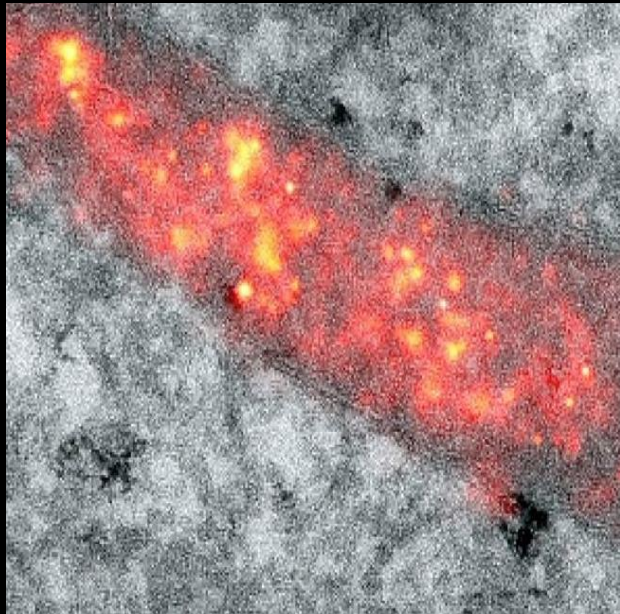
Structured Illumination

POINT-LOCALIZATION SR IMAGING

TRANSFORMATIVE AREAS



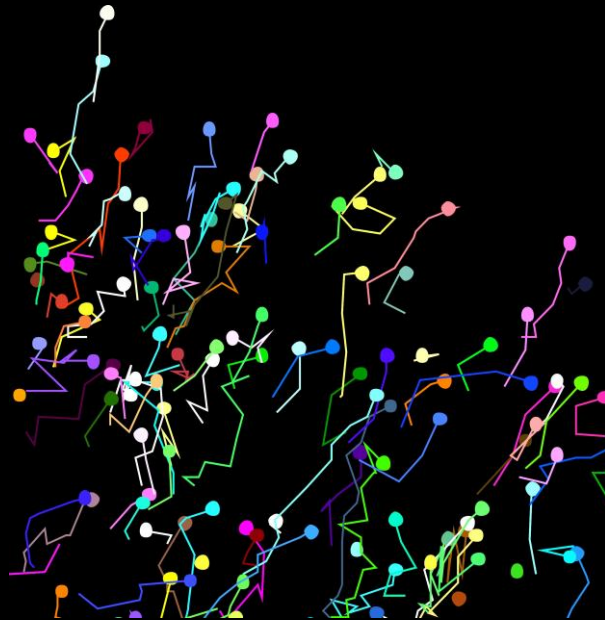
Structural
Analysis



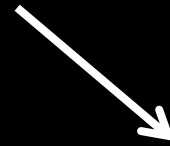
- Correlative PALM/EM
- Multi-color labeling
- 3-D Visualization



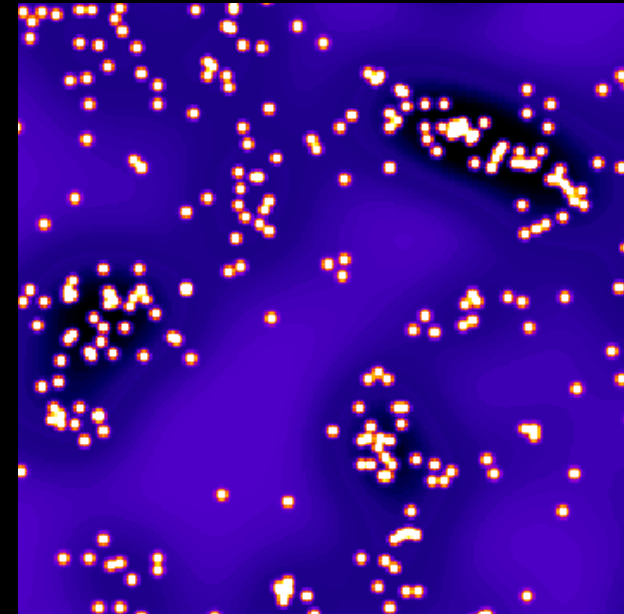
Dynamic
Processes



- Single particle tracking
w/PALM

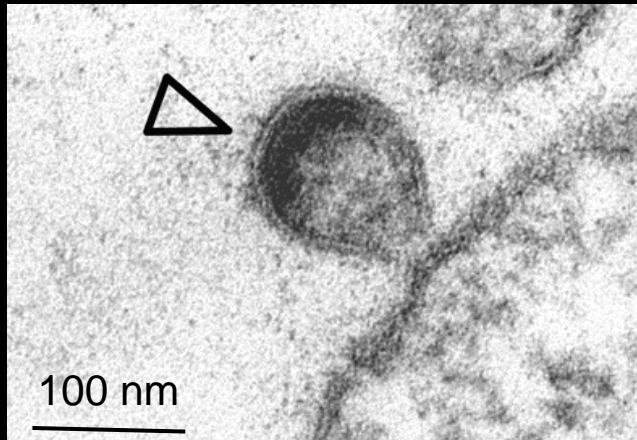


Protein Organization
& Stoichiometry

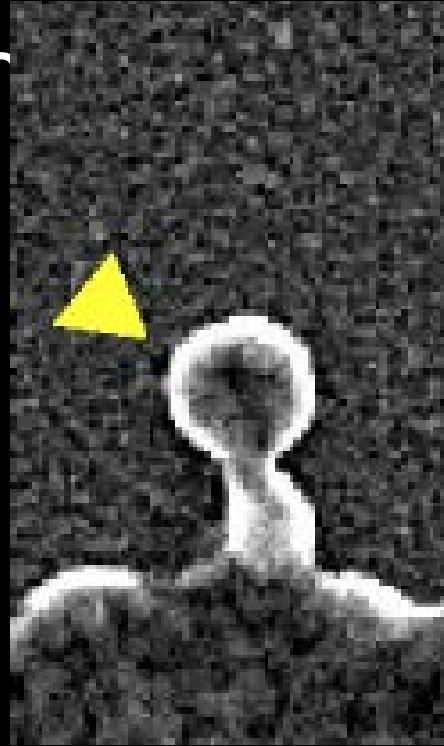


- Pair correlation analysis
- Counting

High Resolution with

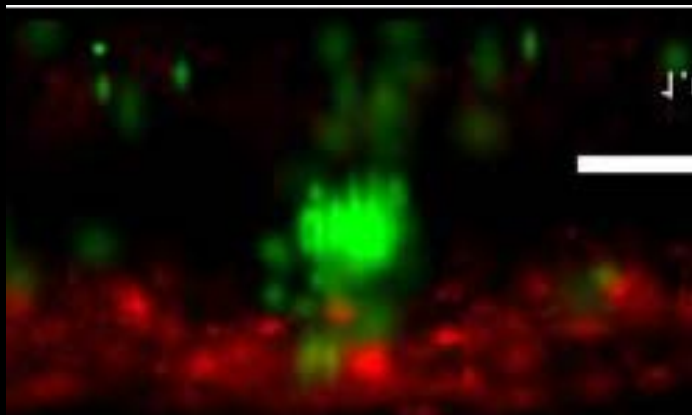
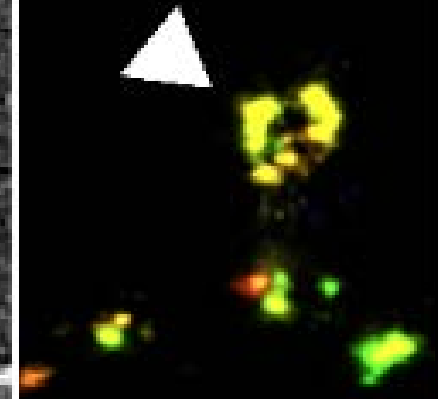


Transmission EM of HIV budding

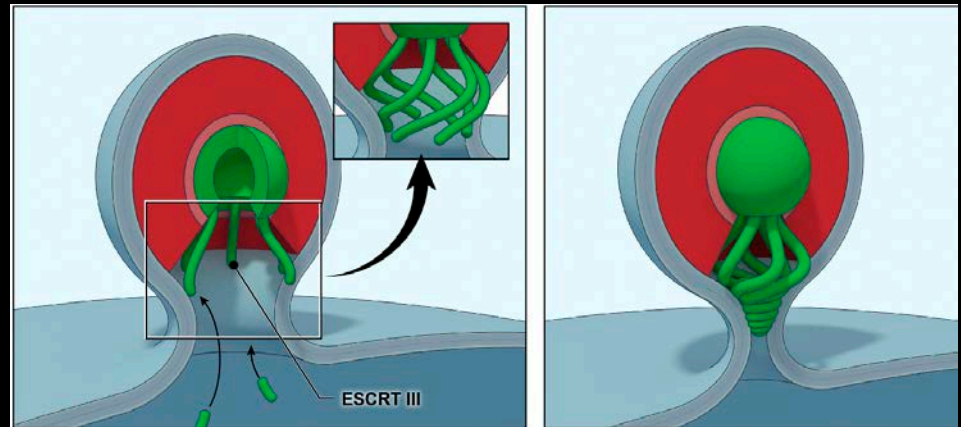


Correlative iPALM and scanning EM of fluorescent HIV Gag-FLAG

Specificity



PSCFP2-CHMP2A (ESCRT-III)
plasma membrane lipid



Van Engelenburg et al., Science 2014

MOLECULAR IMAGING INTO THE FUTURE

Structural
Analysis

Dynamic
Processes

Protein Organization
& Stoichiometry

Whole cell/tissue dynamics

