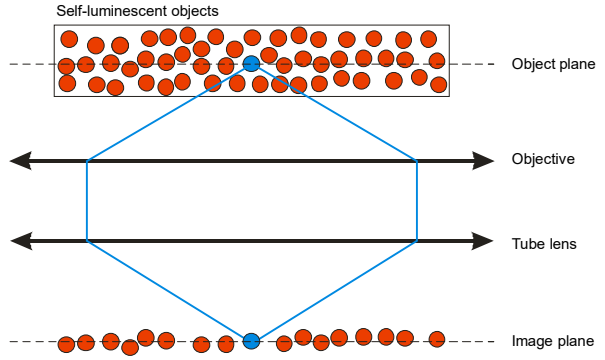
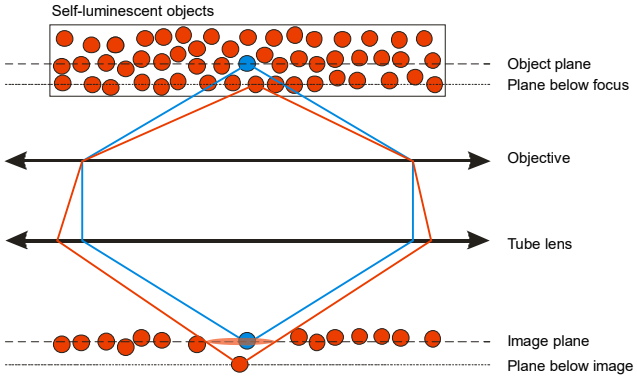
2 Classical optics and microscopy

2.2 *Methodology*

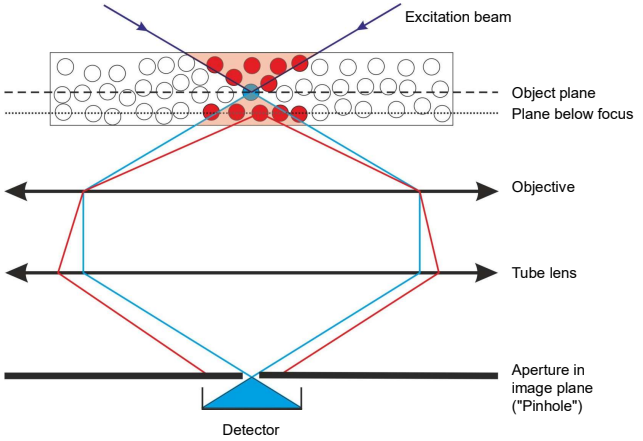
Widefield Microscopy: Contrast



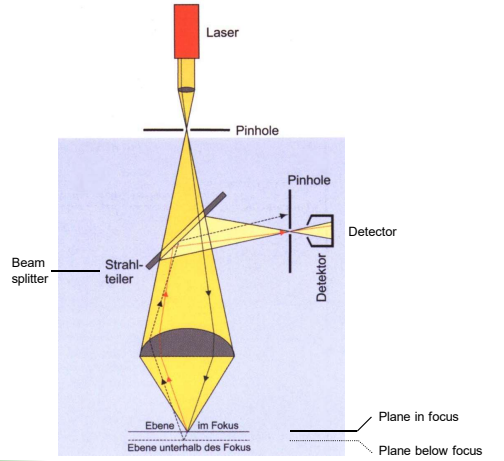
Widefield Microscopy: Contrast



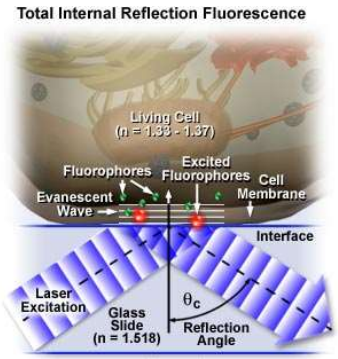
Confocal Microscopy - Principles



Confocal Microscopy - Principles

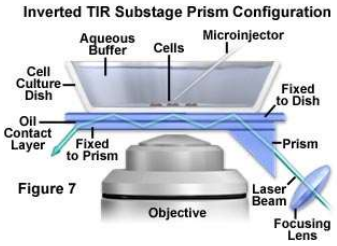


TIRF-Microscopy



Olympus

TIRF-Microscopy

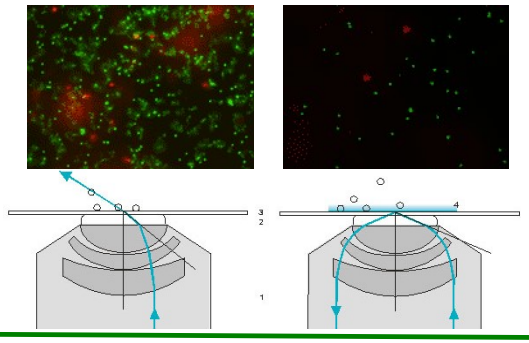


Olympus, Nikon

TIRF: Example

Fluorescing beads in watery solution
(Brownian motion)

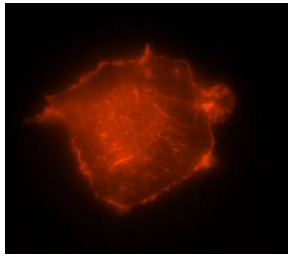
Epi-Fluorescence TIRF



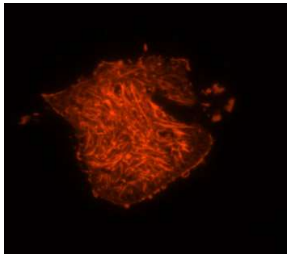
Zeiss

TIRF: Example

Epi-Fluorescence



TIRF



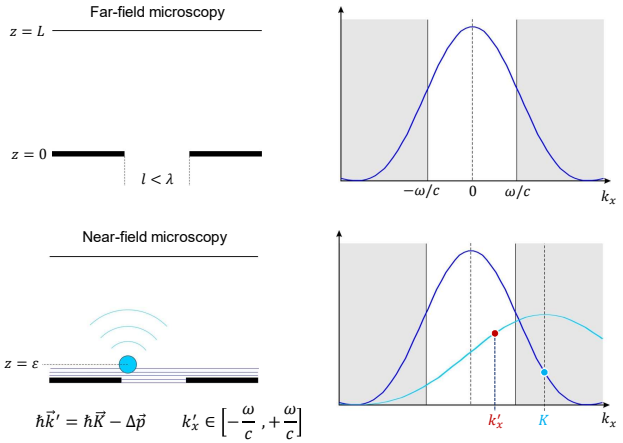
Phalloidin F-Actin binding protein coupled to Alexa-546 dye, actin filaments, cytosceleton around the submembrane cortex in bovine cells.

(Dr. Klingauf, MPI für Biophysikalische Chemie, Göttingen)

Zeiss

Near-field optics

Detection of Evanescent Fields



$\hbar\vec{k}' = \hbar\vec{K} - \Delta\vec{p}$ $\quad k'_x \in \left[-\frac{\omega}{c}, +\frac{\omega}{c}\right]$