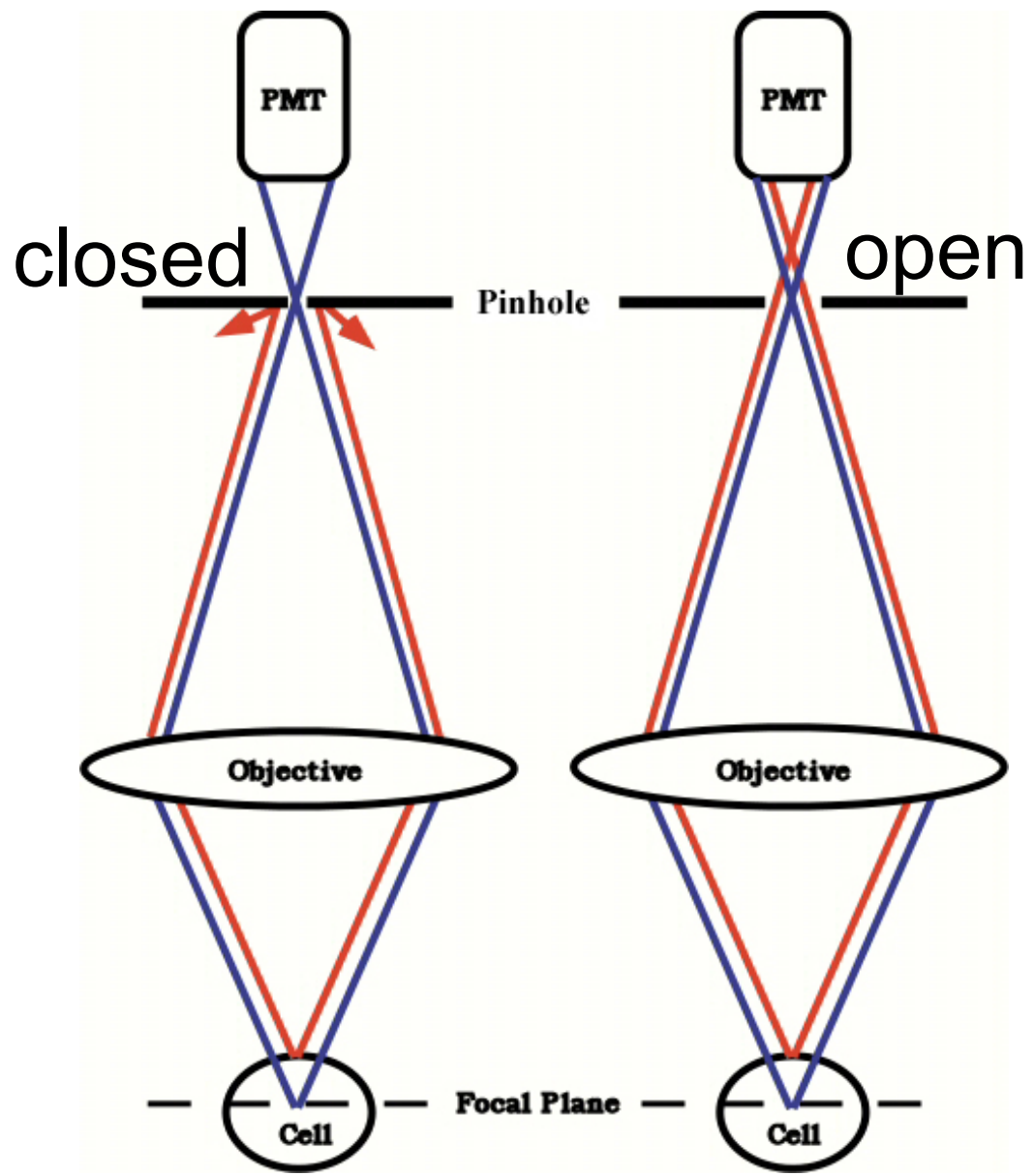
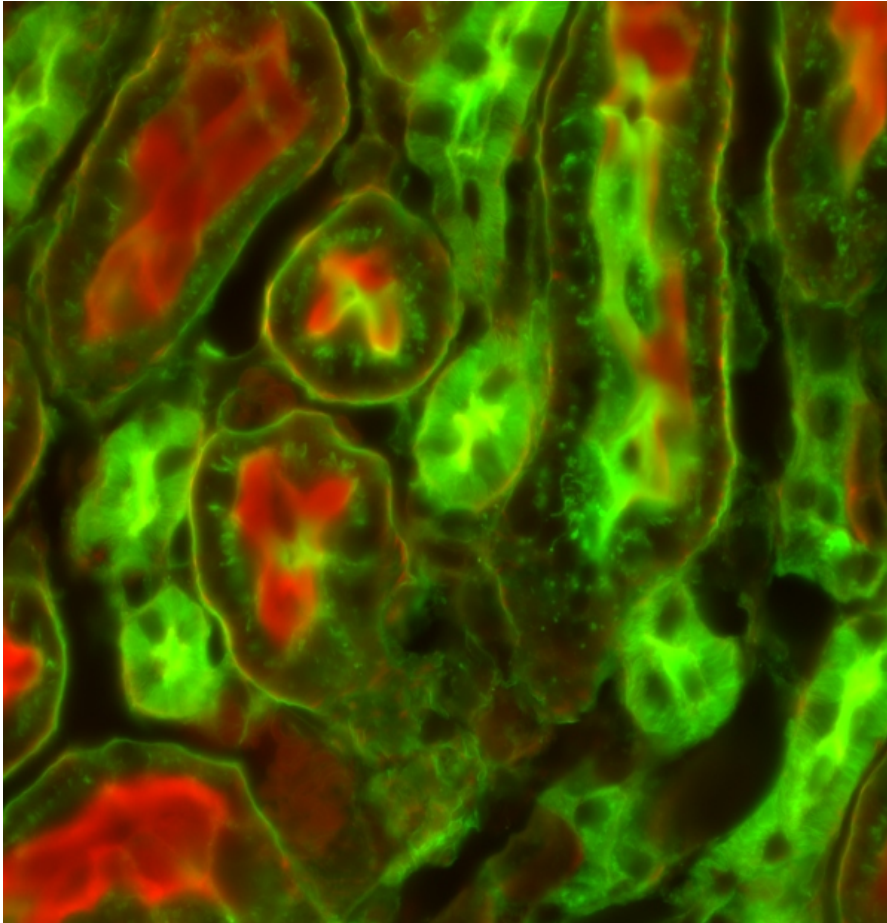


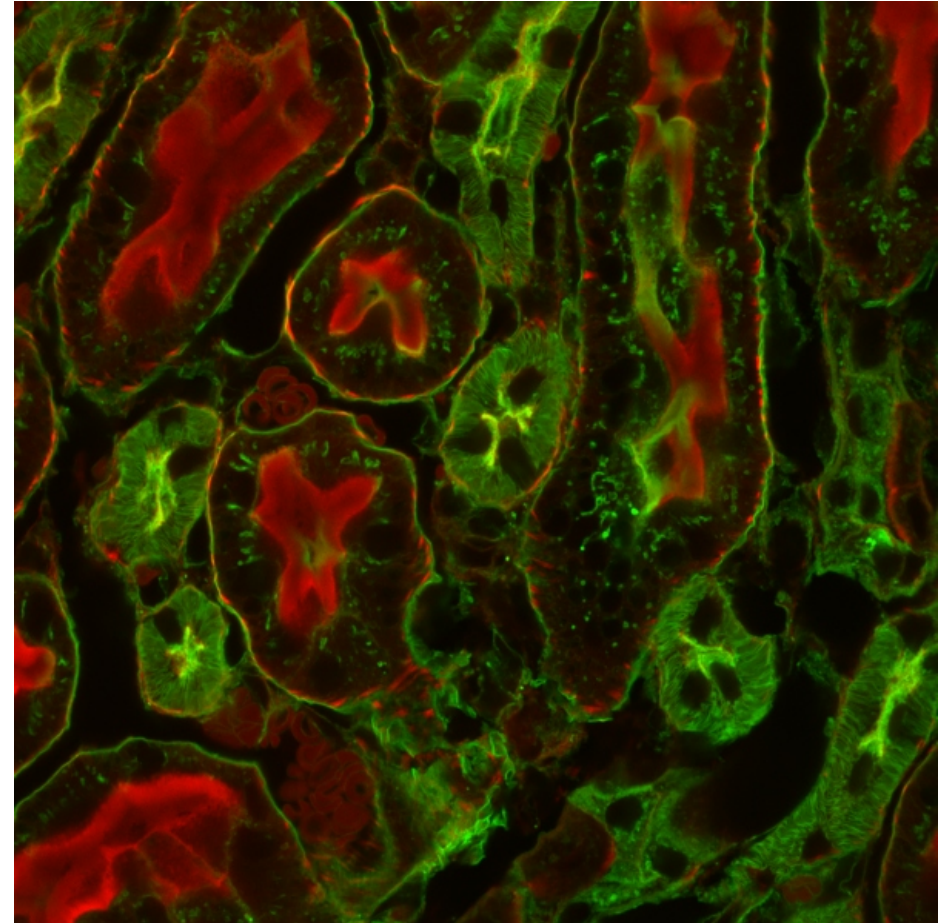
Confocal microscopy



Confocal Microscope “makes” PSF smaller



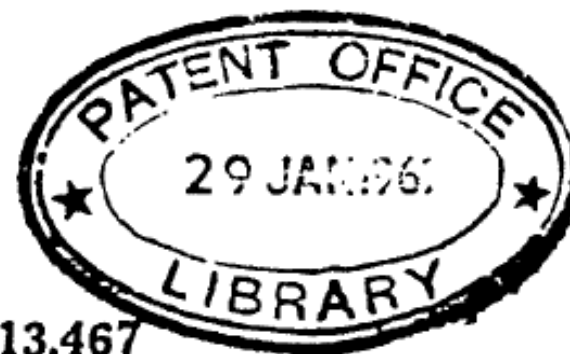
open pinhole



closed pinhole

Mouse kidney section
Alexa Fluor 488 WGA, Alexa Fluor 568 phalloidin

Michael Weber



Dec. 19, 1961

M. MINSKY
MICROSCOPY APPARATUS
Filed Nov. 7, 1957

3,013,467

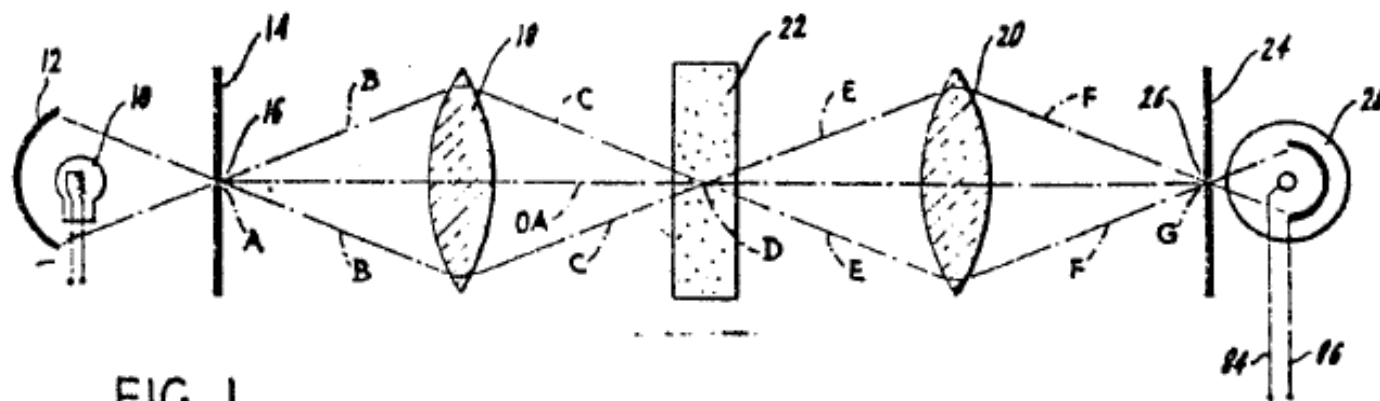


FIG. 1.

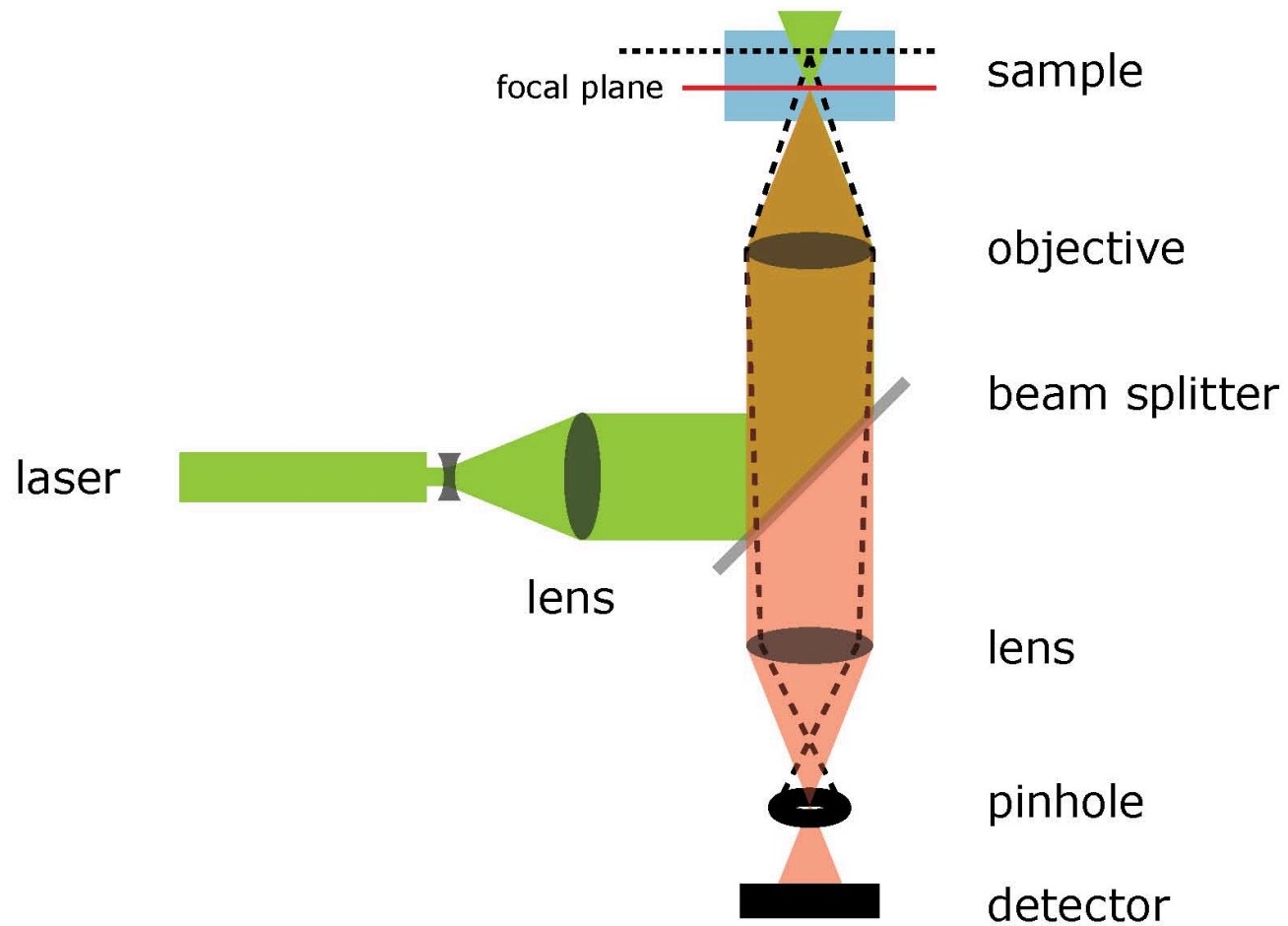


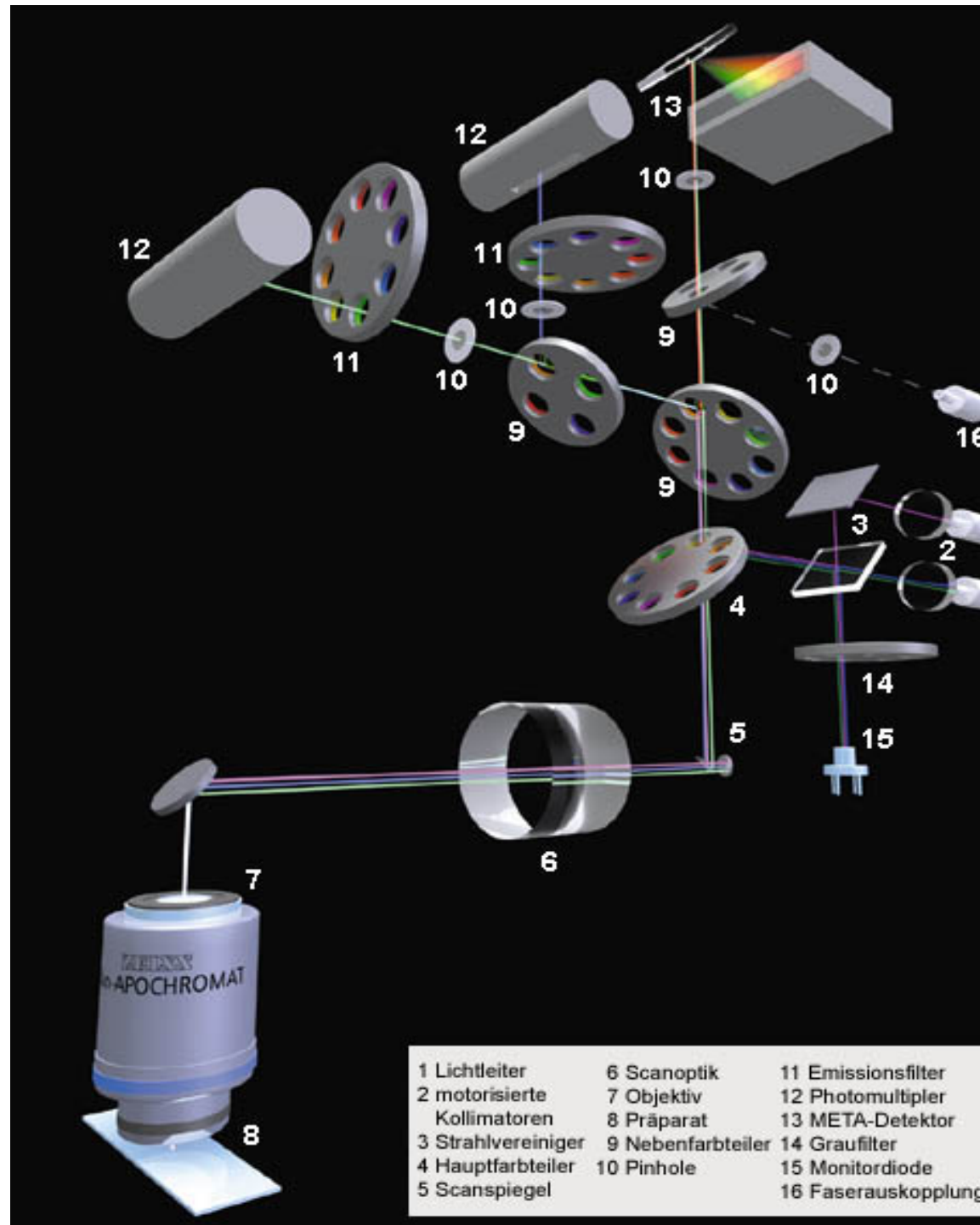
Marvin Minsky, MIT, USA

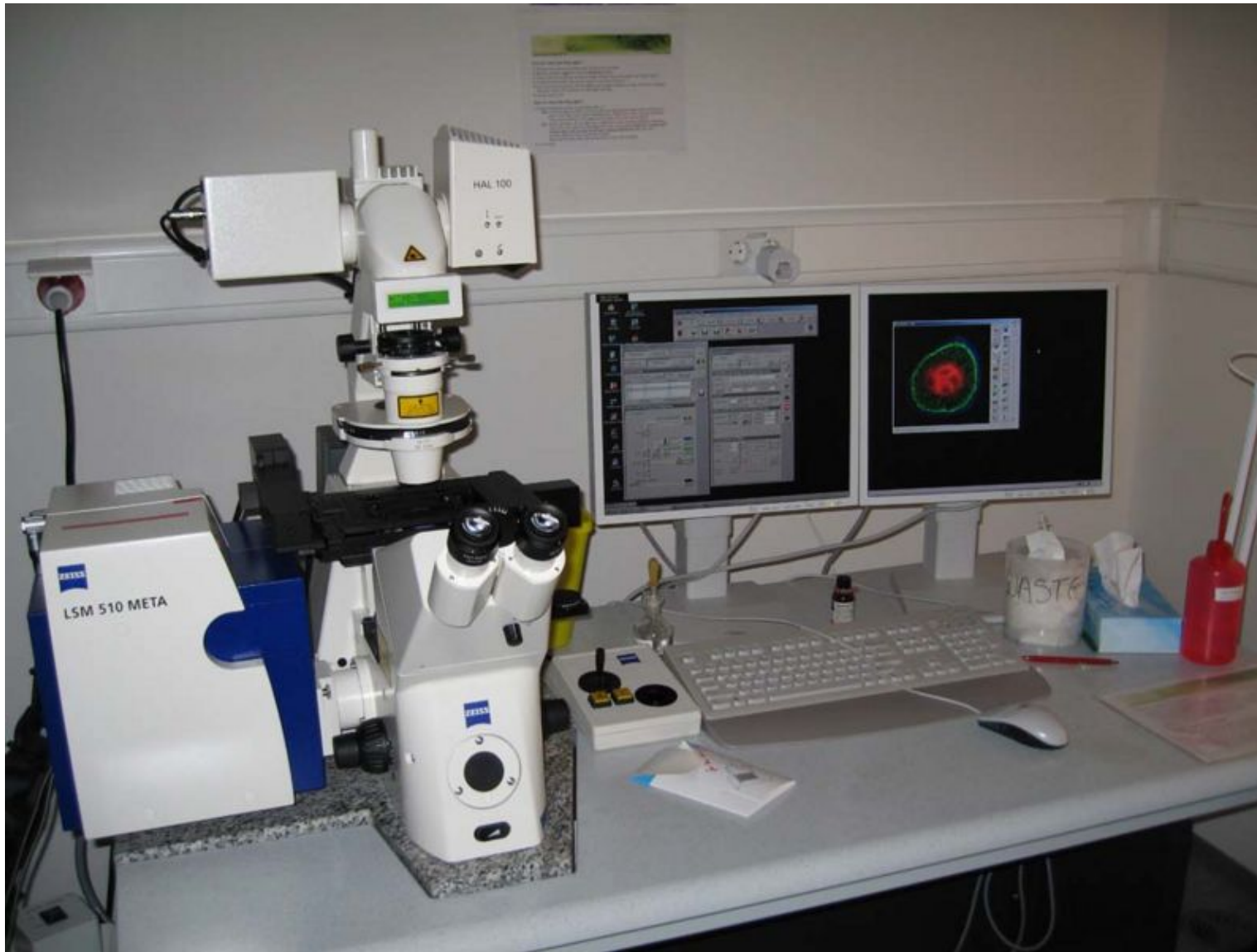
<http://en.wikipedia.org>

Confocal laser scanning microscopy (CLSM)

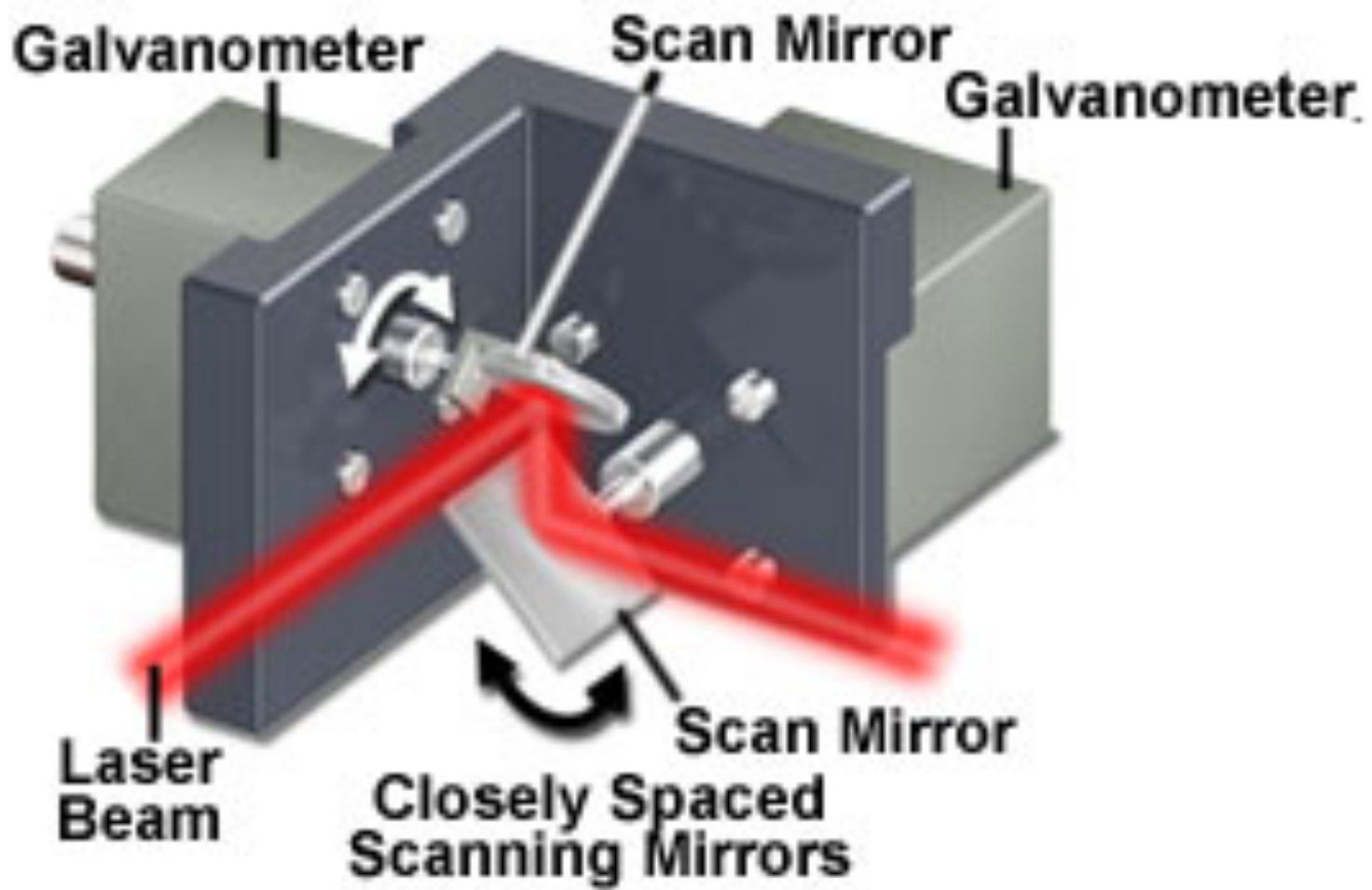
beampath in a confocal microscope

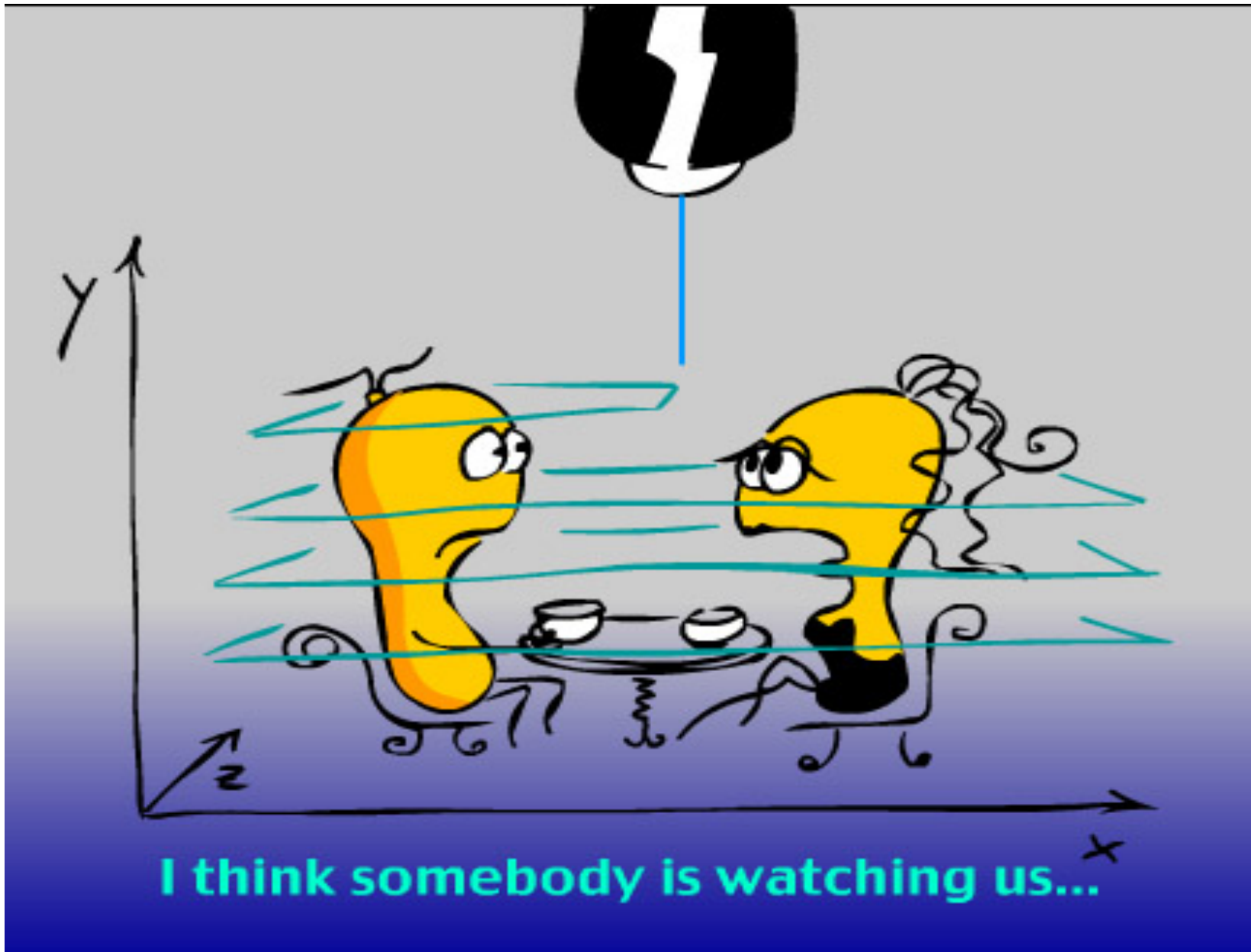






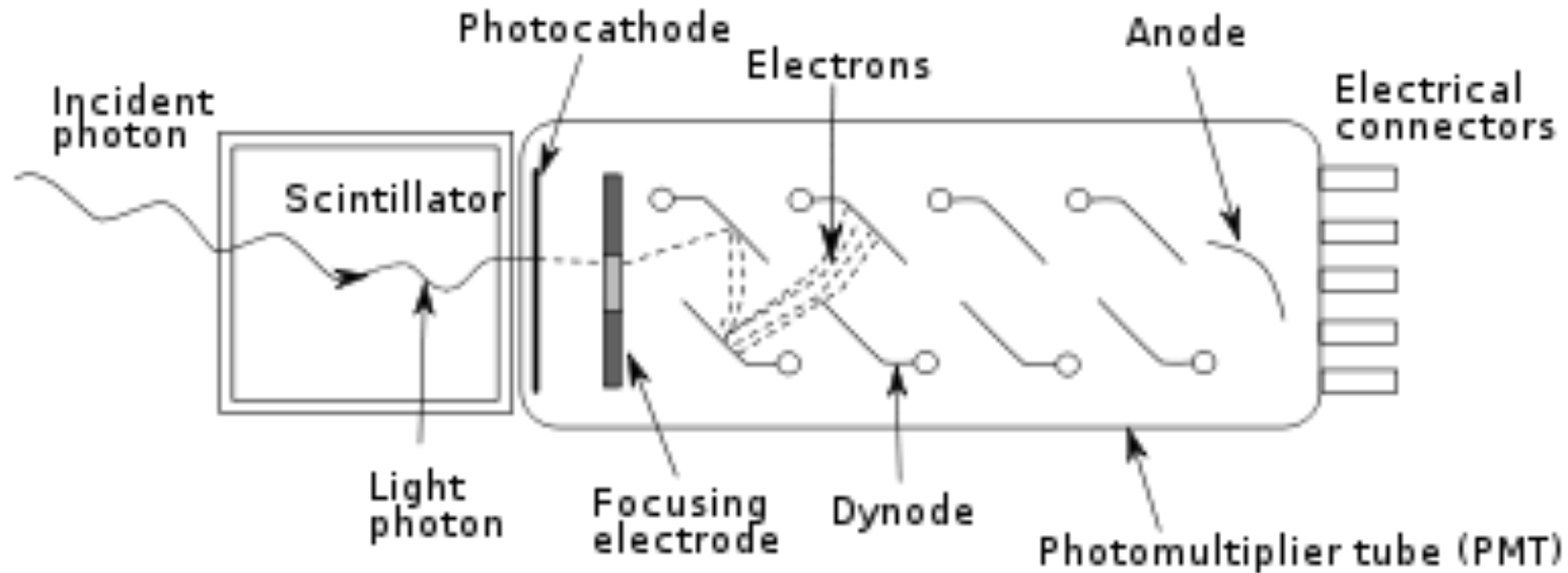
Zeiss LSM 510 Meta - laser scanning confocal microscope





I think somebody is watching us...

Detector: Photomultiplier tube (PMT)



PMT - animation

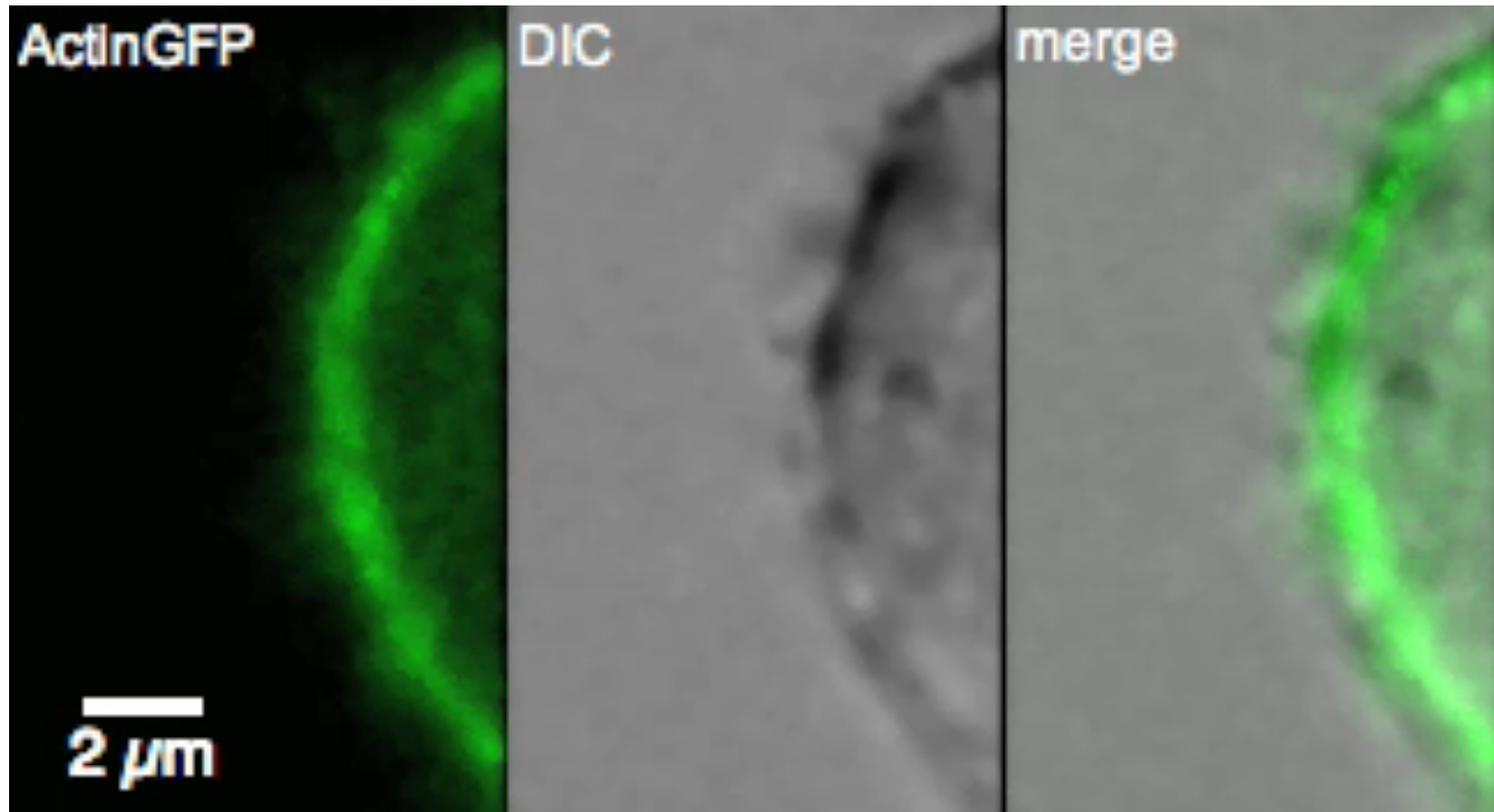
<http://micro.magnet.fsu.edu/primer/flash/photomultiplier/index.html>

Confocal laser scanning microscopy

- “point” illuminating technique
- detector : PMT
- flexible pattern of scanning
- variable pixel size
- spatial resolution in x,y – circa 200 nm
- spatial resolution in z - circa 400 nm
- temporal resolution typically in a range of seconds for “standard” FOV 512x512 pixels

What is it good for ?

- broad range of samples
- photomanipulation of samples
- imaging up to 50 μm deep into the specimen



Ewa Paluch – laser ablation