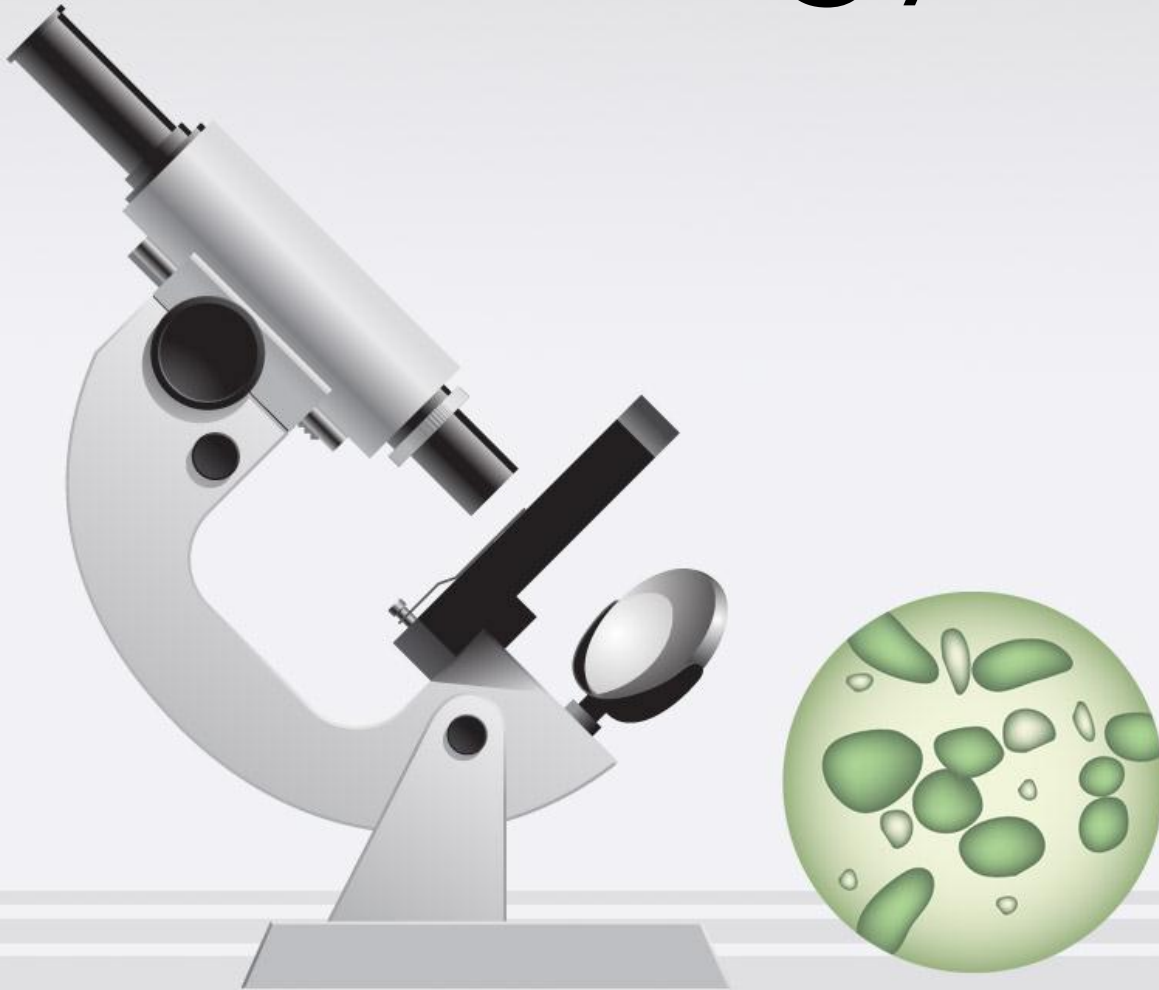
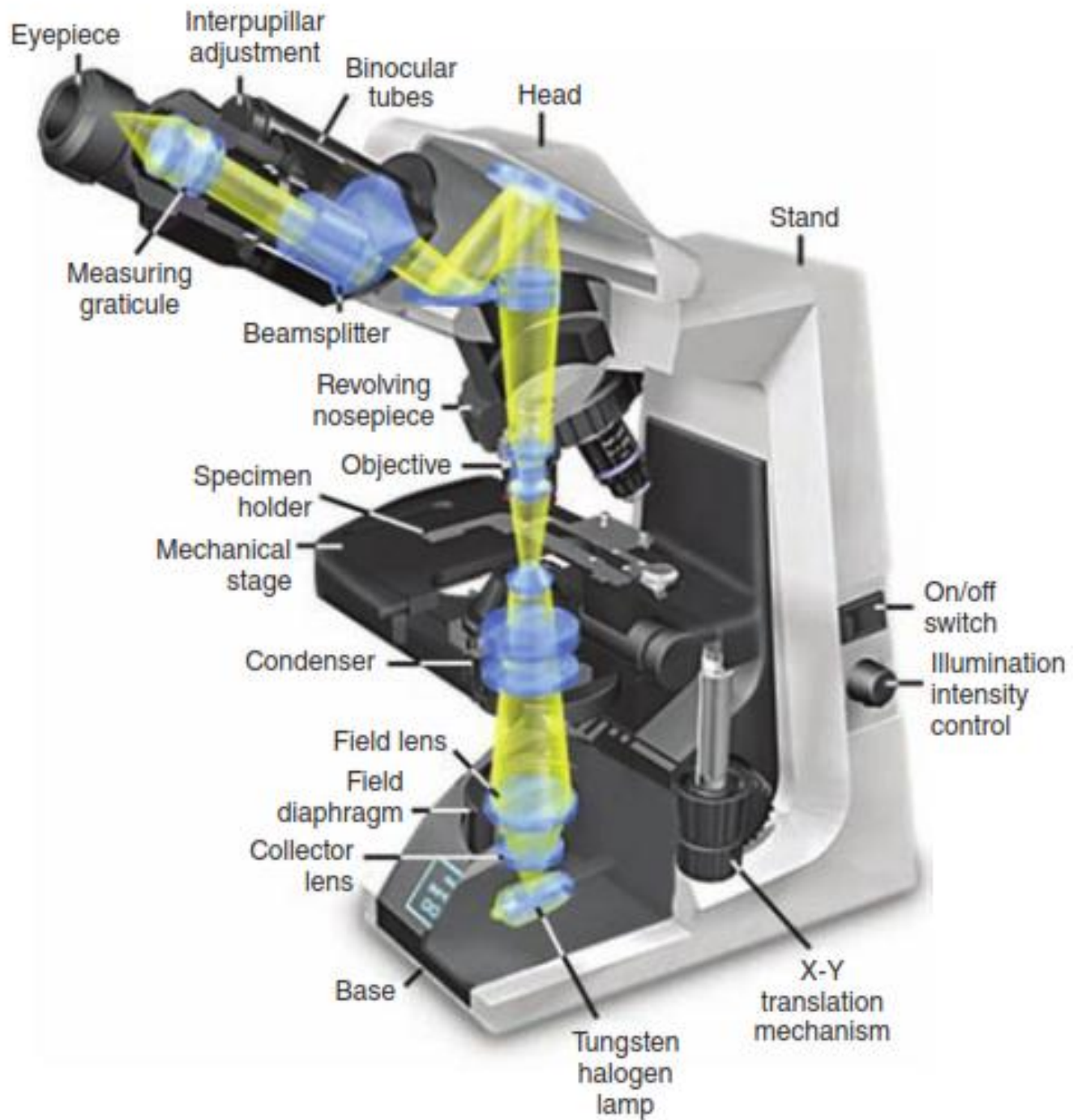


# Biology Lab.



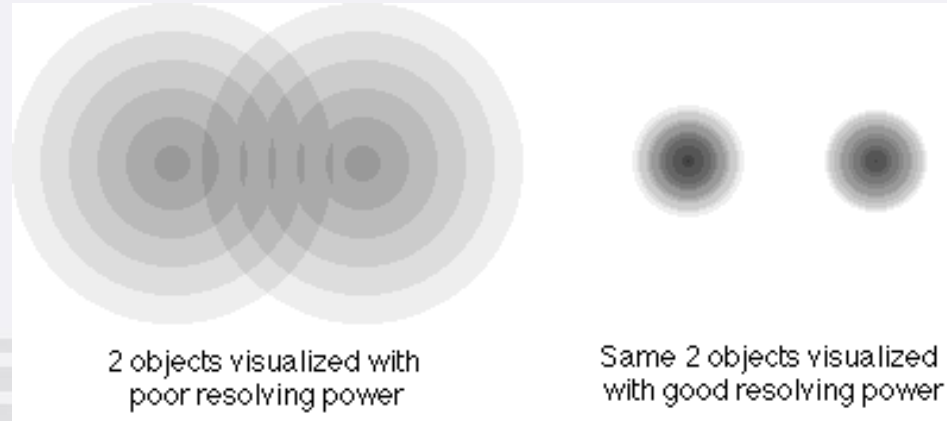
# Light Microscope





# Magnification

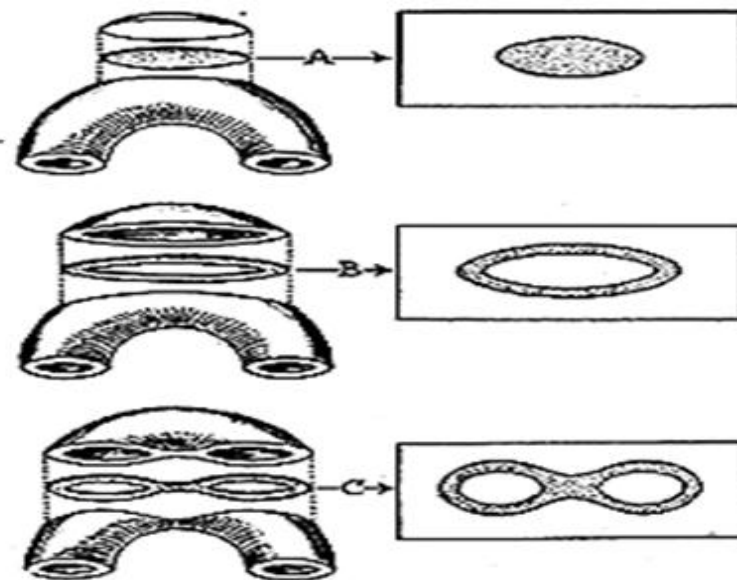
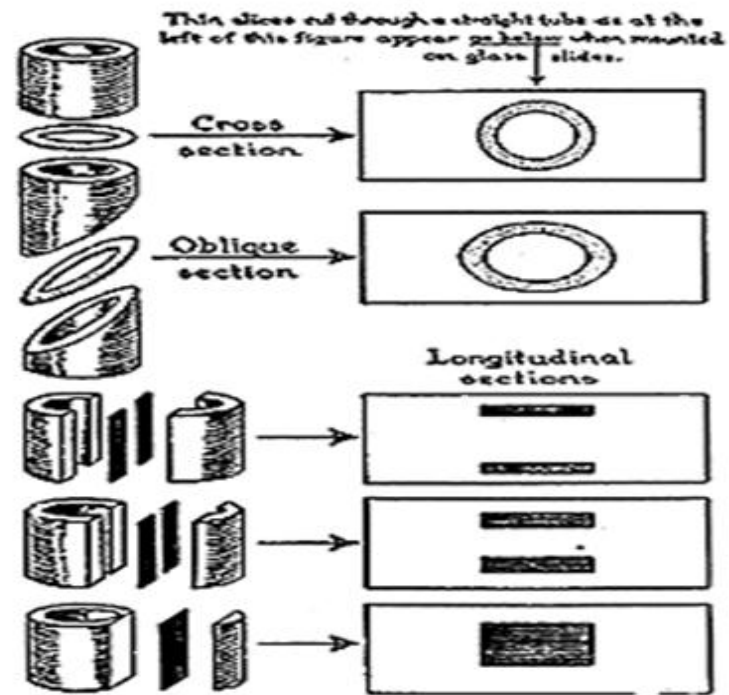
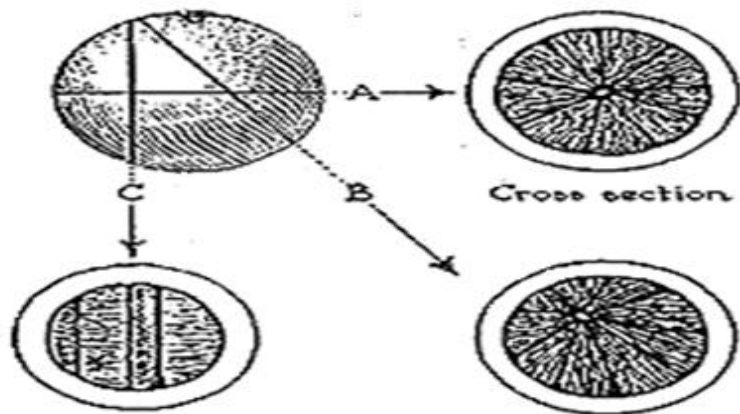
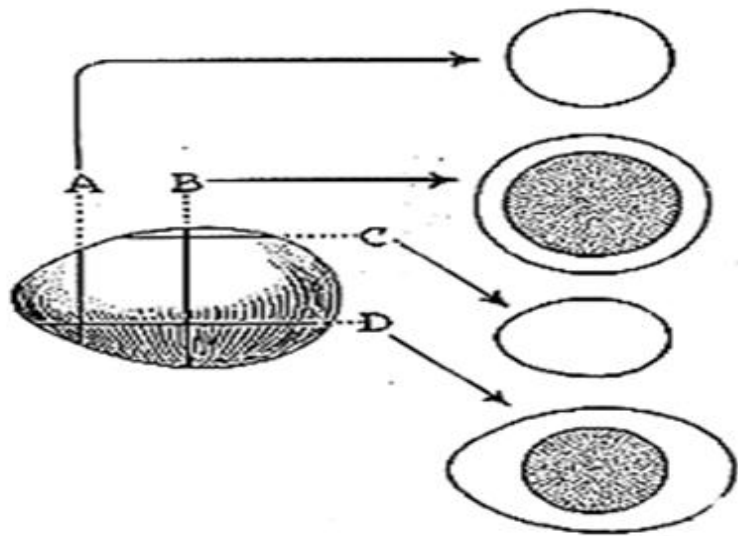
- Resolving power  $0.2 \mu\text{m}$
- Magnification power = objective lens power  $\times$  eyepiece power (10)
- Low power (scanning) lens =  $4 \times 10 = 40$  times
- Medium power lens =  $10 \times 10 = 100$  times
- High power lens =  $40 \times 10 = 400$  times
- Oil immersion lens =  $100 \times 10 = 1000$  times



# The resolving power (resolution)

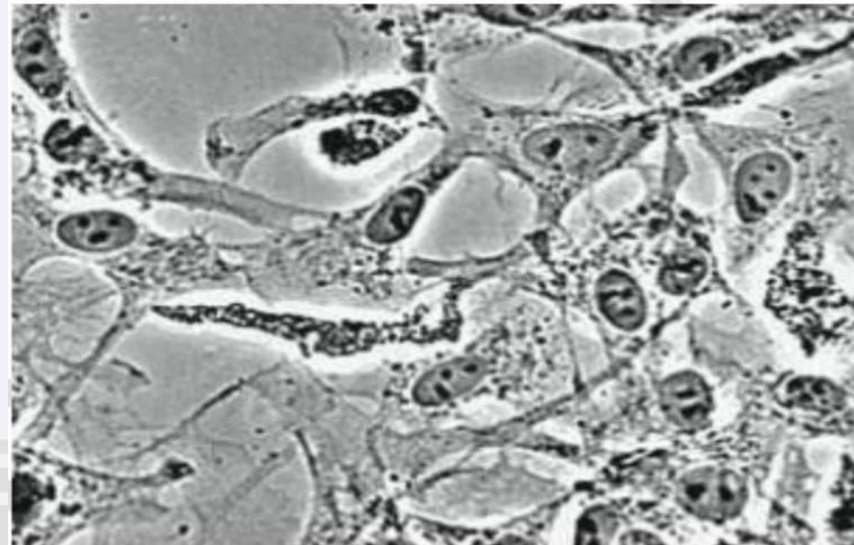
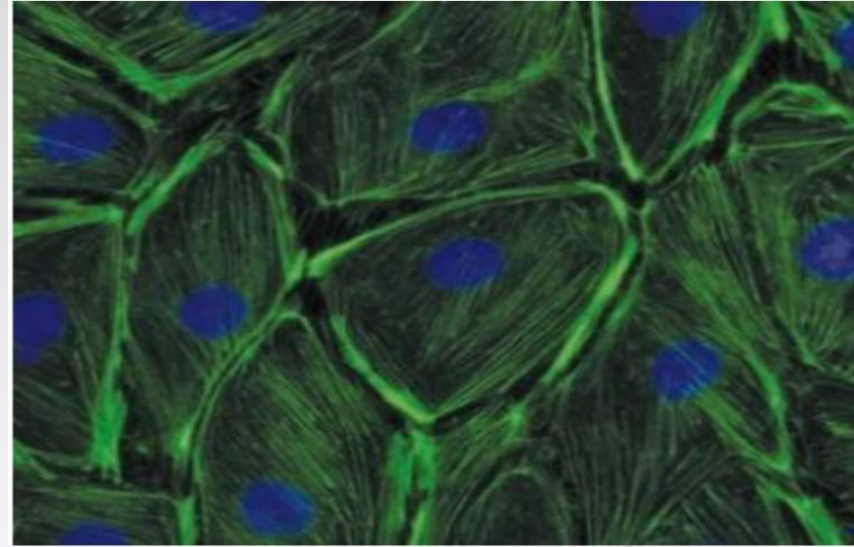
- Tissue sections
  - Cross
  - Oblique
  - Longitudinal





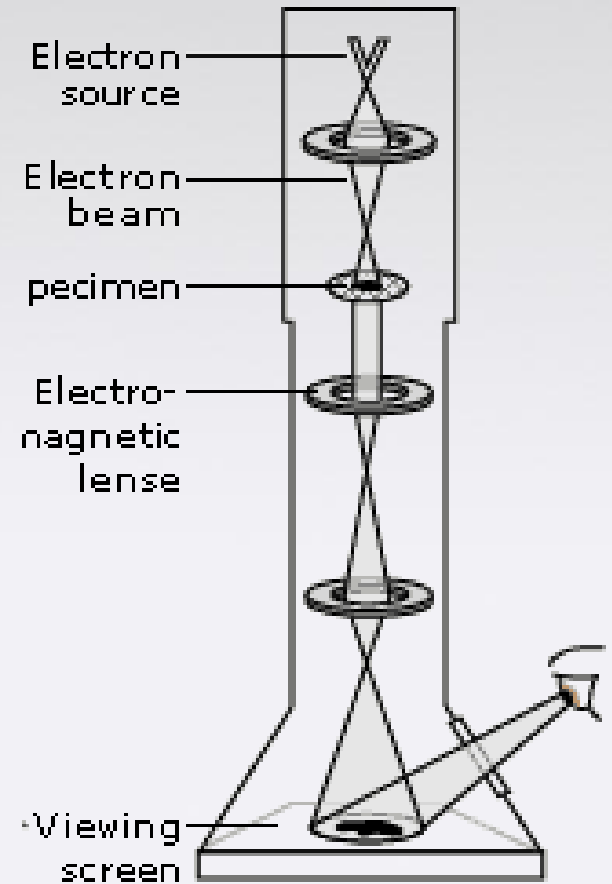
# Types of LM

- 1. Fluorescence
- 2. Phase-contrast
- 3. confocal



# Electron microscope EM

- Transmission (TEM)
- Resolving power 0.1 nm
- Scanning (SEM)



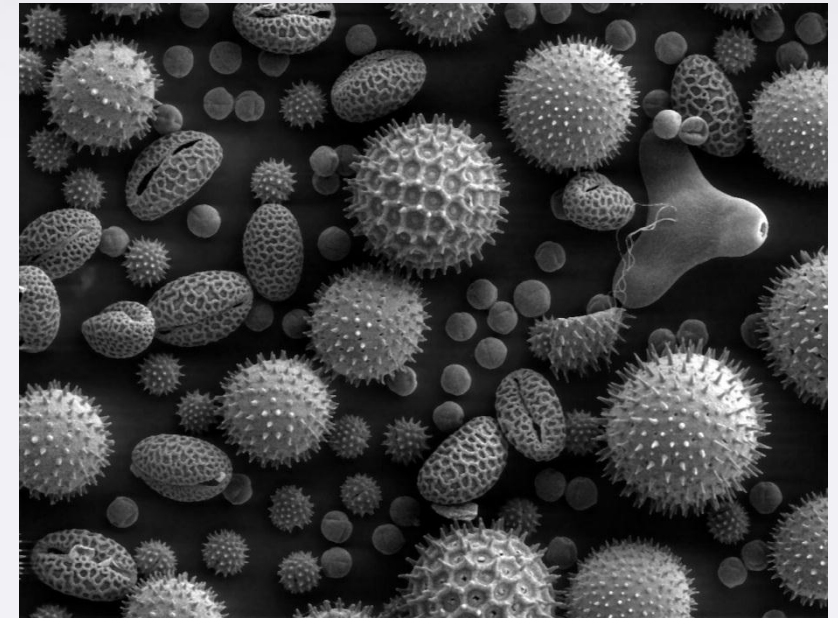


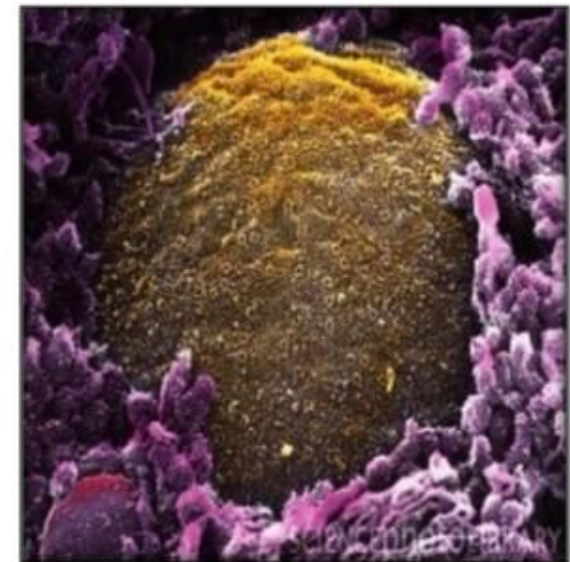
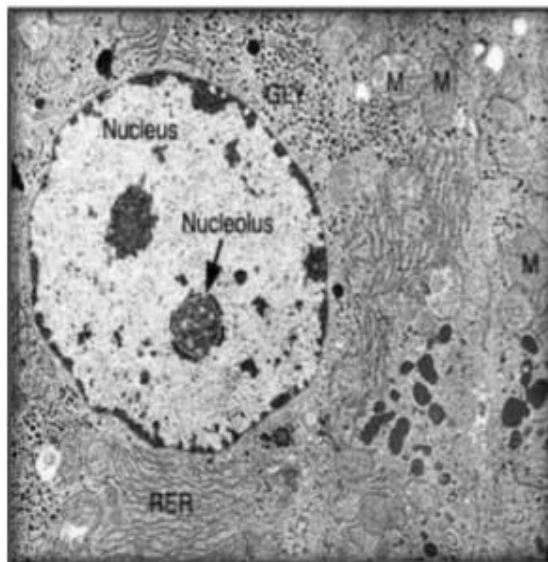
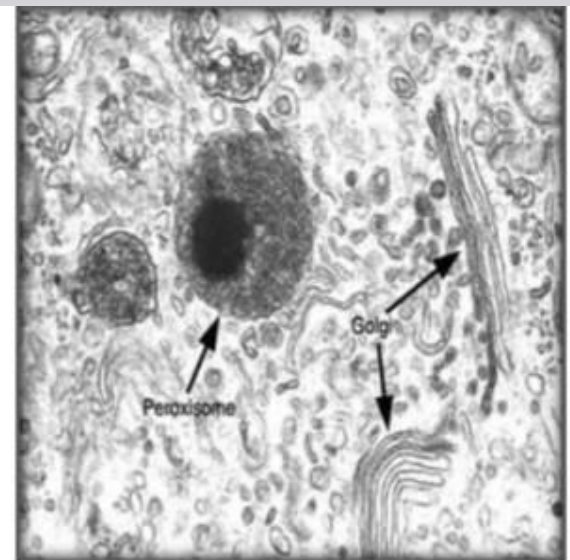


- Transmission EM



- Scanning EM





**The 2D images are from TEM of cell organelles and nucleus. The 3d image (colored) is from SEM of nuclear membrane**

Thank you

