Observance of live cells in the microscopes

In biomedical researches, cell biology and in pharmacology laboratories is a vital aspect to observe the live cells and tissues. Before the observation of living cells can be done by staining process in the compound microscopes while on the other hand in the process of staining cells mostly die. After this discovery the observance of living cells is so difficult then at last **phase contrast microscopy** was develop to observe the un-stained living cells in detail. After its discovery in 1940, the process of live cells observance become famous by using this type of microscope. Frits Zernike developed this technique and awarded by the Noble prize.

Phase contrast microscope is a good form to observe the living cells, by transforming the difference in refractive index and cell intensity and it can easily detect the differences in the light intensities. Its condenser have an annular stopper with a thin transparent ring that create the cone of light. When these cone passes from the cells few rays of light are determed due to changing in the density and refractive index instante sample. Diverted light is focus and form the clear image of the specimen. Colour filters are used mostly to enhance the mage. Background is bright but the unstained specimens look tark So, this type or microscopy is used to identify the microbial mobility, shapp of by arious types of living cells and detect arious components of the bacterial cells and it is widely used to studying the eukaryotic cells in detail. Then the phase contrast microscopy is developed into Hoffman modulation and differential contrast microscopy on the same principle. Then the qualitative and quantitative phase contrast microscopy was develop to observe the 3-dimentional images of the cells.

