Генная инженерия животных

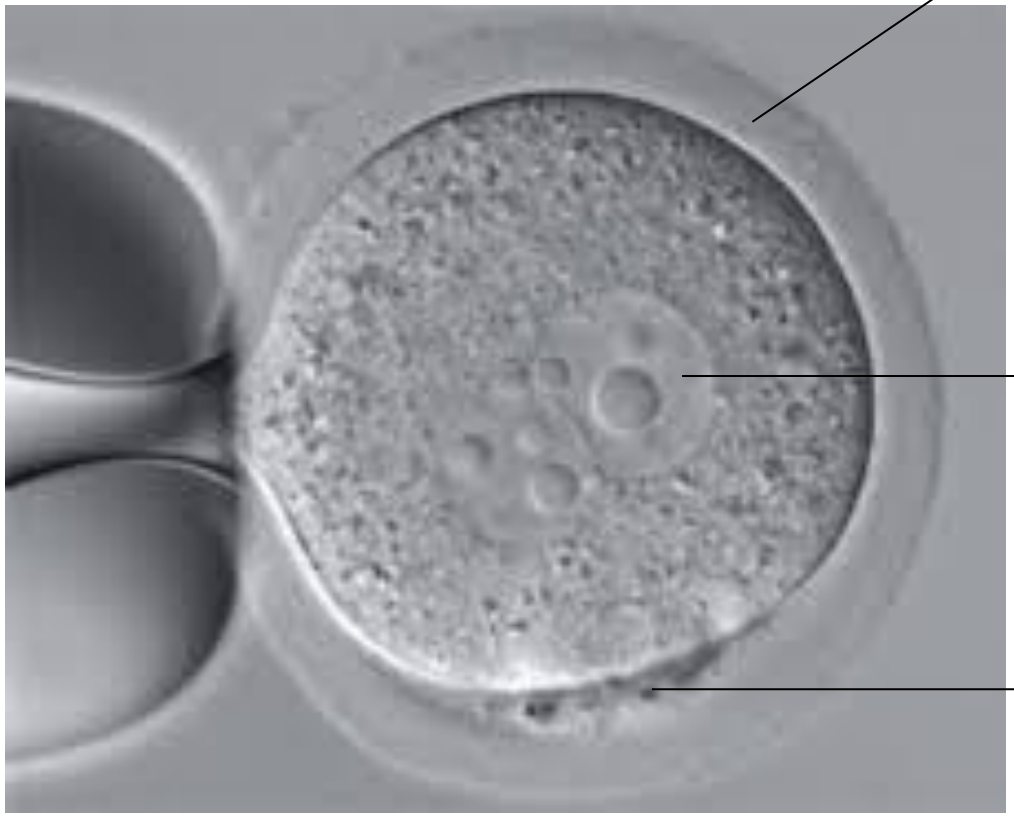
Практикум

ФББ МГУ – ЦКП ИБГ РАН

2016

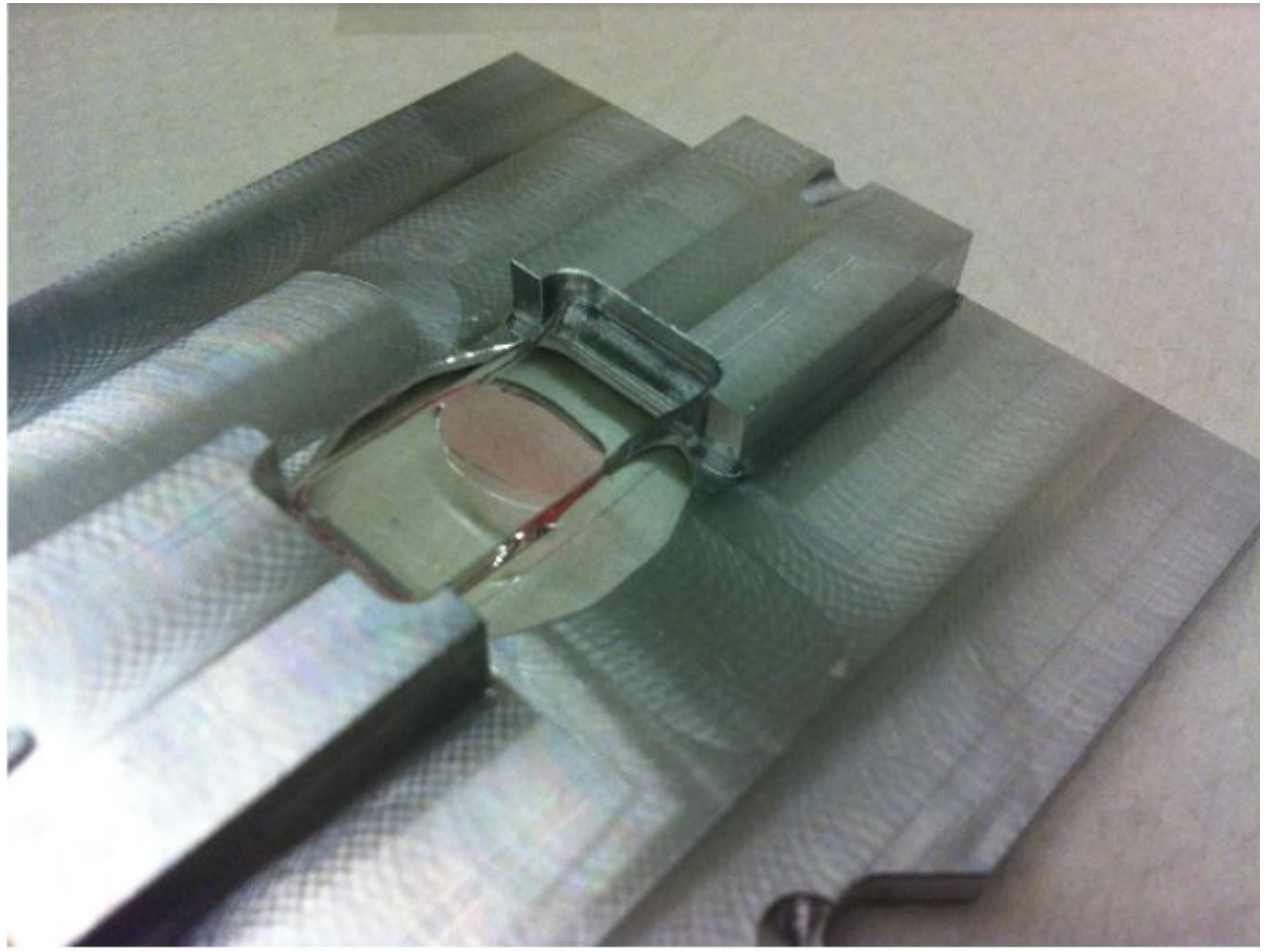
Микроинъекции

Зиготы



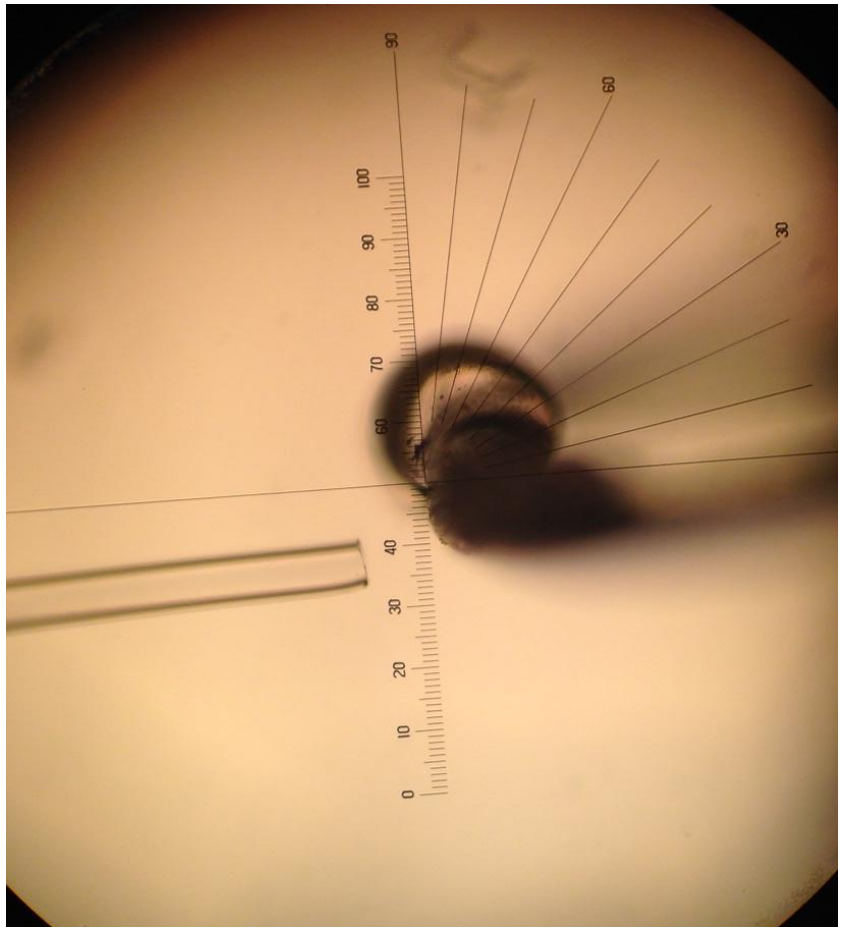
Камера для микроинъекций

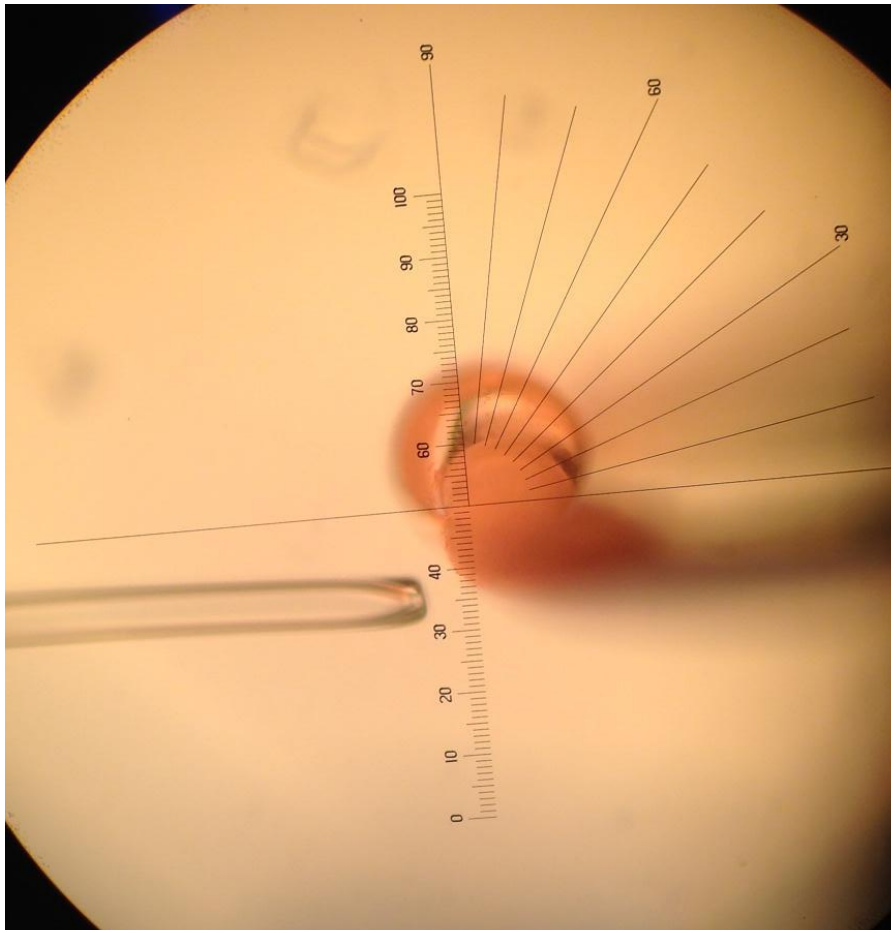
- 2 половины покровного стекла
- капля буфера M2
- парафиновое масло



Присоска

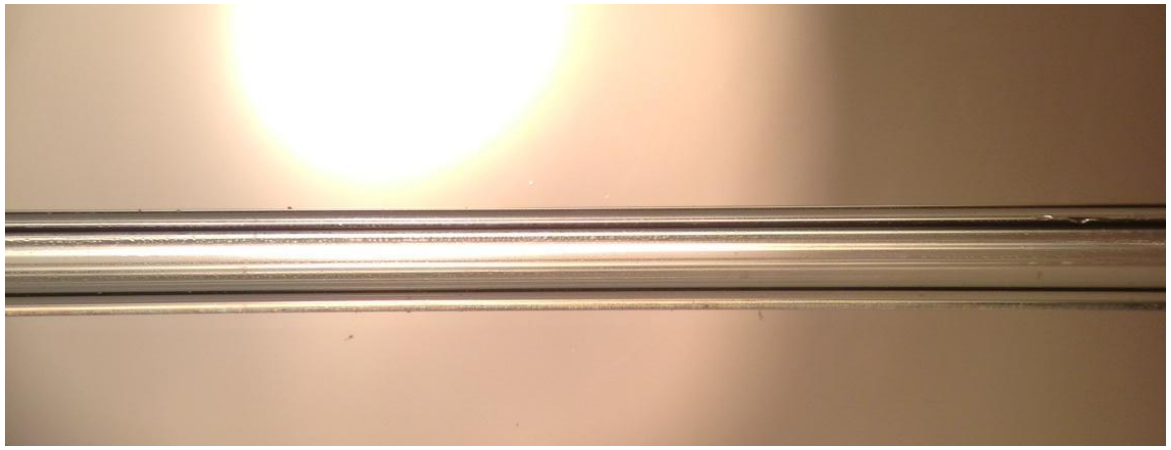
- Внешний диаметр - 80 мкм
- Обрезать на кузнице
- Оплавить на кузнице
- Внутренний диаметр – 10 мкм

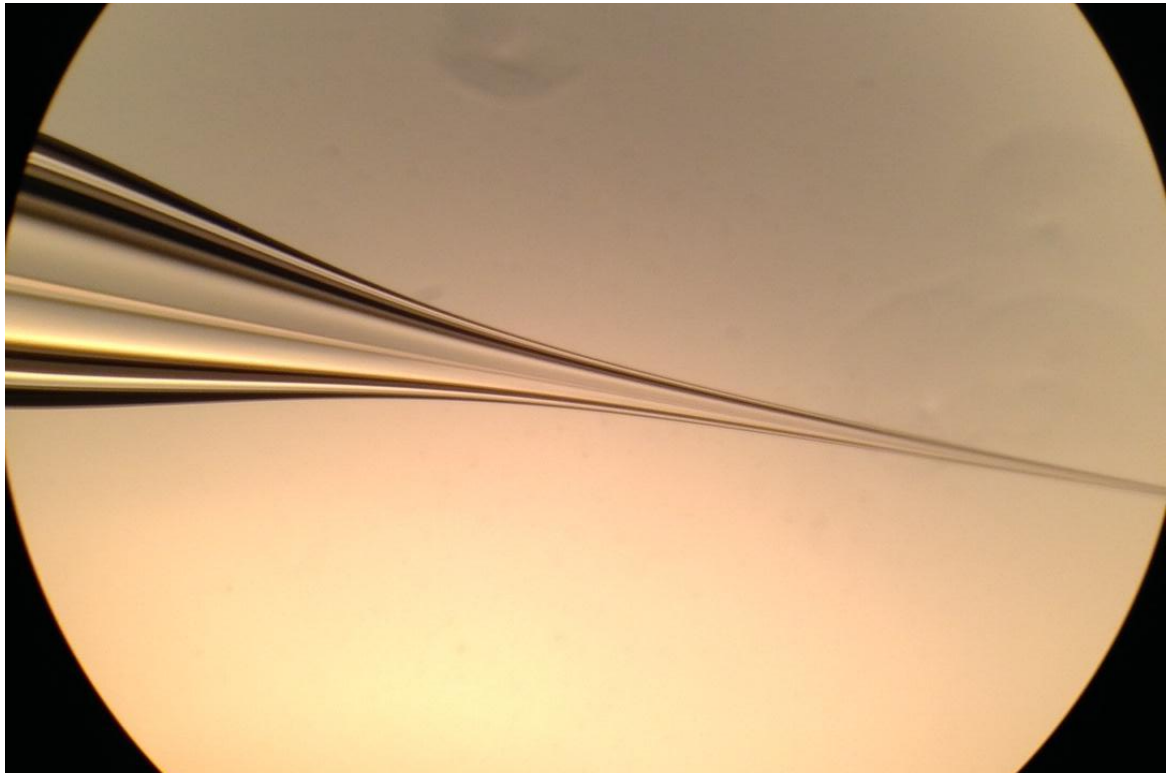




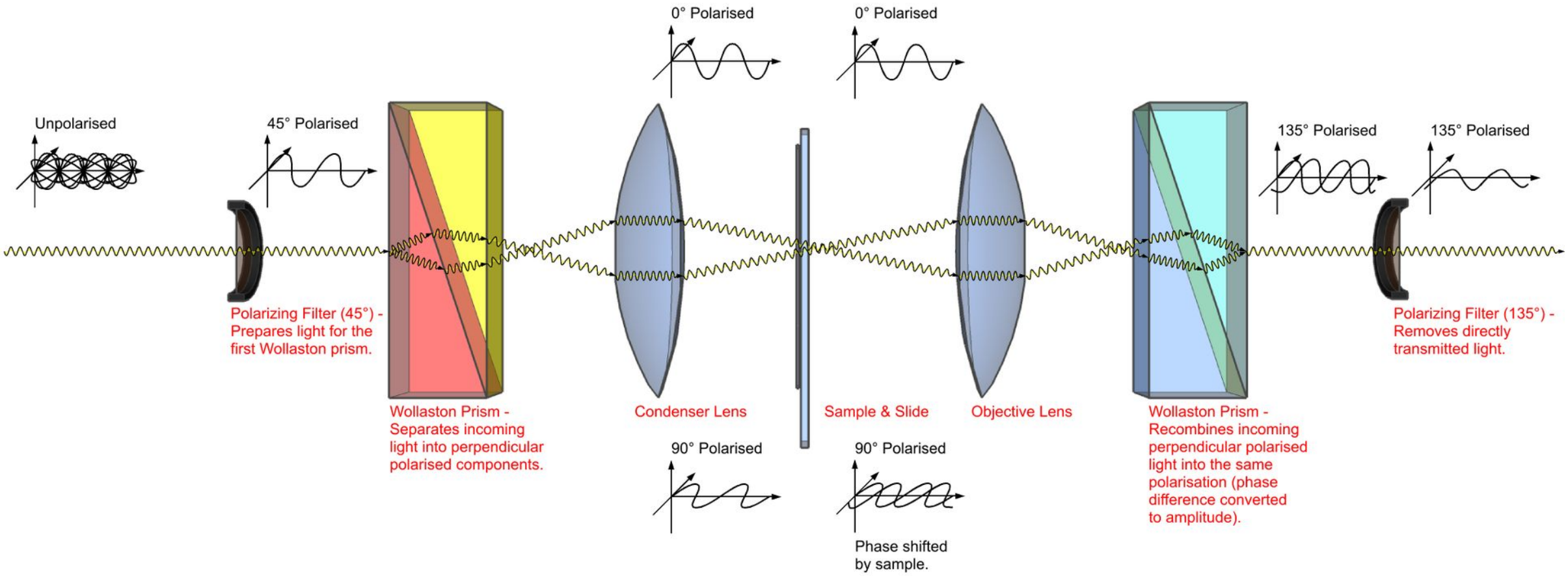
Игла

- Капилляр с филаментом
- Наполняется с тупого конца

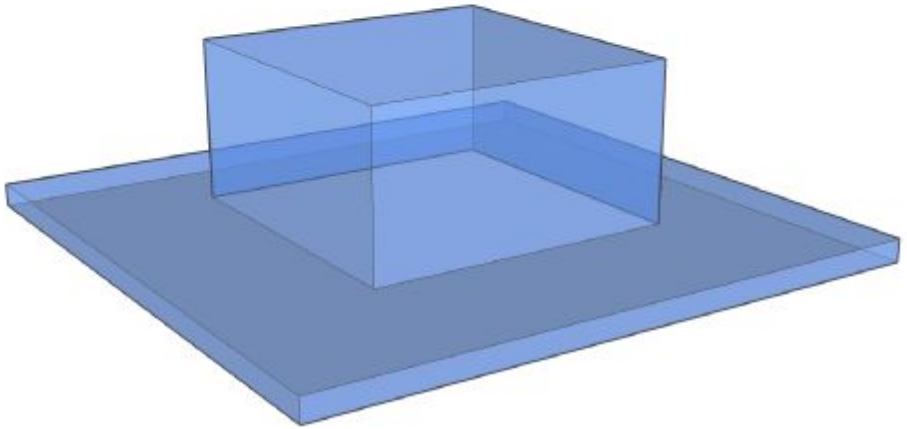




DIC – дифференциально-интерференционный контраст



Differential Interference Contrast Light Microscopy Example



This transparent sample is illuminated by two slightly offset light sources, one at 0° polarisation and the other at 90° polarisation.

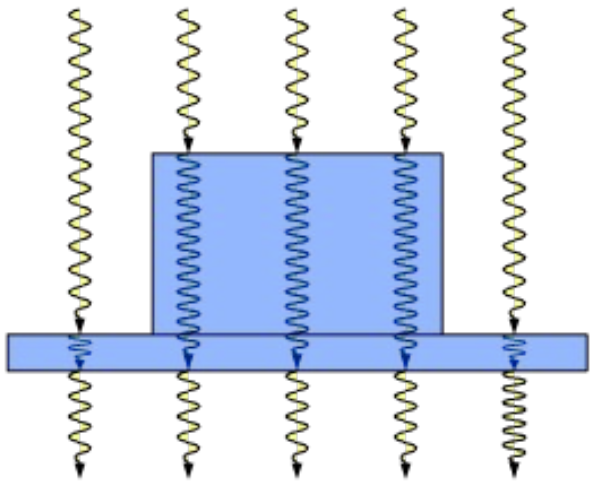
0° Polarisation

90° Polarisation

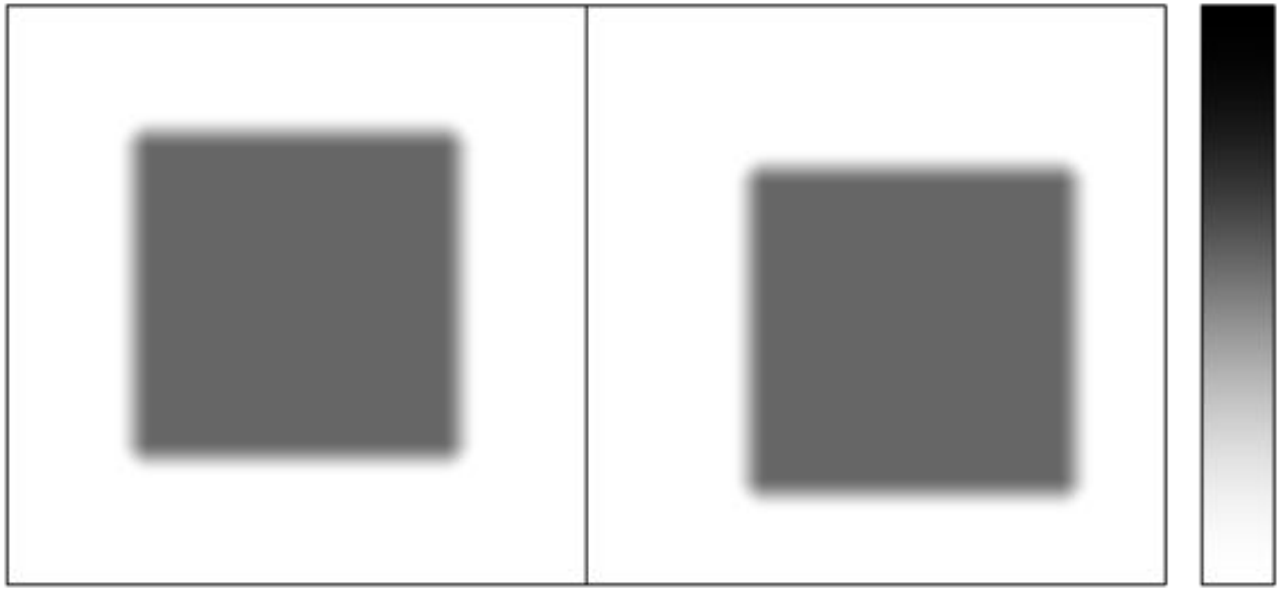
100% Absorbtion

0% Absorbtion

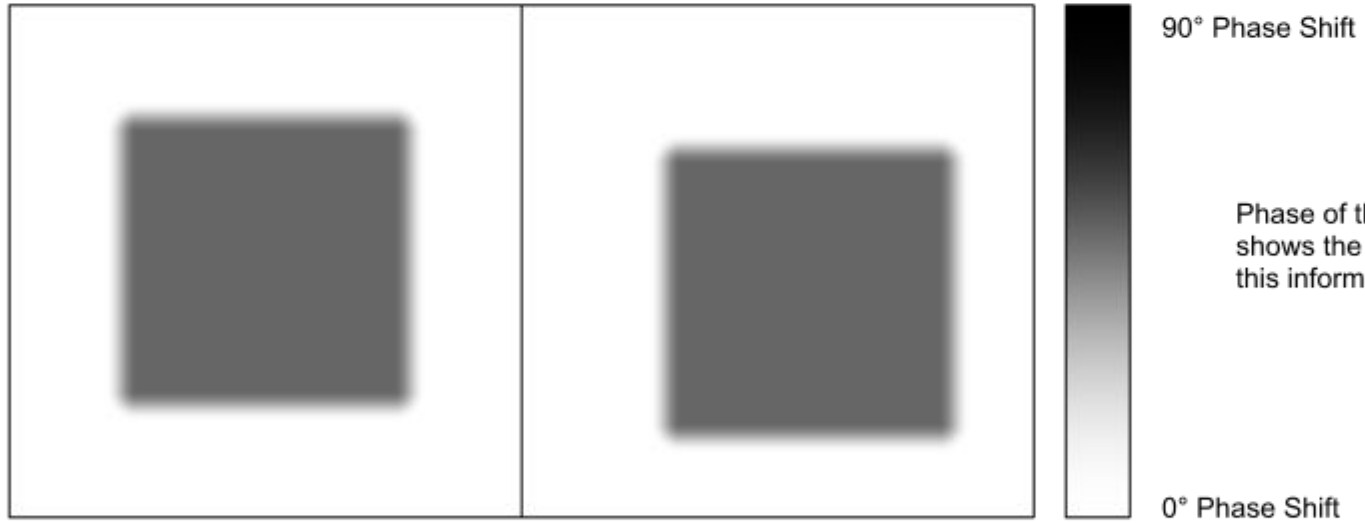
These are the two visible images due to each polarisation. These are not usefull as the transparent sample is not well visualised.



Passage of light through the optically dense sample causes shortening of the wavelength, so a change in phase (phase change greatly exagerated).

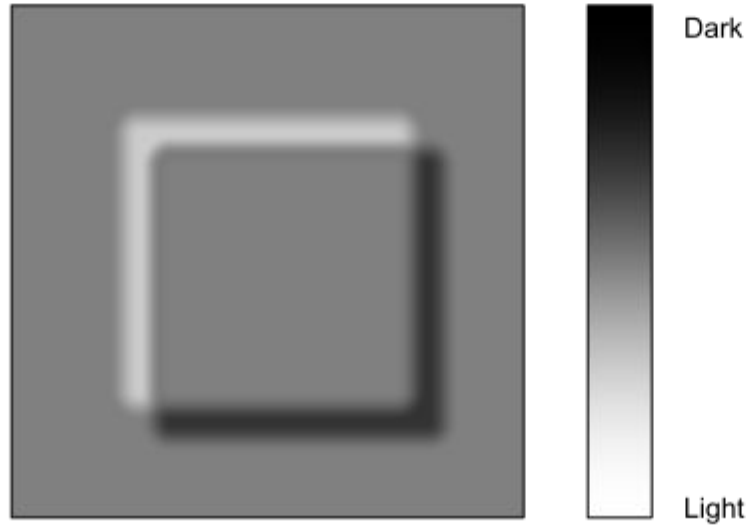


Phase of the two polarisations. This clearly shows the transparent sample, however this information is not visible to the human eye.



Phase of the two polarisations. This clearly shows the transparent sample, however this information is not visible to the human eye.

Polarisations rotated to allow interference and images overlaid.

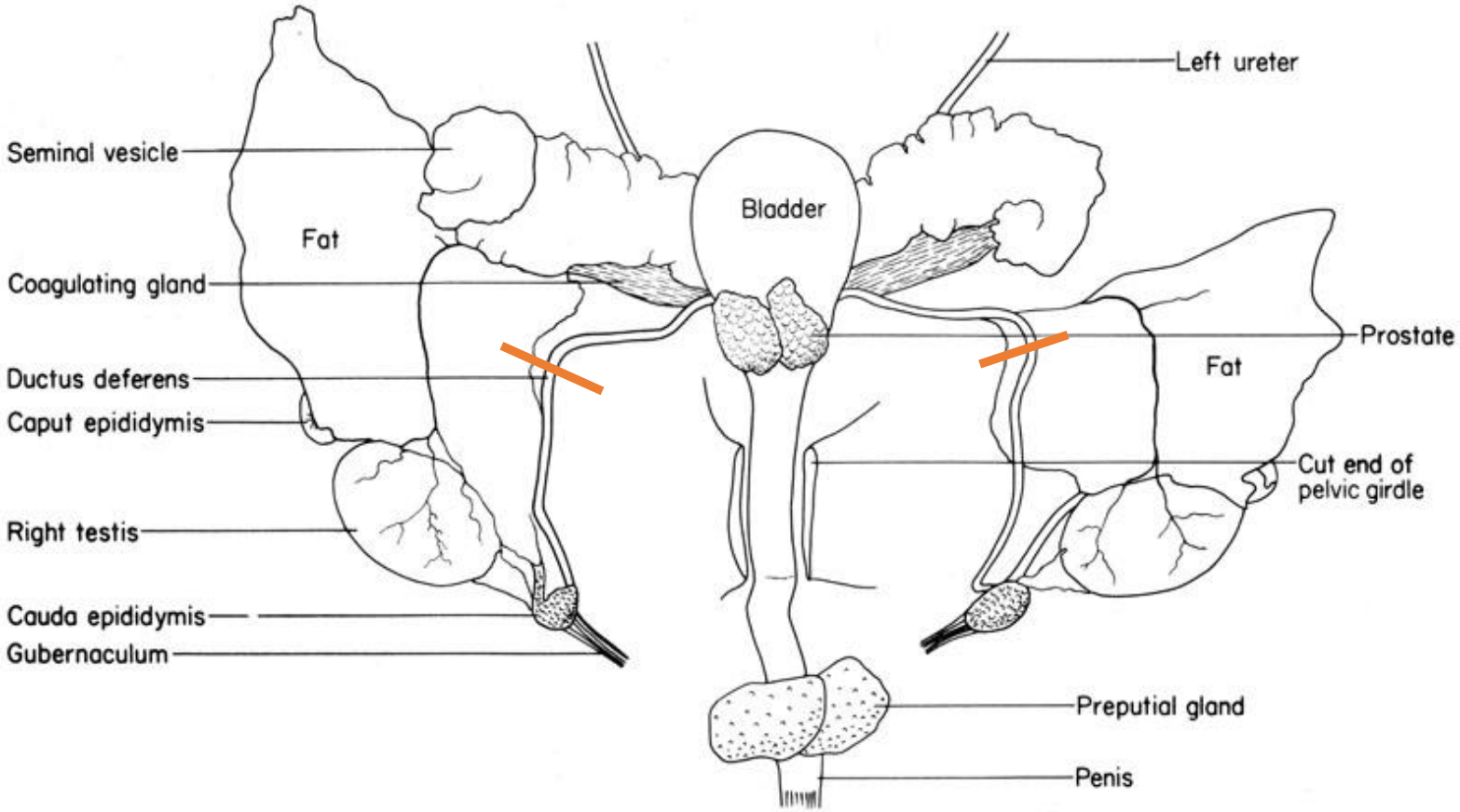


Visible image after interference of the two polarisations. The phase difference becomes visible through interference and this clearly shows the shape of the transparent sample.

Сперматозоиды при разных вариантах контрастирования

Bright field Phase contrast DIC

Вазэктомия


Left ureter
Seminal vesicle
Bladder
Fat
Coagulating gland
Prostate
Fat
Ductus deferens
Caput epididymis
Cut end of
pelvic girdle
Right testis
Cauda epididymis
Gubernaculum
Preputial gland
Penis

Вазэктомия