CYTOMÉTRIE EN FLUX ET MICROSCOPIE CONFOCALE:

2 TECHNIQUES COMPLÉMENTAIRES POUR L'EXPLORATION DU FONCTIONNEMENT CELLULAIRE

FORMATION pour le LBFA

Cécile COTTET 2007

3 sessions :

I- Pré requis communs aux 2 techniques

- La fluorescence

- Les sources lumineuses

- Filtres et PMT

- Fluorochromes

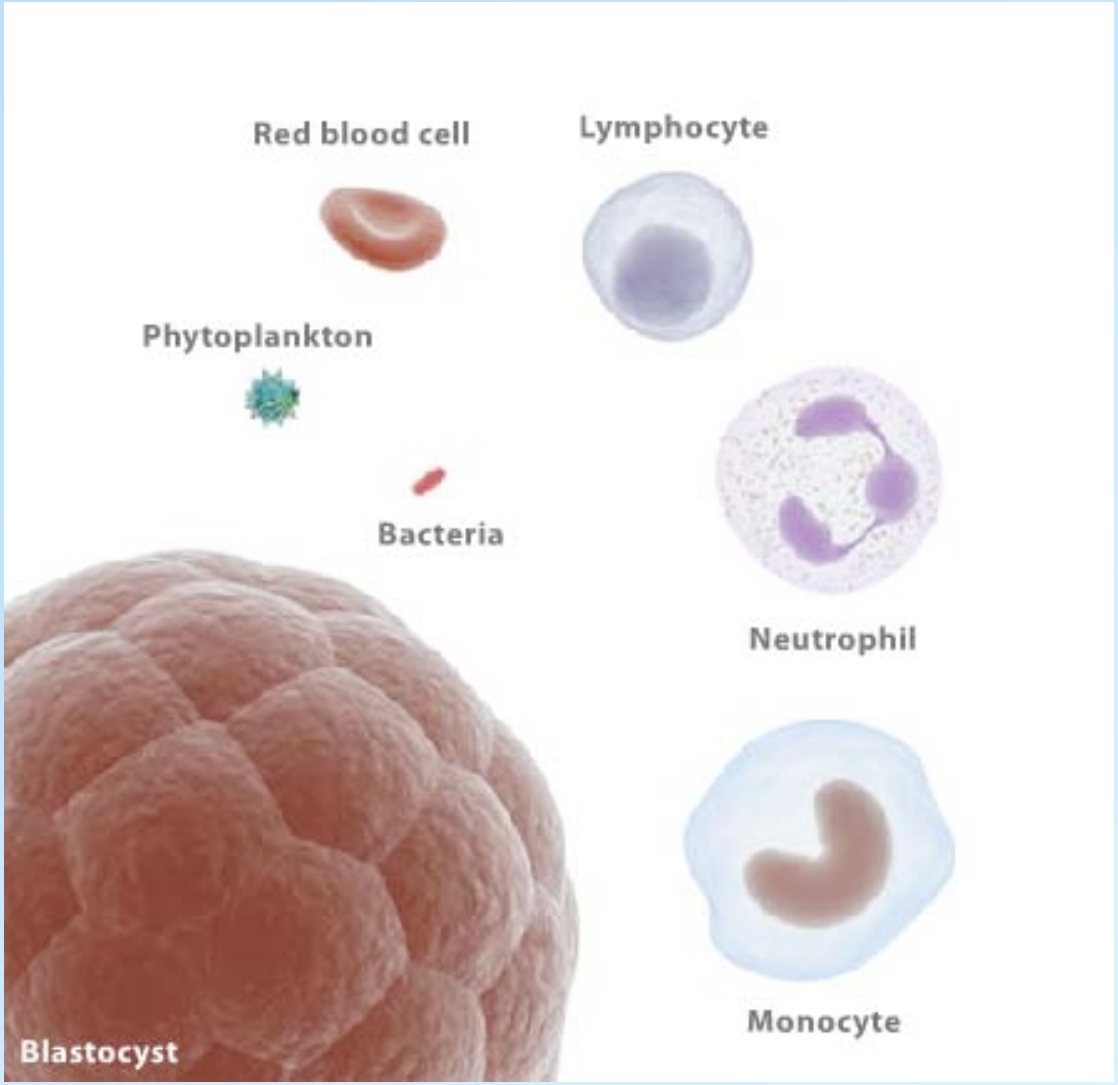
II- Cytométrie en flux

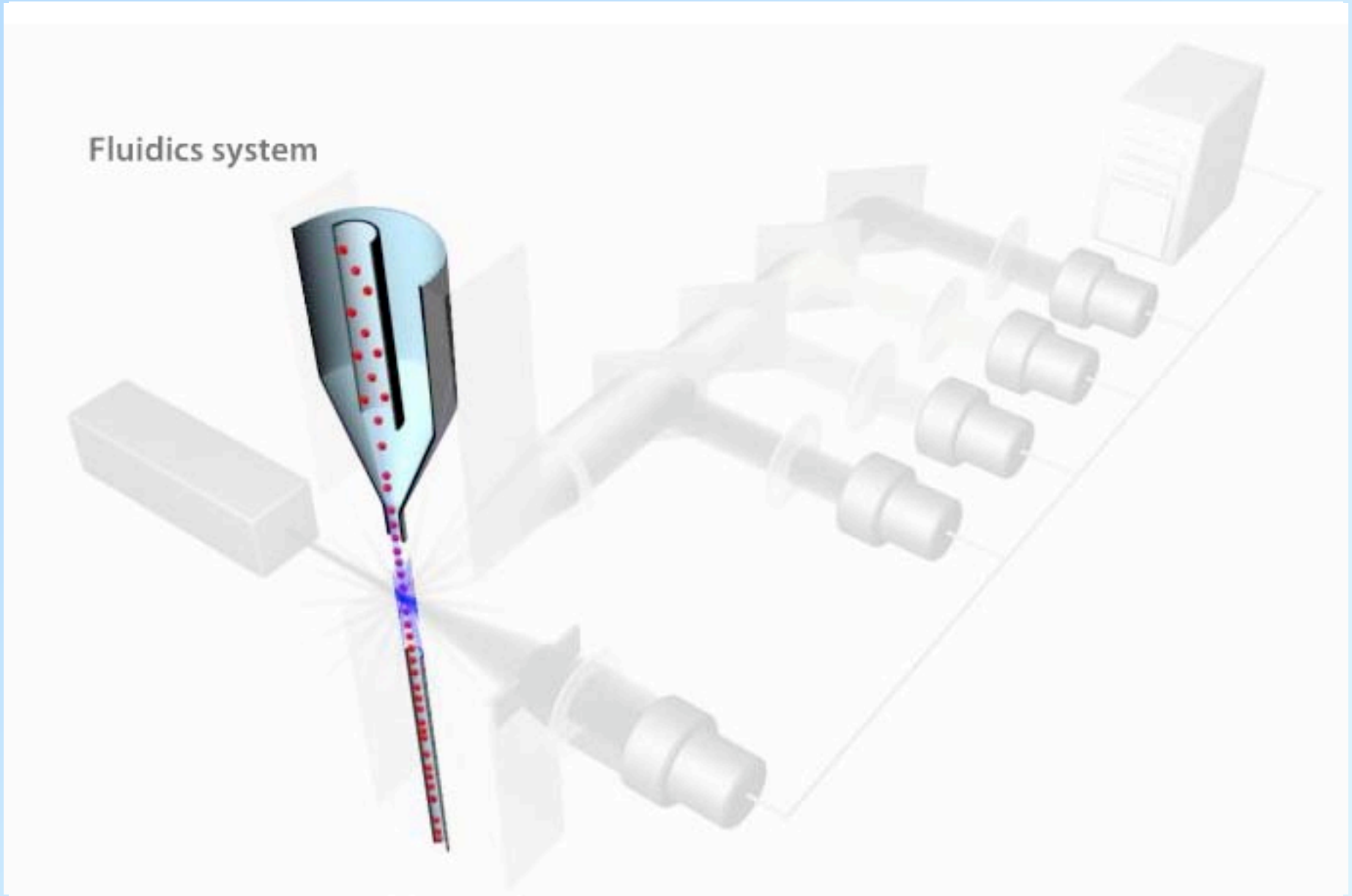
- Principe & Applications

III- Microscopie confocale

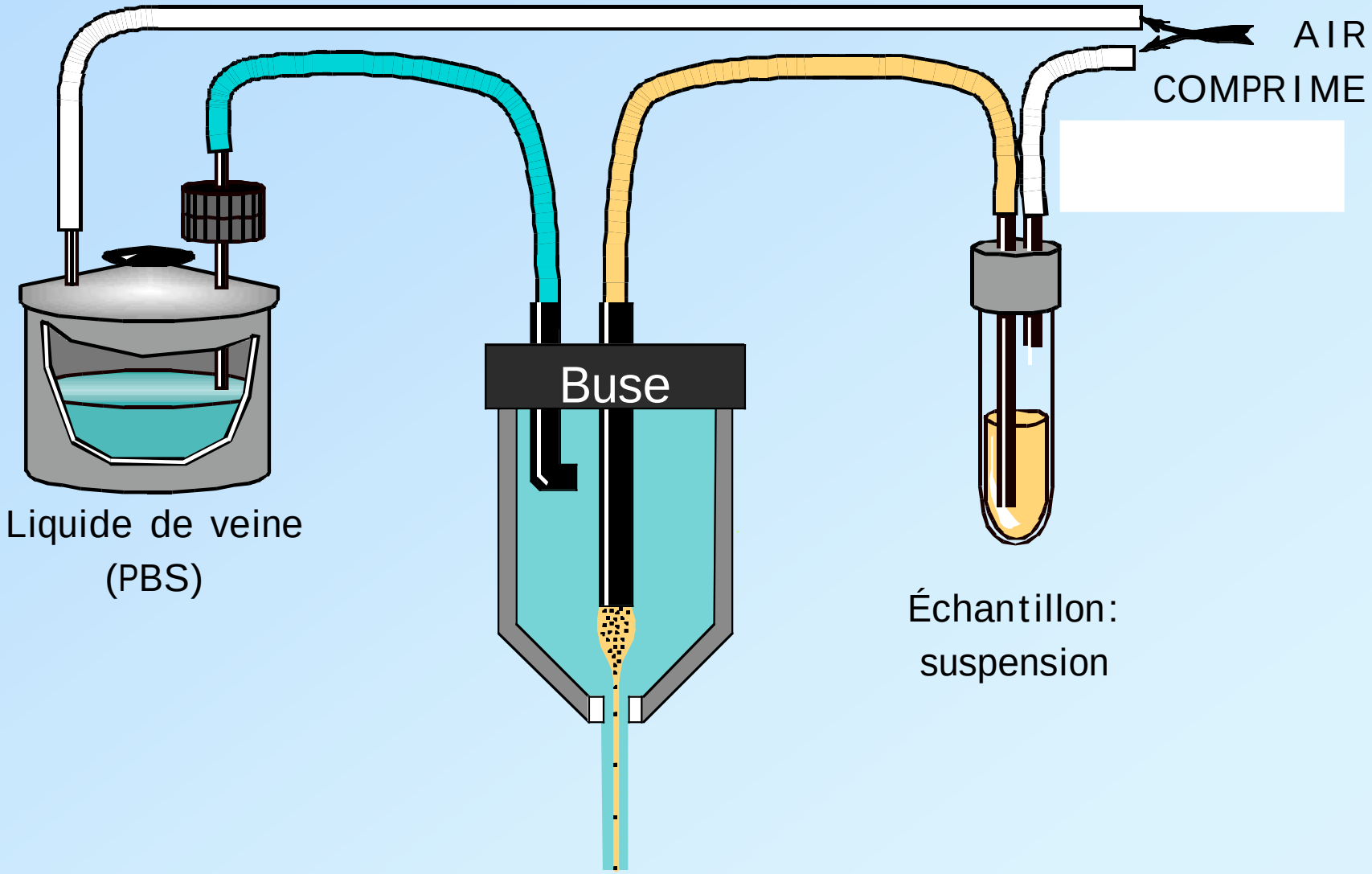
- Principe & applications

Intro

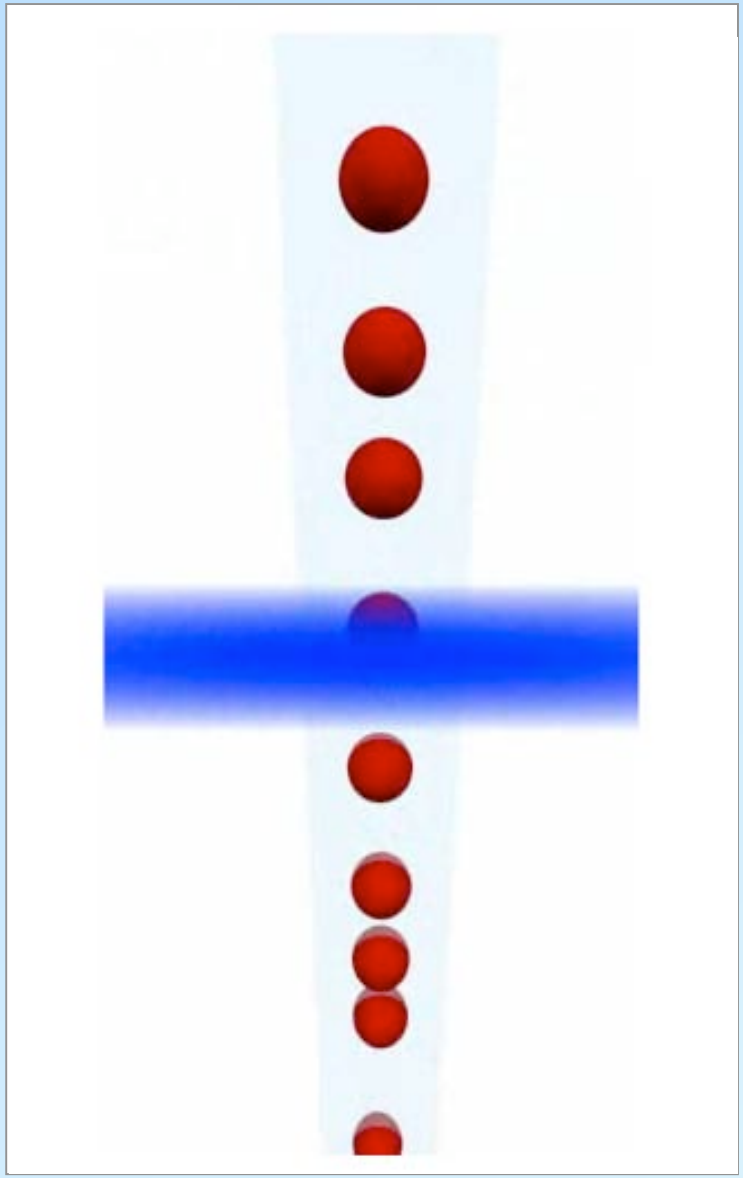

Red blood cell
Lymphocyte
Phytoplankton
Bacteria
Neutrophil
Monocyte
Blastocyst

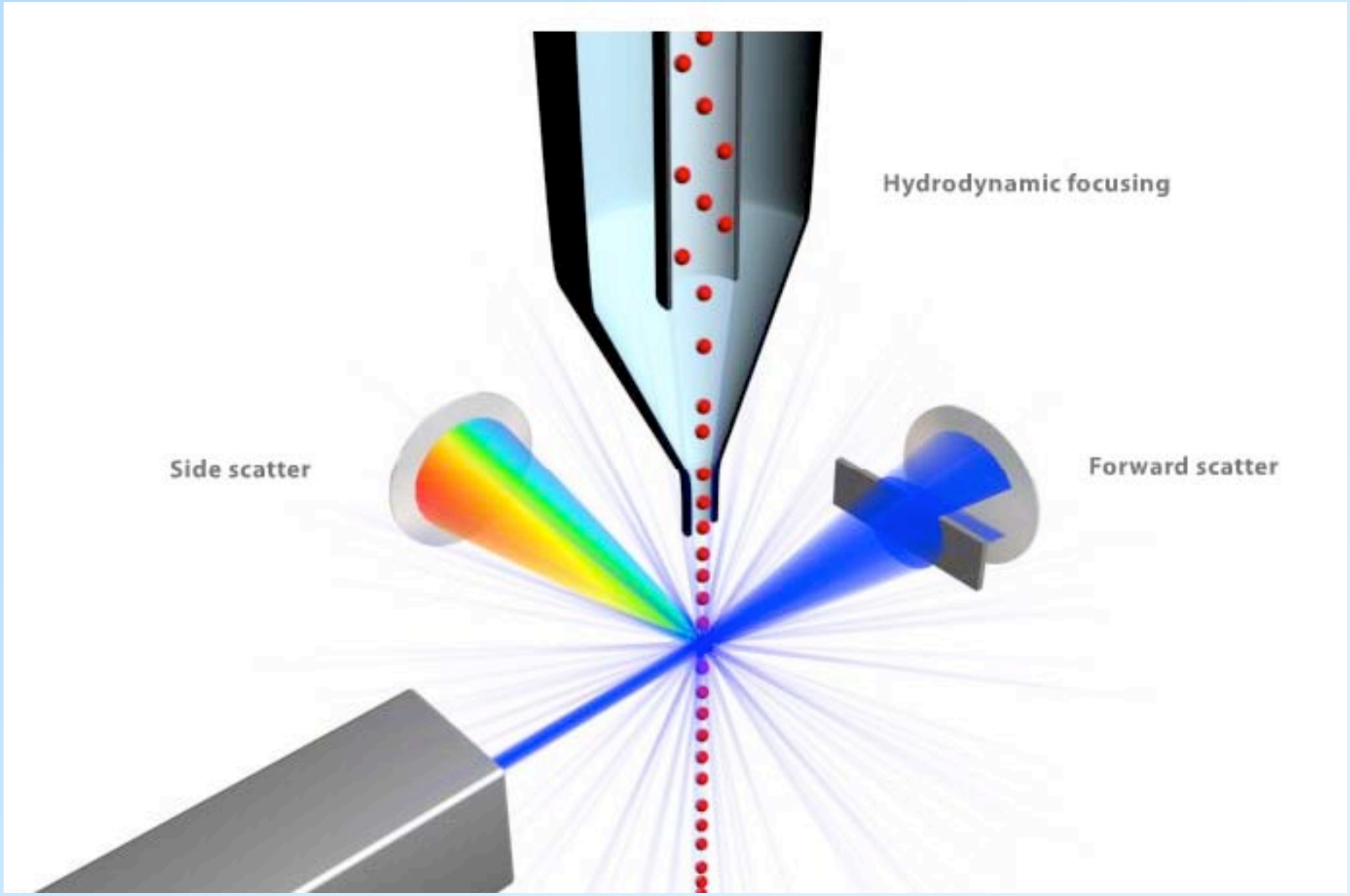

Fluidics system

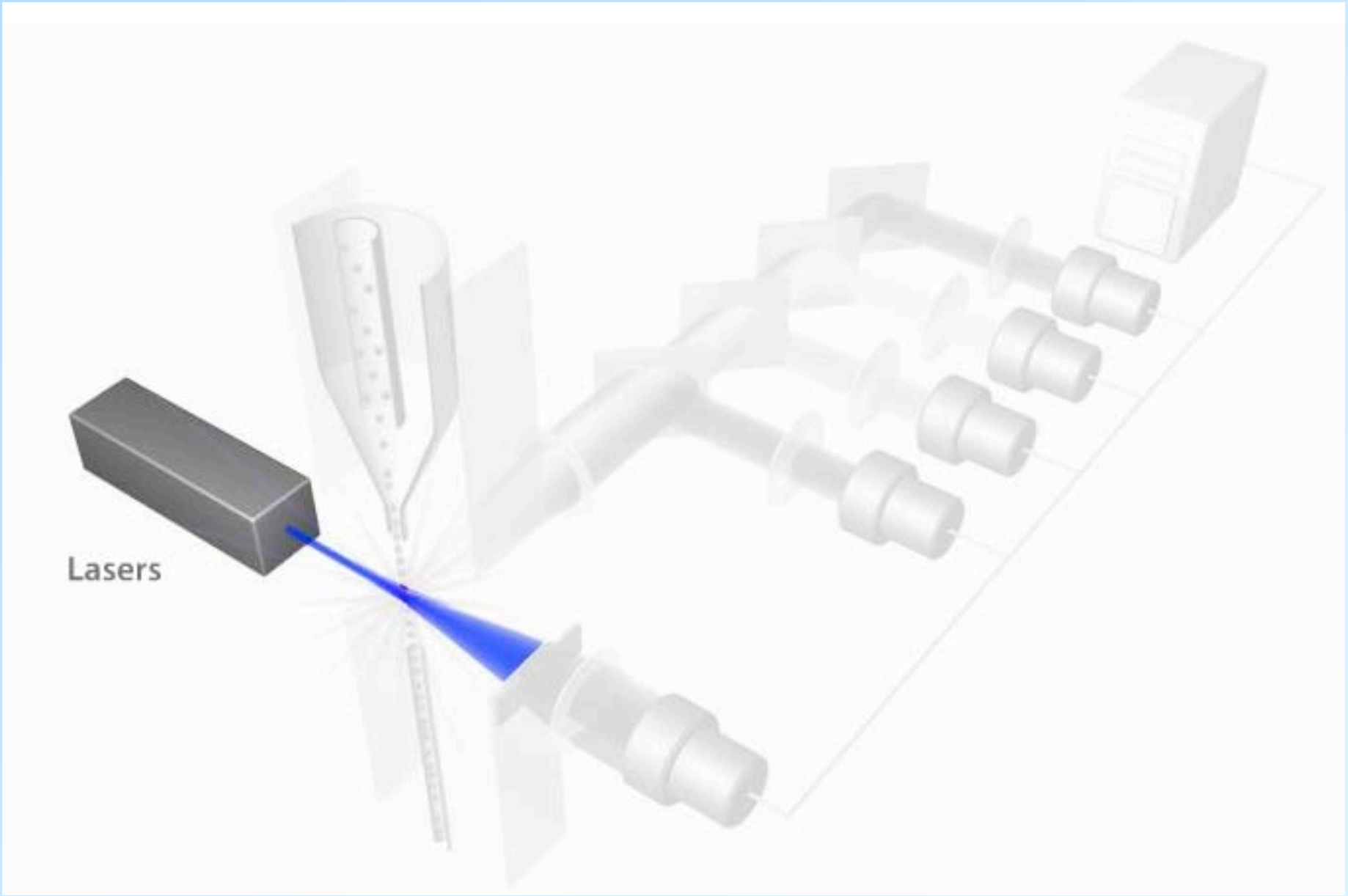
Focalisation hydrodynamique



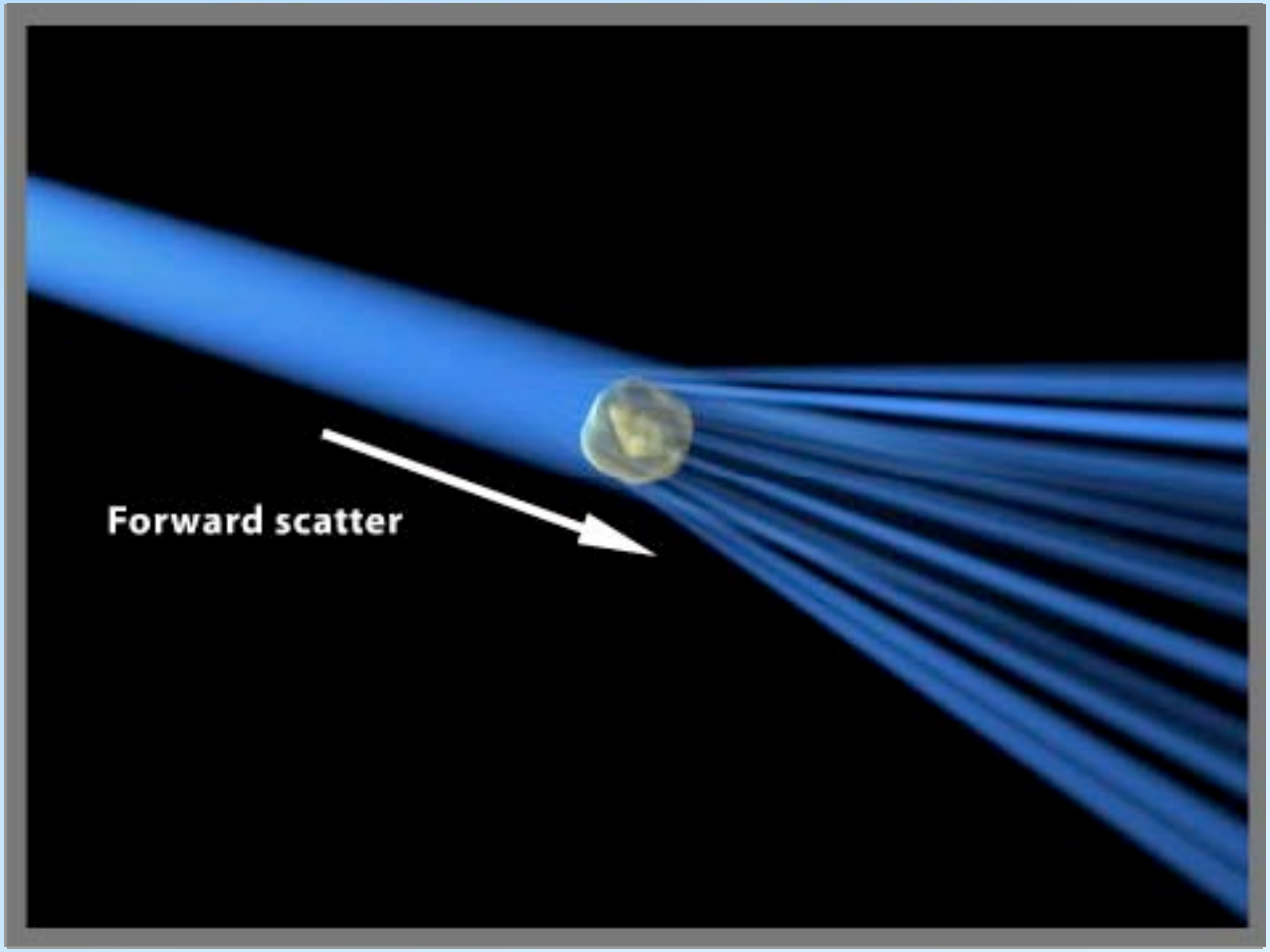
Focalisation hydrodynamique

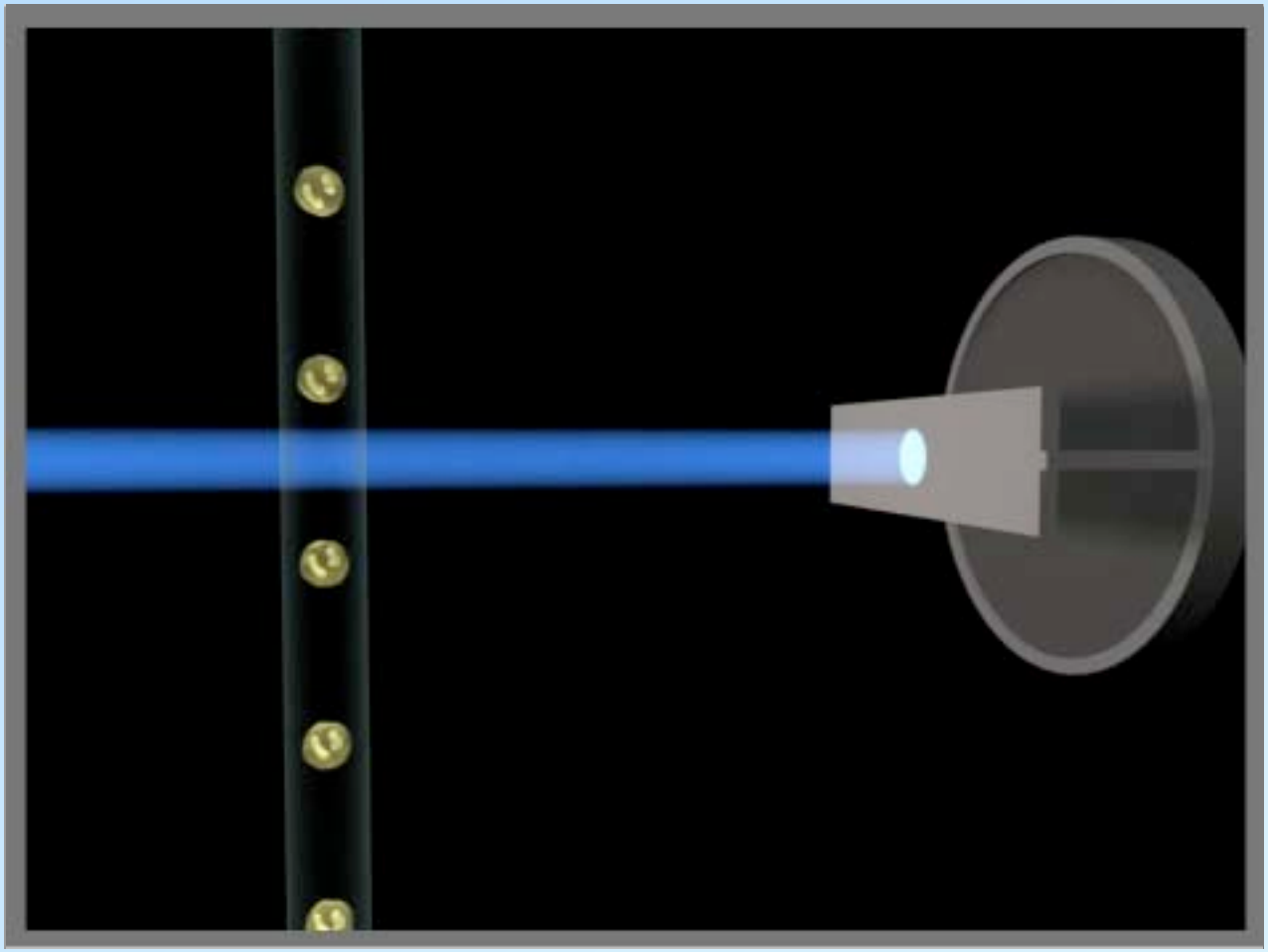


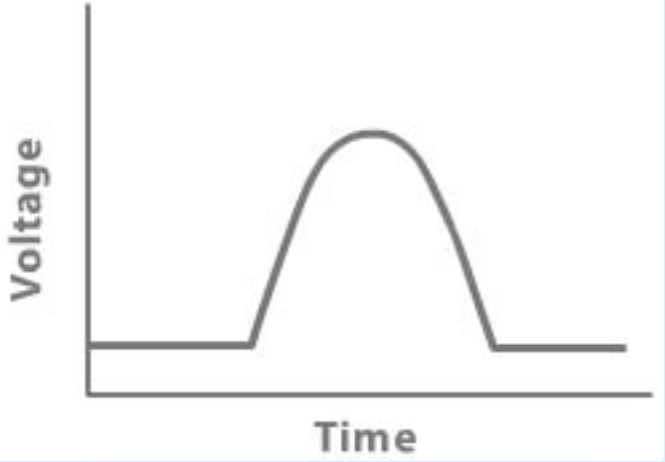

Hydrodynamic focusing
Side scatter
Forward scatter

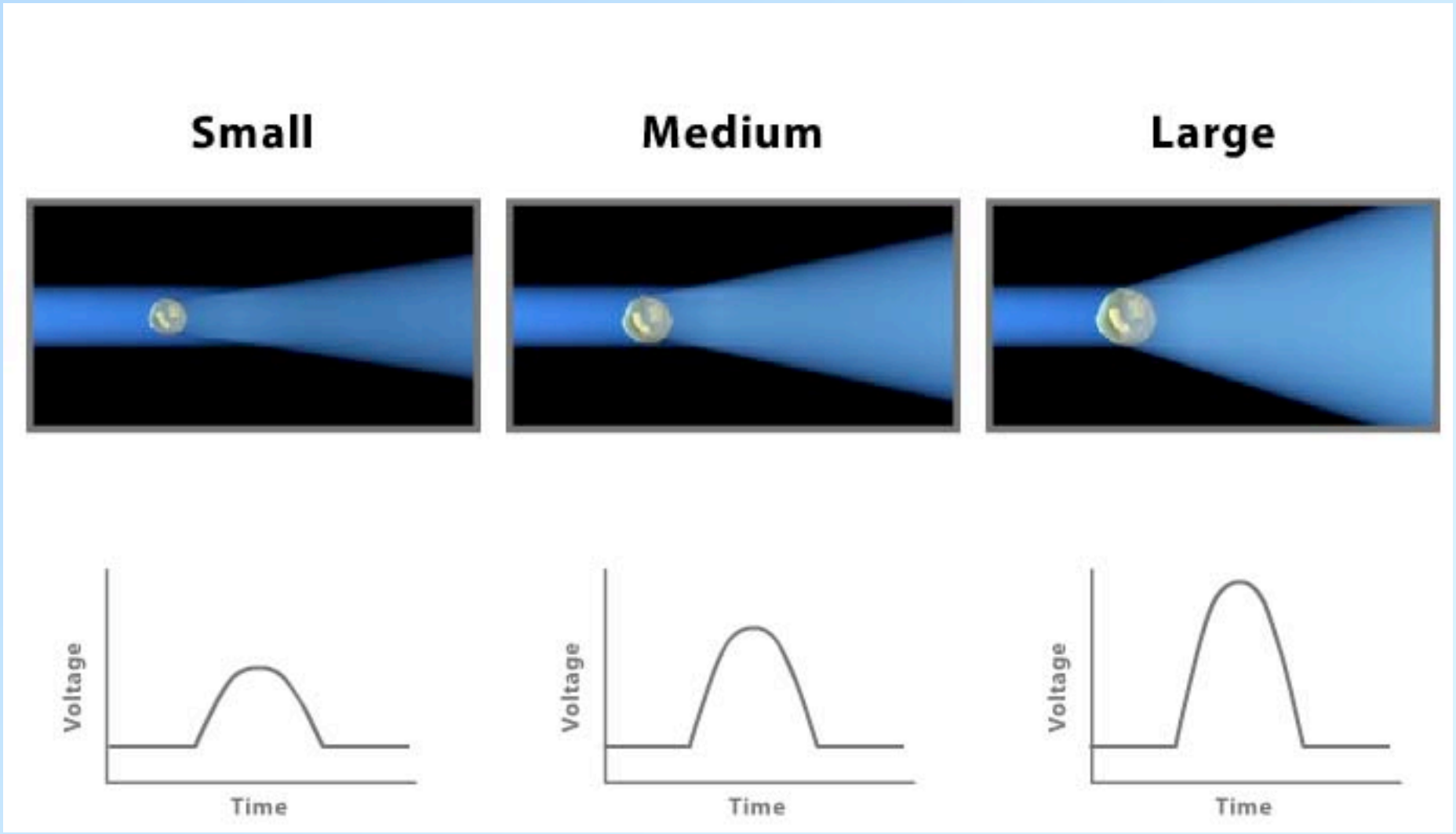

Lasers

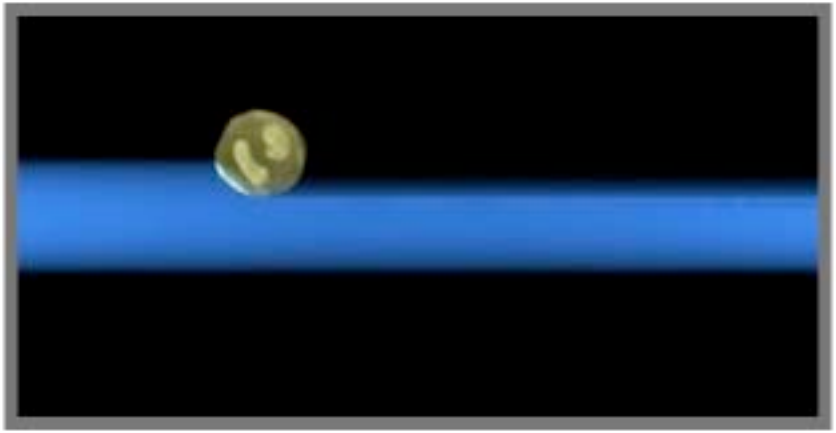
Forward Scatter

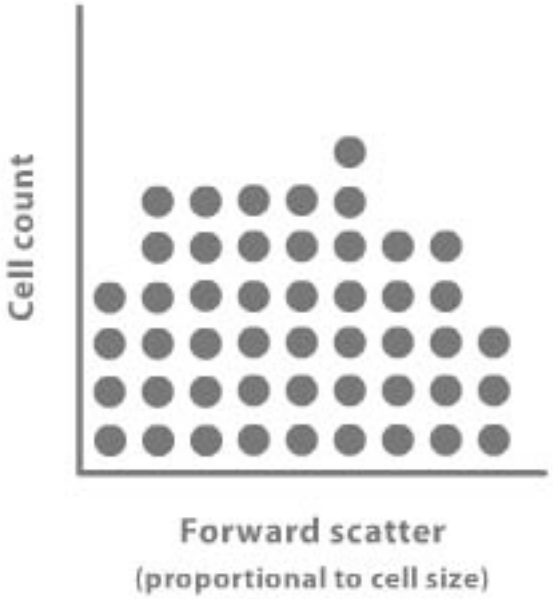


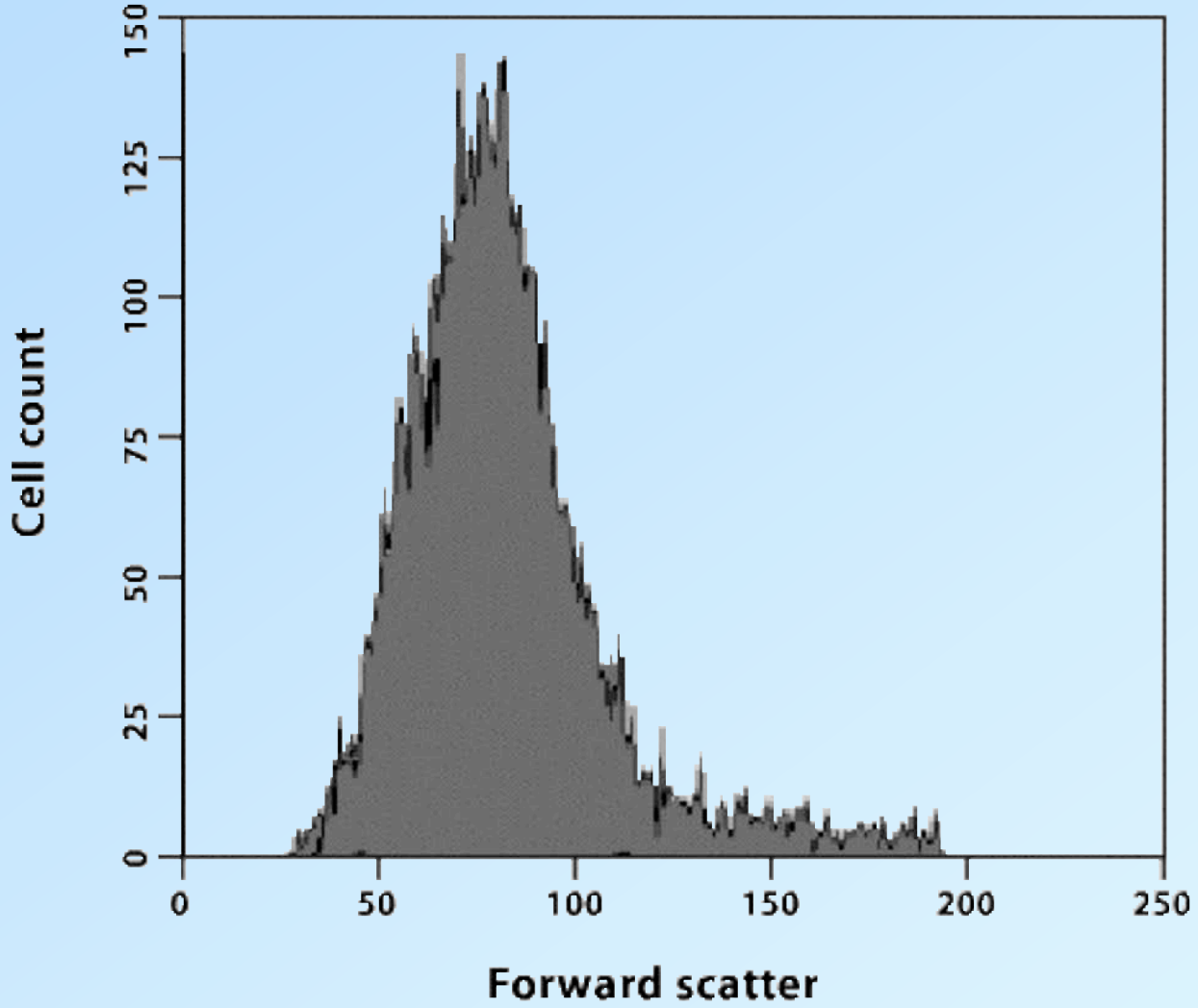


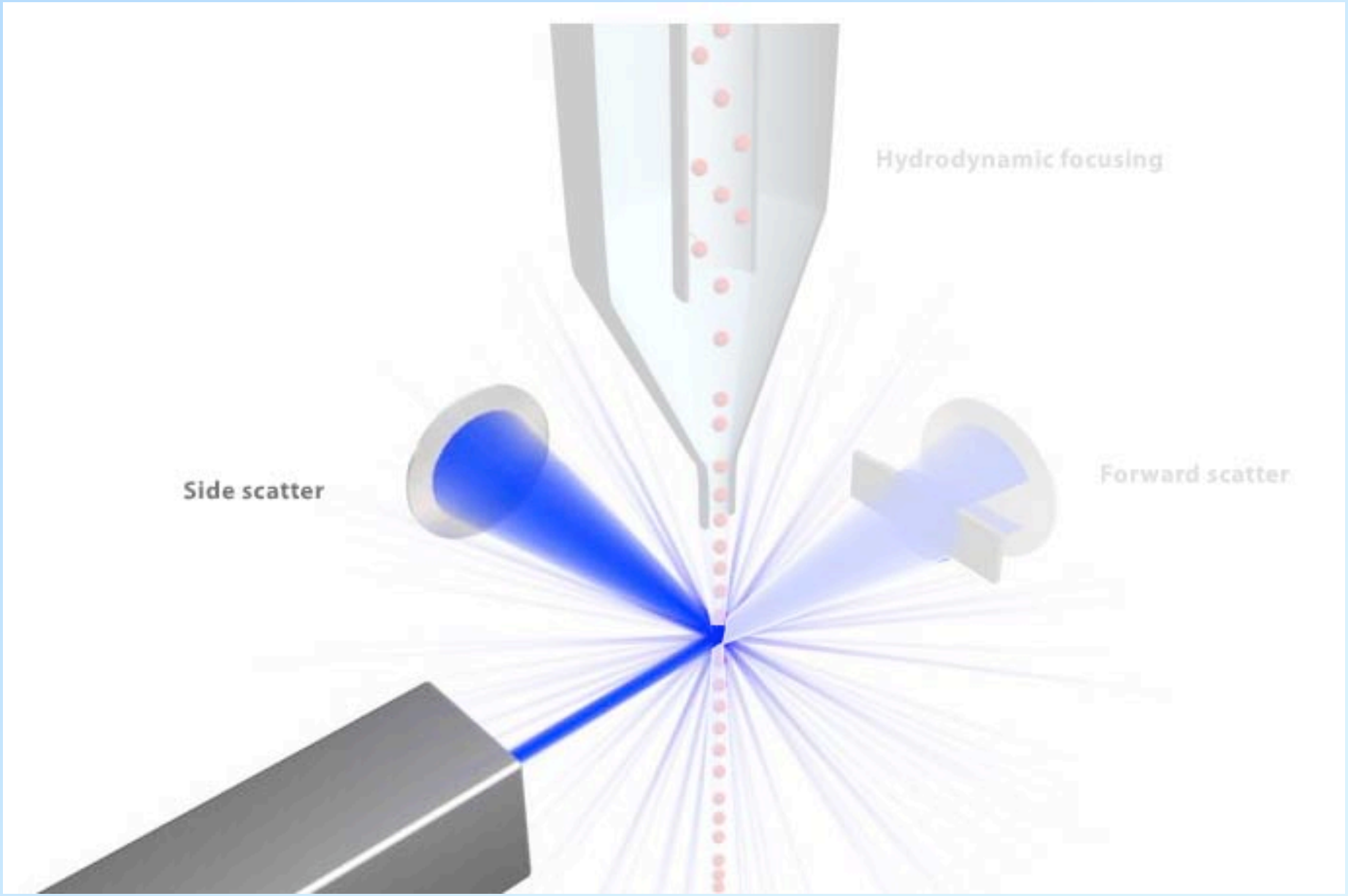

Voltage
Time

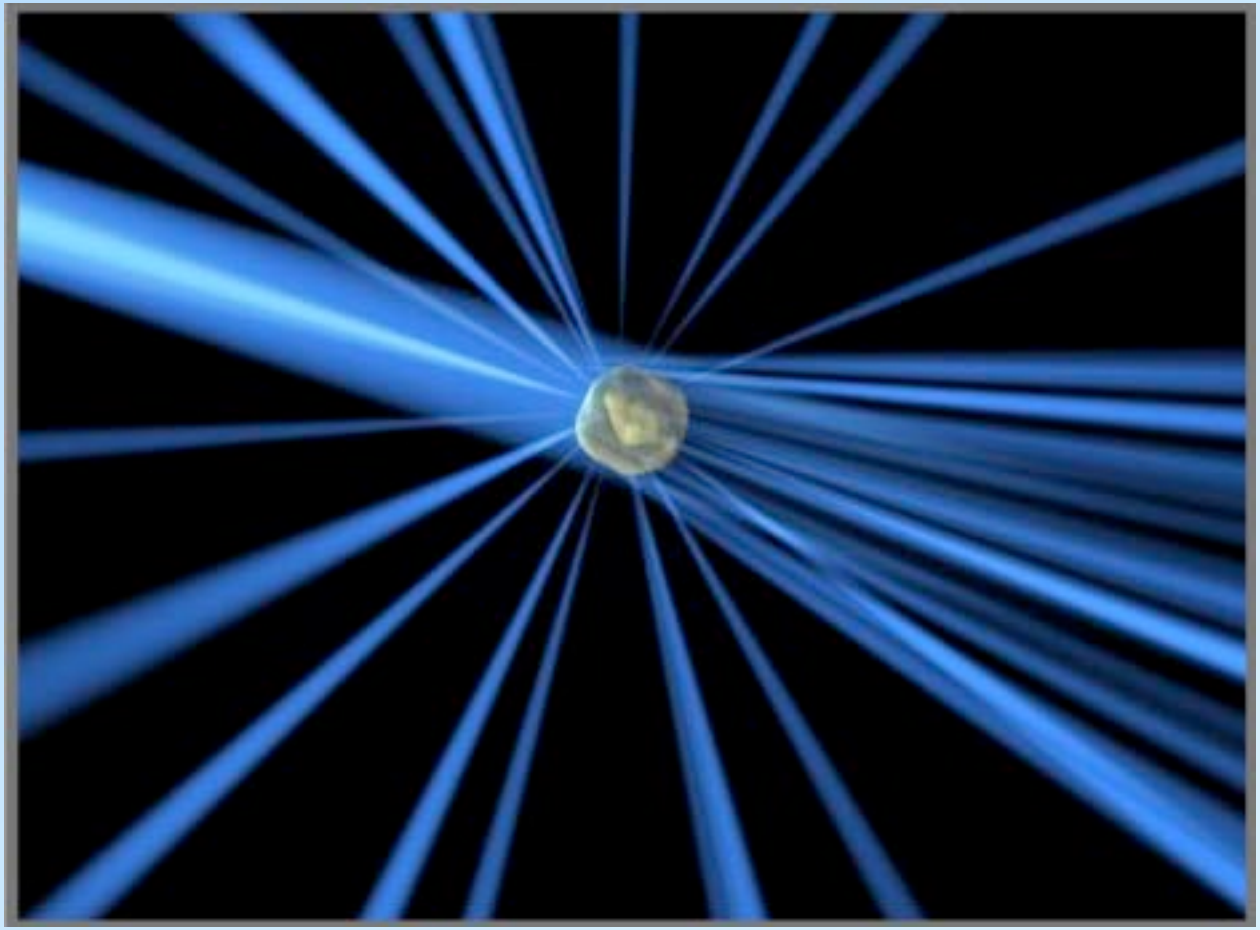

Small
Medium
Large
Voltage
Time
Voltage
Time
Voltage
Time

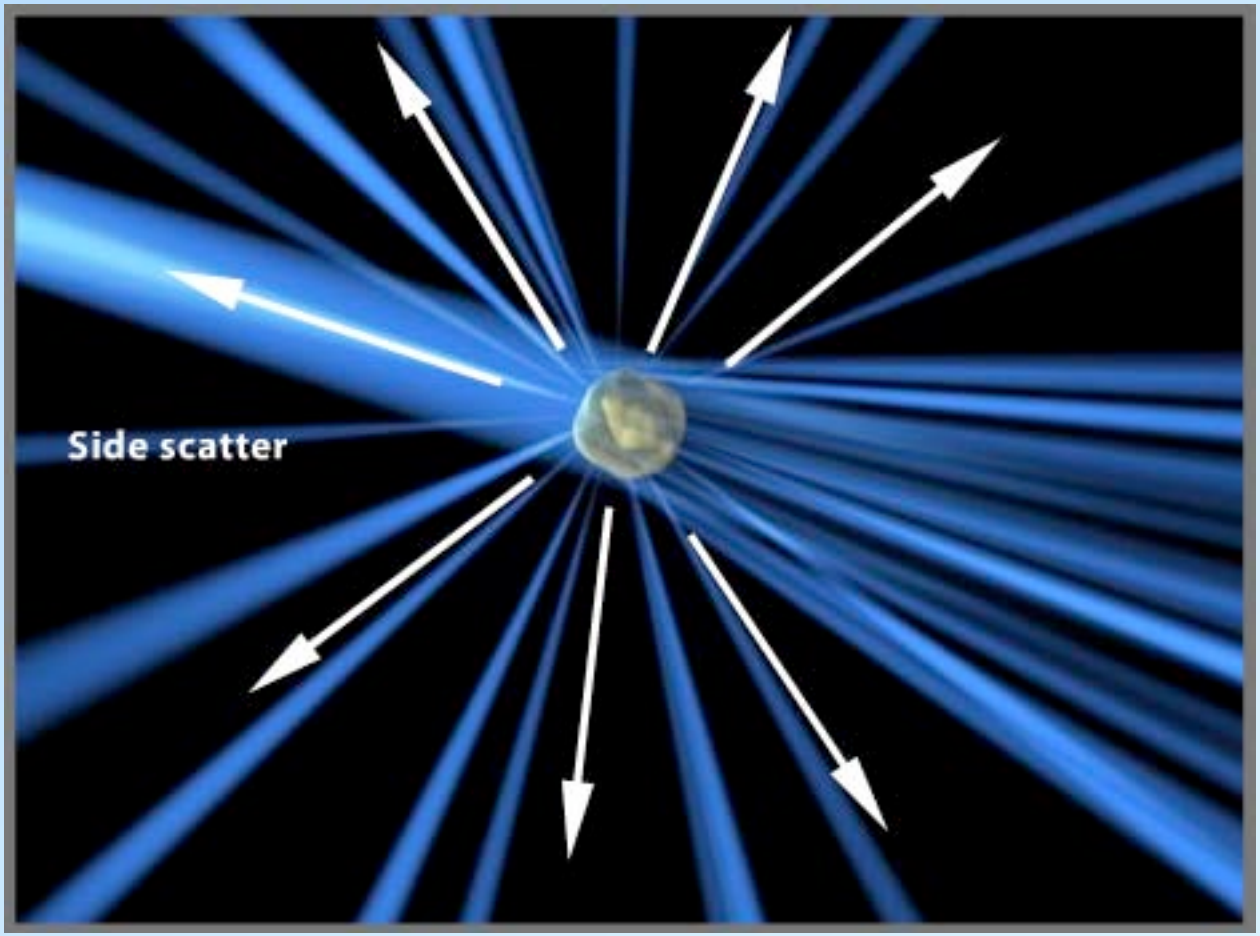


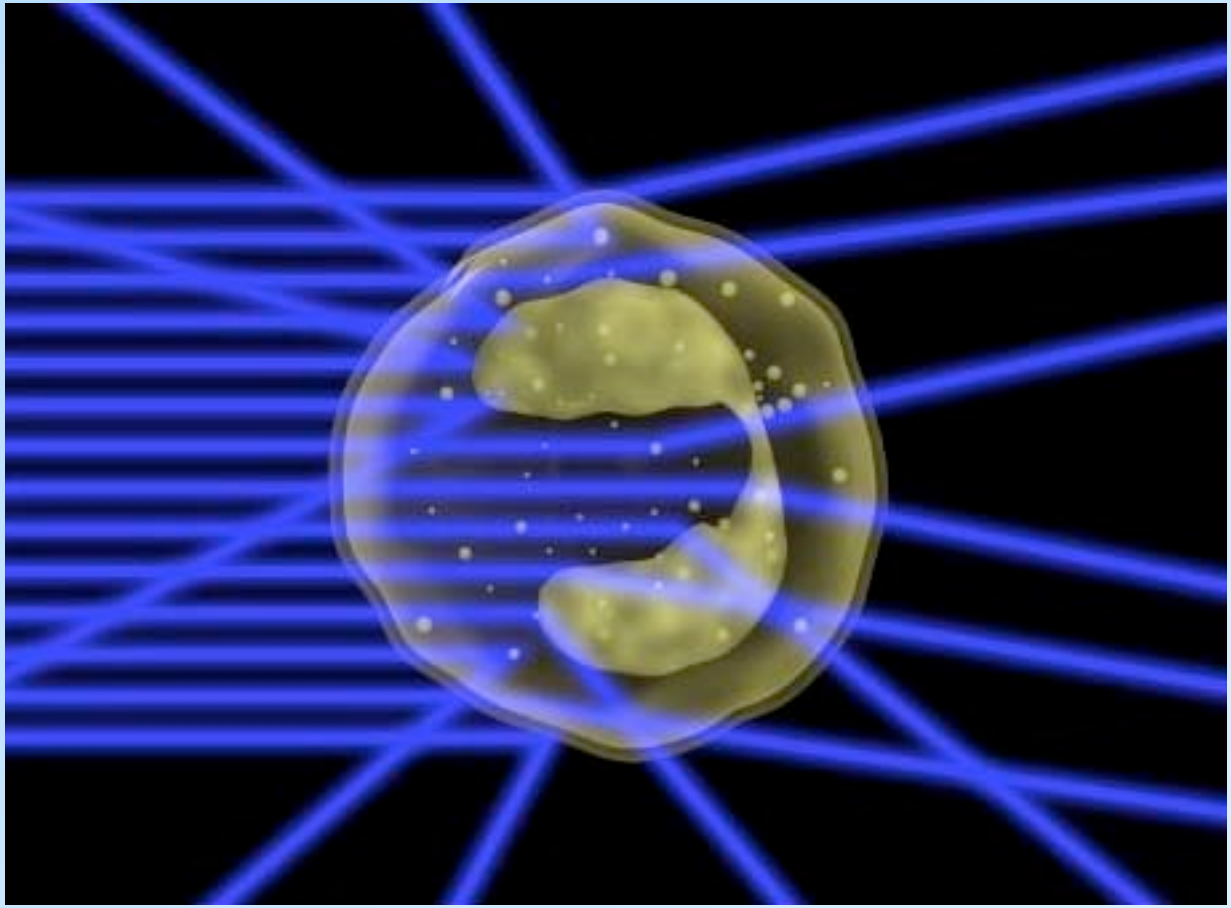

Cell count
Forward scatter
(proportional to cell size)


Cell count
0
25
50
75
100
125
150
0
50
100
150
200
250
Forward scatter

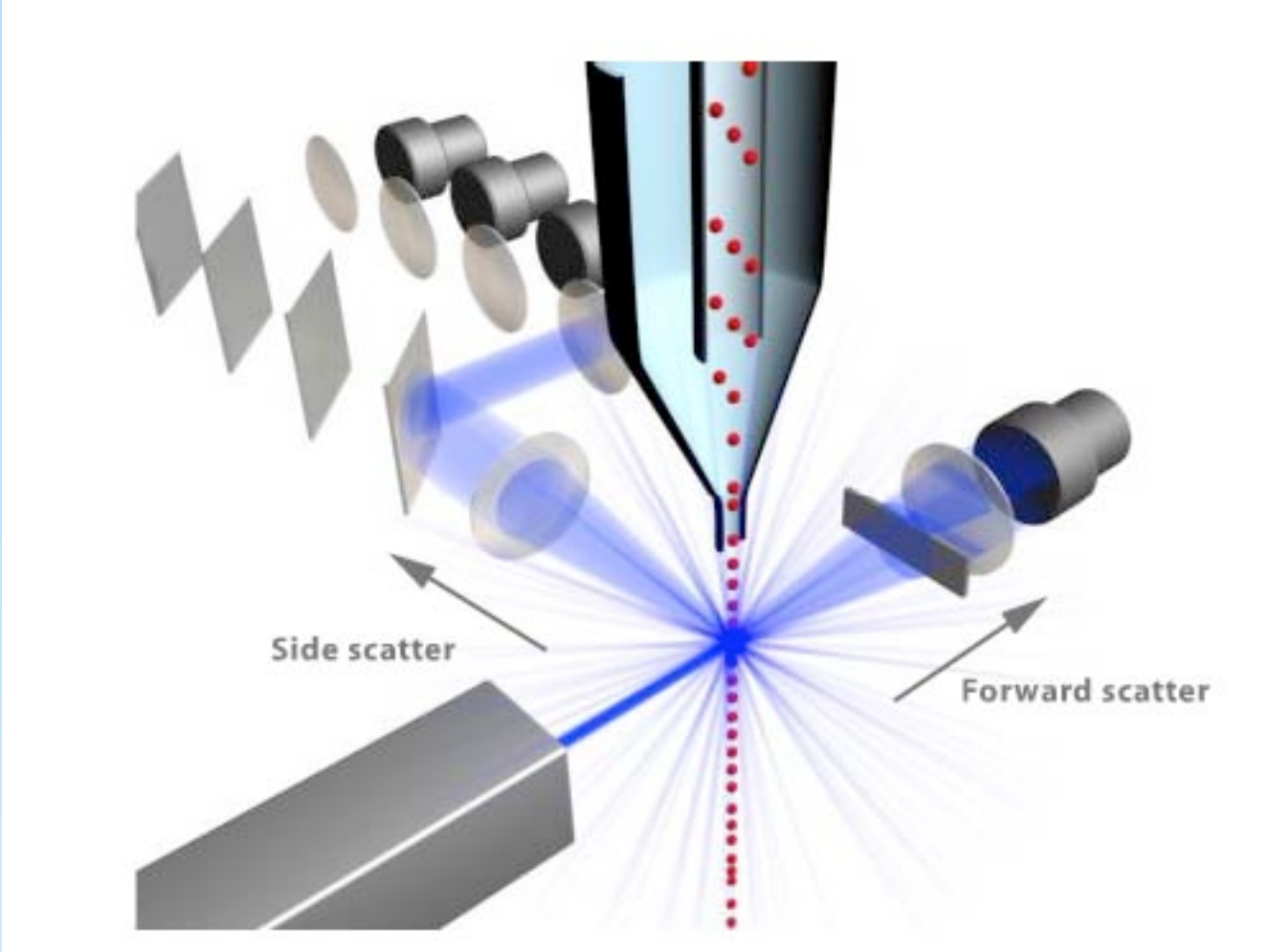

Hydrodynamic focusing
Side scatter
Forward scatter




Side scatter



Side scatter is caused by granularity and structural complexity inside the cell.


Side scatter
Forward scatter

Fluo detection