Photoacoustic Spectroscopy (PAS)

Oluwatobi Williams
Photoacoustic Spectroscopy

- What is it?
- Photoacoustic Spectroscopy is the measurement of the effect of absorbed electromagnetic energy (particularly of light) on matter by means of acoustic detection.
- Alexander Graham Bell 1880
Photoacoustic Spectroscopy Instrumentation
PAS Light Sources
(INCOHERENT)
PAS Light Sources (COHERENT)
PAS Cell
Other Components

• Microphone

• Monochromator

• Amplifier
Photoacoustic Spectroscopy Biomedical Applications
Photoacoustic Imaging

laser pulse → absorption → thermal expansion → acoustic waves → ultrasound detection → image formation
Measuring Blood Glucose
Photoacoustic Microscopy


