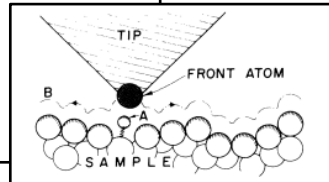
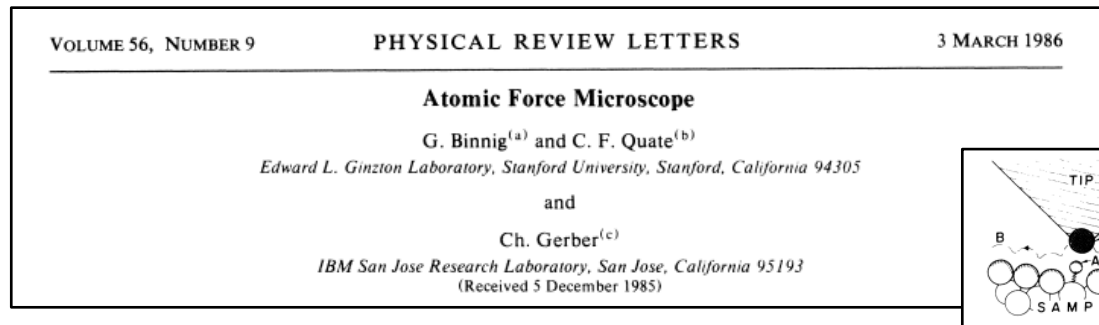


Atomic Force Microscopy (AFM)

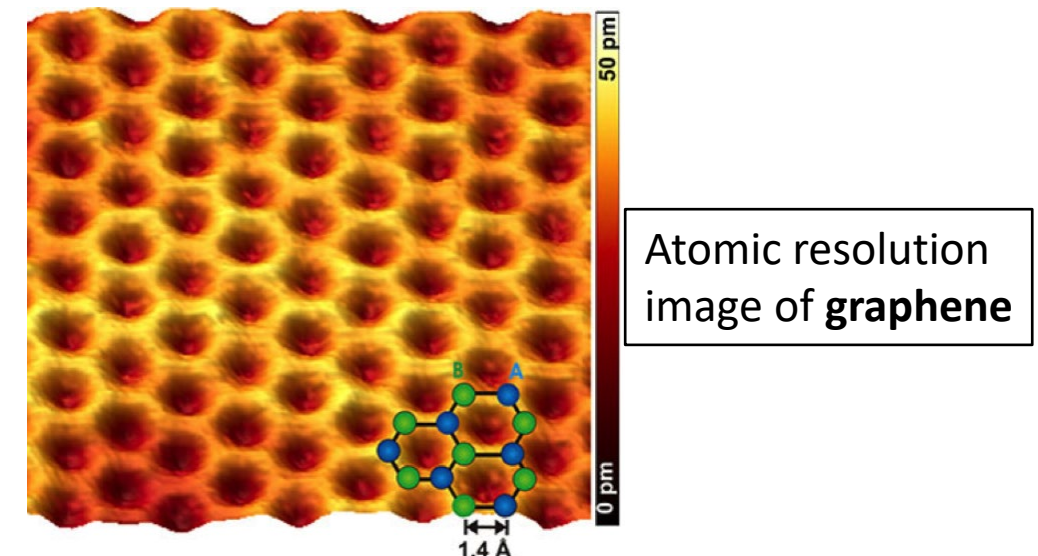
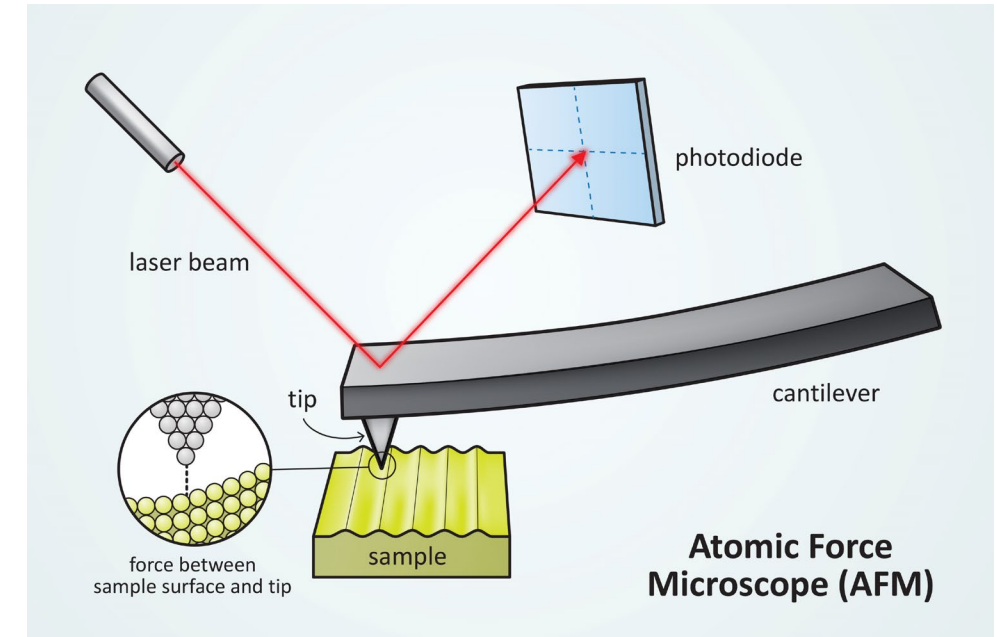
High-resolution microscopy, based on the bending deflection of a **cantilever beam**.

Resolution down to fractions of nanometers (10^{-9} m)
-> of the order of the **typical size of an atom** ($\sim 1 \text{ \AA} = 10^{-10}$ m).

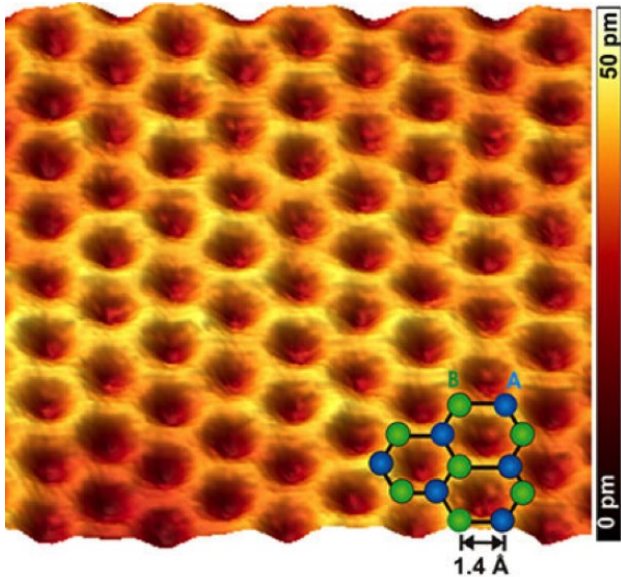
It was invented by G. Binnig (Stanford University) and C. F. Quate (IBM San Jose) and first published in **1986**.



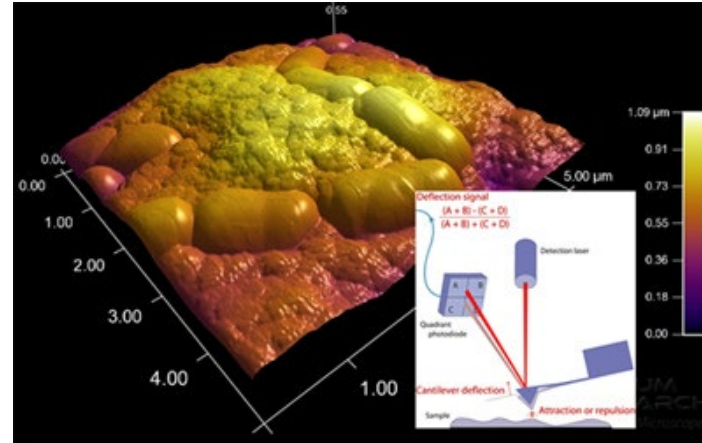
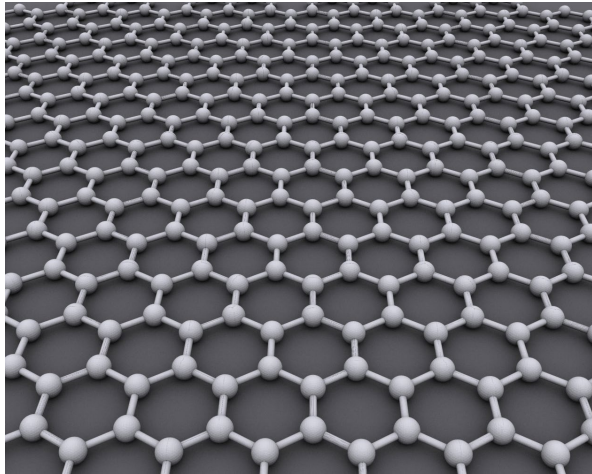
United States Patent [19]	[11] Patent Number: 4,724,318
Binnig	[45] Date of Patent: Feb. 9, 1988
[54] ATOMIC FORCE MICROSCOPE AND METHOD FOR IMAGING SURFACES WITH ATOMIC RESOLUTION	
[75] Inventor: Gerd K. Binnig , Richterswil, Switzerland	
Scanning Electron Microscope", Gerber et al., <i>Rev. of Sci. Ins.</i> , vol. 57, No. 2, Feb. 1986.	
Primary Examiner—Bruce C. Anderson Attorney, Agent, or Firm—Henry E. Otto, Jr.	



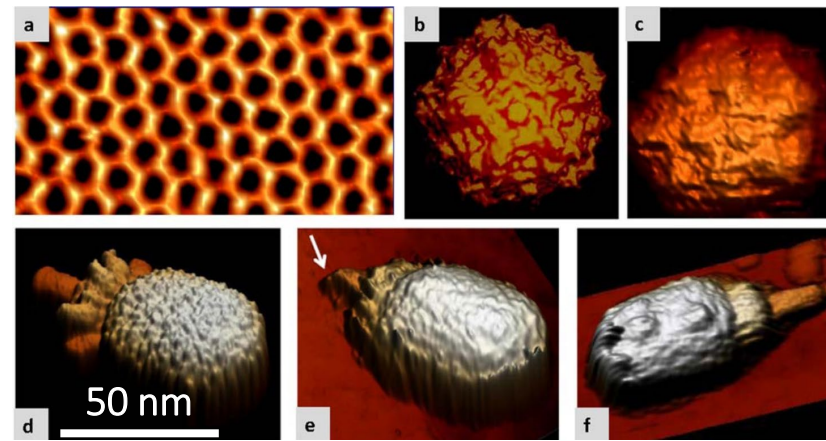
Atomic Force Microscopy (AFM)



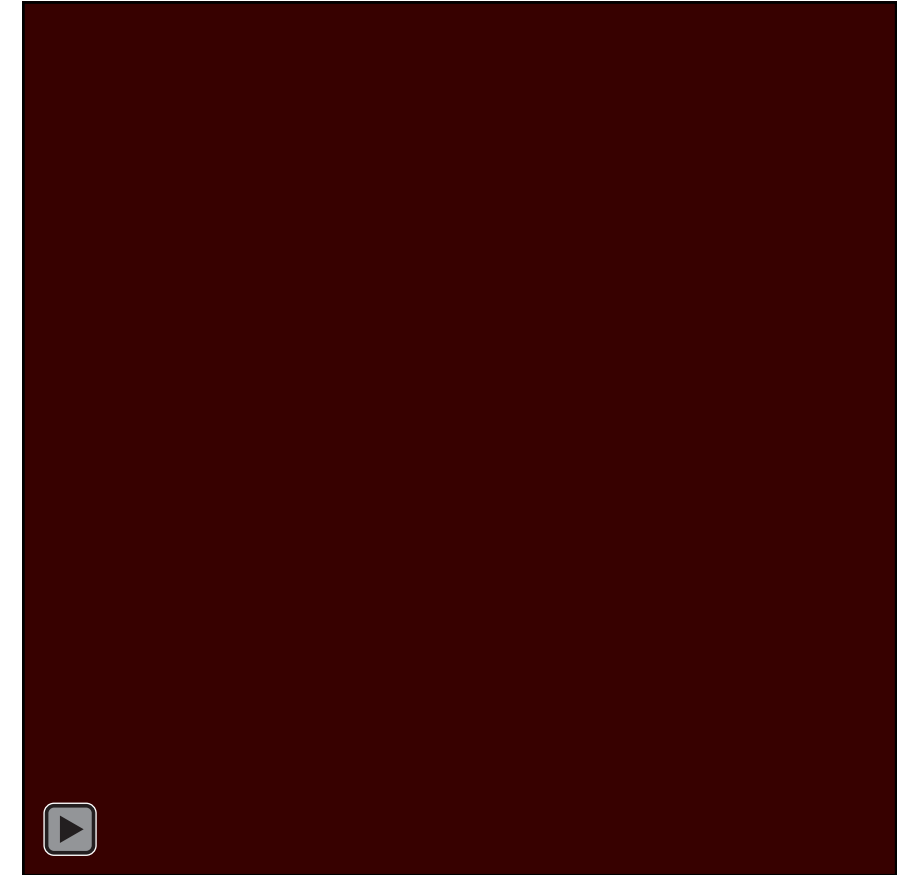
Atomic resolution image of graphene (hexagonal array of carbon atoms)



Irish National Food Imaging Centre Equipment
Atomic force microscope image of bacteria (Lactobacilli) embedded in whey protein gel



D. Martinez-Martin et al., Imaging Viruses in Physiological Conditions, 2011



A. Shtukenberg et al., Illusory spirals and loops in crystal growth, 2013