

# TEMA 1

## Introducción a la Cristalografía

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GEOTISICA

**Table 1.1 | Some famous mineralogists (not including living mineralogists)**

Name, date	Country	Contribution
→ Georg Bauer (Agricola) 1494–1555	Germany	Detailed description of minerals
→ Niels Stensen (Nicolaus Steno) 1638–1686	Denmark	Law of interfacial angles
Torbern O. Bergman 1735–1784	Sweden	Cleavage of calcite
→ René Just Haüy 1743–1822	France	Concept of unit-parallelepiped
Abraham G. Werner 1750–1817	Germany	Origin and properties of minerals
Lorentz Pansner 1777–1851	Germany/Russia	Hardness and density of minerals
Johan J. Berzelius 1779–1848	Sweden	Chemical mineralogy
Johann A. Breithaupt 1791–1873	Germany	Density of minerals, parageneses
Eilhard Mitscherlich 1794–1863	Germany	Isomorphism and polymorphism
→ Johann F.C. Hessel 1796–1872	Germany	Point-group symmetry
→ Auguste Bravais 1811–1863	France	Lattice types
James Dwight Dana 1813–1895	USA	Systematic mineralogy
Nicolai Koksharoff 1818–1892	Russia	Goniometry of crystals
Carl Rosenbusch 1836–1914	Germany	Optical mineralogy
Gustav Tschermak 1836–1927	Austria	Silicate structures
→ Paul von Groth 1843–1927	Germany	Chemical crystallography
→ Ephraim S. Fedorow 1853–1919	Russia	Space-group symmetry
→ Artur Schoenflies 1853–1928	Germany	Space-group symmetry
Viktor Goldschmidt 1853–1933	Germany	Geometry of crystals
Penti Eskola 1883–1964	Finland	Igneous minerals
Alexander Fersman 1883–1945	Russia	Mineral-forming processes
Norman L. Bowen 1887–1956	USA	Experimental petrology
Paul Niggli 1888–1953	Switzerland	Mineral-forming geologic processes
Viktor M. Goldschmidt 1888–1947	Norway/Germany	Crystal chemistry, geochemistry
→ William L. Bragg 1890–1971	Great Britain	Crystal structure of minerals

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### Box I.1 | Nobel prizes in fields related to crystallography

Year	Field	Awardees	Subject
1901	Physics	W.C. Röntgen	X-rays
1914	Physics	M.T.F. von Laue	X-ray diffraction
1915	Physics	W.H. Bragg and W.L. Bragg	X-ray structure analysis
1918	Physics	C.G. Barkla	Characteristic X-rays
1930	Physics	C.V. Raman	Raman spectroscopy
1937	Physics	C.J. Davisson and G.P. Thomson	Electron diffraction
1946	Physics	P.W. Bridgman	High-pressure physics
1954	Chemistry	L.C. Pauling	Structures of complex substances
1960	Chemistry	W.F. Libby	Carbon-14 dating
1962	Medicine	F.H.C. Crick, J.D. Watson and M.H.F. Wilkins	Crystal structure of DNA
1963	Physics	E.P. Wigner	Symmetry principles
1964	Chemistry	D.C. Hodgkin	X-ray structure of biochemical substances
1982	Physics	K.G. Wilson	Phase transitions
1982	Chemistry	A. Klug	Crystallographic electron microscopy
1985	Chemistry	H.A. Hauptman and J. Karle	Crystal structure analysis
1986	Physics	E. Ruska	Electron microscopy



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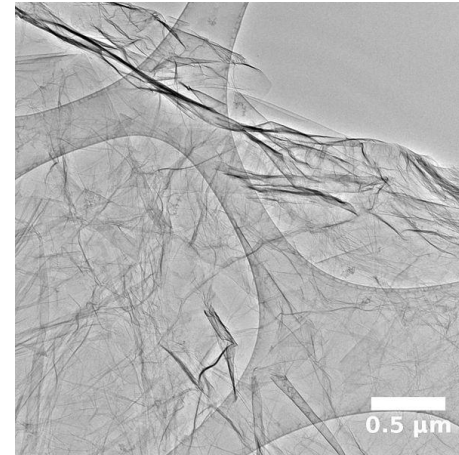
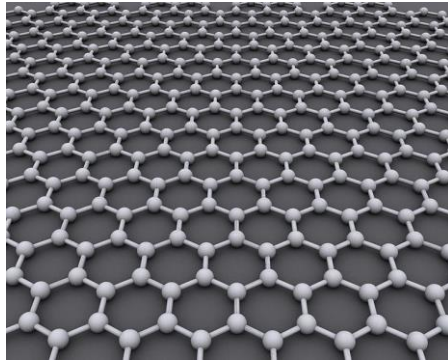
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2010

André Geim, Konstantin Novoselov

Premio Nobel de Física

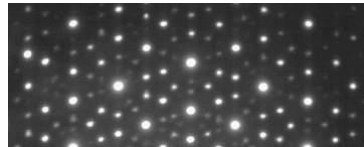
Grafeno



2011

Daniel Shechtman

Premio Nobel de Química



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