



ELSEVIER

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July

- | JULY | SCIENTIST |
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| 1 | <p>von Reichenstein, Franz-Joseph Müller Freiherr (1 July 1740–12 October 1825), Austrian mineralogist of Romanian origin. He was responsible for the discovery of the chemical element tellurium in gold mines in Transylvania, Romania. The name tellurium was given in honor of the Roman goddess of the Earth, Tellus.</p> <p>Pirani, Marcello Stefano (1 July 1880–11 January 1968), German scientist. In 1906, he invented one of the most common ways of measuring vacuum: the Pirani vacuum gauge.</p> |
| 2 | <p>Bragg, William Henry (2 July 1862–10 March 1942), British scientist. He showed that alpha particles produced by radioactive atoms should have a defined energy and scope. Together with his son, he developed methods to determine the wavelengths of X-ray crystal diffraction. He made the first high-frequency spectrograph and studied the structures of crystals. The Nobel Prize in physics 1915 was awarded to him and his son, W. L. Bragg.</p> <p>Bethe, Hans (2 July 1906–6 March 2005), American scientist of German origin. For his fine analysis of the theory of nuclear reactions and discoveries concerning the energy production in stars, he was awarded the Nobel Prize in physics in 1967.</p> |
| 3 | <p>Grimaux, Edouard (3 July 1835–2 March 1900), French scientist. He is known for his scientific contributions in the field of organic synthesis and as the indisputable biographer of Lavoisier.</p> <p>Kleiber, Carlos (3 July 1930–13 July 2004), Austrian conductor and chemical researcher. He is known mainly for directing the famous New Year's Concerts (1989 and 1992). He was the son of Erich Kleiber, who was also an Austrian conductor.</p> <p>Thagard, Norman Earl (3 July 1943), American astronaut. He is famous because he was the first astronaut aboard Soyuz in the USSR cooperation framework – the USA Mir station. For humanity, he made several flights of scientific interest aboard the Challenger, Atlantis, and Discovery shuttles.</p> |
| 4 | <p>Seitz, Frederick (4 July 1911–2 March 2008), American scientist. He is known as a pioneer in solid-state physics.</p> |
| 5 | <p>Northrop, John Howard (5 July 1891–27 March 1987), American scientist. For his work on the preparation of enzymes and virus proteins in purified form, he was awarded the Nobel Prize in chemistry in 1946.</p> <p>Hooft, Gerard't (5 July 1946), Dutch scientist. For his work on the quantum structure of electroweak interactions, he was rewarded with the prestigious Nobel Prize in physics in 1999. He was a co-winner with M. Veltman.</p> <p>On 5 July 1687, Newton's laws were published.</p> |
| 6 | <p>Theorell, Axel Hugo Theodor (6 July 1903–15 August 1982), Swedish scientist. He was awarded the Nobel Prize in physiology or medicine in 1955 for discoveries of oxidation enzymes.</p> |
| 7 | <p>Wolf, Johann Rudolph (7 July 1816–6 December 1893), Swiss astronomer. He is known for his studies of the Sun and discovering strong links between the anomalies in the magnetic field and the solar cycle.</p> |

- 8** **Pemberton, John Stith** (8 July 1831–16 August 1888), American pharmacist. He developed the soda syrup used in Coca Cola (8 July 1886).
von Zeppelin, Ferdinand Adolf August Heinrich (8 July 1838–8 March 1917), German engineer. He is credited with the invention of aircraft < -> airships used in civil aviation. In his honor, balloons and his company bear his name.
Tamm, Igor Ievgenievitch (8 July 1895–12 April 1971), Russian scientist. He studied the manner in which light is dispersed in a solid body based on quantum mechanics. He participated in the discovery of Cherenkov (Tcherenkov) radiation, which earned him the Nobel Prize in physics in 1958.
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- 9** **Kapitsa, Piotr Leonidovitch** (9 July 1894–8 April 1984), Russian scientist. He is known for his research on magnetism and low-temperature physics, which led him to the discovery of super fluidity in helium (1938). He made significant discoveries in the field of low-temperature physics and was awarded the Nobel Prize in physics in 1978.
Mottelson, Ben Roy (9 July 1926), American–Danish scientist. He discovered links between collective motion and particle motion in atomic nuclei. In addition, he developed the theory of the atomic nucleus structure from that link. For this work, he was co-winner of the Nobel Prize in physics in 1975.
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- 10** **Tesla, Nikola** (10 July 1856–7 January 1943), American engineer of Serbian origin. We owe the first alternator and the discovery of the wave nature of electromagnetism to him. The unit of measurement for magnetic flux density is called “tesla” in his honor. Tesla is considered the inventor of radio (recognized as such in 1943 by a decision of the Supreme Court of the United States of America).
Alder, Kurt (10 July 1902–20 June 1958), German scientist. With DPOs Diels, he is a co-winner of the Nobel Prize in chemistry in 1950 for the Diels–Alder reaction, one of the most important synthetic reactions in organic chemistry.
Chamberlain, Owen (10 July 1920–28 February 2006), American scientist. For the discovery of the antiproton, he is co-winner with E. G. Segre of the Nobel Prize in physics in 1959.
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- 11** **Grove, William Robert** (11 July 1811–1 August 1896), British lawyer and amateur chemist. He is credited with the invention of the electric battery containing two liquids and the discovery of the fuel cell in 1839.
Goudsmit, Samuel Abraham (11 July 1902–4 December 1978), Dutch-American scientist. He is known for the introduction of the concept of electron spin.
Prokhorov, Alexandre Mikhaïlovitch (11 July 1916–8 January 2002), Russian scientist. He is known for his basic research in the field of quantum electronics. Discoveries in the field have led to the construction of oscillators and amplifiers based on laser–maser principles. He was co-winner of the Nobel Prize in physics in 1964.
Benoit, Henri (11 July 1921–23 March 2009), French scientist. His research introduced the study of dimensions of macromolecules according to their length and their chemical nature, the thermodynamic solutions, statistical chains, and size exclusion chromatography. His research is significant in the field of macromolecular chemistry.
Maiman, Theodore Harold (11 July 1927–5 May 2007), American scientist. He designed a ruby cylinder with its ends covered with silver. Energy was introduced from a lamp, and in 1960, he emitted his first ray of light. The emitted light was monochromatic and coherent. Such coherent light can be concentrated in a small point and could produce energy with an equivalent or higher temperature than that of the surface of the sun; this constituted the first laser.
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- 12** **Lamb Jr., Willis Eugene** (12 July 1913–15 May 2008), American scientist. For his contribution to the discovery of the fine structure of the hydrogen spectrum, he was awarded the Nobel Prize in physics in 1955.
Corey, Elias James (12 July 1928), American scientist of Lebanese origin. He was awarded the Nobel Prize in chemistry in 1990 for his work in the field of organic chemistry and the development of the theory and methodology of organic synthesis.
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- 13** **Cannizzaro, Stanislao** (13 July 1826–10 May 1910), Italian scientist. He is known for the preparation of cyanamide and his demonstration of the importance of the specific heat for the determination of the atomic weights of the elements of volatile compounds.
Lederman, Leon Max (13 July 1922), American scientist. He, J. Steinberger and M. Schwartz are co-winners of the 1988 Nobel Prize in physics for their contributions to the detection of neutrinos.
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- 14** **Debierne, André-Louis** (14 July 1874–31 August 1949), French scientist. He discovered actinium in 1899. In 1905, he showed that actinium forms helium during its disintegration.
- Wilkinson, Geoffrey** (14 July 1921–26 September 1996), British scientist. He made significant contributions to organometallic chemistry and organic catalysis. He is known for his ideas on chemical reaction mechanisms. He elucidated the structure of ferrocene and improved the first hydrogenation catalyst in homogeneous phase. He and E.O. Fischer were co-winners of the Nobel Prize in chemistry in 1973.
- Negishi, Ei-ichi** (14 July 1935), Japanese scientist. He, R. and A. Heck Suzuki were co-winners of the Nobel Prize in chemistry in 2010. They developed coupling reactions catalyzed via palladium in organic synthesis.
- Férey, Gérard** (14 July 1941), French scientist. His research is of a high scientific quality and focuses on the preparation of porous solids, MIL-101, for various applications, i.e. for Environmental Protection – CO₂ storage – and Health – vectorization of drugs.
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- 15** **Lamy, Claude-Auguste** (15 July 1820–20 March 1878), French scientist. He isolated the chemical element thallium. He used it for the manufacture of glass with a low melting point for thermometers requiring the measurement of very low temperatures in scintigraphy to analyze the operation of coronary arteries, to control the damage to the myocardium, and for the examination of cancer and disorders of the thyroid gland.
- Bodenstein, Max Ernst August** (15 July 1871–3 September 1942), German scientist. He is known as the father of chemical kinetics. He introduced the term “chain reaction”, where the product of a reaction of a molecule generated a similar change in another molecule.
- Nenitescu, Costin D.** (15 July 1902–28 July 1970), Romanian scientist. His research concerns the field of organic chemistry with basic research in the field of saturated hydrocarbons and aromatics. He discovered the synthesis of indoles, known as “Nenitescu reactions” and the first isomer of anulenei – the Nenitescu hydrocarbon. He isolated the naphthenic acid Romanian oil. He assisted in the synthesis of the piriliu salts (Balaban–Nenitescu–Prail).
- Ghiorso, Albert** (15 July 1915–26 December 2010), American scientist. In collaboration with other researchers, he discovered the following chemicals: americium, curium, berkelium, californium, einsteinium, fermium, mendelevium, nobelium, lawrencium, rutherfordium, dubnium, and seaborgium.
- Brockhouse, Bertram Neville** (15 July 1918–13 October 2003), Canadian scientist. He is known for his pioneering research in neutron scattering techniques for studies of condensed matter. He received the Nobel Prize in physics in 1994.
- Merrifield, Robert Bruce** (15 July 1921–14 May 2006), American scientist. He was awarded the Nobel Prize in chemistry in 1984 for the development of chemical synthesis on solid matrices.
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- 16** **Stock, Alfred** (16 July 1876–12 August 1946), German scientist. He is known primarily for the synthesis of silanes and boron hydrides. Boron hydrides are used as fuel additives for rockets sent into space.
- Zernike, Frederik** (16 July 1888–10 March 1966), Dutch scientist. He invented phase-contrast microscopy, which earned him the Nobel Prize in physics in 1953.
- Rose, Irwin A.** (16 July 1926), American scientist. His research focused on the study of proteins. He was interested in protein degradation controlled by ubiquitin, a protein formed from several amino acids. His discoveries were rewarded with the Nobel Prize in chemistry in 2004.
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- 17** **Abel, Frederick Augustus** (17 July 1827–6 September 1902), English scientist. He is known for the discovery of cordite, which was patented in 1865.
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- 18** **Hooke, Robert** (18 July 1635–3 March 1703), English scientist. He is known for the statement of Hooke’s law in 1678, which subsequently allowed the development of modern watchmaking and the stopwatch (eliminating the clock).
- Lorentz, Hendrik Antoon** (18 July 1853–4 February 1928), Dutch scientist. He is particularly known for his fundamental research on the constitution of matter and radiation phenomena influenced by magnetism. The Nobel Prize in physics was awarded to him in 1902 (as well as to P. Zeeman).
- Hoffmann, Roald** (18 July 1937), American scientist of Polish origin. He was the co-winner of the 1981 Nobel Prize in chemistry for theories on the course of chemical reactions.
- Michel, Hartmut** (18 July 1948), German scientist. He is known for his work on the study of the crystallization of the reactive centers of purple bacteria, *Rhodospseudomonas viridis*. In recognition for his work, he was the co-winner of the 1988 Nobel Prize in chemistry.
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- 19** **Kier, Samuel Martin** (19 July 1813–6 October 1874), American inventor. He is known as the father of the American oil industry. He was responsible for the marketing of kerosene (although it was known long before) obtained by the distillation of crude oil.
- Friedel, Georges** (19 July 1865–11 December 1933), French scientist. His work marked the fields of mineralogy and crystallography. He is known for the discovery (in collaboration with J. Crafts) in 1877 of the Friedel–Crafts reaction.
- Yalow, Rosalyn Sussman** (19 July 1921–30 May 2011), American physicist. She was co-recipient of the Nobel Prize in 1977. She invented, along with Solomon Berson (died at the time the Nobel Prize was awarded to Yalow), the technique of radioimmunoassays, which allows precise dosing of substances in trace quantities in a liquid medium. It was developed for the determination of the plasma insulin in diabetes.
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- 20** **Lark-Horovitz, Karl** (20 July 1892–14 April 1958), American scientist of Austrian origin. His contribution was in the science of solids, mainly on the study of the properties of semiconductors. He can be credited with the discovery of the transistor.
- Binnig, Gerd** (20 July 1947), German scientist. He is credited with having created the scanning tunneling microscope. He was the co-winner of the Nobel Prize in physics in 1986. He also wrote about the development of an atomic force microscope.
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- 21** **Brandt, Georg** (21 July 1694–29 April 1768), Swedish scientist. To him we owe the discovery of cobalt. The name comes from the German word Kobald, meaning goblin, and was called “evil genius mines” because vapors during melting of cobalt-containing ores are harmful. Brandt was the first to demonstrate that the blue color characteristic of cobalt was due to this metal and not to bismuth.
- Marcus, Rudolph** (21 July 1923), American scientist of Canadian origin. He is known for developing the theory of electron transfer reactions (electron acceptor and electron donor), the Marcus theory. The theory is applied in different chemical species, enabling the evaluation of various chemical and biological processes. He was awarded the Nobel Prize in chemistry in 1992.
- 21 July 1969:** the first steps on the moon (Neil Armstrong).
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- 22** **Hertz, Gustav Ludwig** (22 July 1887–30 October 1975), German scientist. He and J. Franck were the co-winners of the 1925 Nobel Prize in physics for their contribution to the development of the laws surrounding the collision of an electron with an atom.
- Bitter, Francis** (22 July 1902–26 July 1967), American scientist. He is known for the invention of the Bitter electromagnet, a plate used in the resistive magnets.
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- 23** **Prelog, Vladimir** (23 July 1906–7 January 1998), Swiss scientist of Croatian origin. He was awarded the Nobel Prize in chemistry in 1975 for his contribution to the understanding of the stereochemistry of molecules.
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- 24** **Różycki, Jerzy** (24 July 1909–9 January 1942), Polish cryptologist. He is known for cracking the secret Enigma code in 1933 (in collaboration with M. and H. Rejewski Zygałski).
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- 25** **Franklin, Rosalind Elsie** (25 July 1920–16 April 1958), British scientist. She participated in the discovery of the structure of deoxyribonucleic acid (DNA). Her discovery of the structure of DNA allowed Watson, Crick and Wilkins to receive the Nobel Prize in physiology or medicine in 1962.
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- 26** **Naismith, James Henderson** (26 July 1968), Scottish scientist. He is known for his research study on the chemical structures of concanavalin A and zinc aldolase, their protein structures by X-ray crystallography and molecular biology, and the biosynthesis of natural products.
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- 27** **Dorn, Friedrich Ernst** (27 July 1848–16 December 1916), scientist. He proved in 1900 that radium produced radioactive radiation and is a radioactive gas. Later, in 1923 the gas was named radon (Rn).
- Fischer, Hans** (27 July 1881–31 March 1945), scientist. He was known for his outstanding contributions in discovering the structure of hemoglobin. He was the first to demonstrate that it was composed of four pyrrole rings of compounds of four carbon atoms and a nitrogen atom, each assembled in a large ring. He was also interested in chlorophyll, the “blood” of plants. He was the winner of the 1930 Nobel Prize in chemistry.
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- 28** **Tcherenkov, Pavel Alekseïevitch** (28 July 1904–6 January 1990), Russian scientist. He is known for the discovery and analysis of the Cherenkov Effect. He won the Nobel Prize for physics in 1958 with I. Tamm and I. Frank.
Townes, Charles Hard (28 July 1915–27 January 2015), American scientist. He was known for his studies of quantum electronics allowing the evolution towards the appearance of the oscillator and amplifier. He was awarded the Nobel Prize for physics in 1964.
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- 29** **Rabi, Isidor Isaac** (29 July 1898–11 January 1988), American scientist of Austro-Hungarian origin. He is known for his work on recording the magnetic properties of atomic nuclei by a resonance method. In 1944, he was awarded the Nobel Prize in physics.
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- 30** **Ford, Henry** (30 July 1863–7 April 1947), founder of the Ford Motor Company.
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- 31** **Wöhler, Friedrich** (31 July 1800–23 September 1882), German scientist. He was Berzelius's assistant. He is particularly known for the synthesis of urea. He also discovered the synthesis of calcium carbide, from which comes the syntheses of acetylene and several acids. He isolated beryllium and yttrium as well as producing crystalline silicon.
Boyer, Paul Delos (31 July 1918), American scientist. He is responsible for developing the enzymatic mechanism for the synthesis of adenosine triphosphate, for which he was co-winner of the Nobel Prize in chemistry in 1997.
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