

Dates of Note

Richard Laurence Millington Synge, the British biochemist and 1952 Nobel Laureate (with Martin) for the development of partition chromatography, was born on October 28, 100 years ago, the same day as **Jonas Edward Salk**, who developed the polio vaccine. **Éleuthère Irénée du Pont**, the French-American industrialist who had worked for Antoine Lavoisier, migrated to the US in 1800 following the French Revolution. By 1803 he had established a small mill at Wilmington, Delaware, the foundation of the now internationally recognised company. Greenwich Mean Time (GMT) was adopted universally on November 1, 1884. **Thomas Midgley Jr.**, the American engineer and chemist who discovered the effectiveness of tetraethyl lead ($C_2H_5)_4Pb$ in 1921, died on November 2, 1944, as did **Thomas Anderson** the Scottish organic chemist who discovered pyridine in 1874. **Daniel Rutherford**, the Scottish chemist who discovered the portion of air that does not support combustion, now known to be nitrogen, was born on November 3, 1749 and died on November 15, 1819. **Ralph Wyckoff**, the American pioneer in the application of X-ray methods to determine crystal structures, died on this same date in 1994. November 4, 1869 saw the first issue of *Nature* appear in print. **Paul Sabatier**, the French chemist who shared the 1912 Nobel Prize for Chemistry (with Grignard) for his metal-catalysed hydrogenation studies, was born on November 5, 1854. **Hans von Euler-Chelpin**, the German-Swedish biochemist who shared the 1929 Nobel Prize for Chemistry with Sir Arthur Harden for work on the role of enzymes in the alcoholic fermentation of sugar (see earlier in this issue), died on November 7, 50 years ago. **Johannes Robert Rydberg**, the Swedish physicist, known for the Rydberg constant in his empirical formula that related the wave numbers of the spectral lines of an element, was born on November 8, 1854. **Dmitry Iosifovich Ivanovsky**, the Russian microbiologist who from his study of mosaic disease in tobacco first reported the characteristics of a virus, was born on November 9, 150 years ago. It was the day in 1994 that saw the element 110, darmstadtium, (Ds) detected for the first time at the Gesellschaft für Schwerionenforschung (GSI) in Darmstadt, Germany.

Alfred Werner, the French-born Swiss chemist who was awarded the 1913 Nobel Prize for Chemistry for his founding research into the structure of coordination compounds, died on November 15, 1919. **August Kundt**, the German physicist who developed a method (1866) to determine the velocity of sound in gases and solids in a tube named after him, was born on November 18, 175 years ago. **John Robert Vane**, the English biochemist, who shared the 1982 Nobel Prize for Physiology or Medicine (with Bergström and Samuelsson) for the isolation, identification, and analysis of prostaglandins, died on November 20, ten years ago. **Ancel Keys**, the American nutritionist and epidemiologist who identified the role of saturated fats in causing heart disease, died the same day. **Henri Marie Laborit**, the French neurologist who discovered some of the earliest tranquilisers was born on No-

vember 21, 100 years ago. November 23 marks 50 years since the first successful coronary artery bypass graft was performed. **Benjamin Silliman**, the American geologist, chemist and founder of the *American Journal of Science*, died on November 24, 150 years ago. **Hermann Kolbe**, the well-known German chemist who accomplished the first generally accepted synthesis of an organic compound from inorganic materials, died on November 25, 1884. **Chaim Weizmann**, the Russian-British-Israeli chemist who used bacteria for the synthesis of organic chemicals and who became active in politics leading to the establishment of Israel (1948), and then became its first president, was born on November 27, 1874. This is the same day as **Bernard Jacques Flürscheim** who made his fortune from the discovery of the high explosive tetranitroaniline. **Enrico Fermi**, the Italian-born American physics Nobel Laureate, died on November 28, 60 years ago. **Lewis Hastings Sarett** the American organic chemist who prepared a synthetic version of the hormone cortisone from a 36-step process, died on November 29, 15 years ago. **Andrew Jackson Moyer**, the American microbiologist who invented a method for mass-producing the antibiotic penicillin, was born on November 30, 1899. **Robert A. Swanson** who cofounded Genentech, Inc. - the research-based company that pioneered the biotechnology industry - died on November 30, 1999.

Philippe Lebon, the French engineer and chemist who invented illuminating gas, died on December 2, 1804. December 3 marks 30 years since the methyl isocyanate leak from the Union Carbide pesticide factory in Bhopal, India. **Joseph Black**, the Scottish chemist and physicist who experimented with "fixed air" (CO_2), discovered bicarbonates and identified latent heat, died on December 6, 1799. December 7 marks 125 years since **John Dunlop** was issued his patent for the pneumatic tyre and is the day in 1884 that **Louis Pasteur** made his much-quoted remark, *In the fields of observation chance favours only the prepared mind*. Element 111, now roentgenium (Rg), was announced by the team at the GSI facility at Darmstadt on December 8, 1994. **William Nunn Lipscomb Jr.**, the American physical chemist who won the Nobel Prize for Chemistry in 1976 for his studies of the boranes, was born on December 9, 1919. **John W. Macklin**, the African-American analytical chemist known for refining the technique of Raman spectrometry, has his 75th birthday on December 11. **Ludwig Mond**, the German-born British chemist and industrialist who perfected a method of soda manufacture, died on December 11, 1909.

Frank Harold Spedding, the American chemist who developed an economical process for reducing individual rare-earth elements to the metallic state, died on December 15, 1984. On December 15, 75 years ago, nylon was sold to hosiery mills to make women's stockings; marking the first commercial use of yarn for apparel. **Bruce Nathan Ames**, the American biochemist and molecular biologist who developed the Ames test indicator for carcinogens, has his 85th birthday on December 16. It is the day in 1809

that French chemical contemporary and collaborator of Antoine Lavoisier **Comte de Antoine Francois Fourcroy**, died. On December 18, 1839, **John William Draper** took his famous daguerreotype photo of the moon. **Herbert C. Brown**, the English-born American chemist who developed organoboranes, died on December 19, ten years ago. **Cyril Ponnampерuma**, the Ceylonese-American chemist, exobiologist and leading authority on the chemical origins of life, died on December 20, 1994. **Edwin G. Krebs**, the American biochemist who shared (with Fischer) the 1992 Nobel Prize for Physiology or Medicine for discovering reversible protein phosphorylation (and not the Krebs of Krebs cycle fame), died on December 21, 2009. On December 22, 1879, **Raoul Pierre Pictet** announced his liquefaction of oxygen, while on December 25, 100 years ago, thyroxine was first crystallized by biochemist **Edward C. Kendall**. **Gerhard Herzberg**, the German-Canadian awarded the 1971 Nobel Prize for Chemistry for his contributions to the knowledge of electronic structure and geometry of molecules, particularly free radicals, was born on December 25, 1904. **Charles Martin Hall**, the American chemist who devised an inexpensive electrolytic method of extracting aluminium from its ore that enabled its worldwide use, died on December 27, 100 years ago. **Kary B. Mullis**, the American biochemist, who devised the polymerase chain reaction (PCR) and shared the 1993 Nobel Prize for Chemistry (with Smith), has his 70th birthday on December 28. That day also marks the (accidental) discovery of dry cleaning 65 years ago. **William Merriam Burton**, the American chemist who provided the first thermal cracking process that more than doubled the proportion of gasoline yield from crude oil, died on December 29, 1954. **Jan Baptista van Helmont**, the Belgian chemist who recognized the existence of discrete gases and identified carbon dioxide, died on December 30, 1644.

Eugene Paul Wigner, the Hungarian-American physicist who shared the 1963 Nobel Prize for Physics (with

Mayer and Jensen) for his contributions to the theory of the atomic nucleus and the elementary particles, died on January 1, 1995. This day 100 years ago in 1915 aspirin was made available in tablet form for the first time and, in 1935, Wirephoto™ was invented by AP News® enabling the transmission of photographs to member newspapers. **Anselme Payen**, the French chemist who made important contributions to industrial chemistry and discovered cellulose, was born on January 6, 1795. On January 7, 1930, the element Fr (francium) was discovered while on 14 January 1970, L-dopa (levo-dihydroxyphenylalanine) was reported to benefit about 5% of the patients in reversing the progress of Parkinson's disease. **Peter Waage**, the Norwegian chemist who, with his brother-in-law published the mass action law in 1864, died on January 13, 1900. **Rolla N. Harger**, the American toxicologist and biochemist who invented the first blood alcohol testing machine called the Drunkometer, was born on January 14, 125 years ago. **Artturi Ilmari Virtanen**, the Finnish biochemist who improved the production and storage of protein-rich green fodder, and won the 1945 Nobel Prize for Chemistry, was born on January 15, 1895. **Nicolas Leblanc**, the French surgeon and chemist who developed a process for making soda ash (Na_2CO_3) from common salt (NaCl) in 1790 died on January 16, 1806. The process that bears his name was one of the most important industrial chemical processes of the 19th century. Sir **Edward Frankland**, the father of valency and inventor of the chemical bond, was born on January 18, 1825. **Adolf Friedrich Johann Butenandt**, the German biochemist who was the co-winner (with Ruzicka) of the 1939 Nobel Prize for Chemistry for pioneering work on sex hormones and primarily the isolation of estrone, died this same day 20 years ago. On January 19, 1915, a US patent was issued to **George Claude** of Paris that led to the neon sign. **Horace Wells**, a pioneer in the use of surgical anesthesia using nitrous oxide in dentistry, was born on January 21, 200 years ago.