

# NAMED CONCEPTS IN CHEMISTRY

## (L – Z)

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<http://www.chem.yorku.ca/NAMED/>

### Irving Langmuir



31 January 1881 - 16 August 1957  
American, b. Brooklyn, New York, USA

Nobel Prize Chemistry 1932

Langmuir-Blodgett film

see Katherine Burr Blodgett

Langmuir adsorption isotherm

Langmuir, I., J. Am. Chem. Soc. **1932**, 54, 2798  
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Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 961

## Sir Joseph Larmor



11 July 1857 - 19 May 1942  
Irish, b. Magheragall, Ireland

Larmor precession, Larmor frequency

Larmor, J., *Phil. Mag.* **1897**, 44, 503

Larmor, J. *Trans. Cambridge Phil. Soc.* **1900**, 18, 380

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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

Eddington, Sir A., *Roy. Soc. Obit. Not.* **1942 - 1944**, 4, 197

## Max Theodor Felix von Laue



9 October 1879 - 24 April 1960

German, b. Pfaffendorf, Koblenz, Germany

Nobel Prize Physics 1914

Laue symmetry groups

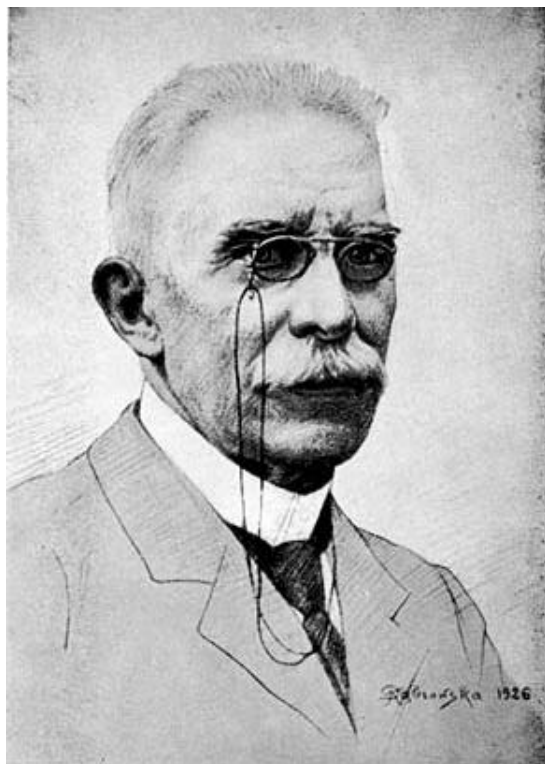
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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Henri Louis Le Châtelier



8 October 1850 - 17 September 1936

French, b. Paris, France

### Le Châtelier's principle

Le Châtelier, H.L., *Compt. Rend.* **1884**, 99, 786

Le Châtelier, H.L., *Compt. Rend.* **1888**, 106, 355; 598; 687; 1008

### Biographical references:

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Bodenstein, M., *Chem. Ber.* **1939**, 72A, 122

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Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 619

Desch, C.H., *Roy. Soc. Obit. Not.* **1936 - 1938**, 2, 251

## Chengteh Lee

B3LYP (Becke-Lee-Yang-Parr) method

see Axel D. Becke

Biographical references:

## John Edward Leffler

27 December 1920 – 18 May 2000

American, b. Brookline, Massachusetts, USA

Leffler hypothesis

Leffler, J.E., *Science* **1953**, 117, 340

Bell-Evans-Polanyi principle

Be(II)-Ma(rcus)-Ha(mmond)-Po(lanyi)-Th(ornton)-Le(ffler) principle

see Ronald Percy Bell

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New Providence, New Jersey, 1998

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## Alfred Beverley (Barry) Philip Lever

21 February 1936 –

British-Canadian, b. London, England

Lever ligand electrochemical parameters

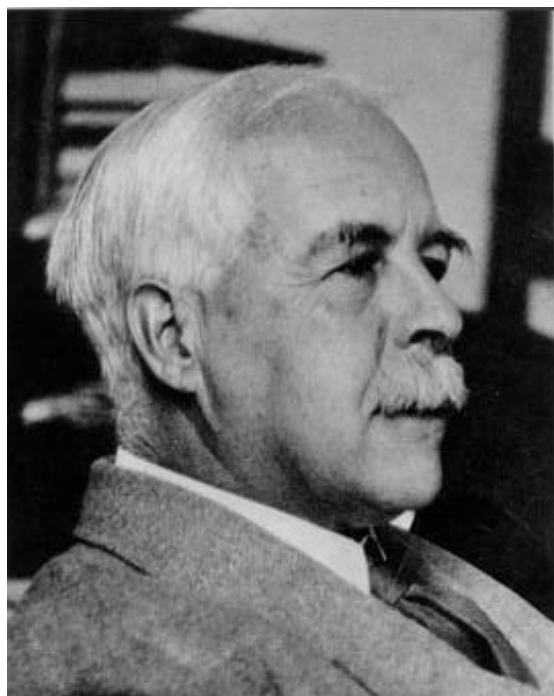
Lever, A.B.P., *Inorg. Chem.* **1990**, 29, 1271

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Biographical references:

R.R. Bowker's American Men & Women of Science 1998 - 99, 20th ed., R.R. Bowker:  
New Providence, New Jersey, 1998

## Gilbert Newton Lewis



23 October 1875 - 23 March 1946

American, b. Weymouth, Massachusetts, USA

### Lewis structures

Lewis, G.N., *J. Am. Chem. Soc.* **1916**, 38, 762

### Lewis acid and Lewis base

Lewis, G.N., *Valence and the Structure of Atoms and Molecules*, ACS Monograph, The Chemical Catalog Co.: New York, 1923.

Lewis, G.N., *J. Franklin Inst.* **1938**, 226, 293

### Biographical references:

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Hildebrand, J.H., *Roy. Soc. Obit. Not. Fellows* **1945 - 1946**, 5, 491

## Fritz Wolfgang London

7 March 1900 - 30 March 1954

German-American, b. Breslau, Germany, now Wroclaw, Poland

London dispersion forces

London, F., *Z. Physik* **1930**, 63, 245

London, F., *Z. Physik. Chem.* **1930**, 11, 222

Heitler-London treatment

see Walter Heitler

Biographical references:

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Millar, D.; Millar, I.; Millar, J.; Millar, M., *Chambers Concise Dictionary of Scientists*, W. & R. Chambers: Edinburgh, 1989

## Johann Josef Löschmidt



15 March 1821 - 8 July 1895

Austrian, b. Putschirn, near Carlsbad, Bohemia, now Karlovy Vary, Czech Republic

Lös Schmidt number (same as Avogadro's number)

Lös Schmidt, J., *Proc. Acad. Sci. Vienna* **1865**, 52, 395

Biographical references:

Maurer, James F. (ed.) *Concise Dictionary of Scientific Biography*, Charles Scribner's Sons: New York, 1981

Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 546

Thomas Martin Lowry





26 October 1874 - 2 November 1936  
British, b. Low Moor, Bradford, Yorks, England

Brønsted-Lowry definition of an acid

see Johannes Nicolaus Brønsted

Biographical references:

Pope, W.J., *J. Chem. Soc.* **1937**, 701

Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

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Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 856

Pope, W.J., *Roy. Soc. Obit. Not.* **1936 - 1938**, 2, 287

Theodore Lyman

23 November 1874 - 11 October 1954  
American, b. Boston, Massachusetts, USA

Lyman series

Lyman, T., *Phys. Rev.* **1914**, 3, 504

### Biographical references:

Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Hubert Maehr

25 February 1935 –

Austrian-American, b. Schlins, Austria

Maehr stereochemical descriptors

Maehr, H., *J. Chem. Educ.* **1985**, 62, 114

### Biographical references:

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## Rudolph Arthur Marcus



21 July 1923 -

Canadian-American, b. Montreal, Quebec, Canada

Rice-Ramsperger-Kassel-Marcus theory

Marcus, R.A. *J. Chem. Phys.* **1952**, 20, 359

Marcus, R.A.; Rice, O.K. *J. Phys. Colloids Chem.* **1951**, 55, 894

Rice, O.K.; Ramsperger, H.C. *J. Am. Chem. Soc.* **1927**, 49, 1617

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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

Anon., *Chem. Eng. News* **1998**, 76(2), 171

## Allan Marshall Maxam

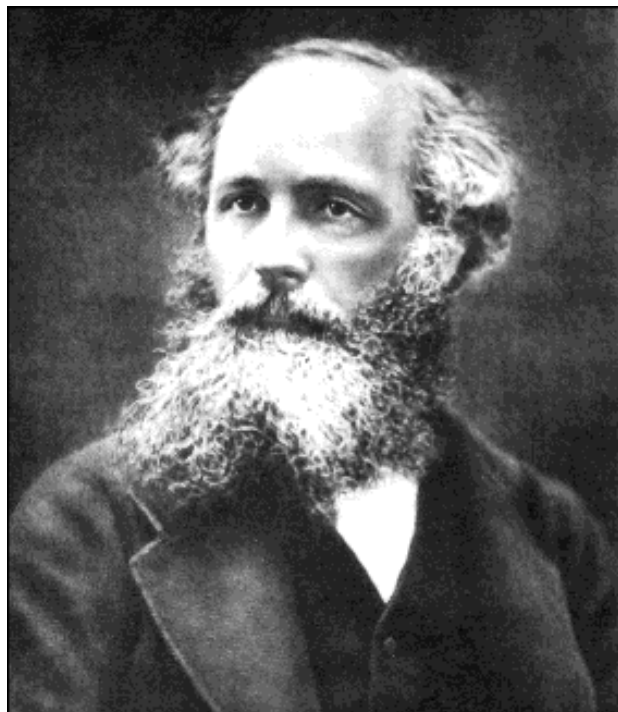
American, b. ?

Maxam-Gilbert DNA sequencing method

see Walter Gilbert

### Biographical references:

## James Clerk Maxwell



13 June 1831 - 5 November 1879

Scottish, b. Edinburgh, Scotland

Maxwell-Boltzmann statistics, Maxwell-Boltzmann distribution

see Ludwig Edward Boltzmann

Biographical references:

Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Robert Andrews Millikan



22 March 1868 - 19 December 1953  
American, b. Morrison, Illinois, USA

Millikan oil drop experiment

Millikan, R.A., *Phys. Rev.* **1913**, 2, 109

Biographical references:

du Bridge, L.A.; Epstein, P.A., *Biog. Memoirs Natl. Acad. Sci.* **1959**, 33, 241

Partington, J.R., *A History of Chemistry*, Vol. IV, Macmillan and Co., Ltd.: London, 1964, p. 931

## Christian Møller

22 December 1904 - 1980  
Danish, b. Notmark, Denmark

## Møller-Plesset single point energy calculation

Møller, C.; Plesset, M.S., *Phys. Rev.* **1934**, 46, 618

### Biographical references:

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Kay, E. (ed.) *Dictionary of Scandinavian Biography*, 2<sup>nd</sup> ed., International Biographical Center: Cambridge, 1976

## Rory A. More O'Ferrall

1937 -

British, b. Sevenoaks, Kent, England

More O'Ferrall-Jencks diagram

See William Platt Jencks

### Biographical references:

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## Robert Sanderson Mulliken



7 June 1896 - 31 October 1986

American, b. Newburyport, Massachusetts, USA

Nobel Prize Chemistry 1966

Mulliken population analysis

Mulliken, R.S., *J. Chem. Phys.* **1955**, 23, 1833

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Biographical references:

James, Laylin K. (ed.), *Nobel Laureates in Chemistry 1901 - 1992*, American Chemical Society: Washington, DC, 1993

## Wilfred S. Nathan

British, b. ?

Baker-Nathan effect

see John William Baker

Biographical references:

## Melvin Spencer Newman

10 March 1908 - 30 May 1993

American, b. New York, New York, USA

Newman projection

Newman, M.S., *J. Chem. Educ.* **1955**, 32, 344

Biographical references:

Paquette, L.A.; Orchin, M., *Biog. Memoirs Natl. Acad. Sci.* **1998**, 73, 335

Debus, Allen G. (ed.) *World Who's Who in Science* 1st ed., Marquis-Who's Who, Inc.: Hannibal: Missouri, 1968

## Julius Robert Oppenheimer

22 April 1904 - 18 February 1967  
American, b. New York, New York, USA

Born-Oppenheimer approximation

see Max Born

Biographical references:

Bethe, H.A., *Biog. Memoirs Natl. Acad. Sci.* **1997**, 71, 175

Bethe, H.A., *Biog. Memoirs Fellows Roy. Soc.* **1968**, 14, 391

## Albert Warner Overhauser

17 August 1925 -  
American, b. San Diego, California, USA

Nuclear Overhauser effect (NOE)

Overhauser, A.W., *Phys. Rev.* **1955**, 92, 411

Biographical references:

R.R. Bowker's *American Men & Women of Science 1998 - 99*, 20th ed., R.R. Bowker:  
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## George Edward Pake

1 April 1924 –  
American, b. Jeffersonville, Ohio, USA

Pake pattern

Pake, G.E., *J. Chem. Phys.* **1948**, 16, 327

Biographical references:

R.R. Bowker's *American Men & Women of Science 1998 - 99*, 20th ed., R.R. Bowker:  
New Providence, New Jersey, 1998

## V.A. Palm

Koppel-Palm solvent parameters

see Ilmar A. Koppel

Biographical references:

Robert Ghormley Parr

22 September 1922 –

American, b. Chicago, Illinois, USA

B3LYP (Becke-Lee-Yang-Parr method)

see Axel D. Becke

Biographical references:

R.R. Bowker's *American Men & Women of Science 1998 - 99*, 20th ed., R.R. Bowker:  
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Louis Carl Heinrich Friedrich Paschen

22 January 1865 - 25 February 1947

German, b. Schwerin, Mecklenburg, Germany

Paschen series

Paschen, F., *Ann. Physik* **1908**, 27, 537

Paschen's law

Biographical references:

Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner &  
Sons: New York, 1980

Wolfgang Pauli





25 April 1900 - 14 December 1958  
Austrian-American, b. Vienna, Austria

Nobel Prize Physics 1945

Pauli exclusion principle

Pauli, W., *Naturwiss.* **1924**, 12, 741

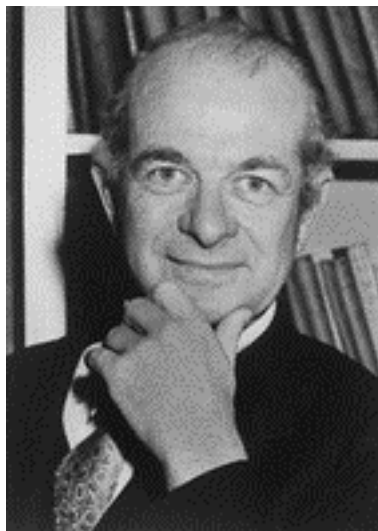
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Valko, E.I., *J. Chem. Educ.* **1950**, 27, 2

Linus Carl Pauling



28 February 1901 – 19 August 1994  
American, b. Portland, Oregon

Nobel Prize Chemistry 1954  
Nobel Prize Peace 1962

Pauling electronegativity scale

Pauling, L., *J. Am. Chem. Soc.* **1932**, 54, 3570

Pauling, L., *The Nature of the Chemical Bond and the Structure of Molecules and Crystals*, Cornell University Press: Ithaca, N.Y., 1948, pp. 58 – 75

Biographical references:

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## Ralph Gottfrid Pearson

12 January 1919 -  
American, b. Chicago, Illinois, USA

Pearson's principle of hard and soft acids and bases (HSAB)

Pearson, R.G., *J. Am. Chem. Soc.* **1963**, 85, 3533

Pearson, R.G.; Songstad, J., *J. Am. Chem. Soc.* **1967**, 89, 1827

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Pearson, R.G., *Inorg. Chem.* **1988**, 27, 734

Pearson, R.G., *Acc. Chem. Res.* **1990**, 23, 1

### Biographical references:

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## August Herman Pfund

28 December 1879 - 1949

American, b. Madison, Wisconsin, USA

### Pfund series

Pfund, A.H., *J. Opt. Soc. Am.* **1924**, 9, 193

### Biographical references:

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## Milton Spinoza Plesset

7 February 1908 - 1991

American, b. Pittsburgh, Pennsylvania, USA

Møller-Plesset single point energy calculation

See Christian Møller

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<http://www.library.yale.edu/pubstation/databases/biogen.html>

## Michael Polanyi

12 March 1891 - 22 February 1976

Hungarian-British, b. Budapest, Hungary

Bell-Evans-Polanyi principle

Be(II)-Ma(rcus)-Ha(mmond)-Po(lanyi)-Th(ornton)-Le(ffler) principle

see Ronald Percy Bell

Biographical references:

Wigner, E.P.; Hodgkin, R.A., *Biog. Memoirs Fellows Roy. Soc.* **1977**, 23, 413

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## Sir Chandrasekhara Venkata Raman



7 November 1888 - 21 November 1970

Indian, b. Trichinopoly, now Tiruchirappalli, India

Nobel Prize Physics 1930

Raman spectroscopy

Raman, C.V.; Krishnan, K.S. *Nature* **1928**, 121, 501

Landsberg, G.; Mandelstam, L., *Naturwiss.* **1928**, 16, 557

Raman, C.V., *Indian J. Phys.* **1928**, 2, 387

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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

## Herman Carl Ramsperger

19 July 1896 – 13 July 1932

American, b. Salt Lake City, Utah

Rice-Ramsperger-Kassel-Marcus (RRKM) theory

see Rudolf A. Marcus

Biographical references:

Cattell, J.M.; Cattell, J. *American Men of Science*, 4<sup>th</sup> ed., The Science Press: New York, 1927

*Pogg.* 6(3), 2117

## Alfred Guillou Redfield

11 March 1929 -

American, b. Boston, Massachusetts, USA

Redfield pulse sequence

Redfield, A.G.; Kunz, S.D.; Ralph, E.K., *J. Magn. Reson.* **1975**, 19, 114

Biographical references:

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## Christian Reichardt

16 November 1934 -

German, b. Ebersbach, Saxony, Germany

Dimroth-Reichardt parameter

see Karl Dimroth

Biographical references:

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Reichardt, C., *Chem. Rev.* **1994**, 94, 2319

## Rudolf Renner

27 June 1909 –  
German, b. Schweidnitz, Germany

Renner-Teller effect

Renner, R., *Z. Physik* **1934**, 92, 172

Biographical references:

Die Deutsche Bibliothek, Deutsche Bücherei Leipzig, Deutscher Platz 1, 04103 Leipzig,  
GERMANY

## Oscar Knefler Rice

12 February 1903 – 7 May 1978  
American, b. Chicago, Illinois, USA

Rice-Ramsperger-Kassel-Marcus theory

see Rudolf A. Marcus

Biographical references:

*American Men of Science, Physical and Biological Sciences*, 11th ed., R.R. Bowker:  
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Widom, B.; Marcus, R.A. *Biog. Memoirs Natl. Acad. Sci.* **1989**, 58, 425

## Walther Ritz

22 February 1878 - 7 July 1909  
Swiss, b. Sion, Valais, Switzerland

Ritz procedure, Ritz principle

Ritz, W., *Physik. Z.* **1908**, 9, 521

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## Biographical references:

*Pogg.* **1926**, 5, 1026

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## Wilhelm Conrad Röntgen



27 March 1845 - 10 February 1923

German, b. Lennep, Germany

Nobel Prize Physics 1901

Roentgen ray, X-ray

Roentgen, W.C., *Ann. Physik* **1898**, 64, 1

Stanton, A., *Science* **1896**, 3, 227; 726

## Biographical references:

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Daintith, J.; Mitchell, S.; Tootill, E.; Gjersten, D., *Biographical Encyclopedia of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

Gunther, P., *Angew. Chem.* **1937**, 50, 77

## Clemens Carel Johannes Roothaan

29 August 1918 -

Dutch-American, b. Nymegen, Netherlands

## Hartree-Fock-Roothaan method

Roothaan, C.C.J., *Rev. Mod. Phys.* **1951**, 23, 69  
Roothaan, C.C.J., *Rev. Mod. Phys.* **1951**, 23, 80  
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### Biographical references:

Press, Jaques Cattell (ed.) *American Men & Women of Science*, 14th ed., R.R. Bowker Co.: New York, 1979

## Henry Norris Russell

25 October 1877 - 18 February 1957  
American, b. Oyster Bay, New York, USA

### Russell-Saunders coupling

Russell, H.N.; Saunders, F.A., *Astrophys. J.* **1925**, 61, 38  
Russell, H.N.; Saunders, F.A., *Astrophys. J.* **1925**, 62, 1

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Stratton, F.J.M., *Biog. Memoirs Fellows Roy. Soc.* **1957**, 3, 173

## Johannes Robert Rydberg



8 November 1854 - 28 December 1919  
Swedish, b. Halmstad, Sweden

### Rydberg formula, Rydberg transition, Rydberg orbital

Rydberg, J.R., *Phil. Mag.* **1890**, 29, 331  
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Rydberg state

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## Frederick Sanger



13 August 1918 -  
British, b. Rendcomb, Gloucestershire, England

Nobel Prizes Chemistry 1958 and 1980

Sanger DNA sequencing method

Sanger, F., *J. Mol. Biol.* **1975**, 94, 444

Biographical references:

James, Laylin K. (ed.), *Nobel Laureates in Chemistry 1901 - 1992*, American Chemical Society: Washington, DC, 1993

## Frederick A. Saunders

18 August 1875 - 9 June 1963  
Canadian, b. London, Ontario, Canada

Russell-Saunders coupling

see Henry Norris Russell

Biographical references:

Olson, H.F., *Biog. Memoirs Natl. Acad. Sci.* **1967**, 39, 403

Gillispie, Charles Coulston (ed.), *Dictionary of Scientific Biography*, Charles Scribner & Sons: New York, 1980

Jerry Herbert Schachtschneider

American, b. ?

Schachtschneider method of vibrational frequency calculation

Schachtschneider, J.H., *Spectrochim. Acta* **1963**, 19, 117

Biographical references:

Günther Otto Schenck

14 May 1913 - 14 May 1973

German, b. Lörrach, Germany

Schenck sensitization mechanism

Ohloff, G.; Klein, E.; Schenck, G.O., *Angew. Chem.* **1961**, 73, 578

Gollnick, K.; Schenck, G.O., *Pure Appl. Chem.* **1964**, 9, 507

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*Pogg.* **1961**, 7A(41), 80

Turro, N.J. *Nach. Chem. Tech.* **1973**, 21, 209

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## Wilhelm Schlenk

22 March 1879 - 29 April 1943

German, b. Munich, Germany

### Schlenk equilibrium

Schlenk, W.S.; Schlenk, W. Jr. *Chem. Ber.* **1929**, 62, 920

Schlenk, W.S.; Schlenk, W. Jr. *Chem. Ber.* **1931**, 64, 734

### Biographical references:

*Pogg.* **1961**, 7A, 122

## Willem Siebrand

12 August 1932 -

Dutch-Canadian, b. Ijesselmuiden, Netherlands

### Albery-Siebrand model

see Wyndham John Albery

### Biographical references:

Siebrand, W.; Wildman, T.A., *Acc. Chem. Res.* **1986**, 19, 238

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## John Clarke Slater

22 December 1900 - 25 July 1976

American, b. Rochester, New York, USA

### Slater determinant

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### Slater orbital

Slater, J.C., *Phys. Rev.* **1930**, 36, 57

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S. P. L. SØRENSEN (1868- )

9 January 1868 - 13 February 1939  
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15 January 1908 -  
Hungarian-American, b. Budapest, Hungary

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