

# NAMED CONCEPTS IN CHEMISTRY

## (A – K)

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

### Wyndham John Albery

1936 -

British, b. England

Albery-Siebrand model

Albery, W.J.; Bartlett, P.N.; Wilde, C.P.; Darwent, J.R., *J. Am. Chem. Soc.* **1985**, 107, 1854

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

Biographical references:

Albery, W.J., *Acc. Chem. Res.* **1982**, 15, 142

### Normal Louis Allinger

6 April 1928 –

American, b. Alameda, California, USA

Allinger force field

Allinger, N.L.; Miller, M.A.; vanCattledge, F.A.; Hirsch, J.A. *J. Am. Chem. Soc.* **1967**, 89, 4345

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Lipkowitz, K.B. *J. Mol. Struct.* **2000**, 556, xi - xiv

### Carl Altman

15 January 1930 -  
American, b. Brooklyn, New York, USA

King-Altman method

King, E.L.; Altman, C., *J. Phys. Chem.* **1956**, 60, 1375

Biographical references:

*American Men of Science, Physical and Biological Sciences*, 11th ed., R.R. Bowker:  
Providence, N.J., 1967

Pierre Victor Auger

14 May 1899 – 24 December 1993

French, b. Paris, France

Auger effect, Auger electron spectroscopy

Auger, P.; Dauvillier, A. *Compt. Rend.* **1923**, 176, 1297

Auger, P. *Compt. Rend.* **1923**, 177, 169

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Hannibal: Missouri, 1968

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John William Baker

10 March 1898 - 1967

British, b. London, England

Baker-Nathan effect

Baker, J.W.; Nathan, W.S., *J. Chem. Soc.* **1935**, 1844

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Morris, Peter *Biographies of Chemists*, Royal Society of Chemistry,  
<http://www.chem.qmw.ac.uk/rschg/biog.html>

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[http://www.biblio.tu-bs.de/acwww25u/wbi\\_en/](http://www.biblio.tu-bs.de/acwww25u/wbi_en/)

*Pogg.* **1967**, 7B(1), 202

Rothstein, E., *Chem. Br.* **1968**, 4, 74

## Johann Jakob Balmer



1 May 1825 - 12 March 1898

Swiss, b. Lausanne, Switzerland

Balmer series

Balmer, J.J., *Ann. Physik Chem.* **1885**, 25, 80

## Biographical references:

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

## Axel D. Becke

B3LYP (Becke-Lee-Yang-Parr) method

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Lee, C.; Yang, W.; Parr, R.G., *Phys. Rev. B* **1988**, 37, 785

Biographical references:

## Ronald Percy Bell

24 November 1907 - 1996

British, b. Maidenhead, Berkshire, England

Bell-Evans-Polanyi principle,

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

Evans, M.G.; Polanyi, M., *Trans. Faraday Soc.* **1938**, 34, 11

Bell, R.P., *Proc. Roy. Soc. London Ser. A.*, **1936**, 154, 414

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## Richard Stephen Berry

9 April 1931 -

American, b. Denver, Colorado, USA

Berry pseudorotation

Berry, R.S., *J. Chem. Phys.* **1960**, 32, 933

Biographical references:

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

## Katherine Burr Blodgett

10 January 1898 - 12 October 1979

American, b. Schenectady, New York, USA

Langmuir-Blodgett film

Langmuir, I.; Blodgett, K.B., *J. Am. Chem. Soc.* **1932**, 54, 3781  
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Washington, 1998, p. 172

Grinstein, L.S.; Rose, R.K.; Rafailovich, M.H., *Women in Chemistry and Physics*,  
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## Max Ernst August Bodenstein

15 July 1871 - 3 September 1942

German, b. Magdeburg, Germany

### Bodenstein steady state approximation

Bodenstein, M; Dux, W., *Z. Phys. Chem.* **1913**, 85, 297  
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of Scientists*, Institute of Physics Publishing: Bristol, UK, 1994

Schumacher, H.J., *Angew. Chem.* **1941**, 54, 329

## Niels Hendrik David Bohr



7 October 1885 - 16 November 1962  
Danish, b. Copenhagen, Denmark

Nobel Prize Physics 1922

Bohr correspondence principle

Bohr, N., *Nature* **1921**, 108, 208

Bohr theory, model of atom

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Ludwig Edward Boltzmann



20 February 1844 - 5 September 1906  
Austrian, b. Vienna, Austria

Maxwell-Boltzmann distribution, Maxwell-Boltzmann statistics

Boltzmann, L., *Sitzungsberichte der Akademie Wissenschaften in Wien: Mathematisch-Naturwissenschaftliche Klasse* **1871**, 63(II), 679

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

## Max Born



11 December 1882 - 5 January 1970

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

Nobel Prize Physics 1954

Born-Oppenheimer approximation

Born, M.; Oppenheimer, R., *Ann. Physik (Leipzig)* **1927**, 84, 457

Born postulate

Born-Haber cycle

Born, M., *Verhandl. Deut. Physik Ges.* **1919**, 21, 13

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Biographical references:

Kemmer, N.; Schlapp, R., *Biog. Memoirs Fellows Roy. Soc.* **1971**, 17, 17

Satyendra Nath Bose



1 January 1894 - 4 February 1974

Indian, b. Calcutta, India

Bosons

Bose-Einstein statistics

Bose, S.N., *Z. Physik* **1924**, 26, 178

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Russell Jaye Boyd

11 September 1945 –

Canadian, b. Kelowna, British Columbia, Canada

Boyd-Edgecombe electronegativity parameters

Boyd, R.J.; Edgecombe, K.E., *J. Am. Chem. Soc.* **1988**, 110, 4182

Biographical references:

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

## Frederick Sumner Brackett

1 August 1896 - ?

American, b. Claremont, California, USA

Brackett series

Brackett, F., *Nature* **1922**, 109, 209

Biographical references:

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[http://www.biblio.tu-bs.de/acwww25u/wbi\\_en/](http://www.biblio.tu-bs.de/acwww25u/wbi_en/)

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## Auguste Bravais

23 August 1811- 30 March 1863

French, b. Annonay, France

Bravais lattices, Bravais-Miller indices

Bravais, A., *Études Cristallographiques*, Paris, 1866

Biographical references:

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## Léon Nicolas Brillouin

7 August 1889 - 4 October 1969

French, b. Sèvres, Seine-et-Oise, France

WKB (Wentzel-Kramers-Brillouin) or JWKB (Jeffreys- Wentzel-Kramers-Brillouin) method

Wentzel, G., *Z. Physik* **1926**, 38, 519

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### Biographical references:

Thomas, L.H., *Biog. Memoirs Natl. Acad. Sci.* **1985**, 55, 69

## Johannes Nicolaus Brønsted



22 February 1879 - 17 December 1947

Danish, b. Varde, Jutland, Denmark

### Brønsted-Lowry definition of an acid

Brønsted, J.N., *Recl. Trav. Chim. Pays-Bas* **1923**, 42, 718

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## Robert Brown

21 December 1773 - 10 June 1858

Scottish, b. Montrose, Scotland

### Brownian motion

Brown, R., *A Brief Account of Microscopical Observations made in the Months of June, July, and August 1827 on the Particles Contained in the Pollen of Plants; and on the General Existence of Active Molecules in Organic and Inorganic Bodies*, 1827

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## Melvin Calvin



8 April 1911 - 8 January 1997

American, b. St. Paul, Minnesota, USA

Nobel Prize Chemistry 1961

### Calvin cycle

Calvin, M., *J. Am. Chem. Soc.* **1956**, 78, 1895

Bassham, J.S.; Benson, A.A.; Kay, L.D.; Harris, A.Z.; Wilson, A.T.; Calvin, M., *J. Am. Chem. Soc.* **1954**, 76, 1760  
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## Nicholas Léonard Sadi Carnot



1 June 1796 - 24 August 1832  
French, b. Paris, France

Carnot cycle

Carnot, N.L.S., *Reflexions sur la Puissance Motrice du Feu*, Chez Bachelier Libraire, Paris, 1824

### Biographical references:

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## David Leonard Chapman

6 December 1869 - 17 January 1958

British, b. Wells, Norfolk, England

Gouy-Chapman diffuse double layer

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## Arthur Holly Compton



10 September 1892 - 15 March 1962  
American, b. Wooster, Ohio, USA

Nobel Prize Physics 1927

Compton effect, Compton wavelength

Compton, A.H., *Phys. Rev.* **1923**, 21, 483

Biographical references:

Allison, S.K., *Biog. Memoirs Natl. Acad. Sci.* **1965**, 38, 81

## Edward Uhler Condon

2 March 1902 - 26 March 1974  
American, b. Alamogordo, New Mexico, USA

Franck-Condon transition, Franck-Condon factor, Franck-Condon principle

Franck, J., *Trans. Faraday Soc.* **1925**, 21, 536

Condon, E.U., *Phys. Rev.* **1928**, 32, 858

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## Aimé Auguste Cotton

9 October 1869 - 16 April 1951

French, b. Bourg-en-Bresse, France

Cotton effect

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Cotton, A., *Ann. Chim. Phys.* **1896**, 8, 347

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## Francis Harry Compton Crick



8 June 1916 -

British, b. Northampton, England

Nobel Prize Physiology and Medicine 1962

Watson-Crick base pairing

Watson, J.D.; Crick, F.H.C., *Nature* **1953**, 171, 737; 964

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## David Yarrow Curtin

22 August 1920 -

American, b. Philadelphia, Pennsylvania, USA

Curtin-Hammett principle

Curtin, D.Y., *Rec. Chem. Prog.* **1954**, 15, 111

Biographical references:

R.R. Bowker's *American Men & Women of Science 1998 - 99*, 20th ed., R.R. Bowker:  
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## David Lawrence Dexter

2 July 1924 -

American, b. Ashland, Wisconsin, USA

Dexter excitation transfer

Dexter, D.L., *J. Chem. Phys.* **1953**, 21, 836

Biographical references:

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

## Karl Dimroth

18 August 1910 - 26 November 1995

German, b. Bad Tölz, Bavaria, Germany

Dimroth-Reichardt parameter

Dimroth, K.; Reichardt, C.; Siepmann, T.; Bohlmann, F., *Ann. Chem.* **1963**, 661, 1

Biographical references:

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Dimroth, K., *Acc. Chem. Res.* **1982**, 15, 58

## Paul Adrien Maurice Dirac



8 August 1902 - 20 October 1984  
British, b. Bristol, England

Nobel Prize Physics 1933

Dirac bra-ket ("bra" and "ket") notation

Dirac, P.A.M., *The Principles of Quantum Mechanics*, Clarendon Press: Oxford, 1958

Fermi-Dirac distribution

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Biographical references:

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## Jack David Dunitz

29 March 1923 -  
Scottish, b. Glasgow, Scotland

Dunitz angle

Dunitz, J.D.; Strickler, P. *Helv. Chim. Acta* **1966**, 49, 2505  
Ganis, P.; Dunitz, J.D. *Helv. Chim. Acta* **1967**, 50, 2379  
Buergi, H.D.; Dunitz, J.D. *J. Chem. Soc. D* **1969**, 472

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Burgi, H.B.; Dunitz, J.D., *Acc. Chem. Res.* **1983**, 16, 153

## Kenneth E. Edgecombe

Canadian ?, b. ?

Boyd-Edgecombe electronegativity parameters

see Russell Jaye Boyd

### Biographical references:

## John Thomas (Jack) Edward

13 March 1919 – June 1999

British-Canadian, b. London, England

Edward-Lemieux effect (anomeric effect)

Edward, J.T. *ACS Symp. Ser.* **1993**, 539, 1

Booth, H.; Lemieux, R.U. *Can. J. Chem.* **1971**, 49, 777

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## Meredith Gwynne Evans

2 December 1904 - 25 December 1952

British, b. Atherton, Lancashire, England

Bell-Evans-Polanyi principle

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

see Ronald Percy Bell

Evans principle

Evans, M.G., *Trans. Faraday Soc.* **1939**, 35, 824

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Melville, H.W. *Obit. Not. Fellows Roy. Soc.* **1953**, 8, 395

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Fritz Feigl

15 May 1891 - 23 January 1971

Austrian, b. Vienna, Austria

Feigl spot tests

Feigl, F., *Spot Tests in Organic Analysis*, 5<sup>th</sup> ed., Elsevier: New York, 1958

Biographical references:

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Kainz, G., *J. Chem. Educ.* **1958**, 35, 608

Enrico Fermi



29 September 1901 - 30 November 1954  
Italian-American, b. Rome, Italy

Nobel Prize Physics 1938

Fermions  
Fermi level  
Fermi resonance

Fermi-Dirac distribution  
see P.A.M. Dirac

Fermi hole

Biographical references:  
Allison, S.K., *Biog. Memoirs Natl. Acad. Sci.* **1957**, 30, 125

Bretscher, E.; Cockcroft, Sir J., *Biog. Memoirs Fellows Roy. Soc.* **1955**, 1, 69

Emil Hermann Fischer



9 October 1852 - 15 July 1919

German, b. Euskirchen, Rhenish Prussia, near Bonn, Germany

Nobel Prize Chemistry 1902

Fischer projection

Fischer, E., *Chem. Ber.* **1891**, 24, 1836

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## Theodor Förster

15 May 1910 - 20 May 1974

German, b. Frankfurt, Germany

Förster cycle, Förster equation

Förster, T., *Naturwiss.* **1949**, 36, 186

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Förster excitation transfer

Förster, T., *Discuss. Faraday Soc.* **1959**, 27, 7

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## Arthur Atwater Frost

3 August 1909 -

American, b. Onarga, Illinois, USA

Frost polygon

Frost, A.A.; Musulin, B., *J. Chem. Phys.* **1953**, 21, 572

Biographical references:

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## Kenichi Fukui



4 October 1918 - 9 July 1998  
Japanese, b. Nara, Japan

Fukui orbital, Fukui frontier molecular orbital theory

Fukui, K.; Yonezawa, T.; Shingu, H., *J. Chem. Phys.* **1952**, 20, 722  
Fukui, K.; Yonezawa, T.; Nagata, C.; Shingu, H. *J. Chem. Phys.* **1954**, 22, 1433  
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James, Laylin K. (ed.), *Nobel Laureates in Chemistry 1901 - 1992*, American Chemical Society: Washington, DC, 1993

## Walter Gilbert

21 March 1932 -  
American, b. Boston, Massachusetts, USA

Nobel Prize Chemistry 1980

## Maxam-Gilbert DNA sequencing method

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## Louis Georges Gouy

19 February 1854 - 27 January 1926  
French, b. Vals-des-Bains, Ardèche, France

Gouy-Chapman diffuse double layer

see David Leonard Chapman

### Biographical references:

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

## Walter Robert Wilhelm Grotrian

21 April 1890 - 3 March 1954  
German, b. Aachen, Germany

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

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Irish, b. Dublin, Ireland

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American, b. Wilmington, Delaware, USA

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American, b. Kenmare, North Dakota, USA

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19 March 1883 - 19 March 1950

British, b. Chorley, Lancashire, England

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