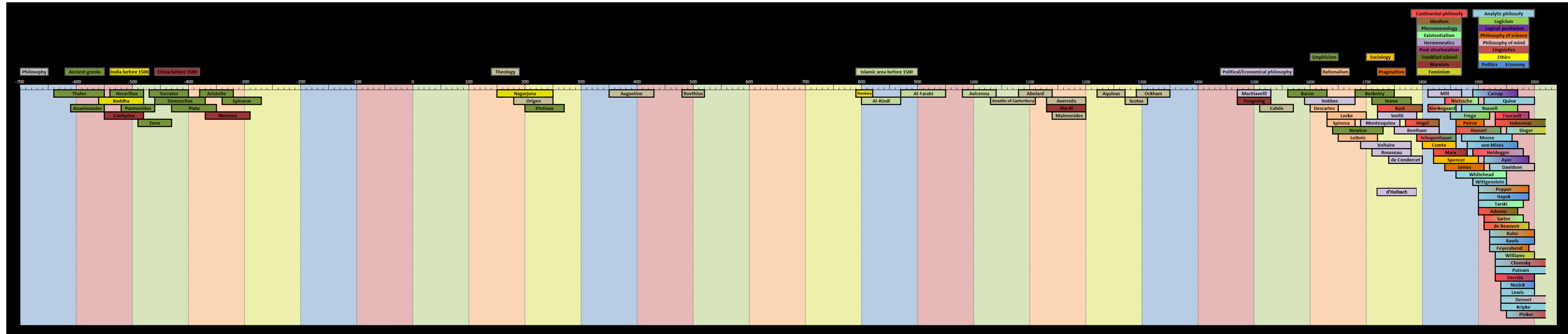


Appendix D Timelines

A selection of philosophers

(Paper size width set to max 22inch (55 cm), proper setting 50% wider (82.5 cm, accomodated in a foldout 15+5x13.5, Normal pagesize 15x23 cm)



A selection of philosophers



1. Thales, c. 624 – c. 546 (BC), Greek.*
 2. Anaximander, c. 610 – c.546 (BC), Greek.*
 3. Siddharta Gautama, c. 500 BC, India.*
 4. Confucius, 551 – 479 (BC), China.*
 5. Heraclitus, c. 535 – 475 (BC), Greek.*
 6. Parmenides, c. 515 – c. 460 (BC), Greek.*
 7. Zeno of Elea, c. 490 – c. 430 (BC), Greek.*
 (* Artistic representation, not a true image)

8. Socrates, 470 – 399 (BC), Greek.*
 9. Democritus, 460 – 370 (BC), Greek.*
 10. Plato, c. 426 – c. 348 (BC), Greek.
 11. Aristotle, 384 – 322 (BC), Greek.
 12. Mencius, 372 – 289 (BC), China.*
 13. Epicurus, 341 – 270 (BC), Greek.
 14. Nāgārjuna, 150 – 250, India.*

15. Origen, 184 – 253, Greek.*
 16. Plotinus, 204 – 270, Greek.
 17. Augustine, 354 – 430, Berber.*
 18. Boëthius, 480 – 524, Roman.
 19. Adi Shankara, 788 – 820, India.
 20. Al-Kindī, c. 801 – c. 873, Arab.*
 21. Al-Farabi, c. 872 – 950, Persian.*

22. Avicenna, 980 – 1037, Persian.*
 23. Anselm of Canterbury, c. 1033 – 1109.*
 24. Peter Abelard, 1079 – 1142, French.*
 25. Averroës, 1126 – 1198, Cordóba.*
 26. Zhu Xi, 1130 – 1200, China.
 27. Moses Maimonides, 1135 – 1204, Cordóba.
 28. Thomas Aquinas, 1225 – 1274, Italy.

29. Duns Scotus, c.1266 – 1308, Scotland.*
 30. William of Ockham, 1285 – 1347, England.
 31. Niccolò Machiavelli, 1469 – 1527, Italy.
 32. Wang Yangming, 1472 – 1529, China.
 33. John Calvin, 1509 – 1564, France.
 34. Francis Bacon, 1561 – 1626, England.
 35. Thomas Hobbes, 1588 – 1679, England.

36. René Descartes, 1596 – 1650, France.
 37. John Locke, 1632 – 1704, England.
 38. Baruch Spinoza, 1632 – 1677, Dutch.
 39. Isaac Newton, 1642 – 1726, England.
 40. G.W. Leibniz, 1646 – 1716, Germany.
 41. George Berkeley, 1685 – 1753, Ireland.
 42. C.-L. Montesquieu, 1689 – 1755, France.

43. F.-A. Voltaire, 1694 – 1778, France.
 44. David Hume, 1711 – 1776, Scotland.
 45. Jean-Jacques Rousseau, 1712 – 1778, France
 46. Immanuel Kant, 1724 – 1804, Germany.
 47. Adam Smith, 1723 – 1790, Scotland.
 48. Paul-Henri d'Holbach, 1723 – 1789, France.

A selection of philosophers



49. Nicolas de Condorcet, 1743 – 1794, France.
 50. Jeremy Bentham, 1748 – 1832, England.
 51. G.W.F. Hegel, 1770 – 1831, Germany.
 52. Arthur Schopenhauer, 1788 – 1860, Germany.
 53. Auguste Comte, 1798 – 1857, France.
 54. John Stuart Mill, 1806 – 1873, England.
 55. Søren Kierkegaard, 1813 – 1855, Denmark.
 56. Karl Marx, 1818 – 1883, Germany.

57. Herbert Spencer, 1820 – 1903, England.
 58. William James, 1842 – 1910, USA.
 59. Friedrich Nietzsche, 1844 – 1900, Germany.
 60. Gottlob Frege, 1848 – 1925, Germany.
 61. C. S. Peirce, 1839 – 1914, USA.
 62. Edmund Husserl, 1859 – 1938, Germany.
 63. A. N. Whitehead, 1861 – 1947, England.
 64. Bertrand Russell, 1872 – 1970, England.

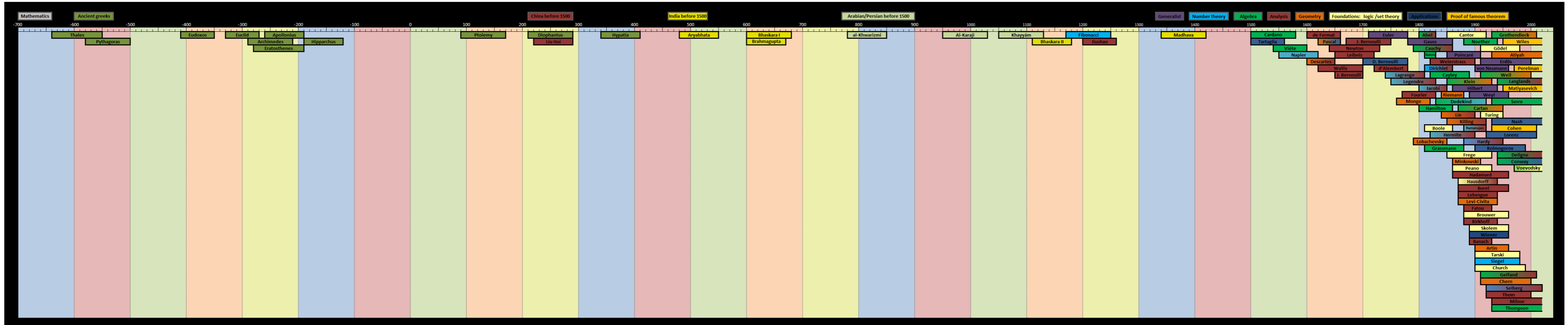
65. G. E. Moore, 1873 – 1958, England.
 66. Ludwig von Mises, 1881 – 1973, Austria.
 67. Martin Heidegger, 1889 – 1976, Germany.
 68. Ludwig Wittgenstein, 1889 – 1951, Austria-UK.
 69. Rudolf Carnap, 1891 – 1970, Germany-US.
 70. Karl Popper, 1902 – 1994, Austria-UK.
 71. Friedrich Hayek, 1899 – 1992, Austria-UK.
 72. Alfred Tarski, 1901 – 1983, Poland.

73. Theodor Adorno, 1903 – 1969, Germany.
 74. W.V.O Quine, 1908 – 2000, USA.
 75. A. J. Ayer, 1910 – 1989, UK.
 76. J. P. Sartre, 1905 – 1980, France.
 77. S. de Beauvoir, 1908 – 1986, France.
 78. Donald Davidson, 1917 – 2003, USA.
 79. Thomas Kuhn, 1922 – 1996, USA.
 80. John Rawls, 1921 – 2002, USA.

81. Paul Feyerabend, 1924 – 1990, Austria.
 82. Michel Foucault, 1926 – 1984, France.
 83. Jürgen Habermas, 1929 – , Germany.
 84. Bernard Williams, 1929 – 2003, UK-US.
 85. Noam Chomsky, 1928 – , USA.
 86. Hilary Putnam, 1926 – 2016, USA.
 87. Jacques Derrida, 1930 – 2004, France.
 88. Robert Nozick, 1938 – 2002, USA.

89. David Lewis, 1941 – 2001, USA.
 90. Daniel Dennet, 1942 – , USA.
 91. Saul Kripke, 1940 – , USA.
 92. Steven Pinker, 1954 – , USA.
 93. Peter Singer, 1946 – , Australia.

Some mathematicians from 700 BC to 2015 AD



A selection of mathematicians



- | | | | | | | |
|---|---|--|--|--|---|--|
| 1. Thales, c. 624 – c. 546 (BC), Greek.* | 9. Ptolemy, c. 390 – c. 337 (BC), Greek.* | 17. Al-Karaji, 953 – 1029, Persian.* | 25. François Viète, 1540 – 1603, France. | 33. Jacob Bernoulli, 1654 – 1705, Switzerland. | 41. Joseph Fourier, 1768 – 1830, France. | 49. P.G.L. Dirichlet, 1805 – 1859, Germany. |
| 2. Pythagoras, c. 570 – c. 495 (BC), Greek.* | 10. Diophantus, c. 210 – c. 290 (BC), Greek.* | 18. Omar Khayyám, 1048 – 1131, Persian.* | 26. John Napier, 1550 – 1617, Scotland. | 34. Johann Bernoulli, 1667 – 1748, Switzerland. | 42. C.F. Gauss, 1777 – 1855, Germany. | 50. George Boole, 1815 – 1864, England. |
| 3. Eudoxos, c. 390 – c. 337 (BC), Greek.* | 11. Liu Hui, c. 225 – c. 295, China.* | 19. Bhāskara II, 1114 – 1185, India.* | 27. Pierre de Fermat, 1607 – 1665, France. | 35. Daniel Bernoulli, 1700 – 1782, Switzerland. | 43. A.-L. Cauchy, 1789 – 1857, France. | 51. Hermann Grassmann, 1809 – 1877, Germany. |
| 4. Euclid, c. 330 – c. 270 (BC), Greek.* | 12. Hypatia, c. 360 – 415, Greek.* | 20. Fibonacci, c. 1175 – 1245, Italy.* | 28. René Descartes, 1596 – 1650, France. | 36. Leonhard Euler, 1707 – 1783, Switzerland. | 44. Niels Henrik Abel, 1802 – 1829, Norway. | 52. Karl Weierstrass, 1815 – 1897, Germany. |
| 5. Archimedes, c. 287 – c. 212 (BC), Greek.* | 13. Aryabatha, 476 – 550, India.* | 21. Qin Jiushao, c. 1202 – 1261, China.* | 29. Blaise Pascal, 1623 – 1662, France. | 37. Jean-Baptiste d’Alembert, 1717 – 1783, France. | 45. Carl Jacobi, 1804 – 1851, Germany. | 53. Arthur Cayley, 1821 – 1895, England. |
| 6. Eratosthenes, c. 276 – c. 194 (BC), Greek.* | 14. Bhāskara, I, c. 600 – c. 680, India.* | 22. Madhava, c. 1340 – 1425, India.* | 30. John Wallis, 1616 – 1703, England. | 38. Joseph-Louis Lagrange, 1736 – 1813, France. | 46. Nikolai Lobachevsky, 1792 – 1856, Russia. | 54. Charles Hermite, 1822 – 1901, France. |
| 7. Apollonius, c. 260 – c. 190 (BC), Greek.* | 15. Brahmagupta, c. 598 – c. 670, India.* | 23. Gerolamo Cardano, 1501 – 1576, Italy. | 31. Isaac Newton, 1642 – 1726, England. | 39. Adrien-Marie Legendre, 1752 – 1833, France. | 47. W.R. Hamilton, 1805 – 1865, Ireland. | 55. Richard Dedekind, 1831 – 1916, Germany. |
| 8. Hipparchus, c. 190 BC – c. 120 (BC), Greek.* | 16. al-Khwārizmī, c. 780 – c. 850, Persian.* | 24. Niccolò Tartaglia, 1500 – 1557, Italy. | 32. G.W. Leibniz, 1647 – 1716, Germany. | 40. Gaspard Monge, 1746 – 1818, France. | 48. Évariste Galois, 1811 – 1832, France. | 56. Bernhard Riemann, 1826 – 1866, Germany. |
| (* Artistic representation, not a true image) | | | | | | |

A selection of mathematicians



58. Georg Cantor, 1845 – 1918, Germany.
 59. Henri Poincaré, 1854 – 1912, France.
 60. Felix Klein, 1849 – 1925, Germany.
 61. Wilhelm Killing, 1847 – 1923, Germany.
 62. Gottlob Frege, 1848 – 1925, Germany.
 63. David Hilbert, 1862 – 1943, Germany.
 64. Hermann Minkowski, 1864 – 1909, Germany.
 65. Giuseppe Peano, 1858 – 1932, Italy.

66. Jacques Hadamard, 1865 – 1963, France.
 67. Élie Cartan, 1869 – 1951, France.
 68. Felix Hausdorff, 1868 – 1942, Germany.
 69. Émile Borel, 1871 – 1956, France.
 70. Henri Lebesgue, 1875 – 1941, France.
 71. Tullio Levi-Civita, 1873 – 1941, Italy.
 72. Emmy Noether, 1882 – 1935, Germany.
 73. Srinavasa Ramanujan, 1887 – 1920, India.

74. G.H. Hardy, 1877 – 1947, England.
 75. Pierre Fatou, 1878 – 1929, France.
 76. L.E.J. Brouwer, 1881 – 1966, Dutch.
 77. G.D. Birkhoff, 1884 – 1944, USA.
 78. Hermann Weyl, 1885 – 1955, Germany.
 79. Thoralf Skolem, 1887 – 1963, Norway.
 80. Norbert Wiener, 1894 – 1964, USA.
 81. Stefan Banach, 1892 – 1945, Poland.

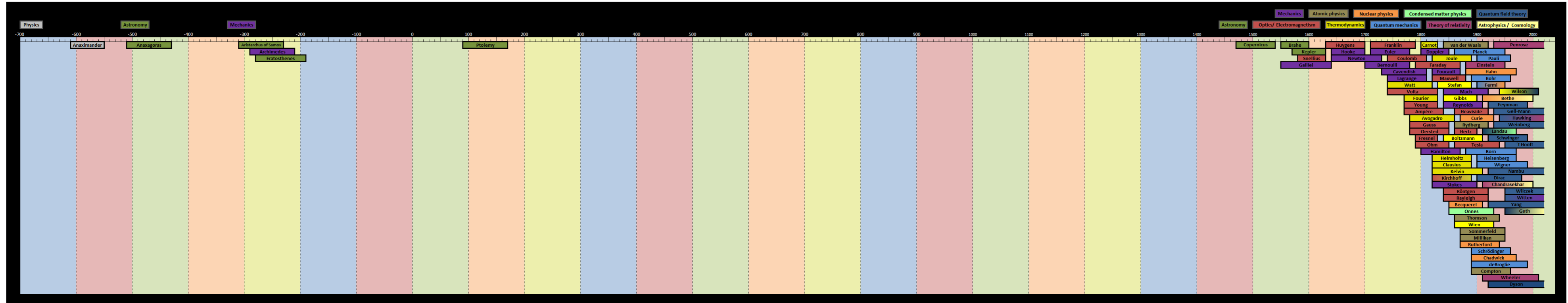
82. John von Neumann, 1903 – 1957, Hungary-US.
 83. Andrey Kolmogorov, 1903 – 1987, Soviet.
 84. Emil Artin, 1898 – 1962, Austria.
 85. Alfred Tarski, 1901 – 1983, Poland-US.
 86. Carl Ludwig Siegel, 1896 – 1981, Germany.
 87. Alonzo Church, 1903 – 1995, USA.
 88. Kurt Gödel, 1906 – 1978, Austria.
 89. Paul Erdős, 1913 – 1996, Hungary.

90. André Weil, 1906 – 1998, France.
 91. Alan Turing, 1912 – 1954, England.
 92. Israel Gelfand, 1913 – 2009, Soviet.
 93. Shiing-Shen Chern, 1911 – 2004, China-US.
 94. Edward Lorenz, 1917 – 2008, USA.
 95. Atle Selberg, 1917 – 2007, Norway.
 96. René Thom, 1923 – 2002, France.
 97. Alexander Grothendieck, 1928 – 2014, France.

98. Michael Atiyah, 1929 – , England
 99. Jean-Pierre Serre, 1926 – , France.
 100. John Forbes Nash, 1928 – 2015, USA.
 101. Paul Cohen, 1934 – 2007, USA.
 102. John Milnor, 1931 – , USA.
 103. John Thompson, 1932 – , USA.
 104. Robert Langlands, 1936 – , USA.
 105. Pierre Deligne, 1944 – , Belgium.

106. John Conway, 1937 – , England.
 107. Andrew Wiles, 1953 – , England.
 108. Yuri Matiyasevich, 1947 – , Russia.
 109. Grigori Perelman, 1966 – , Russia.
 110. Vladimir Voevodsky, 1966 – 2017, Russia-US.
 111. Peter Scholze, 1987 – , Germany.

A selection of physicists



A selection of physicists



1. Anaximander, c. 610 – c. 546 (BC), Greek.*
 2. Anaxagoras, c. 510 – c. 430 (BC), Greek.*
 3. Aristarchus, c. 310 – c. 250 (BC), Greek.*
 4. Archimedes, c. 287 – c. 212 (BC), Greek.*
 5. Eratosthenes, 276 – 194 (BC), Greek.*
 6. Ptolemy, c. 390 – c. 337 (BC), Greek.*
 7. Nicolaus Copernicus, 1473 – 1543, Poland.
 8. Tycho Brahe, 1546 – 1601, Denmark.
- (* Artistic representation, not a true portrait)

9. Galileo Galilei, 1564 – 1642, Italy.
10. Willebrord Snellius, 1580 – 1626, Dutch.
11. Cristiaan Huygens, 1626 – 1695, Dutch.
12. Robert Hooke, 1635 – 1703, England.*
13. Isaac Newton, 1642 – 1726, England.
14. Daniel Bernoulli, 1700 – 1782, Switzerland.
15. Benjamin Franklin, 1706 – 1790, USA.
16. Leonhard Euler, 1707 – 1783, Switzerland.

17. Henry Cavendish, 1731 – 1810, England.
18. C.-A. de Coulomb, 1736 – 1806, France.
19. Joseph-Louis Lagrange, 1736 – 1813, France.
20. James Watt, 1736 – 1819, Scotland.
21. Alessandro Volta, 1745 – 1827, Italy.
22. Joseph Fourier, 1768 – 1830, France.
23. Thomas Young, 1773 – 1829, England.
24. André-Marie Ampère, 1775 – 1836, France.

25. Amedeo Avogadro, 1776 – 1856, Italy.
26. C.F. Gauss, 1777 – 1855, Germany.
27. H. C. Ørsted, 1777 – 1851, Denmark.
28. Michael Faraday, 1791 – 1867, England.
29. Augustin-Jean Fresnel, 1788 – 1827, France.
30. Georg Ohm, 1789 – 1854, Germany.
31. Sadi Carnot, 1796 – 1832, France.
32. Christian Doppler, 1803 – 1853, Austria.

33. W.R. Hamilton, 1805 – 1865, Ireland.
34. James P. Joule, 1818 – 1889, England.
35. Léon Foucault, 1819 – 1868, France.
36. James Clerk Maxwell, 1831 – 1879, Scotland.
37. Hermann von Helmholtz, 1821 – 1894, Germany.
38. Rudolf Clausius, 1822 – 1888, Germany.
39. W. T. Kelvin, 1824 – 1907, Ireland-Scotland.
40. Gustav Kirchhoff, 1824 – 1887, Germany.

41. George Stokes, 1819 – 1903, England.
42. Josef Stefan, 1835 – 1893, Austria.
43. J. D. van der Waals, 1837 – 1923, Dutch.
44. Ernst Mach, 1838 – 1916, Austria.
45. Josiah Willard Gibbs, 1839 – 1903, USA.
46. Osborne Reynolds, 1842 – 1912, England.
47. Ludwig Boltzmann, 1844 – 1906, Austria.
48. Wilhelm Röntgen, 1845 – 1923, Germany.

A selection of physicists



49. J.W.S Rayleigh, 1842 – 1919, England.
 50. Henri Becquerel, 1852 – 1908, France.
 51. Kamerlingh Onnes, 1853 – 1926, Dutch.
 52. Max Planck, 1858 – 1947, Germany.
 53. Olivier Heaviside, 1850 – 1925, England.
 54. Johannes Rydberg, 1854 – 1919, Sweden.
 55. Heinrich Hertz, 1857 – 1894, Germany.
 56. Nikola Tesla, 1856 – 1943, Serb-USA.

57. J.J. Thomson, 1856 – 1940, England.
 58. Wilhelm Wien, 1864 – 1928, Germany.
 59. Marie Curie, 1867 – 1934, Poland-France.
 60. Arnold Sommerfeld, 1868 – 1951, Germany.
 61. Robert A. Millikan, 1868 – 1953, USA.
 62. Ernest Rutherford, 1871 – 1937, England.
 63. Albert Einstein, 1879 – 1955, Germany-USA.
 64. Otto Hahn, 1879 – 1968, Germany.

65. Max Born, 1882 – 1970, Germany.
 66. Niels Bohr, 1885 – 1962, Denmark.
 67. Erwin Schrödinger, 1887 – 1961, Austria.
 68. James Chadwick, 1891 – 1974, England.
 69. Louis de Broglie, 1892 – 1987, France.
 70. Arthur Compton, 1892 – 1962, USA.
 71. Enrico Fermi, 1901 – 1954, Italy.
 72. Werner Heisenberg, 1901 – 1976, Germany.

73. Eugene Wigner, 1902 – 1995, Hungary-US.
 74. Paul Dirac, 1902 – 1984, England.
 75. Wolfgang Pauli, 1900 – 1958, Austria-US.
 76. Hans Bethe, 1906 – 2005, Germany-US.
 77. Lev Landau, 1908 – 1968, Soviet.
 78. Subrahmanyan Chandrasekhar, 1910 – 1995, India.
 79. John Wheeler, 1911 – 2008, USA.
 80. Richard Feynman, 1918 – 1988, USA.

81. Julian Schwinger, 1918 – 1994, USA.
 82. Yoichiri Nambu, 1921 – 2015, Japan-US.
 83. Che-Ning Yang, 1922 – , China.
 84. Freeman Dyson, 1923 – , USA.
 85. Roger Penrose, 1931 – , England.
 86. Murray Gell-Mann, 1929 – , USA.
 87. Steven Weinberg, 1933 – , USA.
 88. Kenneth G. Wilson, 1936 – 2013, USA.

89. Stephen Hawking, 1942 – , England.
 90. Gerard t'Hooft, 1946 – , Dutch.
 91. Frank Wilczek, 1951 – , USA.
 92. Alan Guth, 1947 – , USA.
 93. Edward Witten, 1951 – , USA.
 94. Kip Thorne, 1940 – , USA.
 95. Andrew Strominger, 1955 – , USA.
 96. Carlo Rovelli, 1956 – , Italy.