

Modern Physics Timeline: 1900 - Present

- 1901 - Max Planck makes his quantum hypothesis, called Planck's Law - energy is carried by indistinguishable units called quanta, rather than flowing in a pure continuum
- 1905 - Albert Einstein proposes Planck's quantum hypothesis as the physics underlying the photoelectric effect, developing quantum theory, one of the two most important developments in 20th century physics
- 1905 - Einstein publishes his Special Theory of Relativity
- 1915 - Emmy Noether publishes Noether's Theorem, discovering the relationship between symmetries and conserved currents that will later be crucial to the development of quantum gauge field theory and string theory
- 1915 - Einstein publishes his General Theory of Relativity
- 1924 - Louis de Broglie proposes the particle-wave duality of the electron in his doctoral thesis at the Sorbonne
- 1926 - Erwin Schrodinger develops his wave equation version of quantum mechanics
- 1927 - Werner Heisenberg discovers the Uncertainty Principle
- 1928 - Paul Dirac predicts the discovery of the positron
- 1929 - Edwin Hubble observes the redshift of distant galaxies and concludes that the Universe is expanding
- 1931 - Einstein stops using the cosmological constant to keep the Universe from expanding.
- 1933 - Astrophysicist Fritz Zwicky infers existence of dark matter
- 1935 - Physicist Subramahnyan Chandrasekhar predicts black holes
- 1953 - Murray Gell-Mann lays foundation for the quark
- 1964 - Cambridge mathematician Roger Penrose proves that a black hole space/time must contain behind the black hole event horizon a singularity where space/time physics ceases to make good sense
- 1964 - Murray Gell-Mann proposes fundamental particles that Gell-Mann names "quarks"
- 1968 - Gabriele Veneziano founds modern string theory
- 1970 - Yoichiro Nambu, Leonard Susskind, and Holger Nielsen independently discover that the dual resonance model devised by Veneziano is based on the quantum mechanics of relativistic vibrating strings, and string theory begins
- 1973 - Predictions of Great Attractor are made
- 1974 - Stephen Hawking combines quantum field theory with classical general relativity and predicts that black holes radiate through particle emission
- 1974 - Joel Scherk and John Schwarz propose string theory as a theory of quantum gravity, an idea that takes ten years to be widely appreciated
- 1975 - Vera Rubin announces the existence of dark matter
- 1980 - Alan Guth puts forward the idea of an inflationary phase of the early Universe, before the Big Bang
- 1981 - Michael Green and John Schwarz develop superstring theory
- 1986 - Location of Great Attractor is found
- 2006 - Dark matter observed separate from ordinary matter