

Vignettes from the Evolution of Mathematics and Science
Professor Venkatarama Krishnan - October 17, 2013

Aryabhatta (476-550AD): Calculation of π taken from Aryabhatiya (circa 500AD)

चतुराधिकं शतं अष्टगुणं द्वाषष्टि तथा सहस्राणाम् ।

अयुतद्वय विष्कम्भस्य आसन्नः वृत्त परिणाहः ॥

Four more than 100 multiplied by 8 with thousand times 62 (= 62,832) divided by 20,000 gives approximately the ratio of circumference to the diameter of a circle. (= π)

Isaac Newton (1642-1727), Samuel Pepys (1633-1703), Binomial Probability Problem 1693, Gottfried Wilhelm Leibnitz (1646-1716)

Jacques Bernoulli (1654-1705) Ars Conjectandi (1712), Johann Bernoulli (1667-1748) Calculus of Variations and Bernoulli Polynomials.

Leonhard Euler (1707-1783) Blind from 1735.

Pierre-Simon Laplace (1749-1827), Antoine-Laurent Lavoisier (1743-1794) First Paper in 1780

John Dalton (1766-1844), Joseph Louis Gay-Lussac (1778-1850), Jons Jacob Berzelius (1779-1848), Amadeo Carlo Avogadro (1776-1856), Berzelius Hypothesis:

Julius Lothar Meyer (1830-1895), Dmitri Ivonovich Mendeleev (1834-1907) Students of Robert Wilhelm Eberhard Bunsen (1811-1899) Heidelberg University

Albert Einstein (1879-1955) – Special Theory of Relativity NL 1921 Photoelectric Effect

Chandrasekhara Venkataraman (1888-1970) Scattering of Light 1928, NL1930, Louis Victor DeBroigle (1892-1987) NL1929, Wave Particle Dualism 1924.

Irene Curie-Joliot (1897-1956) NL 1935 Induced Radioactivity, Ernest Rutherford (1871-1937), NL 1908 Disintegration of Radioactive elements, Otto Hahn (1879-1968) NL 1944 Nuclear Fission, Fritz Strassman (1902-1980)

Enrico Fermi (1901-1954), NL 1938, Induced Radioactivity

Julius Robert Oppenheimer (1904-1967), Edward Teller (1908-2003)

Oppeheimer's thought on the first atomic explosion July 16, 1945 at Alamogordo: Gita: 11:32

कालोस्मि लोकक्षयकृत्प्रवृद्धो लोकान्समाहर्तुं इह प्रवृत्तः ।

ऋतेऽपि त्वां न भविष्यन्ति सर्वे येऽवस्थिताः प्रत्यनीकेषु योधाः ॥

I am Time the destroyer of the worlds, and I have come to destroy these wicked people. Even without you these warriors on the other side will not survive.

Subrahmanya Chandrasekhar (1910-1995), NL 1983 Structure and Evolution of Stars