

Biographical Encyclopedia of Astronomers

© 2007 Springer

Maxwell, James Clerk

Born Edinburgh, Scotland, 13 June 1831

Died Cambridge, England, 5 November 1879

It was while competing for the fourth Adams Prize that James Maxwell wrote a paper on Saturn's rings, in which he proposed that they were made of small particles and could not be solid.

Maxwell's father was John Clerk; Maxwell was added later for inheritance purposes. His mother was Frances Cay. Maxwell was brought up in the Scottish countryside on an estate at Middlebie, Galloway, in a house called Glenlair. His mother died when he was eight years old, and after an unsuccessful attempt at a private tutor, he was educated at Edinburgh Academy from 1841. Maxwell wrote a paper on the geometry of ovals when he was fourteen

Maxwell went to Edinburgh University in 1847, then to Peterhouse College, Cambridge, in 1850, transferring to Trinity College and graduating in 1854. In 1856 he took up the post of professor of natural philosophy at Marischal College, Aberdeen, to be close to his ill father.

Maxwell married Katherine Mary Dewar, the daughter of the principal of Marischal College, but this did not prevent him from losing his position when Marischal College and King's College in Aberdeen were merged in 1860. In 1861 he was elected a Fellow of the Royal Society.

Maxwell was turned down for a chair at Edinburgh University and was appointed chair of natural philosophy at King's College, London, until 1865. He then divided his time between Glenlair and Cambridge, where he designed the Cavendish Laboratory, which opened on 16 June 1874

In 1866, Maxwell formulated, independently of Ludwig Boltzmann, what is now known as the Maxwell-Boltzmann kinetic theory of gases. Later, Maxwell developed the famous equations describing electromagnetism that bear his name.

David Jefferies

Selected References

Harman, P. M. (1998). *The Natural Philosophy of James Clerk Maxwell*. Cambridge: Cambridge University Press.

—— (ed.) (1990-2002). *The Scientific Letters and Papers of James Clerk Maxwell*. 3 Vols. Cambridge: Cambridge University Press.

Maxwell, James Clerk (1876). *Matter and Motion*. London: Society for Promoting Christian Knowledge. Also available from Dover