



Ronald E. Hatcher
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The Magnetic Universe

Professor Steve Cowley
Director, Princeton Plasma Physics Laboratory

ABSTRACT:

Looking out into the vast plasmas of the universe we see a magnetic field everywhere. It pokes out of stars, surrounds planets, fills the space between galaxies and spans huge distances in radio jets. When did the universe become magnetized? How did it happen? I will discuss these questions and how magnetic fields shape and control plasmas in the universe and in the laboratory.

BIOGRAPHY:

Professor Steve Cowley is a theoretical physicist and international authority on nuclear fusion and astrophysical plasmas. He has served as director of the Princeton Plasma Physics Laboratory since July 2018. Previously he served as president of Corpus Christi College, Oxford, U.K., and head of the EURATOM / CCFE Fusion Association and chief executive officer of the United Kingdom Atomic Energy Authority (UKAEA).

Cowley was educated at the University of Oxford and Princeton University. Following his Princeton Ph.D., he completed postdoctoral research at the Culham Centre for Fusion Energy (CCFE). He has held positions at PPPL, the University of California – Los Angeles and Imperial College, London. He was appointed as the head of the EURATOM / CCFE Fusion association in September 2008 and as CEO of UKAEA in November 2009. In 2015, he became the 31st President of Corpus Christi College, Oxford, his alma mater where he was the first scientist to hold the post.

Cowley's research interests are in plasmas and nuclear fusion, astrophysical plasmas and the laboratory. He is a Fellow of the Royal Society, the American Physical Society, the Institute of Physics and the Royal Academy of Engineering.

In the 2018 Birthday Honours, Cowley was appointed a Knight Bachelor, by Queen Elizabeth II for services to science and to the development of nuclear fusion.