

Prof. Dr. Gerhard Haerendel

Director Emeritus of the Max Planck Institute for extraterrestrial Physics, Garching (Germany)

Born in 1935, he received his PhD (Dr. rer. nat.) in Physics from the University of Munich in 1963. In 1969 he became Fellow (Wissenschaftliches Mitglied) of the Max-Planck-Institut für Physik und Astrophysik and in 1972 Director at the Max-Planck-Institut für extraterrestrische Physik (MPE), from which he retired at the end of 2000. In 1972 he was Visiting Lecturer at the University of California, Berkeley. In 1987 he was appointed Honorarprofessor at the Technische Universität Braunschweig. He has been Visiting Professor at the University of Iowa in 1988 and at the University of California, Berkeley, in 2000. As of 1986 he has been Co-Director of Skinakas Observatory (Crete). From 1982 to 1984 he was Chairman of the Council of the European Incoherent Scatter Radar (EISCAT). In 1989 he was Dean of the Summer Session of the International Space University in Strasbourg. From 1989 – 2001 he has been Vice President of the International Academy of Astronautics and from 1994 - 2002 President of the Committee on Space Research (COSPAR). From September 2000 - September 2005 he has been Vice President and Founding Dean of the School of Engineering and Science at International University Bremen (now Jacobs University). He was Chairman of the European Space Science Committee (ESSC) from 2003 to 2007. 2005 Distinguished Professor of Space Physics, International University Bremen. From 2008 - 2009 he was Chairman of the Advisory Committee to the ESA Directorate of Human Space Flight, Microgravity and Exploration. In fall 2011 he was Distinguished Visiting Professor at Dartmouth College, Hanover, NH. In October 2005 he returned to the Max-Planck-Institut für extraterrestrische Physik as Director Emeritus. In October 2018 he received the honorary doctorate in physics of the University of Crete.

Prof. Haerendel has more than 50 years of experience in space research, including the function of P.I. of several international rocket and satellite projects such as PORCUPINE, Coloured Bubbles, AMPTE, CRRES, FREJA, and EQUATOR-S and as Co.I. on two instruments of the Rosetta mission. The sounding rocket work pioneered the application of the barium plasma cloud technique to various aspects of plasma and magnetospheric physics, e.g. confirmation of auroral acceleration and Alfvén's critical ionization velocity effect, culminating in the creation of artificial comets in 1984 and 1985. Interpretations of satellite data led to the discovery of dayside boundary layers, transient reconnection events, high-beta plasma blobs in the magnetosphere, and the in-situ confirmation of reconnection. Theoretical work on the motion of plasma clouds, formation of ionospheric irregularities, equatorial spread-F, ambipolar diffusion, diffusion of trapped particles, wave-particle interactions, boundary layers, magnetosphere-ionosphere interactions, auroral arcs, substorms, cometary interactions, solar spicules, chromospheric evaporation, prominences, and solar flares.

311 publications

Memberships

International Astronomical Union
American Geophysical Union
Astronomische Gesellschaft
European Geophysical Union
Deutsche Physikalische Gesellschaft
Gesellschaft Deutscher Naturforscher und Ärzte

Honors

1985 Member International Academy of Astronautics
1989 Fellow American Geophysical Union
1990 Foreign Member Royal Swedish Academy of Sciences

1990 Member Academia Europea
1993 Associate of the Royal Astronomical Society
1993 Prix de Parrainage of the Fondation d'Alsace
1994 COSPAR Award
1999 Hannes Alfvén Medal of the European Geophysical Society
1999 Corresponding Member of the Austrian Academy of Sciences
2002 Theodore von Karman Award of the International Astronautical Union
2010 Jean-Dominique Cassini Medal of the European Geophysical Union
2018 Honorary doctorate in physics of the University of Crete.