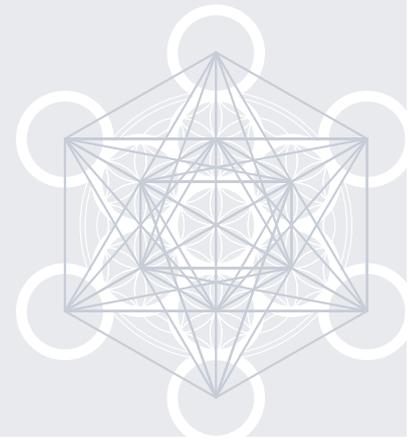


THE  KAVLI PRIZE
B I O G R A P H I E S
A S T R O P H Y S I C S

Maarten Schmidt and Donald Lynden-Bell



Maarten Schmidt

Maarten Schmidt gained his PhD under the famous late Dutch radio astronomy pioneer Jan H. Oort. He emigrated to the US and joined the California Institute of Technology in 1959. Initially he continued earlier work on the mass distribution and dynamics of the galaxy, before taking over a project taking the spectra of objects found to be radio wave emitters.

Schmidt has worked on quasars ever since demonstrating the peculiarities of the visible light spectrum of particularly bright quasar 3C273 were caused by a massive red shift in 1963. Since then he has studied the evolution and distribution of quasars, discovering they were more abundant when the early Universe. This finding contributed to the decline of the steady state theory, which previously competed with the Big Bang theory as a model for the origins of the Universe.

He was head of astronomy at Caltech from 1972-75, the physics, mathematics and astronomy division for the following three years, and then served as the last director of the Hale Observatories from 1978-80. In later years Schmidt joined teams discovering X-ray and gamma ray sources from orbiting observatories such as the Roentgen satellite (ROSAT) and the Compton Gamma Ray Observatory, and obtained their optical spectra at the Keck Observatory. He received the Bruce Medal, awarded by the Astronomical Society of the Pacific for outstanding lifetime contributions to astronomy in 1992. Despite retiring as a professor at Caltech 12 years ago, he has continued his research, working to find the red shift beyond which there are no quasars.

Donald Lynden-Bell

Donald Lynden-Bell studied astronomy at the University of Cambridge in the UK, to which, after periods at the California Institute of Technology and the Royal Greenwich Observatory, he returned in 1972 to become Professor of Astrophysics and the first Director of the Institute of Astronomy.

He is best known in the field for work on the motion of stars, the formation of the galaxy, spiral structures and chemical evolution of galaxies, and the distributions and motions of galaxies and quasars. His 1962 paper, published with Olin Eggen and Allan Sandage, argued our galaxy originated from the collapse of a single large gas cloud stimulated huge interest and further research in the area. In 1969 Lynden-Bell proposed that quasars are able to generate the vast quantities of energy that make them visible thousands of millions of light years away thanks to the presence of black holes at their centres. He argued their extreme luminosity arose from frictional heating in a gaseous disk rotating around the black holes.

He is a senior member of a group of astronomers known as the Seven Samurai which has investigated the motions of nearby galaxies, and which postulated the existence of the Great Attractor - a huge, diffuse region of material around 250 million light years away with a mass equivalent to tens of thousands of Milky Ways, which causes the observed motion of our local galaxies.

Lynden-Bell, a fellow of the UK's Royal Society, served as the President of the Royal Astronomical Society from 1985-87. He has also worked with his wife Ruth, a chemist, on the thermodynamic equilibrium in clusters of stars and galaxies.

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