

Prof. E. A. Bergshoeff (5 August 1955)
Theoretical Physics

Current position

Professor of Theoretical Physics at the University of Groningen

Professor Eric Bergshoeff has been awarded an Academy Professorship for his work on string theory, membranes and supergravity. He has made important contributions to a number of scientific breakthroughs during the course of his career.

One of his first publications (1982) played a key role in the evolution of string theory. String theory, which represents one of the earliest serious attempts to unite gravity and quantum mechanics, suffered from an apparent major inconsistency in the early 1980's. Bergshoeff's paper played a crucial role in resolving this problem.

In 1987 Bergshoeff and his collaborators proposed what seemed to be an alternative to string theory. His article "Supermembranes and eleven dimensional supergravity", published in *Physics Letters* (1987), was a vital contribution to the development of a fundamental new theory based on membranes (2-dimensional extended objects) and branes (many-dimensional extended objects). From that point on, the term "brane" was used to describe objects with any number of dimensions, usually imagined as existing in the intuitively better understood four-dimensional space-time universe. The concept of supergravity places an upper limit of 11 on the dimensions of space-time. His pioneering work has also been enormously important to the current view that strings, membranes and branes belong to a single unifying theory and are not competing theories. Many of his publications have been highly influential, such that his contributions to membrane theory and supergravity are having a lasting impact on theoretical and mathematical physics.

Prof. Bergshoeff is regarded internationally as an authoritative scientist and is regularly invited to speak at international conferences. He has been an innovator throughout his career. His ideas have had a strong influence on his discipline and its development.

Bergshoeff has recently taken steps in cooperation with the Kapteyn Astronomical Institute and the Nuclear Accelerator Institute to initiate a new Master's programme. The aim is to attract students to interdisciplinary research at the interface between string theory and cosmology. This interdisciplinary field has reached a critical stage in its development. Bergshoeff anticipates that his research group will continue to play a leading role in its future. His appointment as an Academy Professor is expected to help him in this ambitious endeavour.