

OBITUARY

Brian Hahn: 21 November 1946 5 February 2005-02-07

Dave Richardson

The Society has learned with great sadness of the death of Professor Brian Hahn.

Brian Hahn obtained a BSc in Applied Mathematics and Physics and a BSc (Hons) in theoretical physics from UCT. This was followed by a PhD in theoretical physics at Cambridge.

On his return to South Africa in 1973 he joined the Department of Applied Mathematics at Wits where he was one of the small group who demonstrated that simulation models of biological systems could make a substantial contribution to understanding of how such systems work. One of his earliest studies in the field of biomathematics was the development of a model of the spread of anthrax among animals in the Kruger Park. He moved to UCT in 1979.

One of his great contributions to biomathematics was the development in collaboration with Peter Furniss of the interactive modelling package DRIVER. This has enabled biologists to develop and implement their own models, especially those based on systems of differential equations. He subsequently upgraded DRIVER so that it could handle all the information required for modelling rangeland systems. DRIVER has been used to implement short-term (one year) mechanistic models of rangeland systems as well as models of ruminant digestion and metabolism.

Brian's greatest achievement was the development of multi-disciplinary research based on mathematical modelling that brought together a group of scientists that included mathematicians, a biochemist, animal scientists and botanists to form the Rangeland Modelling Group. This team developed hierarchies of models of range and livestock production for both Savanna and Succulent Karoo ecosystems. Brian built appropriate computer programmes for long-term models (100 years) of each system using equations and rules derived from output of the short-term-models together with information proposed by consensus. He developed a method of using replicate runs of models to investigate the effects of management strategies and climate change on livestock production and range condition. The model predicts the probable frequency of livestock mortality exceeding 75% and the probability of degradation of the range.

Brian's great legacy is the level of enthusiasm for modelling as a research method in rangeland science. He provided outstanding leadership and all those involved were encouraged to contribute their individual knowledge and understanding of specific processes to the success of the project as a whole.

Our heartfelt sympathy is extended to his wife Cleone and to his children Lyndall, Andre and David.