

Citation for Honorary Doctor of Engineering (*honoris causa*)

Professor David V. Boger, FRS

BS(Chem Eng) Bucknell 1961; MS(Chem Eng) Illinois 1964; PhD(Chem Eng) Illinois 1965

Professor David Boger, FRS, was educated in the United States receiving a PhD in Chemical Engineering from the University of Illinois in 1965. Professor Boger has published in excess of 350 articles in journals and conference proceedings. He has co-authored five books, produced several films and videotapes illustrating rheological phenomena, received numerous national and international honours and awards and been associated professionally, in one way or another, with over 90 companies worldwide.

Professor Boger is world-renowned for his discovery of constant viscosity elastic liquids (Boger fluids) which were synthesised to better understand how non-Newtonian fluids behave. David Boger's detailed experimental investigations directly advanced the field of fluid mechanics, allowing the definition of fluid elasticity effects in atomisation, the delivery of agricultural chemicals, in polymer processing, and in the linking of basic surface chemistry to the continuum properties and the processing of particulate fluids.

From the fundamental science and engineering research in non-Newtonian fluid behaviour Professor Boger and his students were able to help the alumina industry worldwide to reduce the volume of waste produced by about fifty percent - a step towards a more sustainable practice. Valuable raw materials are recovered and the risk of storage failure is eliminated; there are at least two such major storage failures annually worldwide in the mining industry, resulting in deaths and environmental disasters.

The technique, called dry disposal, produces a paste for stacking and drying instead of a water-like suspension to be stored in a dam or pond. Transition from a water-like suspension to a paste results in a non-Newtonian fluid. Non-Newtonian fluid mechanics was an unknown science in the minerals industry. The research developed three simple and robust techniques for measuring basic non-Newtonian properties required for design of a paste disposal system. The techniques are now used worldwide as paste disposal is adopted. The continuing work on waste management in the resource industries was recognised by the Finnish Academies of Technology and the Walter Ahlström Foundation in 1995. The work has now progressed to the area of influencing international policy in waste management.

Professor Boger was one of three inaugural Laureate Professors at The University of Melbourne. He has held positions in Chemical Engineering at both Monash University and The University of Melbourne. At The University of Melbourne he was Head of the Department of Chemical Engineering, Deputy Director of the Advanced Mineral Products Centre and Director of the Particulate Fluids Processing Centre; both Australian Research Council Special Research Centres. He is a past President of the Australian Society of Rheology and was the Australian Delegate on the International Committee on Rheology (ICR) from 1978-1983, and again from 1990-2004.

David Boger's work has been recognised with many awards including the Victoria Prize in 2002, and the 2005 Prime Minister's Prize for Science. He was elected a Fellow of the Australian Academy of Science and of the Australian Academy of Technological Science and Engineering. In 2007 he was elected as a Fellow of the Royal Society. The award of Honorary Doctor of Engineering (*honoris causa*) is a highly deserved recognition of David's contribution to the field of fluid mechanics.