

Doctor of Science (honoris causa) awarded to Dr Robert S. Anderssen

Terry Mills*

On 9 May 2008, La Trobe University awarded the degree Doctor of Science (honoris causa) to Bob Anderssen (CSIRO) in recognition of his outstanding contribution to applied mathematics. Below is the citation and a photograph of Bob delivering the Occasional Address at the graduation ceremony in Bendigo.

Robert Anderssen is one of Australia's leaders in applied mathematics.

We often associate mathematics with physics or engineering . . . and Dr Anderssen has used mathematics in these areas. However his expertise in applying mathematics extends well beyond these fields.

Dr Anderssen has used mathematics to improve the drying process of pasta and reduce wastage. His research has used his knowledge of vibrating strings to improve our understanding of the sound produced by the Stuart & Sons piano manufactured in Newcastle, New South Wales by Piano Australia. He has worked on the equations that describe wheat-flour dough rheology — the elastic flow and deformation of dough — to improve the efficiency of mixing wheat-flour dough to make bread and to derive molecular information for the more efficient breeding of new varieties of wheat. His recent work deals with pattern formation in plants and its role in genetics and agriculture.

Dr Anderssen grew up in country Queensland going to school in Brisbane, Bundaberg, Maryborough and Charters Towers, before commencing studies at The University of Queensland. He holds a Bachelor of Science with Honours in Mathematics from the University of Queensland, a Master of Science in Mathematics from the University of Queensland, and a Doctor of Philosophy in Mathematics from the University of Adelaide. During his career, Dr Anderssen has held positions at Monash University, ANU, and CSIRO where he attained the position of Research Chief Scientist and is now a Post-Retirement Research Fellow.

Dr Anderssen has held visiting positions overseas at a number of Universities including Princeton, the Technical University of Munich, the Technical University of Vienna, and Cambridge, UK.

He has been an invited speaker at various international conferences, national and international universities and research institutes such as RICAM, the Johann Radon Institute for Computational and Applied Mathematics, in Linz in Austria.

Dr Anderssen has been the Chair of the Applied Mathematics Division of the Australian Mathematical Society (now called ANZIAM), President of the Australian Mathematical Society and Chair of the National Committee for

*La Trobe University, PO Box 199, Bendigo, VIC 3552. E-mail: T.Mills@latrobe.edu.au

Mathematics, as well as Treasurer of the Federation of Australian Scientific and Technological Societies.

Dr Anderssen has received many honours in recognition of his work in applied mathematics. Dr Anderssen is a Fellow of the Australian Mathematical Society. In 2004, the Australian Mathematical Society awarded the George Szekeres Medal to Dr Anderssen. This prestigious medal is awarded to mathematicians in Australia ‘for a sustained outstanding contribution to research in the mathematical sciences’. In 2005, Macquarie University presented him with the Joe Moyal Medal for his distinguished research achievements. Last year, Dr Anderssen was invited to present the 2007 G.S. Watson Annual Lecture at the Bendigo campus of La Trobe University. In this lecture, he delighted students and staff with a wonderful presentation on patterns in plants.



In his Occasional Address to graduates of La Trobe University, Bob Anderssen illustrates that industrial collars (used to put commodities such as breakfast cereals into plastic bags) can be formed from a flat sheet of paper without cutting and therefore are classified mathematically as developable surfaces.

In 2008, mathematics is being applied to many different fields such as finance, environmental science, defence, and health sciences. In fact, there are fields of knowledge such as ‘econometrics’, ‘epidemiology’, ‘cryptology’, ‘management science’ and ‘bioinformatics’ which deal with particular applications of mathematics.

The scope of Dr Anderssen’s work illustrates the breadth of contemporary applied mathematics. His work has been published in research journals on agriculture, cereal science, rheology, spectroscopy, bioinformatics, fluid mechanics, brewing, and chemistry — as well as mathematics.

Dr Anderssen’s achievements provide inspiration to many others in using mathematics to gain a better understanding of our world.

Chancellor, in recognition of his outstanding contribution to applied mathematics, I present to you for the award of the degree of Doctor of Science (honoris causa), Dr Robert Anderssen.