

## ROBERT McKIBBIN



Robert McKibbin has been a Professor of Applied Mathematics in Massey University since early 1996 and is seriously overdue as a subject of this centrefold series. Apart from a stint of four years in the mid-1970s at the Papua New Guinea University of Technology, Robert has been based in three different New Zealand universities. He has provided sterling service at each of these universities, encompassing his overall devotion and guidance to engineering and applied mathematics.

He originated from Hamilton and was dux of Tauranga Boys College in 1965 in the beautiful Bay of Plenty region. He headed south to the University of Canterbury, completing his BSc (Hons) and MSc degrees by 1970. Before setting off to Papua New Guinea in 1974, he spent a few years as a Teaching Fellow in Mathematics at the University of Canterbury.

On his return to New Zealand in 1978, he took up a lectureship at the University of Auckland in the Department of Theoretical and Applied Mechanics (now the Department of Engineering Science). This was in parallel with the completion of his PhD in Applied Fluid Dynamics (Geothermal Modelling) in 1982. In 1984 he became Senior Lecturer a position shared between the Department of Theoretical and Applied Mechanics and the Geothermal Institute, University of Auckland. By the late 1980s Robert was established as a key figure in the flourishing Geothermal Institute at University of Auckland which is an interdisciplinary group embracing many of the subjects that contribute overall to this key activity for New Zealand.

Thus by the early 1990s, it seemed Robert was really settled and well-established in the University of Auckland. However in 1991, his wife Helen Renwick was offered the Head Librarian position at Massey University, which was then based solely in Palmerston North. Simultaneously, Robert was offered a position of Senior Lecturer also at Massey in the Department of Mathematics. So in September 1991, all of Robert, Helen and children Emily and James joined the merry band in Massey University in Palmerston North. In January 1996 he was appointed Professor of Applied Mathematics at Massey Palmerston North. Then in January 2001 he transferred from the Palmerston North to Albany campuses and so was able to re-locate back to Auckland. At different times in this period he created the Centre of Mathematical Modelling and, much later, the Centre for Mathematics-in-Industry at Massey University. The latter was a very convenient vehicle to enable the Institute to host the ANZIAM Mathematics-in-Industry Study Group over the period 2004-6, a move Robert strongly supported. His support helped to make these activities a real success.

Robert is a peer of the current generation of professors brought up through the New Zealand system and he is a leading figure in the research and teaching of applied mathematics. He is an enthusiastic teacher universally liked by students. His “no-nonsense” approach is well-known and appreciated.

His research today, although heavily based in the theory and application of heat and mass-transfer, also stretches across the ever-expanding stage of which applied mathematics operates. He has contributed substantially to the areas of: fluid mechanics; geothermal fluid mechanics; hydrogen diffusion in metals; reservoir modelling; water-rock interaction and oxygen isotope transport in hydrothermal systems; non-condensable gas effects in geothermal reservoirs; modelling of hydrothermal eruptions; volcanic ore-forming brines; and modelling of dispersion of particles by the atmosphere. These highly related areas have enabled Robert to apply the high level tools of modelling and computation from these areas to a wider diverse range of heat/mass transport and energy distribution and production. His contributions show clearly the distinction, not always fully appreciated, that Applicable Mathematics is a very different activity from Industrial and Applied Mathematics. Robert operates very firmly within the latter category. He has had a steady stream of collaborators and graduate students which gives testimony to his standing in these areas. He makes frequent visits to international events in far-away exotic places (Japan, South Korea, Norway, Thailand, etc.), often because he is sought as an invited speaker.

With a well-established research record in place he has also led by example in many administration roles. In 2002 he became Head of the Institute of Information and Mathematical Sciences (IIMS) at the Albany, Auckland campus of Massey University, a position he still occupies currently. This is a multi-disciplinary grouping across the subjects of computer science, computer engineering, information systems, mathematics and statistics, with over 60 staff. In 2004-6 he was the Chair of ANZIAM, being only the second New Zealander to be so in that organizations very successful 13 years of existence. A distinctive feature of his leadership style is the way he consistently provides support and encouragement to colleagues at all levels and at all times. He is extremely competent in administration and at the same time maintains excellence and enthusiasm in his research and teaching roles.

Not only does Robert have a consistent and high level of involvement in university life, he also has considerable involvement in other cultural and scientific areas. Included currently in these roles is the chairmanship of the North Shore Branch of the Royal Society of New Zealand. He also has much musical talent, and is currently a member of the choir of the Hibiscus Coast Singers.

Robert has been a respected colleague of mine since 1991 and I consider it a great privilege to be invited to pen this portrait of him for this Newsletter.

*Graeme Wake Massey University*