

## EDITORIAL: SPECIAL ISSUE CELEBRATING THE ACHIEVEMENTS OF PROFESSOR G. C. WAKE

This special issue of the *ANZIAM Journal* celebrates the contributions to applied mathematics of Professor G. C. Wake. Graeme has made significant research contributions to applied mathematics in the areas of agriculture, combustion, mathematical biology and industrial mathematics.

Graeme was introduced to research as a summer intern in November 1963 when he worked in Ian Walker's group in the Chemistry Division of the Department of Scientific and Industrial Research, New Zealand. This work, in combustion theory, matured into his PhD thesis. A significant step in Graeme's development as an applied mathematician was the time he spent as a postdoctoral scholar at Brasenose College Oxford (August 1970–1971). It was during this period that Graeme was put in contact with Dr Alan Tayler and Dr John Ockendon. This led him to attend his first mathematics-in-industry workshop in 1971. Since then he has been an enthusiastic supporter of such workshops, attending them regularly in Australia, Malaysia, New Zealand, the UK, and the USA. He has been involved in setting up such workshops in Brunei, Malaysia, New Zealand, Singapore, South Korea, and Thailand.

His many honours include the aforementioned postdoctoral fellowship at the University of Oxford (1970–1971), EPSRC research fellow positions in the UK (1976–1977, 1990), a Fulbright senior scholarship in the USA (1994) and a visiting fellowship at All Souls College Oxford (2001–2002). His pre-eminence as an applied mathematician on the world stage was recognised by his appointment to the editorial board of *Proceedings of the Royal Society A* (2009–2014).

At a local level he has been made both a fellow of the New Zealand Mathematical Society (1999) and a fellow of the Royal Society of New Zealand (2004). He was awarded the Marsden Medal by the New Zealand Association of Scientists for his contributions to mathematics and its applications (2001–2002). He was awarded the ANZIAM medal in 2006.

This special issue celebrates not only Graeme's pre-eminence as a researcher, but also his strong support of ANZIAM over several years. It contains papers from a small selection of the many areas in which he has worked over his long career. The width of topics covered provides a very good insight to the many diverse areas in which Graeme has applied his great talent for mathematical thinking.

The events of 2020 have cast a long shadow over this special issue, with some contributors having to withdraw and longer than expected delays in going to press. We thank the contributors for their forbearance. We would particularly like to acknowledge



Professor G. C. Wake

our debt to Nandita Rath and to thank her for her encouragement, patience, and fortitude during the extended period over which this special issue was prepared.

We end our introduction by noting that when we are confronted with a problem, a puzzle, or even just a question, we all instinctively begin to analyse it using whatever methods or tools with which we are most familiar. Graeme has many tools in his mathematical toolkit that he is able to pull out and apply. But his greatest set of tools is his friendly and outgoing personality, his ability to make people feel at ease, and the genuine interest he shows in all he meets.

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