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EDITORIAL: SPECIAL ISSUE IN HONOUR OF PROFESSOR GRAEME HOCKING

This issue of the journal is dedicated to Professor Graeme Hocking of Murdoch University. Graeme has been one of the leaders of applied mathematics in Australia and New Zealand for the past twenty years and, in particular, has an almost unmatched record of service to the ANZIAM community. He is a past Chair of ANZIAM and, most notably, has recently retired from this journal after spending over a decade as the Editor-in-Chief.

Graeme completed his PhD under the supervision of the legendary applied mathematician Ernest (Ernie) Tuck at the University of Adelaide. Graeme was part of a remarkable generation of Australian-trained applied mathematicians, many of whom graduated from Adelaide, who have helped place applied mathematics research in Australia on the international stage. Graeme is a well-established expert in withdrawal problems. His works intertwine analytical and computational strands which means his results often have great significance in practical problems. While fluid mechanics has remained core to his research, he has also added other areas of study to his wide-ranging field of knowledge. This breadth of skills has put him in a position to play prominent roles in many Mathematics in Industry Study Groups (MISG). His contributions to these, both in Oceania and internationally, has been extraordinary.

This special issue contains nine research papers which reflect various aspects of Graeme's interests. We have a paper discussing a classical applied mathematics problem concerning flow over a heat island by Forbes and Walters [1]. Larry Forbes is probably Graeme's longest standing collaborator; they first published together over 30 years ago and have established many important results since then. There are several papers that reflect Graeme's interest in industrial mathematics and his participation in various MISGs. The pair of manuscripts from Mason and Fowkes [2, 5] discuss modelling problems that have arisen from workshops held in South Africa; it should be pointed out that both Graeme and Neville Fowkes have worked tirelessly to encourage and nurture applied and industrial mathematics in southern Africa. Graeme has also developed a fondness for workshops in Limerick and we are delighted to have contributions from there. Mitchell and Myers [6] discuss the modelling of bagasse, while Fowler and McGuinness [3] present some novel solutions of the well-known Rössler equations. Mark McGuinness has also co-authored a modelling paper [7] that originates from a workshop held in Limerick which has had some input from a Study Group held in India.

An article by Maldon and Meylan [4] applies some classical fluid dynamics to a modern problem in helicopter design, typical of Graeme's wide-ranging interests. Another example of mathematics applied to aerodynamics is described in the paper by Stokes et al. [8] who consider aspects of wing design. Finally, the issue closes with a computational study of transport of solute in a porous medium [9]; the lead author Hong Zhang is one of the many PhD students that Graeme has supervised over the years.

It is our great pleasure to have compiled this special issue. We hope to have captured a flavour of Graeme's interests, his collaborators and past students. We trust that readers will enjoy the various papers and find something of particular interest to them. This is a small token of thanks to Graeme for his remarkable contribution both to this journal and the broader ANZIAM community. More generally, we acknowledge the significant part he has played within academia in Australia and the advancement of international research in applied and industrial mathematics.

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