

PREFACE TO THIS VOLUME

Some time ago the Division of Applied Mathematics of the Australian Mathematical Society moved in the direction of internationalisation by becoming an Australasian body, as reflected in its change of name to ANZIAM. Starting with the current issue, Volume 42 Part 1, this will also appear in a name change of our Journal from The Journal of the Australian Mathematical Society, Series B to The ANZIAM Journal. We wish to reassure readers and contributors of a continuity in the role, standards and aspirations of the Journal. It is hoped that the new name and cover will reflect better our role as an up-to-date journal of Applied Mathematics.

We have been fortunate in having our new cover designed by Dr Hilary Booth, who is both a mathematician and an internationally recognized artist.

CHARLES E. M. PEARCE

Editor

The ANZIAM Journal

PREFACE TO THIS ISSUE

Conference papers in honour of David Elliott On the Occasion of his Sixty-Fifth Birthday

David Elliott was born in 1931 in Plymouth England, where he attended Sutton High School. His undergraduate years were spent at London University, completing an honours degree in mathematics. David tells tales of working on mathematics on a luxury liner crossing the Atlantic *en route* to Princeton, where he gained a masters degree for his work on problems in boundary layer flows. On his return to London in 1955, he joined the Mathematics Division of the National Physical Laboratory and was introduced to the field of numerical analysis. In particular, Charles Clenshaw exposed David to the delights of Chebyshev polynomials ensnaring David in a mathematical life in the field.

David arrived in Australia in 1957 on a three-month working holiday and, like many others, was captivated by the lifestyle and has remained here ever since. In May 1958, he joined the Mathematics Department at the University of Adelaide, where he completed his PhD under the supervision of Ren Potts. It is not surprising that the topic of his thesis was on the application of Chebyshev polynomials in numerical

analysis and, foreshadowing most of his subsequent mathematical work, particular application to the solution of Fredholm integral equations. In May 1961, he joined the Basser Computing Laboratory at the University of Sydney and in 1964 David took up the Chair of Applied Mathematics at the University of Tasmania, a position he held for 31 years until his retirement at the end of 1994.

From 1964 to 1977, David supervised 5 PhD students, John Donaldson, Paul Tuan, the late David Paget, Binh Lam (now Binh Pham) and Murray Dow. The topics of their theses ranged from complex variable techniques for errors in quadrature rules and asymptotic estimates of coefficients in Fourier series through generalised product integration to best uniform approximations and approximate solutions of integral equations. He also supervised more than twenty honours students, mostly in the area of numerical analysis. David enjoyed some success in the competitive grants arena and continued to expand his repertoire working for several years with two post-doctoral fellows, Bill McLean and Susumu Okada. The wide variety of topics illustrates David's considerable knowledge of the field.

David's reputation has been greatly enhanced by his work on the approximate solution of singular integral equations and in particular those on the interval $(-1, 1)$ with Cauchy principal value integrals.

David has officially retired but he continues to make fine contributions to mathematics and its students. His main research interest now is to breathe new life into the trapezoidal rule by making use of, what he calls, sigmoidal transformations. No doubt, his results will prove to be both interesting and significant and could well be a topic for the occasion of his 75th birthday!

Contributions

In most cases, the authors of the papers in this issue have carefully chosen their contributions to reflect David's mathematical interests and there are several instances where close connections have been made with David's work.

Two of the papers, which have been included for completeness, have been placed in an appendix. The paper by James Lyness is presented in the form in which it was delivered at the Conference while that by Binh Pham is essentially outside the field of mathematics.

JOHN D. DONALDSON
Guest Editor