

Christopher T. H. Baker (1939–2017)

Christopher Thomas Hale Baker died on 20 August 2017 at the age of 78. He was born on the Isle of Thanet, Kent, in 1939, and was educated at Colchester Royal Grammar School and Jesus College Oxford, where he held an Edwin Jones Scholarship and a State Scholarship.

His first full-time employment was between school and college, when he worked in the Physics Research Laboratory of BX Plastics. He obtained his BA in 1961 and his MA and DPhil, in 1964, from the University of Oxford. Between 1964 and 1966 he held a Fulbright Award and was Instructor and PG Research Mathematician at UC Berkeley.

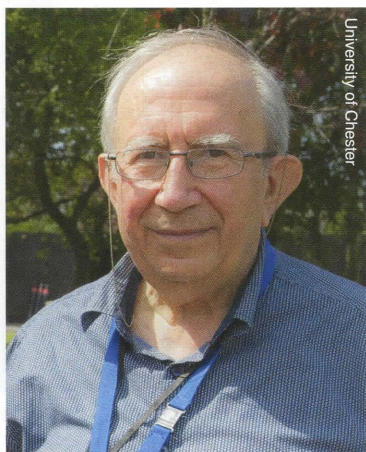
From 1966 Christopher was lecturer, senior lecturer and then reader at the University of Manchester, becoming professor in 1989. He had periods of leave at the University of Toronto (in 1972 and 1976) and Oxford University. Christopher served as head of the numerical analysis group for around ten years and as Head of Department for three years from September 1995.

Following his retirement in 2004, Christopher joined the University of Chester as a part-time member of the department, retiring from that role in 2016. At the time of his death he held the title of Emeritus Professor at both the University of Manchester and the University of Chester.

Christopher was founding Director of the Manchester Centre for Computational Mathematics (MCCM), formed in 1992 by the numerical analysis groups at the University of Manchester and UMIST to build on existing collaborations. In his ten years as Director, the centre grew substantially in activity, as seen particularly in the Numerical Analysis Report series, and the MSc in Numerical Analysis and Computing. Christopher was instrumental in involving external researchers in MCCM, notably the Chester numerical analysts.

His research interests included numerical solution of integral equations and functional differential equations (integro-differential and delay-differential equations), and parameter estimation in models. He is perhaps best-known for his monumental 1034-page monograph *Numerical Treatment of Integral Equations* (Clarendon Press, Oxford, 1977). He was able to expand some of the tools and techniques developed for integral equations into newly emerging fields of numerical dynamics and numerical methods for stochastic differential equations.

Christopher organised two Durham Symposia. The first, *Numerical Treatment of Integral Equations* (1982), was attended by 67 mathematicians from around the world. The second, *Evolutionary Problems: Continuous and Discretized Nonlinear Systems* (4–14 July 1992), organised jointly with Ruth Thomas, had 92 attendees.



Christopher offered some thoughts on the nature of Numerical Analysis in his introduction to the 2000 MCCM annual report.

To some, the emphasis should be on computational mathematics, to others the emphasis should be on a unifying perspective from the viewpoint of applied analysis. To the writer, numerical analysis is ideally a broad church and like other sections of applied mathematics should be informed by modelling considerations, investigations based on simulation or analysis, and the practicalities of modern computing. As an integrated part of applied mathematics, the skills developed in numerical analysis complement and are complemented by perspectives obtained from other areas; numerical analysis should be supported by insights from modelling, and from the more abstract areas of mathematics, and computer science.

Those words strike us as just as valid today as when Christopher wrote them seventeen years ago.

Christopher was a member of the 1992 Mathematics Assessment Panel in the UFC Research Assessment Exercise and of the Applied Mathematics panel in the 1996 Research Assessment Exercise. He chaired the Applied Mathematics panel in the 2001 Research Assessment Exercise. Serving on three successive panels was a major service to the mathematics community. Some idea of this is given by Christopher's comment in the 2002 MCCM annual report, 'During most of 2001, every flat surface at home and in my office was covered with RAE paperwork'.

He was a Fellow of the Institute of Mathematics and its Applications and served as editor of the *IMA Journal of Numerical Analysis* from its foundation in 1981 to 1996. He was a dedi-

cated editor, also giving long service to other journals including *Journal of Computational and Applied Mathematics*, *Journal of Integral Equations and Applications*, and *Advances in Computational Mathematics*.

He had 15 PhD students (including the second author), from all around the world, and he continued collaborating

with many of them. His careful supervision encouraged students to play to their strengths and to answer research questions which other people would find to be interesting. The second author remembers being challenged repeatedly by his question 'what do you mean by ...' (stability, for example) reflecting his determination to understand the underlying mathematics before venturing an opinion on a numerical scheme.

Christopher had heart bypass surgery in 1988 and the surgeon told him 'We know these vein grafts last for 12 years'. Thankfully, that was a severe underestimate, and Christopher maintained all his usual activities right until the end.

Christopher will be remembered as a kind, generous, and sociable colleague as well as for his leadership in applied mathematics and numerical analysis in Manchester, Chester, across the UK, and beyond. He is survived by his wife Helen, his children Deborah and Mark, and four grandchildren.

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