



Nicholas Higham: Brief Biography

“The Rise of Multi-Precision Computations”

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Nick Higham is Richardson Professor of Applied Mathematics in the School of Mathematics, University of Manchester. His degrees (BA 1982, MSc 1983, PhD 1985) are from the University of Manchester, and he has held visiting positions at Cornell University and the Institute for Mathematics and its Applications, University of Minnesota. He is Director of Research within the School of Mathematics, Head of the Numerical Analysis Group, and was Director of the Manchester Institute for Mathematical Sciences (MIMS) 2004-2010. He was elected Fellow of the Royal Society in 2007, and is a SIAM Fellow and a Member of Academia Europaea. He held a Royal Society-Wolfson Research Merit Award (2003-2008).

He is well known for his research on the accuracy and stability of numerical algorithms, and the second edition of his 700-page monograph on this topic was published by SIAM in 2002. His most recent book, *Functions of Matrices: Theory and Computation* (SIAM, 2008), is the first research monograph devoted to this topic. He is the Editor of the Princeton Companion to Applied Mathematics (2015, over 1000 pages).

He has more than 130 refereed publications on topics such as rounding error analysis, linear systems, least squares problems, matrix functions and nonlinear matrix equations, condition number estimation, and polynomial eigenvalue problems. His research has been supported by grants from EPSRC and by fellowships from the Nuffield Foundation, the Royal Society and the Leverhulme Trust. He held a 2M euro ERC Advanced Grant (2011-2016) supporting his research on matrix functions.

Higham is a member of the editorial boards of the journals *Acta Numerica*, *Forum of Mathematics*, *Foundations of Computational Mathematics*, *IMA Journal of Numerical Analysis*, *Linear Algebra and Its Applications*, *Numerical Algorithms*, and *Peer J Computer Science*. He is also (Founding) Editor-in-Chief of the SIAM Fundamentals of Algorithms book series.

He is President-elect of SIAM, and was Vice President at Large (2010-2013) and served for over ten years on the SIAM Board of Trustees and the SIAM Council. He has also served on the Board of Directors of the International Linear Algebra Society, and as Chair of the SIAM Activity Group on Linear Algebra. He is a frequent invited speaker at international conferences, served for 17 years on the (permanent) organizing committee of the Householder Symposia on Numerical Linear Algebra, and was a member of the Scientific Program Committee for ICIAM 2011.

Higham has contributed software to LAPACK and the NAG library, and has written numerous M-files included in MATLAB. His algorithms are also included in Julia, SciPy, Mathematica and other packages.

Honours include the Alston S. Householder Award VI, 1987 (for the best Ph.D. thesis in numerical algebra 1984--1987), the 1988 Leslie Fox Prize in Numerical Analysis, a 1999 Junior Whitehead Prize from the London Mathematical Society, designation as a "Highly Cited Researcher" by Thomson/ISI in 2006, and the 2008 Fröhlich Prize of the London Mathematical Society.

Higham is also author of the best-selling SIAM books *Handbook of Writing for the Mathematical Sciences* (2nd edition, 1998) and *MATLAB Guide* (with D. J. Higham, 2nd edition, 2005), and is a contributor to the popular Penguin Dictionary of Mathematics (fourth edition, 2008). – **June 2016**