

Lloyd N. Trefethen FRS

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US + UK citizen, UK resident
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RESEARCH INTERESTS

Numerical mathematics, and in particular:

1. Finite difference and spectral methods for ordinary and partial differential equations
2. Numerical linear algebra
3. Numerical conformal mapping and computational complex analysis
4. Approximation theory, quadrature and Chebfun
5. Eigenvalues, pseudospectra and dynamics
6. Numerical algorithms based on rational functions

EMPLOYMENT

Professor of Numerical Analysis and Fellow of Balliol College, University of Oxford: 1997-
Global Distinguished Professor of Mathematics and Computer Science, NYU, 2013-19
Associate and Full Professor of Computer Science, Cornell University: 1991-97
Assistant and Associate Professor of Applied Mathematics, MIT: 1984-91
NSF Postdoct. Fellow and Adj. Asst. Prof., Courant Institute, NYU: 1982-84

EDUCATION

PhD (Computer Science/Numerical Analysis), Stanford University: 1982
MS (Computer Science/Numerical Analysis), Stanford University: 1980
AB *summa cum laude* (Applied Mathematics), Harvard College: 1977

SELECTED FELLOWSHIPS, HONORS AND AWARDS

John von Neumann Prize, SIAM: 2020
Honorary doctorate, Stellenbosch U.: 2019
Honorary doctorate, U. of Fribourg: 2018
Pólya Prize for Mathematical Exposition, SIAM: 2017
ERC Advanced Grant: 2012-2017
Naylor Prize, London Mathematical Society: 2013
Gold Medal, Institute of Mathematics and its Applications (UK): 2011
Von Neumann Professor, TU Munich: 2010
Matheon Professor, TU Berlin: 2010
Divisional Teaching Award, U. of Oxford: 2009
National Academy of Engineering (USA): 2007
Fellowship of the Royal Society (UK): 2005
Dean's Prize for Excellence and Innovation in Teaching and Advising, Cornell U.: 1994
NSF Presidential Young Investigator Award: 1986-91
Graduate Student Council Teaching Award, MIT: 1990
IBM Faculty Development Award: 1986-88
First Prize, Fox Competition in Numerical Analysis: 1985
NSF Mathematical Sciences Postdoctoral Fellowship: 1982-84
Hertz Foundation Fellowship: 1980-82
NSF Graduate Fellowship: 1977-80
Phi Beta Kappa: 1975 (elected as a Junior at Harvard College)

AFFILIATIONS

SIAM (Council 1996-2001, Board of Trustees 2004-11, Fellow 2009, President 2011-2012)
American Mathematical Society (Fellow 2013)
London Mathematical Society
Institute of Mathematics and its Applications (Fellow)

EDITORIAL

Editor, *Acta Numerica*, 2008-
Member of Editorial Board, *Proceedings of the Royal Society A*: 2003-2008
Associate Editor, *Computational Methods in Function Theory*: 2001-2013
Associate Editor, *Advances in Computational Mathematics*: 2001-2006
Associate Editor, *Linear Algebra and its Applications*: 2001-2007
Editor, *Calcolo*: 1998-2012
Associate Editor, *IMA Journal of Numerical Analysis*: 1997-
Associate Editor, *Japan Journal of Industrial and Applied Mathematics*: 1991-1996
Editor, *SIAM Review*: 1989-2008 and 2014-2017
Associate Editor and Editor, *Numerische Mathematik*: 1988-1999
Associate Editor, *Journal of Computational and Applied Mathematics*: 1987-2012
Editor, *SIAM Journal on Numerical Analysis*: 1984-1999

PhD/DPhil STUDENTS

25 so far at MIT, Cornell, and Oxford: Alan Edelman, Louis Howell, Walter Mascarenhas, Satish Reddy, Noël Nachtigal, Toby Driscoll, Kim-Chuan Toh, Jeffrey Baggett, Divakar Viswanath, Thomas Wright, Lehel Banjai, Aly-Khan Kassam, Timo Betcke, Zachary Battles, Teik-Wynn Tee, Thomas Schmelzer, Nick Hale, Ricardo Pachón, Ásgeir Birkisson, Mark Richardson, Alex Townsend, Anthony Austin, Mohsin Javed, Hadrien Montanelli, Abi Gopal. 13 of these are launched on academic careers; details available at website.

PUBLICATIONS

About 130 journal publications, 40 essays, and 8 books:
An Applied Mathematician's Apology, SIAM, 2022
Exploring ODEs (with A. Birkisson and T. A. Driscoll), SIAM, 2018
Approximation Theory and Approximation Practice, SIAM, 2013 and 2019
Trefethen's Index Cards, World Scientific, 2011
Spectra and Pseudospectra (with M. Embree), Princeton, 2005
Schwarz-Christoffel Mapping (with T. A. Driscoll), Cambridge, 2003
Spectral Methods in Matlab, SIAM, 2000
Numerical Linear Algebra (with D. Bau III), SIAM, 1997 and 2022
Full details (including 1-line summaries of books and papers) at website.

SELECTED INVITED LECTURES

European Congress of Mathematicians, Slovenia (virtual): 2021
South African Mathematical Society Annual Congress, South Africa (virtual): 2020
Kliakhandler Lecturer, Michigan Tech: October 2018
Aziz Lecturer, University of Maryland College Park: September 2018
ANZIAM annual meeting: February 2018
Erceg Fellow, New Zealand: November 2017
Di Prima Lecture, Rensselaer Polytechnic Institute: September 2017
Nieuwland Lecture, U. of Notre Dame: April 2015
Gentry Lecturer, Wake Forest U.: April 2014
Feng Kang Lecture, Chinese Academy of Sciences: November 2011
Nanqiang Lecturer, Xiamen U.: November 2011
Courant Institute 75th Anniversary, NYU: May 2011
Ziwet Lectures, U. of Michigan: April 2011
Milliman Lectures, U. of Washington: April 2010
Menger Lecture, Illinois Institute of Technology: April 2008
Norbert Wiener Lecturer, Tufts U.: October 2005
A. R. Mitchell Lecturer, Dundee Biennial Conf. on Numerical Analysis: June 2005
SIAM 50th Anniversary Annual Meeting, Philadelphia: July 2002
Joint Plenary Lecture, British Maths. and Applied Maths. Colloquia, Warwick: April 2002
Dundee/Strathclyde Biennial Confs. on Numerical Analysis: 1997, 2001, 2011
Keynote speaker, SANUM, U. of Stellenbosch, South Africa: 1999, 2011, 2016, 2019
International Congress of Mathematicians, Berlin: Aug. 1998
International Congress on Applied and Industrial Mathematics, Hamburg: July 1995
+ other lectures at about 250 universities and research institutions in 34 countries of Europe, North and South America, Australia, Asia, and Africa.