

CURRICULUM VITAE

William L. Briggs

March 2006

EDUCATION

<u>Institution</u>	<u>Date</u>	<u>Degree</u>
Harvard University Cambridge, Massachusetts	1976	Ph.D. Applied Mathematics
Harvard University Cambridge, Massachusetts	1974	M.S. Applied Mathematics
University of East Anglia Norwich, England	1970	Exchange Student
University of Colorado Boulder, Colorado	1971	B.A. Mathematics

PROFESSIONAL EXPERIENCE

1997 - present	Professor, Department of Mathematics, University of Colorado at Denver
1992 - 1993	Visiting Professor, Mathematics and Computer Science Department, Dublin City University, Dublin, IRELAND.
1988, 1990 - 1992, 1993 - 1994	Chair, Department of Mathematics, University of Colorado at Denver
1987 - 1997	Associate Professor, Department of Mathematics, University of Colorado at Denver
1984 - 1987	Assistant Professor, Department of Mathematics, University of Colorado at Denver
1977 - 1983	Assistant Professor, Department of Mathematics and Computer Science, Clarkson University, Potsdam, New York
1976 - 1977	Visiting Assistant Professor, Department of Mathematics, University of California, San Diego
1972 - 1976	Teaching Fellow (Applied Math and Natural Sciences), Harvard University

AWARDS AND HONORS

University of Colorado at Denver Excellence in Service Award, 2003.

Burton W. Jones Award for Distinguished College or University Teaching of Mathematics, Rocky Mountain Section of the MAA, 1999

College of Liberal Arts and Science, Service Award, 1995

Fulbright Scholar, Dublin City University, 1992-93

President's Teaching Scholar, University of Colorado, 1992–present

College of Liberal Arts and Science, Teaching Award

College of Engineering Science, Teaching Award

OTHER PROFESSIONAL ACTIVITIES

Vice-President for Education, SIAM (Society for Industrial and Applied Mathematics), 2003

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Associate Editor, SIAM Review, Education Section, 2002 –

External review team, Mathematics Department, University of Colorado, Colorado Springs, March 2006

External review team, Mathematics Department, Clarkson University, March 2006

Advisory board to evaluate the Colorado Student Assessment Program (CSAP), December 2001.

SIAM (Society for Industrial and Applied Mathematics) Education Committee (1994-2003)

8th grade honors algebra teacher, Baseline Middle School, 1998-99

Co-organizer of 1997 Annual Meeting of the Rocky Mountain Section of MAA

Curriculum consultant, Boulder Valley School District, 1996

Referee for Journal of Computational Physics, SIAM Journal of Sci. and Stat. Comp., American Mathematical Monthly, Journal of Difference Equations and Applications, Mathematical and Computer Modeling, National Science Foundation, Israel Science Foundation.

BOOKS AND BOOK CHAPTERS

Bicycles, Ants, and Clocks: Problem Solving for Undergraduates, SIAM Publications, 2005 (170 pages).

Understanding and Using Mathematics: A Quantitative Reasoning Approach, Addison-Wesley, 2005, third edition, (750 pages), with Jeff Bennett.

Statistical Reasoning for Everyday Life, Addison-Wesley, 2001 (600 pages), with Jeff Bennett and Marty Triola.

A Multigrid Tutorial, Second edition, SIAM Publications, 2000 (190 pages), with Steve McCormick and Van Henson.

Instructor and Student Solutions Manual for Understanding and Using Mathematics, Addison-Wesley, 1996, 1998 (200 pages).

The DFT Book: An Owner's Manual for the Discrete Fourier Transform, SIAM Publications, 1995 (450 pages), with Van Henson.

SIAM Frontiers in Applied Mathematics Series, Volume III, Multigrid Methods, Introductory Chapter, with Steve McCormick, 1986.

REFEREED PUBLICATIONS

A measure of college student course engagement, with Mitch Handelsman, Nora Sullivan, Annette Towler, *Journal of Educational Research*, 98(3), 2005, pp. 184-191.

Optimizing Domino Chain Reactions, with Stan Wagon, Adrienne Pontarelli, and Stephen Becker, *UMAP Journal*, (26)1, 2005, pp. 37-48.

Student Engagement in a Quantitative Literacy Course, with Mitch Handelsman and Nora Sullivan, *AMATYC Review*, Fall 2004.

General Education Mathematics: New Approaches for a New Millenium, with Jeffrey Bennett, *AMATYC Review*, vol. 21, no. 1, Fall 1999, pp. 3-16.

Anatomy of a Circle Map, with W.E. Briggs, *Mathematics Magazine*, vol. 72, no. 2, April 1999, pp. 116-125.

Dice and Disease in the Classroom, with Marilyn Stor, *Mathematics Teacher* (journal of the National Council of Teachers of Mathematics), September 1998.

A Table of Analytical DFTs, with Van Henson, *Applied Numerical Mathematics*, 1996.

Wavelets and Multigrid, with Van Henson, *SIAM Journal of Scientific and Statistical Computing*, 14(1993), pp. 506-510.

Bluestein's FFT for Arbitrary N on a Hypercube, with Paul Swarztrauber, Roland Sweet, Van Henson, Jim Otto, *Parallel Computing*, 17(1991), pp. 607-617.

Three-Dimensional Poisson Solvers on the Hypercube, with Roland Sweet, Jules Porsche, Suely Oliveira, Tom Turnbull, *Parallel Computing*, 17 (1991), pp. 121-131.

The FFT as a Multigrid Algorithm, with Van Henson, *SIAM Review*, 32(1990), pp. 252-261.

A Probabilistic Approach to the Single-Point, Single-Dose Problem, with George Swanson and Robert Phelps, *IEEE Trans. on Biomedical Engineering*, 37 (1990), pp. 80-84.

Multigrid Methods on the Hypercube, with Leslie Hart, Steve McCormick, Dan Quinlan, *Lecture Notes in Pure and Applied Mathematics/110*, Marcel-Dekker, May 1988.

A Further Note on Computer-Assisted Continuous Infusion, with Tim Currey, *Anesthesiology, Correspondence*, 1988.

Fast Poisson Solvers for MIMD Computers, with Tom Turnbull, *Parallel Computing* 6 (1988), pp. 265-274.

Further Symmetries of In-Place FFT's, *SIAM Journal of Sci. and Stat. Comp.* 8 (1987), pp. 644-654.

Multiprocessor FFT Methods, with Roland A. Sweet, Leslie B. Hart, Abbey O'Gallagher, SIAM Journal of Sci. and Stat. Comp. 8 (1987), pp. 27-43.

Phenomenology of a Six-Dimensional Mapping, Applied Numerical Mathematics, 1 (1985), pp. 239-259.

Finite Difference Schemes for a Dispersive Partial Differential Equation, with Talib Sarie, Mathematics and Computers in Simulation, XXV (1983), pp. 268-278.

Focusing: A Mechanism for Instability in Nonlinear Finite Difference Schemes, with Alan C. Newell, Talib Sarie, Journal of Computational Physics, 51 (1983), pp. 83-106.

Stage II Initial Transient in Off-Eutectic Solidification, with B.V. Ramarao, W.R. Wilcox, Journal of Crystal Growth, 59 (1982).

Lessons from Greeks and Computers, Mathematics Magazine, January (1982).

A New Class of Steady Solutions to the Wind-driven Ocean Equations, Dynamics of Oceans and Atmospheres 4 (1980).

Romberg Integration on Programmable Calculators, Didactic Programming, Fall 1979.

Airflow Patterns and Droplet Trajectories about an Electrostatic Probe, with Ronald L. Drake, Thomas J. Wright, Pure and Applied Geophysics, 96 (1972).

NON- OR LIGHTLY-REFEREED PUBLICATIONS

Teaching Quantitative Literacy, Invited Address and Proceeding of DELTA '05: Fifth Southern Hemisphere Conference on Undergraduate Mathematics and Statistics Teaching and Learning, Fraser Island, Queensland Australia.

What Mathematics Should All College Students Know?, in *Current Practices in Quantitative Literacy*, Rick Gillman, ed. Mathematical Association of America, 2004.

Difference Equations and Differential Equations of Population Genetics, with Aesoo Chung, Michael Grant, and Doug Robertson, Proceedings of the 10th annual Conference on Applied Mathematics, Central Oklahoma University, Edmunds, OK (lightly refereed).

What About the Other Half? – A Case for Quantitative Reasoning, with Jeff Bennett, ICTCM Proceedings, 1996.

A Table of Analytical DFTs, CU-Denver Technical Report, with Van Henson, February 1995.

Wavelets and Multigrid, with Van Henson, Proceedings of the IMACS First International Conference on Computational Physics, Boulder, CO, June 1990.

A Shared Memory Parallel FFT for Real and Even Sequences, Proceedings of the 6th ARO Conference on Applied Math & Computing, 1988 (with V. Henson).

Math Clinics in Parallel Computation, SIAM News, May 1986.

Finite Difference Schemes for Dispersive Partial Differential Equations, Proceedings of 1984 IMACS Symposium, Lehigh University.

A Two-Dimensional Numerical Model for Mixing in Natural Rivers, with Y.S. Halabi, H.T. Shen, T.S. Papatheodorou, Proceedings of International Conf. on Comp. Methods and Experimental Measurements, July, 1982.

Sparse Matrix Problems in a Finite Element Open Ocean Model, with Joel E. Hirsh, Sparse Matrix Computations, Academic Press, 1976.

PROFESSIONAL ORGANIZATIONS

Mathematical Association of America (MAA), Society for Industrial and Applied Mathematics (SIAM)

FIELDS OF INTEREST

Numerical analysis and modeling, mathematical problems in medicine and physiology, image reconstruction algorithms, mathematics education

COMMUNITY SERVICE ACTIVITIES

Trustee, City of Boulder Open Space Board of Trustees, 2006–

Board member of the CU Cancer Research Foundation (1985-2002)

Organizer of the Cancer Research Run (1985-2002)