

## Curriculum Vitae

Robert C. Rogers

### Personal Data

Address: Department of Mathematics  
Virginia Tech  
Blacksburg, VA 24061-0123  
Office Phone: (540) 231-4184  
Office Fax: (540) 231-5960  
Email: [rogers@vt.edu](mailto:rogers@vt.edu)  
Born: May 16, 1957. Trenton, NJ

### Education

- 1984 Ph.D. in Applied Mathematics, University of Maryland-College Park, Thesis: Analysis of the Nonlinear Equations Describing Elastic, Thermal, and Electromagnetic Behavior of Solids.  
Thesis Advisor: Stuart S. Antman  
1982 M.A. in Applied Mathematics, University of Maryland-College Park.  
1979 B.S. in Mathematics/Physics, Washington & Lee University, Magna Cum Laude, with honors in Mathematics.

### Employment

October 2018-Present	Associate Chair, Department of Mathematics, Virginia Tech
August 2010-October 2018	Associate Chair for Undergraduate Students, Department of Mathematics, Virginia Tech
August 1998-Present	Professor, Department of Mathematics, Virginia Tech
August 1997-July 2002	Graduate Program Director, Department of Mathematics, Virginia Tech
August 1992-August 1998	Associate Professor, Department of Mathematics, Virginia Tech
September-December, 1995	Long-term Visitor Institute for Mathematics and its Applications, University of Minnesota-Twin Cities Campus
August 1988-August 1992	Assistant Professor, Department of Mathematics, Virginia Tech
August 1985-August 1988	Van Vleck Assistant Professor, Department of Mathematics, University of Wisconsin-Madison
August 1984-August 1985	Research Assistant, Mathematics Research Center, University of Wisconsin-Madison

## Professional Activities

**Editorial Position:** Member of co-editorial board of Journal of Applied Mathematics and Physics (ZAMP). (1997-2010.)

**Offices in Professional Organizations:** Society for Natural Philosophy-Elected Member of Arrangements Committee (the society's primary governing body) (1989-1991).

### Conference Organization:

Technical Chairman: Conference on Recent Advances in Adaptive and Sensory Materials and Their Applications. Blacksburg, Virginia, 27-29 April 1992.

Program Committee: SPIE 1993 North American Conference on Smart Structures and Materials. Albuquerque, NM, 1-4 February 1993.

Program Committee: SPIE 1994 North American Conference on Smart Structures and Materials. Orlando, Florida, 13-18 February 1994.

Magnetic Materials Session Committee: SIAM Conference on Emerging Issues in Mathematics and Computation from Materials Science. Pittsburgh, Pennsylvania, 18-20 April 1994.

Organizing Committee: Innovations in the Analysis of Nonlinear Phenomena in Continuum Mechanics: The 39th Meeting of the Society For Natural Philosophy. Blacksburg, Virginia, 7-9 April 1995.

Organizing Committee: Institute for Mathematics and its Applications Workshop on Micromagnetics. Minneapolis, Minnesota, 4-5 December 1995.

## Honors and Awards

1999 Virginia Tech XCalibur award for innovative teaching in the development of Virginia Tech's Math Emporium

## Publications

### Selected Refereed Journal Articles

Robert C. Rogers and Stuart S. Antman. Steady-state problems of nonlinear Electromagneto-thermo-elasticity. *Archive for Rational Mechanics and Analysis*, 95:279-323, 1986.

Joel W. Robbin, Robert C. Rogers, and Blake Temple. On weak continuity and the Hodge decomposition. *Transactions of the AMS*, 303:609-618, 1987.

Robert C. Rogers. Nonlocal variational problems in nonlinear electromagnetoelastostatics. *SIAM Journal of Mathematical Analysis*, 19:1329-1347, 1988.

Robert C. Rogers and Blake Temple. A characterization of the weakly continuous polynomials in the method of compensated compactness. *Transactions of the AMS*, 10:405-417, 1988.

Robert C. Rogers. On a linear model of mechanical phase transitions. *ZAMP*, 41:728-733, 1990.

Deborah Brandon and Robert C. Rogers. The coercivity paradox and nonlocal ferromagnetism. *Continuum Mechanics and Thermodynamics*, 4:1-21, 1992.

Deborah Brandon and Robert C. Rogers. Nonlocal regularization of L.C. Young's tacking problem. *Applied Mathematics and Optimization*, 25:287-301, 1992.

Robert C. Rogers. Derivation of linear beam equations using nonlinear continuum mechanics. *ZAMP*, 44:732-754, 1993.

Michael Renardy and Robert C. Rogers. Shock conditions for hypoelastic materials. *Theoretical and Computational Fluid Dynamics*, 5:49-55, 1993.

Robert C. Rogers. Existence results for large deformations of magnetostrictive materials. *Journal of Intelligent Material Systems and Structures*, 4:477-483, 1993.

Michael K. Keane and Robert C. Rogers. A finite dimensional model problem in ferromagnetism. *Journal of Intelligent Material Systems and Structures*, 4:463-468, 1993.

Deborah Brandon and Robert C. Rogers. Nonlocal Superconductivity. *ZAMP*, 45:135-152, 1994.

Tao Lin and Robert C. Rogers. Accurate computation of the field in Pippard's nonlocal superconductivity model. *Journal of Integral Equations and Applications*, 7:167-192, 1995.

Tao Lin and Robert C. Rogers. On an order-parameter model for a binary liquid. *Computational Materials Science*, 4:159-171, 1995.

Robert C. Rogers and Lev Truskinovsky. Discretization and Hysteresis. *Physica B*, 233:370-375, 1997.

Nicholas Bubner, Gail Mackin, Robert C. Rogers. Rate dependence of hysteresis in one-dimensional phase transitions." *Computational Materials Science*, 18:245-256, 2000.

T. Lin, Y. Lin, R.C. Rogers, and L.M. Ryan. A rectangular immersed finite element method for interface problems, *Advances in Computation: Theory and Practice*, 7:107-114, 2001.

W.S. Galinaitis, D.S. Joseph, and R.C. Rogers. Parameter identification for Preisach operators with singular measures, *Physica B*, 306:149-154., 2001.

Tao Lin, Jing Lu, T. Lu, and R.C. Rogers. A supplemental discussion of productivity formulae of horizontal wells, *Journal of Canadian Petroleum Technology*, 42:23-27, 2003.

Z. Li, Tao Lin, Y. Lin, and R.C. Rogers. An immersed finite element space and its approximation capability, *Numerical Methods for Partial Differential Equations*, 20: 338-367, 2004.

### **Books**

Michael Renardy and R.C. Rogers, An Introduction to Partial Differential Equations. Springer-Verlag, New York. 1993.

Recent Advances in Adaptive and Sensory Materials and Their Applications. Craig A. Rogers and Robert C. Rogers, Editors. Technomic Publications. 1992.

Ph.D. Students
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Michael K. Keane. Ph.D. 1993.

Addison Jump. Phd. 1996.

Gail Mackin. Ph.D. 1997.

George Moss. Ph.D. 1999.

J. Steven Galinaitis. Ph.D. 1999.

Daniel S. Joseph. Ph.D. 2001.

Emery Conrad (coadvisor with John Tyson) Ph.D. 2008

Fabio Botelho Ph.D. 2010

Katarina Terzic Conrad. Ph.D. 2011