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EDUCATION

- Ph.D. Applied Mathematics, University of Surrey, Guildford, UK, 2003
Thesis: A Modified Equations Approach for Multi-Symplectic Integration Methods
Supervisor: Prof. Sebastian Reich
- M.S. Mathematical and Computer Sciences, Colorado School of Mines, Golden, CO, 1999
Thesis: Spinodal Decomposition for Spatially Discrete Cahn-Hilliard Equations
Advisor: Prof. Erik Van Vleck
- B.S. Mathematics, Colorado Christian University, Lakewood, CO, 1997
- Scholastic Honors List (1995 – 1996), Deans List (1996 – 1997)
- Graduated Summa Cum Laude

ACADEMIC WORK EXPERIENCE

Research:

- Assistant Professor, The University of Central Florida (Aug. 2007 – Present)
- Visiting Assistant Professor, The University of Iowa (Aug. 2005 – Jul. 2007)
- Postdoctoral Fellow, McGill University, Montreal, Canada (Oct. 2003 – Sep. 2005)
- Traveling waves for lattice differential equations (working with Prof. Tony Humphries)
- Research Assistant
- Imperial College, London, UK (Oct. 2000 – May 2003)
 - University of Surrey (Oct. 1999 – Sep. 2000)
 - Colorado School of Mines (Jan. 1998 – Aug. 1998)
 - Colorado Christian University (Aug. 1995 – May 1997)

Teaching:

- Course Instructor, The University of Central Florida, (Aug. 2007 – Present)
- Calculus and Analytic Geometry I, Scientific Computing, Applied Numerical Mathematics
- Course Instructor, The University of Iowa, (Aug. 2005 – May 2007)
- Linear Algebra, Differential Equations, Elementary Numerical Analysis, Theory of Arithmetic, Topics in Applied Mathematics
- Course Instructor, McGill University, Montreal, Canada (Jan. 2004 – Dec. 2004)
- Intermediate Calculus, and Advanced Calculus

STUDENT SUPERVISION

- Lory Ajamian, Undergraduate Summer Research Project, McGill University (May 2005 – Jul. 2005)
- Standing waves for spatially discrete Nagumo equations with differing nonlinearities
- Jessica Long, Undergraduate Research Assistant, The University of Iowa (Jan. 2006 – Dec. 2006)
- Steady states for bistable differential-difference equations with inhomogeneous diffusion
- Joe Segal, Master's Thesis, The University of Central Florida (Jun. 2008 – Present)
- Propagation failure of FitzHugh-Nagumo waves in discrete inhomogeneous media

PUBLICATIONS

1. B.E. Moore and S. Reich, Backward Error Analysis for Multi-Symplectic Integrators, *Numer. Math.*, 95:625-652, 2003.
2. B.E. Moore and S. Reich, Multi-Symplectic Integration Methods for Hamiltonian PDEs, *Future Gener. Comput. Syst.*, 19:395-402, 2003.
3. S. Maier-Paape, B.E. Moore, and E.S. Van Vleck, Spinodal Decomposition for Spatially Discrete Cahn-Hilliard Equations, *Dyn. Contin. Discret. I.*, 12:529-554, 2005.
4. J. Frank, B.E. Moore and S. Reich, Linear PDEs and Numerical Methods that Preserve a Multi-Symplectic Conservation Law, *SIAM J. Sci. Comput.*, 28:260-277, 2006.
5. B.E. Moore, Conformal Multi-Symplectic Integration Methods for Forced-Damped Semi-Linear Wave Equations, *submitted*, 2007.

ARTICLES IN PREPARATION

1. B.E. Moore, E.S. Van Vleck and A.R. Humphries, Waves for Bistable Differential-Difference Equations with Inhomogeneous Diffusion.
2. A.R. Humphries and B.E. Moore, Modified Equations and Propagation Failure of Traveling Waves.

INVITED UNIVERSITY SEMINARS

1. A Modified Equations Approach for Multi-Symplectic Integrators, University of Kansas, 2003
2. Multi-symplectic Integration Methods, University of Kansas, 2005
3. Multi-symplectic Integration Methods, McMaster University, 2005
4. Multi-symplectic Integration Methods, Colorado School of Mines, 2005
5. The Beginnings of Backward Error Analysis for Multi-Symplectic Integration Methods, University of Central Florida, 2007
6. Bistable Waves in Discrete Inhomogeneous Media, McGill University, 2008
7. Propagation Failure of Traveling Fronts in Discrete Inhomogeneous Media, University of Iowa, 2008

CONFERENCE SEMINARS

1. Spinodal Decomposition for Spatially Discrete Cahn-Hilliard Equations, IX-th Numerical Analysis Summer School, University of Durham, UK, 2000
2. Backward Error Analysis for Multi-Symplectic Integrators, Mechanics and Symmetry in Europe Summer School, Peyresq, France, 2001
3. Backward Error Analysis for Multi-Symplectic Integrators, X-th Numerical Analysis Summer School, University of Durham, UK, 2002
4. Traveling Waves, Conservations Laws, and Multi-Symplectic Integration, International Conference on Nonlinear Dynamics and Evolution Equations, Memorial University of Newfoundland, Canada, 2004
5. Bistable Waves for Differential-Difference Equations with Inhomogeneous Diffusion, Workshop on Lattice, Delay and Functional Differential Equations, McGill University, 2005
6. Bistable Waves for Differential-Difference Equations with Inhomogeneous Diffusion, SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, 2005
7. Conformal Multi-Symplectic Integration Methods, IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, 2007
8. Conformal Multi-Symplectic Integration Methods, NSF-CBMS Regional Research Conference on Numerical Methods for Nonlinear Elliptic Equations, University of Iowa, 2007
9. Conformal Multi-Symplectic Integration Methods, International Conference on Scientific Computation and Differential Equations, Saint-Malo, France, 2007
10. Propagation Failure of Bistable Waves in Discrete Inhomogeneous Media, International Congress on Industrial and Applied Mathematics, Zurich, Switzerland, 2007
11. Propagation Failure of Traveling Fronts in Discrete Inhomogeneous Media, 7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications, Arlington, Texas, 2008

CONFERENCE POSTERS

1. Numerical Methods that Preserve a Multi-Symplectic Conservation Law, Young Mathematicians Conference in PDE and Dynamical Systems, The Fields Institute, 2004
2. Numerical Methods that Preserve a Multi-Symplectic Conservation Law, Montreal Scientific Computing Days, Le Centre de Recherches Mathématiques, 2004
3. Multi-Symplectic Integration for Linear PDE, Frontiers in Applied and Computational Mathematics, New Jersey Institute of Technology, 2005
4. Multi-Symplectic Integration for Linear PDE, Workshop on Computational Methods and Applied PDE, Iowa State University, 2005

