

Personal Data

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Education

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|------|---|
| 2004 | Ph. D. Applied Mathematics, University of Washington, Seattle, WA
Thesis: <i>Dynamics and Stability of Periodic Spatial Patterns in the Optical Parametric Oscillators</i>
Advisor: J. Nathan Kutz |
| 2001 | M. S. Applied Mathematics, University of Washington, Seattle, WA |
| 1999 | B. A. Mathematics and Physics, Hamline University, St. Paul, MN |

Research Interests

Nonlinear dynamical systems with applications in optics and other electromagnetics; Scientific computing; asymptotic and perturbation methods; nonlinear analysis

Academic Honors

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|----------------|---|
| 6/2004 | Boeing Award for Excellence
Department of Applied Mathematics, University of Washington |
| 9/2002-present | NSF VIGRE Research Assistant
Department of Applied Mathematics, University of Washington |
| 6/2002-9/2002 | Research Assistant
Department of Applied Mathematics, University of Washington
Advisor: J. Nathan Kutz |
| 8/2001 | Boeing Award for Excellence
Department of Applied Mathematics, University of Washington |
| 6/2001-9/2001 | Research Assistant
Department of Applied Mathematics, University of Washington
Advisor: J. Nathan Kutz |
| 6/2000-9/2000 | Research Assistant
Department of Applied Mathematics, University of Washington
Advisor: Loyce Adams |
| 5/1999 | Corner Family Prize
Hamline University |

6/1998 - 8/1998 **NSF REU Research Assistant**
Department of Physics, University of North Dakota
Advisor: William Schwalm

5/1998 **Alumni Award in Physics**
Department of Physics, Hamline University

Teaching Experience

Winter 2004 **Predoctoral Lecturer**
Department of Applied Mathematics, University of Washington
AMATH 351: Introduction to Differential Equations and Applications

Winter 2003 **Undergraduate Research Mentor**
Department of Applied Mathematics, University of Washington
Faculty Advisor: J. Nathan Kutz

Fall 2002 **Teaching Assistant**
Department of Applied Mathematics, University of Washington
AMATH 383: Introduction to Continuous Mathematical Modeling

Spring 2002 **Teaching Assistant**
Department of Applied Mathematics, University of Washington
AMATH 353: Fourier Analysis and Partial Differential Equations

Winter 2002 **Teaching Assistant**
Department of Applied Mathematics, University of Washington
AMATH 402: Introduction to Methods in Applied Mathematics II

Fall 2001 **Teaching Assistant**
Department of Applied Mathematics, University of Washington
AMATH 401: Introduction to Methods in Applied Mathematics I

Winter, Spring 2001
Spring 2000 **Teaching Assistant**
Department of Mathematics, University of Washington
MATH 112: Application of Calculus to Business and Economics

Fall 2000 **Teaching Assistant Mentor**
Department of Mathematics, University of Washington
Faculty Advisor: Judith Arms

Fall, Winter 2000
Fall, 1999 **Teaching Assistant**
Department of Mathematics, University of Washington
MATH 111: Algebra with Applications

Invited and Contributed Talks

4/2004 Applied Math Graduate Student Seminar, University of Washington, Seattle, WA.

1/2004	Photonics West Lasers and Applications 2004, San Jose, CA.
9/2003	Mathematics Seminar, Gustavus Adolphus College, St. Peter, MN.
4/2003	IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena, Athens, GA.
11/2002	Applied Math Graduate Student Seminar, University of Washington, Seattle, WA.
3/2002	Washington Math Day, University of Washington, Seattle, WA.
7/2002	SIAM 2002 Annual Meeting, Philadelphia, PA (poster).
8/1998	North Dakota Regional Research Poster Session, Grand Forks, ND (poster).

Conferences and Workshops

2004	Photonics West Lasers and Applications 2004, San Jose, CA.
2003	IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory.
2002	SIAM 50th Anniversary and 2002 Annual Meeting.
1998	North Dakota Regional Research Poster Session.

Professional Activities

Society of Industrial and Applied Mathematics, *secretary, UW Student Chapter (10/2003-present)*
Optical Society of America
Phi Beta Kappa

Publications

1. S. Hewitt and J. N. Kutz, "Dynamics of the Optical Parametric Oscillator Near Resonance Detuning," submitted to SIAM Journal on Applied Dynamical Systems.
2. S. Hewitt, K. Intrachat and J. N. Kutz, "Periodic Solutions of the Optical Parametric Oscillator," submitted to Optics Communications.
3. B. Moritz, W. Schwalm and S. Hewitt, "Analysis of full vector Maxwell electromagnetic equations in random structures using vector difference calculus", *Bul. Am. Phys. Soc.: Centennial Meeting*, Vol. 44, No. 1, Part II, pp. 1567-1568 (1999).