

Department of Mathematics  
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## Education

- **Ph. D. in Mathematics**, University of Iowa — May, 2008  
**Advisor:** David E Stewart  
**Dissertation:** *Mixed Complementarity Formulations and Energy Balance in Dynamic Contact Problems*
- **M.S. in Computer Science**, The University of Iowa — May, 2008
- **M.S. in Mathematics**, The University of Iowa — May 2006
- **B.A. in Mathematics and Computer Science**, Carroll College, Helena, MT — 2002

## Positions Held

- Assistant Professor of Mathematics – University of Wisconsin-La Crosse, 2008-Present
- NSF-VIGRE Trainee – University of Iowa, 2007-2008
- Graduate Research Assistant – University of Iowa, 2006-2007
- Graduate Teaching Assistant – University of Iowa, 2003-2006
- Adjunct Faculty – Kirkwood Community College, Cedar Rapids, IA, Summer 2006
- Adjunct Faculty – St. Andrew's School, Helena, MT, 2002

## Courses Taught at UW-La Crosse

- Introduction to Numerical Methods, Spring 2009
- Calculus II, Spring 2009
- Calculus I, Fall 2008

## Courses Taught Prior to UW-La Crosse

- Introduction to Applied Mathematics Research, University of Iowa, Fall 2007
- Elementary Functions, University of Iowa, Fall 2006
- Trigonometry, University of Iowa, Spring 2005, Spring 2006
- Algebra II, University of Iowa, Fall 2003, Spring 2004, Fall 2004, Fall 2005
- Finite Mathematics, Kirkwood Community College, Summer 2006

## Innovation

- Created and organized an 11 school, 23 team paper exchange for 2009 COMAP Mathematical Contest in Modeling
- Created, developed, and co-taught a new course, *Introduction to Applied Mathematics Research*, at the University of Iowa
- Created and organized the *Heartland Partnership Workshop on Organizing and Coaching Undergraduate Math Modeling Teams*

**Refereed Publications**

- *Fractional index convolution complementarity problems*, Stewart, D.E. and Wendt, Theodore J. *Nonlinear Analysis: Hybrid Systems*, vol. 1, no. 1, pp. 124-134 (2007).

**Works in Progress**

- *Energy balance for dynamical contact with Signorini's condition and slip-rate dependent friction*, with D.E. Stewart, in preparation.
- *Frictionless dynamic contact with mixed position-velocity complementarity*, with D.E. Stewart, in preparation

**Conference Presentations**

- April 2009 -- *Experiences from the COMAP Contest in Mathematical Modeling*, (with Barb Bennie), Wisconsin Sectional MAA Meeting, UW-La Crosse, La Crosse, WI
- June 2008 – *A modular approach to teaching a course in application based problem solving*, Pacific Northwest Sectional MAA Meeting, Carroll College, Helena, MT
- December 2007 – *Energy balance for dynamic contact with Signorini's condition and slip rate dependent friction*, SIAM Conference on Analysis of Partial Differential Equations, Phoenix, AZ
- October 2007 – *Energy balance for dynamic contact with Signorini's condition and slip rate dependent friction*, Southeastern Atlantic Regional Conference on Differential Equations, Murray, KY

**Other Presentations**

- April 2009 – *An introduction to subsurface fluid flow modeling*, Invited Presentation, Saint Mary's University of Minnesota, Winona, MN
- May 2008 – *Designing and implementing a course in application based problem solving*, Invited Presentation, Augustana College, Rock Island, IL
- May 2008 – *Dynamic rigid body simulation using complementarity*, Computer Graphics Research Seminar, University of Iowa
- April 2008 – *Mixed Complementarity Formulations and Energy Balance in Dynamic Contact Problems*, Doctoral Defense, University of Iowa
- April 2008 – *Frictionless dynamic contact with mixed position-velocity complementarity*, Numerical Analysis Seminar, University of Iowa
- November 2007 – *Using the wave equation to describe impacts: elasticity in collisions using complementarity*, Graduate and Undergraduate Student Seminar, University of Iowa
- November 2006 – *An intuitive approach to collision modeling using complementarity*, Invited Presentation, Truman State University, Kirksville, MO
- May 2006 – *A wave-equation formulation of impact of an elastic ball*, Computer Graphics Research Seminar, University of Iowa

**Grants**

- 2009 - Theodore Wendt (Principal) *Improving student learning outcomes through mathematical modeling and review* OPID Conference Development Grant, \$1000

**Awards and Honors**

- 2007-2008 – NSF-VIGRE trainee
- 2007 Summer – Graduate College Summer Fellowship Award Winner, University of Iowa
- 2006 – University of Iowa Outstanding Teaching Award
- 2005 – University of Iowa Department of Mathematics Outstanding Teaching Award

**Professional Affiliations**

- American Mathematical Society
- Mathematics Association of America
- Society for Industrial and Applied Mathematics

**Conferences and Workshops Attended**

- April 2009 – Midwest Undergraduate Mathematics Symposium, Indianola, IA
- April 2009 – Wisconsin Sectional MAA Meeting, La Crosse, WI
- March 2009 – NSF Day Workshop, Milwaukee, WI
- October 2008– 2nd Annual Heartland Partnership Workshop on Organizing and Coaching Undergraduate Math Modeling Teams, Iowa City, IA
- June 2008– Pacific Northwest Sectional MAA Meeting, Helena, MT
- December 2007– SIAM Conference on Analysis of Partial Differential Equations
- October 2007– Southeastern Atlantic Regional Conference on Differential Equations
- May 2007– The University of Iowa Conference on Numerical Analysis: Elliptic BVPs

**Departmental and University Service**

- 2009 – Advisor for COMAP Mathematical Contest in Modeling teams at UW-La Crosse
- 2009 – Review panelist for Math Department Undergraduate Scholarship awards
- 2009 Spring – Advisor for MAA-Wisconsin Section Face-off competition
- 2008 Fall – Advisor for Midwest Mathematical Modeling Contest teams from UW-La Crosse
- 2008 – University of Iowa – Supervisor for COMAP Mathematical Contest in Modeling teams
- 2007-2008 – University of Iowa – Student Government: Member of Scholarly Presentations and Research Grants Committee
- 2007-2008 – University of Iowa – Student Government: Member of Executive Council of Graduate and Professional Students Research Grant Review Committee
- 2005-2007 – University of Iowa – Math Graduate Student Board: Newsletter editor