

Department of Mathematics  
University of Wisconsin-La Crosse  
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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

## Teaching

### Courses Taught at UW-La Crosse

- MTH 150 – College Algebra (Summer 2011)
- MTH 175 – Applied Calculus (Fall 2009-Fall 2011)
- MTH 207 – Calculus I (Fall 2008)
- MTH 208 – Calculus II (Spring 2009, Fall 2011)
- MTH 310 – Calculus III (Fall 2009)
- MTH 353 – Differential Equations (Fall 2010, Spring 2011)
- MTH 371 – Introduction to Numerical Methods (Spring 2009)
- MTH 395 – Special Topics in Mathematics (Fall 2010)
- MTH 480 – Studies in Applied Mathematics (Spring 2010)

### 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

## Awards and Honors

- 2009-2010 – Project NExT (New Experiences in Teaching) National Fellow
- 2007-2008 – NSF-VIGRE trainee, University of Iowa
- 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

## Advising

- 2009-Present – Advisor for COMAP Mathematical Contest in Modeling teams at UW-La Crosse.
  - Recruited and advised 5 teams for 2009 COMAP contest
  - Recruited and advised 9 teams for 2010 COMAP contest
  - Recruited and advised 9 teams for 2011 COMAP contest
  - Placed 1 team in top 1% of papers internationally; 8 additional teams in top 20%; 5 more teams in top 40% over the past three years.
- 2009, 2010 Spring – Co-advisor for MAA-Wisconsin Section Face-off competition
- 2009 Fall – Advisor for Wisconsin Mathematical Modeling Challenge teams from UW-La Crosse
- 2008 Fall – Advisor for Midwest Mathematical Modeling Contest teams from UW-La Crosse

## Innovation

- Created and organized a peer review program for teams participating in the COMAP Mathematical Contest in Modeling. The exchange has involved 50 teams from 13 institutions over the past three years.
- Created and organized the *Wisconsin Mathematical Modeling Challenge*, a 24-hour mathematical modeling contest held at UW-La Crosse.
- Created and organized several workshops on recruiting and preparing undergraduate students for mathematical modeling competitions.

## Scholarship

### 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).

### Submitted Works

- *Frictionless dynamic contact with mixed position-velocity complementarity*, with D.E. Stewart. Submitted to *SIAM Journal on Mathematical Analysis*.
- *Dynamic frictional contact with mixed position-velocity complementarity*, Submitted to *SIAM Journal on Mathematical Analysis*

### Works In Preparation

- *Has Membership in GATT/WTO Increased Trade? Determining the Effects of GATT/WTO Membership on Trade*, with Raymond Leach and Julia Wendt
- *Energy balance for dynamical contact with Signorini's condition and slip-rate dependent friction*, with D.E. Stewart.
- *Surviving an Outbreak of Zombiism: Bifurcation in an Epidemic Model*, with Robert F. Allen and Cassandra Jens

### Undergraduate Research Projects Supervised

- 2011 – Ali Khalili, *Modeling collisions between baseballs and bats*.
- 2009-2010 – Hillary Brummond and Benjamin Brunette, *Modeling and Ranking Driver Performance*. Presented at National Conference for Undergraduate Research 2010
- 2009-2010 – Raymond Leach, *The Effect on International Trade of Multilateral Trade Agreements*. Presented at National Conference for Undergraduate Research 2010

- 2009 – Vince Zander, *Multi-level Matching Problems with Application to Assignment Problems*.

### Conference Presentations

- April 2010 – *The Wisconsin Mathematical Modeling Challenge*, Wisconsin Sectional MAA Meeting, UW-Oshkosh, Oshkosh, WI.
- 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

- November 2009 – *Elasticity in collisions using complementarity*, Research Seminar, University of Wisconsin-La Crosse
- 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

- 2011 – Robert Allen, Jennifer McCool, and Theodore Wendt *Integrating Mathematical Modeling Opportunities across high-school and college curriculum* OPID Conference Development Grant, \$1000
- 2011 – Theodore Wendt (Principal) *Dynamic frictional contact with mixed position-velocity complementarity*, UWL Faculty Research Grant, \$4,555
- 2011 – Ali Khalili and Theodore Wendt, *Modeling collisions between baseballs and bats*, UWL College of Science and Health Dean's Distinguished Fellowship, \$5,000

- 2010 – Theodore Wendt and Barbara Bennie, *Mathematical Modeling Contests: Recruiting and Preparing Teams and Improving Student Learning Outcomes* OPID Conference Development Grant, \$350
- 2010 – Robert Allen, Melissa Bingham, and Theodore Wendt *Using WeBWork to Enhance Learning in General Education Mathematics and Statistics Courses* UW-L Teaching Innovation Grant, \$1500
- 2010 – Raymond Leach and Theodore Wendt, *The Effect on International Trade of Multilateral Trade Agreements*, UWL Undergraduate Research and Creativity Grant, \$600
- 2010 – Hillary Brummond, Benjamin Brunette, and Theodore Wendt, *Analyzing Metrics for Objective Comparison of Driver Safety Abilities*, UWL Undergraduate Research and Creativity Grant, \$1025
- 2009 – Theodore Wendt (Principal) *Improving student learning outcomes through mathematical modeling and review* OPID Conference Development Grant, \$1000

### Conferences and Workshops Attended

- August 2010 – MathFest, Pittsburgh, PA
- April 2010 – Wisconsin Sectional MAA Meeting, Oshkosh, WI
- January 2010 – Joint Meetings of the AMS, MAA, and SIAM, San Francisco, CA
- August 2009 – MathFest, Portland OR
- 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
- January 2008 – Joint Meetings of the AMS, MAA, and SIAM, San Diego, CA
- 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

### Service

#### Department of Mathematics

- 2011 – Member of Murphy Learning Center Director Search and Screen Committee
- 2011 – Assessment task coordinator for MTH 175 general education requirement
- 2010 – Member of Math Department Service Award Committee
- 2009 – Review panelist for Math Department Undergraduate Scholarship awards

#### College of Science and Health

- 2009-Present – Member, SAH Undergraduate Travel and Supplies Grant Committee (Elected as chair in 2011)
- 2010-Present – Member, SAH Dean’s Distinguished Fellowship Award Committee

**University Service**

- 2009-Present – Recorder, Scholarship and Awards Committee
- 2009-2010 – Member, IT Information Security Officer Search and Screen Committee
- 2009 – NCUR volunteer

**Professional Service**

- 2011 – Head judge for Moody’s Mathematical Modeling Challenge regional judging team; one of 13 national judges for awards selection screening.
- 2010 – Consultant for the University Physics Competition problem selection committee.
- 2010 – Contest judge for Moody’s Mathematical Modeling Challenge
- 2010 – Judge for National College Mathematics Championships (sponsored by American Society for the Communication of Mathematics)

**Professional Affiliations**

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