CURRICULUM VITAE

Steven Levandosky

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CONTACT INFORMATION

Department of Mathematics and Computer Science
College of the Holy Cross
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EDUCATION

Brown University, Providence, RI

Ph.D., Mathematics, 1997

Advisor: Walter Strauss

Dissertation: *Stability and Asymptotic Behavior of Higher-Order Nonlinear Waves*

College of the Holy Cross, Worcester, MA

B.A., Mathematics, 1992

Summa Cum Laude

ACADEMIC APPOINTMENTS

College of the Holy Cross, Associate Professor, September 2010 - present
College of the Holy Cross, Assistant Professor, September 2004 - August 2010
College of the Holy Cross, Visiting Assistant Professor, September 2003 - August 2004
Stanford University, Lecturer, September 1999 - August 2003
The University of Texas at Austin, Instructor, August 1997 - July 1999
Brown University, Teaching Fellow/Teaching Assistant, 1993-1997

COURSES TAUGHT AT HOLY CROSS

MATH 110: Topics in Mathematics, Data Analysis
MATH 125: Calculus for the Social Sciences 1
MATH 126: Calculus for the Social Sciences 2
MATH 131: Calculus for the Physical and Life Sciences 1
MATH 132: Calculus for the Physical and Life Sciences 2
MATH 133: Calculus 1 with Fundamentals **Fall 2021**
MATH 134: Calculus 2 with Fundamentals
MATH 135: Calculus 1
MATH 136: Calculus 2 **Spring 2022**
MATH 241: Multivariable Calculus
MATH 242: Principles of Analysis
MATH 243: Mathematical Structures **Fall 2021**

MATH 244: Linear Algebra
MATH 304: Ordinary Differential Equations
MATH 305: Complex Analysis
MATH 361: Real Analysis 1 **Spring 2022**
MATH 362: Real Analysis 2
MATH 371: Numerical Analysis
MATH 373: Partial Differential Equations
MATH 375: Probability Theory

ADDITIONAL TEACHING ACTIVITIES

MATH 200: Independent Study, Amy Lepley '13, Data Analysis, Spring 2013
MATH 400: Directed Reading, Gopal Yalla '15, Advanced ODEs, Spring 2014
MATH 400: Directed Reading, Gopal Yalla '15, Functional Analysis, Fall 2014
MATH 400: Directed Reading, Tim Arnold '16, Hilbert Spaces, Spring 2015
MATH 400: Directed Reading, Woosub Shin '15, Measure Theory, Spring 2015
MATH 496: Honors Thesis, Christopher Schaller '13, Stochastic Differential Equations, Spring 2013
MATH 496: Honors Thesis, Kevin Cotter '14, Numerical Approximations for Solitary Waves of the Korteweg-de Vries Equation, Spring 2014
MATH 496: Honors Thesis, Alison Wilkman '14, Solitary Wave Solutions to the Fifth-Order KdV Equation, Spring 2014

COLLEGE AND DEPARTMENTAL SERVICE

Committee on Academic Programs. **Fall 2020–Spring 2022**
MATH/CS Department Teacher Education Program Liaison. **Fall 2020–Spring 2022**
Pi Mu Epsilon Honor Society Chapter Advisor. 2008, 2009, 2010, 2021, **2022**
MATH/CS Department Hewlett Mellon Workshop on Analysis, August 2019
Math/CS Department Hiring Committee Chair. 2017–2018, 2018–2019
Math/CS Department Chair. 2015–2016, 2016–2017, 2017–2018, 2018–2019
Clare Boothe Luce Scholarship Selection Committee. Spring 2016, Spring 2017, Spring 2018
Department Representative at Admissions Open House. Spring 2016, Spring 2017, Spring 2018
Calculus Workshop Director. 2014–2015
Summer Science Research Selection Committee. Spring 2015
Faculty Mentor Program. 2013–2014, 2014–2015
Math/CS Department Faculty Seminar. 2013–2014, 2014–2015
Faculty Compensation Committee. 2012–2013. 2013–2014 (co-chair), 2014–2015 (co-chair)
Math/CS Department, GRE Preparation Course. Fall 2010, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2016 Fall 2017, Fall 2018
Holy Cross Triathlon Club, Faculty Advisor. 2013–2014, 2014–2015, 2015–2016
Math/CS Department, Professional Societies Representative. Fall 2009, Spring 2010
Math/CS Department, Colloquium. 2008–2009, 2009–2010
Math/CS Department, Putnam Competition. Fall 2008, Fall 2011, Fall 2012, Fall 2013, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018, **Fall 2021**
Academic Affairs Council. 2007–2008, 2008–2009
Math/CS Department, Library Liaison, 2004–2006
Math/CS Club Advisor, 2005–2006, 2007–2008, 2008–2009, 2011–2012, 2012–2013
Avon Scholarship Committee, Spring 2005
Gateways Advising, Summer 2005, Summer 2008

PUBLICATIONS

1. Instability and blow-up of solutions of the fifth-order KP equation. (with Amin Esfahani) *J. Math. Anal. Appl.* **509** (2022), no. 2, Paper No. 125953, 28 pp.

2. Solitary waves of a generalized Ostrovsky equation. (with Amin Esfahani) *Nonlinear Anal. Real World Appl.* **63** (2022), Paper No. 103395, 33 pp.

3. Existence and stability of traveling waves of the fifth-order KdV equation. (with Amin Esfahani) *Phys. D* **421** (2021), Paper No. 132872, 21 pp.

4. Stability of solitary waves of a nonlinear beam equation. (with Wen Feng) *J. Differential Equations*, **269** (2020), no. 11, 10037–10072.

5. Solitary waves of a coupled KdV system with a weak rotation (with Amin Esfahani), *Journal of Differential Equations*, **265** (2018), no. 6, 4835-4872.

6. Stability of solitary waves of the Kadomtsev-Petviashvili equation with weak rotation (with Amin Esfahani), *SIAM Journal on Mathematical Analysis*, **49** (2017), no. 6, 5096-5133.

7. Solitary Waves of the Generalized Rotation-Generalized Benjamin-Ono Equation (with Amin Esfahani), *Discrete and Continuous Dynamical Systems, Series A*, **33** (2013), no. 2, 663-700.

8. On the Stability of Solitary Waves of the Generalized Ostrovsky Equation, *Analysis and Mathematical Physics*, **2** (2012), no. 4, 407-437.

9. Stability of Solitary Waves for the Generalized Higher-Order Boussinesq Equation (with Amin Esfahani), *Journal of Dynamics and Differential Equations*, **24** (2012), no. 2, 391-425.

10. Stability of Solitary Waves of a Fifth-Order Water Wave Model, *Physica D*, **227** (2007), no. 2, 162-172.

11. Stability and Weak Rotation Limit of Solitary Waves of the Ostrovsky Equation (with Yue Liu), *Discrete and Continuous Dynamical Systems, Series B*, **7** (2007), no. 4, 793-806.

12. Stability of Solitary Waves of a Generalized Ostrovsky Equation (with Yue Liu), *SIAM J. on Mathematical Analysis*, **38** (2006), no. 3, 985-1011.

13. Partial Differential Equations: An Introduction, Student Solutions Manual (with Walter Strauss and Julie Levandosky), February 2008, ISBN: 978-0-470-26071-5

14. Linear Algebra, *Pearson Custom Publishing*, Boston, 2001, ISBN 0-536-66747-0

15. Time decay for the nonlinear beam equation. Cathleen Morawetz: a great mathematician. (with Walter Strauss) *Methods Appl. Anal.* **7** (2000), no. 3, 479–487.

16. A stability analysis of fifth-order water wave models. *Physica D* **125** (1999), no. 3-4, 222–240.

17. Stability and instability of fourth-order solitary waves. *Journal of Dynamics and Differential Equations* **10** (1998), no. 1, 151–188.

18. Decay estimates for fourth order wave equations. *Journal of Differential Equations* **143** (1998), no. 2, 360–413.

OTHER PROFESSIONAL ACTIVITIES

Referee for *Water Waves.* **Reviewed 1 manuscript.**

Referee for *Journal of Mathematical Analysis and Applications.* **Reviewed 1 manuscript.**

Referee for *Journal of Differential Equations.*

Referee for *Analysis and Mathematical Physics.*

Referee for *Nonlinearity.*

Co-organizer (with Dave Damiano) of Special Session on Undergraduate Research, AMS Eastern Sectional Meeting, Spring 2011

Referee for *Proceedings of the Royal Society of London.*

Referee for *Discrete and Continuous Dynamical Systems.*

Referee for *Applicable Analysis.*

Referee for *Mathematics and Computers in Simulation.*

Reviewer for Mathematical Reviews.

Referee for *Physica D.*

Referee for *SIAM Review (Education Section).*

COMMUNITY SERVICE

Member, Board of Directors, Hopkinton Area Land Trust. Summer 2017 - present.

Land Steward, Sudbury Valley Trustees. Summer 2017 - present.

Town of Hopkinton Open Space Preservation Commission, January 2020 - present.

Town of Hopkinton Community Preservation Committee, August 2020 - present.