

Chad N Vidden

Curriculum Vitae

Department of Mathematics
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EDUCATION

Ph.D. Applied Mathematics, Iowa State University, Ames, IA (Expected May 2012)

Dissertation Title: The Direct Discontinuous Galerkin Method with Symmetric Structure for Diffusion Problems, (Thesis Advisor: Jue Yan, Ph.D.)

B.S. Mathematics, Minnesota State University - Mankato, Mankato, MN, May 2007

Magna Cum Laude, Minor: Computer Science

EMPLOYMENT

- Mathematics Graduate Teaching Assistant, Iowa State University, August 2007 – present
- Information Services Intern, Brown Printing Company, Waseca, MN, August 2006 – August 2007
- Information Services Intern, Securian Financial Group, St. Paul, MN, May 2006 – August 2006
- Mathematics Undergraduate Teaching Assistant, Minnesota State University – Mankato, August 2005 – May 2006
- Private mathematics tutor for middle school, high school and college students, 2004 – current
- Mathematics department tutor, Minnesota State University - Mankato, August 2004 – May 2005

TEACHING EXPERIENCE

Iowa State University:

Semester	Course Name	Duties	Evaluations
Fall 2007	Math 150: Discrete Math for Business and Social Sciences	Web Recitations	4.15 out of 5
Spring 2008	Math 151: Calculus for Business and Social Sciences	Recitations	4.34 out of 5
Fall 2008	Math 142: Trigonometry and Analytic Geometry	Recitations	4.25 out of 5
Fall 2009	Math 140: College Algebra	Instructor	3.87 out of 5
Spring 2010	Math 165: Calculus I	Instructor	4.22 out of 5
Fall 2010	Math 267: Differential Eqns. and Laplace Transforms	Instructor	4.32 out of 5
Fall 2011	Math 140: College Algebra	Instructor	-

- Instructor duties include: responsibility for preparing all lectures and class assignments, writing exams and quizzes, writing course syllabi, grading, and holding office hours.
- Recitation duties include: lecturing, writing quizzes, grading, and holding office hours.
- Web recitation duties include: lecturing, assisting students with course software, grading projects, and holding office hours.

Minnesota State University, Mankato:

Semester	Course Name	Duties
Spring 2006	Math 098: Intermediate Algebra	Recitations

ADDITIONAL TEACHING EXPERIENCE

- Teaching technology used:
 - Course management software: WebCT, Blackboard, AccessPlus
 - Mathematics course software: MyMathLab, MapleTA
- Grader for graduate level Cryptography course, ISU Mathematics Department, Spring 2009.

TEACHING DEVELOPMENT

- ISU Mathematics Education Seminar, January 2010 - current.
- ISU Preparing Future Faculty (PFF) Program, August 2010 - December 2010.
 - A semester long program intended to better prepare graduate students for faculty careers through a combination of seminars, mentoring, and practical classroom and departmental service experiences.
- ISU Center for Excellence in Learning and Teaching Panel: Engaging Students in the Classroom, February 18, 2009.
- ISU Center for Excellence in Learning and Teaching Faculty Forum: Teaching Tips, February 3, 2009.

REU EXPERIENCE

- Graduate Mentor, ISU Research Experience for Undergraduates Program, Summer 2011
Project: Invariant Measures for Hybrid Stochastic Systems, Faculty Advisor: Wolfgang Kliemann.
- Graduate Mentor, ISU Research Experience for Undergraduates Program, Summer 2010
Project: Trading Cookies in a Gambler's Ruin Scenario, Faculty Advisor: Alex Roitershtein.

AWARDS

- AMS Graduate Student Travel Grant, Joint Mathematics Meetings, Spring 2012
- Aggie Ho Teaching Excellence Award, Fall 2011
 - Awarded annually to one teaching assistant in the ISU Mathematics Department.
 - Given in recognition of outstanding contributions to the teaching of undergraduate students while working toward a graduate degree.
- Robert J. Lambert Award for Research Excellence in Applied Mathematics, Fall 2011
 - Awarded annually to one student each year by the ISU Mathematics Department.
 - Given in recognition of outstanding research in the area of Applied Mathematics.
- Wolfe Research Fellowship, Spring 2011
 - Given to one or two students each year by the ISU Mathematics Department and is considered the department's highest research honor for graduate students.
- AMS Graduate Student Travel Grant, Spring 2011
- Teaching Excellence Award, Fall 2011
 - Given in recognition of outstanding contributions to the teaching of undergraduate students while working toward a graduate degree.
- Undergraduate Research Conference Best Presentation in Engineering, Math, Statistics, and Computer Information Science category, Spring 2007
- Undergraduate Research Conference Grant, Fall 2006

RESEARCH INTERESTS

Numerical Analysis; Numerical Methods for Differential Equations; Finite Element Methods;
Discontinuous Galerkin Methods; Interior Penalty Methods

PUBLICATIONS

- C. Vidden, J. Yan, *Direct Discontinuous Galerkin Method for Diffusion Equations with Symmetric Structure*. Submitted to SIAM Journal on Numerical Analysis.
- C. Vidden, J. Yan, H. Liu, *Admissibility Analysis for the Direct Discontinuous Galerkin Method and its Variations*. To be submitted Fall 2011.
- C. Vidden, J. Yan, *Positivity Preserving (Maximum Principle Satisfying) DDG Methods for Convection Diffusion Problems*. To be submitted Fall 2011.
- X. Garcia, J. Kunze, T. Rudelius, A. Sanchez, S. Shao, E. Speranza, C. Vidden, *Invariant Measures for Hybrid Stochastic Systems*. Submitted to Systems and Control Letters Fall 2011.
- T. Pluta, M. Temba, B. Wu, K. Jungjaturapit, R. Rastegar, A. Roitershtein, C. Vidden, *Trading Cookies in a Gambler's Ruin Scenario*. Submitted to the Journal of Applied Probability Fall 2010.
- C. Vidden, *Mathematical Modeling and Simulation of Multiallelic Migration-Selection Models*. Published in Minnesota State University Mankato Journal of Undergraduate Research, Spring 2007.

CONFERENCE TALKS

- Direct Discontinuous Galerkin Method for Nonlinear Diffusion Equations with Symmetric Structure*, 11th US National Congress on Computational Mechanics, Minneapolis, MN, July 25-28, 2011.
- A Variation of the Direct Discontinuous Galerkin Method for Diffusion Problems with Symmetric/Nonsymmetric Structure*, Midwest Numerical Analysis Day 2010, Ames, IA, April 24-25, 2010.
- Mathematical Modeling and Simulation of Multiallelic Migration-Selection Models*, Undergraduate Research Conference, Mankato, MN, April 23-24, 2007.

SEMINAR TALKS

- Recovery of Normal Derivatives from the Piecewise L^2 Projection*, Focused Research Interaction Seminar, Ames, IA, September 22, 2011.
- Trading Cookies in a Gambler's Ruin Scenario*, Loras College Undergraduate Mathematics Seminar, Dubuque, IA, April 6, 2011.
- Introduction to Hybridizable Discontinuous Galerkin Methods*, Focused Research Interaction Seminar, Ames, IA, February 9, 2011.
- Discontinuous Galerkin Methods for Stokes Flow Problems*, Focused Research Interaction Seminar, Ames, IA, September 30, 2010.
- Central Discontinuous Galerkin Methods*, Focused Research Interaction Seminar, Ames, IA, Spring 2010.

CONFERENCES ATTENDED

- 5th Annual Mathematical Field of Dreams Conference, Arizona State University, Tempe AZ, October 14-16, 2011.
- 11th US National Congress on Computational Mechanics, Minneapolis, MN, July 25-28, 2011.
- 6th Midwest Undergraduate Mathematics Symposium, Simpson College, Indianola, IA, April 3-4, 2011.

CONFERENCES ATTENDED CONTINUED

- AMS Sectional Meeting, University of Iowa, Iowa City, IA, March 18-20, 2011.
- Institute for Mathematics and its Applications Workshop: Numerical Solutions of Partial Differential Equations, Novel Discretization Techniques, University of Minnesota, Minneapolis, MN, November 1-5, 2010.
- Iowa Summer Undergraduate Research Symposium, Iowa State University, Ames, IA, July 28- 29, 2010.
- Iowa PDE Conference, University of Iowa, Iowa City, IA, April 30-May 2, 2010.
- Midwest Numerical Analysis Days 2010, Iowa State University, Ames, IA, April 24-25, 2010.
- Iowa PDE Conference 2009, Iowa State University, Ames, IA, October 10, 2010.
- Minnesota State University Undergraduate Research Conference, Minnesota State University - Mankato, Mankato, MN, April 23-34, 2007.

SERVICE

- Iowa State University Mathematics Graduate Student Organization (MathGSO)
 - President, May 2011 - present
 - Liaison to the Mathematics Graduate Committee, May 2009 - May 2011
 - Member, May 2009 - present
- Representative of ISU Mathematics Graduate Program, 5th Annual Mathematical Field of Dreams Conference, Arizona State University, Tempe, AZ, October 14-16, 2011.
- Representative of ISU Mathematics Graduate Program, Midwest Undergraduate Mathematics Symposium, Simpson College, Indianola, IA, April 1-2, 2011.
- Panelist on life in graduate school, Enhancing Diversity in Graduate Education (EDGE) Mathematics and Statistics Opportunities for Undergraduates Conference, Iowa State University, Ames, IA, January 22, 2011.
- Proctor and grader for Great Plains Math League competition, Iowa State University, Ames, IA, December 8, 2007.

PROFESSIONAL MEMBERSHIPS

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

REFERENCES

Jue Yan (Advisor and research reference)
Department of Mathematics, Iowa State University
396 Carver Hall, Ames, IA, 50011
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Hailiang Liu (Research reference)
Department of Mathematics, Iowa State University
396 Carver Hall, Ames, IA, 50011
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Wolfgang Kliemann (Research and teaching reference)
Department of Mathematics, Iowa State University
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Elgin Johnston (Teaching reference)
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