Shaun Ceci

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Objective

I intend to finish my Ph.D. in mathematics within one year and subsequently obtain a postdoctoral position where I can continue working in applied analysis with emphasis on fluid dynamics and computational issues. Ultimately, I aim to work as a research scientist, either in academia or industry, preferably with a strong focus on fluid dynamics, modeling, and numerical simulation.

Education

Ph.D. Mathematics, University of Memphis, *expected* 2011.

Advisor: Dr. Thomas Hagen.

Grade Point Average: 3.98.

M.S. Mathematics, University of Memphis, 2007.

Grade Point Average: 3.97.

B.S. Mathematics and University Honors Baccalaureate, Montana State University, 2005.

Institutional Honors: Highest Honors.

Departmental Honors: Highest Distinction (*University Honors Program*, only four awarded that year).

Honors Thesis: Geometric criterion for Pisot numbers with an application to a theorem of Brauer & Hurwitz.

Grade Point Average: 3.96 overall, 3.99 in major.

Awards & Honors

First place, *Graduate Mathematics and Computer Sciences Division, Univ. of Memphis Student Research Forum*, 2009.

Outstanding Teaching Assistant Award, *University of Memphis*, 2005–2006 and 2006–2007.

Montana State University Award of Excellence, *Montana State University*, 2004–2005.

Outstanding Senior Award, *Montana State University*, 2004–2005.

Outstanding Scholar Award, *Montana State University*, 2000—2001, 2002–2003, and 2003–2004.

President's List (4.0 GPA), *Montana State University*, 4 of 7 semesters.

Dean's List (3.5 GPA), *Montana State University*, 7 of 7 semesters.

Semi-finalist, *National Security Agency Talent Search*, 2000.

Research

Fields of Interest

Applied Analysis, Partial Differential Equations, Fluid Dynamics.

Experience

Graduate Research Assistant, Thomas Hagen, University of Memphis, Summer 2006–Present.

Studied, both theoretically and computationally, the stabilizing and destabilizing effects of shear stresses imposed on highly viscous fluid fibers in isothermal fiber spinning.

Investigated averaging methods in thin domain problems in fluid dynamics and their potential extension to the Matovich-Pearson and Yeow equations of free liquid fibers and films.

Developed an eigenvalue search for the Yeow equations of film casting in Scilab.

Grant Support

NSF-Grant DMS 0709197 and a Faculty Research Grant of the University of Memphis. *(PI: Thomas Hagen)*

Publications and Presentations

"The Effect of Shear in Fiber Spinning" with C. Frost, T. Hagen, and D. Kurmashev
ZAMM - Journal of Applied Mathematics and Mechanics, ***89***, *344–355, 2009.*

The Effect of Shear in Fiber Spinning (poster presentation)
21st Annual Student Research Forum, University of Memphis, March 2009.

Making the Thin-Filament Approximation Rigorous: A Motivation (invited presentation)
International Conference on Applied Mathematics & Approximation Theory, University of Memphis, October 2008.

Thin Domain Problems in Fluid Dynamics (invited presentation)
International Conference on Interdisciplinary Mathematical & Statistical Techniques, Univ. of Memphis, May 2008.

Geometric criterion for Pisot numbers (honors thesis presentation)
University Honors Program Undergraduate Thesis Presentations, Montana State University, May 2005.

Service

Leadership Council Representative, Graduate Student Association, University of Memphis, 2009.

Societies

Invited to:

Golden Key International Honour Society, 2005.

Honor Society of Phi Kappa Phi, 2005.

Mortar Board: National College Senior Honor Society, 2004.

Member of:

Pi Mu Epsilon: Honorary National Mathematics Society, 2004.

National Society of Collegiate Scholars, 2001.

Alpha Lambda Delta: National Honor Society for First Year Students, 2001.

Teaching

Graduate Teaching Assistant, University of Memphis, Summer 2006–Present.

Developed syllabi, outlined course curricula, created exams, and assessed students.

Prepared downloadable lecture notes on a daily basis to better aid and engage students.

Courses taught (with full autonomy):

Foundations of Mathematics, College Algebra, College Algebra and Trigonometry, Calculus I, Calculus II, Differential Equations, Introduction to Proofs and Fundamentals of Mathematics, Introduction to Linear Algebra, Elementary Number Theory

Graduate Assistant, University of Memphis, Fall 2005–Spring 2006.

Obtained several hundred hours experience tutoring in a highly active university math learning center.

Tutored both individuals and groups on topics ranging from basic arithmetic to abstract algebra.

Student Fellow, Montana State University, Fall 2004.

Selected to co-teach an honors literary analysis course using the Socratic method.

Critiqued students' papers on the integrity and structure of the arguments presented.

Academic Tutor, Montana State University, Fall 2003–Spring 2004.

Tutored individual students on topics from algebra, calculus, and statistics.

Computer Skills

Operating Systems: Linux, Windows, Macintosh.

Programming: Maple, Mathematica, Matlab, Scilab.

Languages: HTML, CSS, Javascript.

Publishing: LaTeX, Adobe InDesign, Adobe Photoshop, Adobe Illustrator.

Last updated: March 5, 2010