

Bree Ettinger

Curriculum Vitae

Georgia State University Department of Mathematics & Statistics
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Education

2009 Ph.D. Mathematics, University of Georgia, Advisor: Ming-Jun Lai

Dissertation: Bivariate Splines for Ozone Concentration Predictions

2009 M.S. Statistics, University of Georgia

2004 M.A. Mathematics, University of Georgia, Advisor: Joan Hoffacker

Thesis: Applications of Time Scales to Numerical Analysis

2004 B.S. Mathematics, University of Georgia

Research Interests

Functional Linear Models, Scattered Data Fitting, Multivariate Splines

Publications

1. Bivariate Splines for Ozone Concentration Prediction (with S. Guillas and M. J. Lai) under preparation.
2. Hurricane prediction using bivariate splines (with M. J. Lai) under preparation.

Academic Employment

2009-present **Visiting Lecturer**, Georgia State University, Department of Mathematics & Statistics

Taught four course per semester: developmental mathematics and math for early childhood education majors

2002-2009 University of Georgia, Department of Mathematics

Primary Instructor for Graduate Teaching Seminar, Arithmetic and Problem Solving for Elementary School Teachers, Geometry For Elementary School Teachers, Algebra and Problem Solving for Elementary School Teachers, Differential Calculus, Pre-Calculus and Differential Calculus Lab

Teaching Assistant for Visiting Professor Thomas Banchoff's paperless Multi-variable Calculus Course

Writing Intensive Program Teaching Assistant for Sybilla Beckmann's Arithmetic for Middle School Teachers, Geometry and Measurement for Middle School Teachers, Algebra for Middle School Teachers, and Foundations of Geometry

Industry Experience

2004 **Summer Intern**, The Boeing Company, Phantom Works Mathematics Department, Geometry and Optimization Group

As a summer intern at the Boeing Company, I created instructional web documents for Boeing's Python based General Geometry Generator. I also constructed a virtual 3D vehicle for optimization and streamlined old C++ spline collocation code.

Workshops

2009 Stochastic Transport and Emergent Scaling in Earth-Surface Processes (STRESS2), Tahoe Center for Environmental Research, Incline Village, NV

2009 Summer School on Multivariate Splines and their Applications, University of Georgia, Athens, GA

2008 Climate Change Summer School, Mathematical Sciences Research Institute, Berkeley, CA

2006 Mathematical Modeling Industry X Workshop, Institute of Mathematics and Its Applications, Minneapolis, MN

ExxonMobil Group: Reservoir Model Optimization under Uncertainty

2004 Industrial Mathematical Modeling Workshop, North Carolina State University, Raleigh, NC

CIIT Group: Identifying Respiratory Parameters from Plethysmography Data

2003 MSRI Summer Institute on Mathematical Graphics, Reed College, Portland, OR

2003 Dynamical Systems And Their Applications To Population Dynamics Summer School, Rocky Mountain Mathematics Consortium, University of Wyoming, Laramie, WY

2002 Dynamic Equations on Time Scales and Their Applications Summer School, Rocky Mountain Mathematics Consortium, University of Wyoming, Laramie, WY

Research Experience

2008 Graduate TA for Summer VIGRE REU Numerical Analysis, Advisor: Ming Jun Lai

2006 Graduate TA for Summer VIGRE REU Polynomial Splines, Bezier Curves, Barycentric Coordinates, Advisor: Tatyana Sorokina

2005 VIGRE Research Group on Mathematical Cardiac Physiology, Advisor: Andrew Sornborger

2004-2005 VIGRE Research Group on the Mathematical aspects of electrical excitation and wave propagation in the heart, Advisor: Andrew Sornborger

2002-2003 VIGRE Research Group on Time Scales, Advisor: Joan Hoffacker

2002 Summer VIGRE REU Time Scales, Advisor: Joan Hoffacker

2001 Summer VIGRE REU The 3-body Problem, Advisor: Malcom Adams

Honors & Awards

2008-2009 University of Georgia Mathematicians Educating Future Teachers (MEFT)

2008 University of Georgia Department of Mathematics Outstanding Graduate Teaching Award

2006 Preparing Mathematicians to Educate Future Teachers Award (PMET)

2002-2005 University of Georgia VIGRE Fellowship

Professional and Service Activities

2007-2008 Co-organizer of VIGRE Graduate Student Seminar

2008 The Mathematics Education of Elementary Teachers (ME.ET) Videographer

Selected Talks

2009 Data Forecasting, Summer School on Multivariate Splines and their Applications, University of Georgia, Athens, GA

2009 Bivariate Splines for Ozone Concentration Forecasting, Applied Math Seminar, University of Georgia, Athens, GA

2007 Bivariate Splines for Functional Linear Regression Models Over the Unit Square, Twelfth International Approximation Theory Conference, San Antonio, TX

2006 Surrogate Models for a Simple Oil Reservoir, VIGRE Graduate Student Seminar, University of Georgia, Athens, GA

2003 Real Life Problems with RSA Encryption, Student Number Theory Seminar, University of Georgia, Athens, GA

2003 Derivative Approximations on Time Scales, VIGRE Graduate Student Seminar, University of Georgia, Athens, GA

2002 Applications of Time Scales to Numerical Analysis, Special Session on Dynamic Equations on Time Scales: Theory and Application, AMS/MAA Joint Meeting, Los Angeles, CA

Computer Skills

C++, Java, \LaTeX , Maple, Matlab, Python, R, SAS, Ulearn, WebCT