

Yutheeka Gadhyan

- CONTACT INFORMATION** Department of Mathematics
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- EDUCATION** **University of Houston, Houston, TX** **Expected May 2010**
Ph.D. in Applied Mathematics (GPA 4.00/4.00)
Advisers: Professor Robert Azencott and Professor Roland Glowinski
- University of Houston, Houston, TX** **Dec 2005**
M.S. in Applied Mathematics (GPA 3.89/4.00)
Computational Mathematics Option
- Lady Shri Ram College, University of Delhi, India** **July 2003**
B.A.(Hons.) in Mathematics (GPA 87.4/100)
Highest Scorer (Delhi University), 2003
- RESEARCH** My research has centered around the study and application of stochastic differential equations to financial data modeling. My thesis is on the calibration of stochastic volatility models and numerical methods for pricing of derivatives based on these models. I am currently studying the impact of model estimation errors on the price of derivatives.
- EMPLOYMENT** **University of Houston, Houston, TX**
- Research Assistant* **January 2008 – present**
Studied constrained maximum likelihood estimation and asymptotic analysis of coupled stochastic differential equations with application to derivative pricing.
Working on a medical project to analyze echocardiography data for the detection of dysfunctional strain evolution.
- Teaching Assistant* **August 2004 – present**
Department of Mathematics
- Halliburton Energy Services, Houston, TX**
- Technology Intern* **May – July 2005**
Developed an algorithm based on Integer Programming to optimize the process of project selection for the technology department.
- PUBLICATIONS** R. Azencott and Y. Gadhyan, *Accurate parameter estimation for coupled stochastic dynamics*, to appear in Discrete and Continuous Dynamical Systems (S)/ AIMS proceedings, 2009,

<http://www.math.uh.edu/~yutheeka/constrained.pdf>

R. Azencott, Y. Gadhyan, R. Glowinski, *Option price sensitivity to errors in stochastic dynamics modeling*, submitted, <http://www.math.uh.edu/~yutheeka/sensitivity.pdf>

CONFERENCES
/WORKSHOP

Society for Industrial and Applied Mathematics, San Francisco, CA **Oct 9 – 10, 2009**

Presented a paper titled "Option price sensitivity to modeling errors in stochastic dynamics", **SIAM Conference Mathematics for Industry: Challenges and Frontiers**. Received the SIAM Student Travel Award.

University of Texas at Arlington, Arlington, TX **May 18 – 21, 2008**

Presented a paper titled "Estimation of stochastic volatility models", **7th AIMS International Conference on Dynamical Systems, Differential Equations and Applications**. Awarded the NSF grant for travel and boarding.

Institute for Mathematics and its Applications, Minneapolis, MN **August 6 – 15, 2008**

Worked on a project titled "Modelling the background noise in a mass spectrometer for denoising applications", **Mathematical Modeling in Industry XII - A Workshop for Graduate Students**. Awarded the IMA grant for travel and boarding.

Third Western Conf. in Mathematical Finance, Santa Barbara, CA **Nov 13 – 15, 2009.**

Participated in the Third Western Conference in Mathematical Finance.

HONORS
/AWARDS

- Department of Mathematics, University of Houston Graduate Scholarship for good academic performance (2006 – 2007).
- Department of Mathematics, University of Houston Teaching Fellowship (2004 – present).
- Chancellor's List (2004 – 2005).
- National scholarship from the Central Board of Secondary Education - India, for being in the top 0.1 students in mathematics and science.

COMPUTER
SKILLS

- Programming Languages : C, C++, FORTRAN.
- Specialized software : Matlab, Mathematica, S-Plus, Excel, L^AT_EX.

TEACHING

University of Houston, Houston, TX
Department of Mathematics

Instructor

Math-1310: College Algebra.

Recitation Teaching Assistant

Calculus I,II,III.

College of Technology

Tutor, Instructional Support Services Lab

Tutored freshman and sophomore classes in Business Calculus, Differential Equations, Probability and Statistics. Developed a website using HTML for the Instructional Support Services Lab.

ACTIVITIES

- Member - Society for Industrial and Applied Mathematics (2007 – present).
- Member - American Mathematical Society (2004 – present).
- Attended doctoral seminar on topics in finance, C. T. Bauer College of Business - University of Houston (Fall 2009).
- Research Assistant with Mathematical Sciences Foundation, St. Stephen's College - India. Attended reading seminar on Wavelets (2003 – 2004).
- Student President, Department of Mathematics, Lady Shri Ram College - India (2002 – 2003).

RELEVANT
COURSEWORK

Applicable analysis, continuous time models in finance, numerical analysis, numerical partial differential equations, stochastic differential equations, optimization, probability and statistics, stochastic calculus and martingales, time series analysis, automatic learning applied to genomics (kernel methods), advanced numerical methods of diffusion equations.

LANGUAGES

Fluent in English. Hindi (native language).

REFERENCES

Prof. Robert Azencott

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Prof. Roland Glowinski

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roland@math.uh.edu
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Dr. Anthony José Kearsley

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