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DOCTORAL EDUCATION

Stanford University, Stanford, California

Doctor of Philosophy, Operations Research, March 1995

Dissertation: Optimal Stopping and Weak Convergence Methods for
Some Problems in Financial Economics

Advisor: T. L. Lai, Dept. of Statistics

PROFESSIONAL EXPERIENCE

- 8/04- Assistant Professor; Co-director, Risk Management and Financial Engineering Laboratory.
Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida.
- 9/03 - 8/04 Visiting Scholar, Department of Statistics, Stanford University, Stanford California, and
Consultant for Gap Inc.
- 3/02 – 9/03 Senior Scientist, DemandTec, San Carlos, California.
- 6/99 - 12/01 Research Associate, Financial Engines, Palo Alto, California.
- 6/88 - 6/99 Member of Technical Staff/Project Leader, Hewlett-Packard Laboratories, Palo Alto,
California.
- 10/95 - 6/96 Adjunct Assistant Professor, School of Operations Research and Industrial Engineering,
Cornell University, Ithaca, New York.

BOOKS

1. *Elementary Probability Theory with Stochastic Processes and an Introduction to Mathematical Finance*, (with K. L. Chung), Springer-Verlag, March 2003. (Russian edition appeared in 2007.)
2. *Selected Works of Kai Lai Chung*, (with E. Hsu and R. Williams), World Scientific Press, October 2008.
3. *Options on Extremes and Averages*, World Scientific Press, to appear (2009).

ARTICLES AND BOOK CHAPTERS

1. "American Option Pricing Under Stochastic Volatility: An Empirical Evaluation", (with M. Goswami and S. Guha), *Computational Management Science*, (to appear).
2. "American Option Pricing Under Stochastic Volatility: An Efficient Numerical Approach", (with M. Goswami and S. Guha), *Computational Management Science*, (to appear).
3. "Optimal Crop Planting Schedules and Financial Hedging Strategies Under ENSO-based Climate Forecasts" (with C-J Wang, V. Cabrera, S. Uryasev, and C. Fraise), *Annals of Operations Research*, (to appear.)
4. "Discretely monitored options," *Encyclopedia of Quantitative Finance*, (R. Cont, ed.), Wiley, (to appear).
5. "Stochastic Optimal Stopping: Problem Formulations," *Encyclopedia of Optimization*, (C. A. Floudas and P. M. Pardalos, eds.), Springer, (to appear).
6. "Stochastic Optimal Stopping: Numerical Methods," *Encyclopedia of Optimization*, (C. A. Floudas and P. M. Pardalos, eds.), Springer, (to appear).
7. "Optimal Execution of Time-Constrained Portfolio Transactions," (with Y-C Sheu, and P. M. Pardalos), *Computational Methods in Financial Engineering*, E. J. Konthoghiorges, B. Rustem, and P. Winker (eds.), Springer-Verlag, 2008.
8. "Corrected Random Walk Approximations to Free Boundary Problems in Optimal Stopping" (with T. L. Lai and Y. C. Yao), *Advances in Applied Probability*, vol. 39, 3 (2007), 753-775.
9. "A Canonical Optimal Stopping Problem for American Options under a Double-Exponential Jump-Diffusion Model" (with A. Runnemo), *Journal of Risk*, Vol. 10, 2007, pp. 85-100.
10. "Pricing and Hedging American Knock-In Options" (with L. Imhof and T. L. Lai), *J. of Derivatives*, Vol. 11, 2004, pp 44-50.
11. "Fast and Accurate Valuation of American Barrier Options" (with L. Imhof and T. L. Lai), *J. Computational Finance*, vol. 7, 2003, pp 129--145.
12. "Exercise Boundaries and Efficient Approximations to American Option Prices and Hedge Parameters" (with T. L. Lai), *J. Computational Finance*, vol. 4, 2001, pp 85--103.
13. "A Canonical Optimal Stopping Problem for American Options and its Numerical Solution" (with T. L. Lai), *J. Computational Finance*, vol. 3, Winter, 1999/2000, pp 33--52.
14. "Random Walk Duality and the Valuation of Discrete Lookback Options" (with T. L. Lai), *Applied Mathematical Finance*, vol. 5, 1998, pp 277--340.
15. "Valuation of Discrete Barrier and Hindsight Options" (with T. L. Lai), *J. Financial Engineering*, vol. 6, 1997, pp. 169--177.

16. "American Options: A Comparison of Numerical Methods" (with P. Carr), in *Numerical Methods in Finance*, C. Rogers and D. Talay (eds.), Cambridge University Press, 1997.
17. "Is Concurrent Engineering Always a Sensible Proposition?" (with E. Johnson and P. Will), *IEEE Transactions on Engineering Management*, vol. 42, 1995, pp 166--170.

MANUSCRIPTS UNDER REVIEW / IN PROGRESS

1. "Integral Equations in American Option Pricing".
2. "Spline Approximations for Efficient American Option Pricing in a Jump-Diffusion Model"
3. "Constant Volatility Approximations for American Option Pricing in a Stochastic Volatility Model", (with M. Goswami and S. Guha).
4. "Quantile Approximations for Average Options" (with G. Gylfadóttir and M. Singh)
5. "Accurate and Efficient Approximations for American Option Prices in a Jump-Diffusion Model with Stochastic Volatility" (with M. Goswami and S. Guha).
6. "Simulation-based Robust Optimization for Signal Timing and Setting" (with Y. Yin).
7. "Efficient Pricing of Discretely Monitored Barrier Options in a Lévy Model" (with G. Gylfadóttir and M. Rao)
8. "Random Walk Duality for Look-back Options in a Lévy Model"
9. "Information Asymmetry in Direction and Volatility: Informed Option Trading Effects on Equity Prices" (with J-H. Yoon)
10. "Clique Detection in the Small World of Investments" (with A. Arulselvan and P. Pardalos)

Students advised at the University of Florida:

- Manisha Goswami (Ph.D., August 2008)
- Suchandan Guha (Ph.D., December 2008)
- Joon-Hui Yoon (Ph.D., expected August 2009)
- Guðbjört Gylfadóttir (Ph.D., expected August 2010)
- Andrew Romich (B.S., Summa Cum Laude, Honors Thesis, May 2008)
- Glen Li (M.S./M.B.A., Outreach Engineering Management program, May 2008)
- Emile Ganthier (M.S., Outreach Engineering Management program, May 2006)
- Patricia Gonzalez (M.S., Outreach Engineering Management program, May 2006)
- John Green (M.S., Outreach Engineering Management program, May 2006)
- Amanda James (M.S., Outreach Engineering Management program, May 2006)
- Theo Briscoe (M.S., Outreach Engineering Management program, May 2005)
- Lawrence Elliott (M.S., Outreach Engineering Management program, May 2005)

ACADEMIC SERVICE

- Guest Editor:
 - Journal of Banking and Finance
- Associate Editor:
 - Journal of Risk
- Referee:
 - Journal of Economic Dynamics and Control
 - Operations Research
 - Management Science
 - International Journal of Theoretical and Applied Finance
 - Naval Research Logistics
 - Review of Financial Studies
 - Computational and Applied Mathematics
 - Journal of Computational Finance
 - Journal of Applied Probability
 - Journal of Engineering and Technology Management
- Conference organization:
 - Risk Management and Quantitative Finance Conference, Gainesville, FL (Spring 2005).
 - International Conference on Financial Engineering, Gainesville, FL (Spring 2006).
 - Workshop on New Directions in Quantitative Finance, Paris, France (Spring 2008).
- Departmental/University Service:
 - Graduate Committee (Industrial and Systems Engineering)
 - Undergraduate Committee (Industrial and Systems Engineering)
 - University of Florida Faculty Preview Advisor (to entering freshmen)

SELECTED INVITED TALKS

- Seminar Presentations:
 - Princeton University (ORFE dept., April 2008),
 - Columbia University (IEOR dept., April 2008),
 - University of Michigan (Mathematics dept., October 2006),
 - University of British Columbia (Management Science, 2003),
 - University of Chicago (Statistics, 1998)
- Daiwa Young Researchers' International Workshop on Finance, March 2008, Kyoto University, Japan.
- Risk 2001 Europe and Risk 2001 USA (Risk magazine 6th Annual Derivatives and Risk Management Congress), April 2001, Paris, France, and June 2001, Boston.
- Computational and Quantitative Finance Conference (organized by Risk Publications), September 1999, New York.
- Quantitative Methods in Finance, December 1998, University of Technology, Sydney, Australia.
- Institute of Mathematical Statistics, Asian and Pacific Regional Meeting, July 1997, Taipei, Taiwan.
- Financial Mathematics Program, I. Newton Institute, April 1995, Cambridge University, Cambridge, United Kingdom.