

CURRICULUM VITAE
Ali Foroush Bastani

Personal Information

Marital Status: Married. One child.

Date of Birth: Sept. 2, 1978

Place of Birth: Tehran, Iran

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Education

2008 Ph.D., Tarbiat Modares University; Applied Mathematics

2003 M.S., Sharif University of University; Applied Mathematics

1999 B.S., Sharif University of University; Applied Mathematics

Employment

2009 - current Institute for Advanced Studies in Basic Sciences; Assistant Professor

Research Interests

My research interests include stochastic numerics, computational finance, numerical methods for (random and deterministic) PDEs and stochastic optimal control theory. My specialty is numerical solution of stochastic differential equations (SDEs) (both ordinary and partial) in which I have done my PhD thesis. It was concerned with adaptive Runge-Kutta methods for solving SDEs in which some new error estimation criteria was introduced and the stability analysis of the method was accomplished. I am also

interested in computational financial mathematics specially the pricing of financial derivatives and credit risk analysis.

Publications

Journal Articles

- **Foroush Bastani, A.**, Ahmadi, Z. and Damircheli, D., ‘*A Radial Basis Collocation Method for Pricing American Options under Regime Switching Jump-Diffusion Models*’, Applied Numerical Mathematics, Submitted.
- **Foroush Bastani, A.** and Tahmasebi, M., ‘*Strong convergence of split-step backward Euler method for stochastic differential equations with non-smooth drift*’, Journal of Computational and Applied Mathematics, 2012, 236, 1903-1918.
- **Foroush Bastani A.** and S. M. Hosseini, ‘*A new adaptive Runge-Kutta method for stochastic differential equations*’, Journal of Computational and Applied Mathematics, 2007, 206, 446-136
- **Foroush Bastani, A.** and S. M. Hosseini, ‘*On mean-square stability properties of a new adaptive stochastic Runge-Kutta method*’, Journal of Computational and Applied Mathematics, 2009, 224 (2), 556-564.

Conferences and Other Presentations

- **Foroush Bastani A.**, Atar Abasi, M. ‘*Monte-Carlo Methods for the Valuation of Synthetic CDO Tranches in a One-Factor $\mathcal{M}_G\text{-NIG}$ Model*’, Fifth International Conference MAF 2012, Mathematical and Statistical Methods for Actuarial Sciences and Finance, 10-12 Apr. 2012, Venice, Italy.
- **Foroush Bastani, A.**, Ahmadi, Z. and Damircheli, D., ‘*A Radial Basis Collocation Method for Pricing American Options with Regime Switching Jump-Diffusion Models*’, International Conference on Mathematical Finance and Economics, 6-8 Jul. 2011, Istanbul, Turkey.
- **Foroush Bastani A.**, Kazemi, S. M. M. ‘*Improved Transparent Boundary Conditions for Pricing American Options*’, NUMAN2010 Conference, 15-18 Sep. 2010, Chania, Crete, Greece.

Teaching

- Numerical Methods in Finance
- Monte-Carlo Methods in Finance
- Credit Risk
- Portfolio Optimization
- Numerical Solution of Stochastic Differential Equations

- Numerical Solution of Ordinary Differential Equations
- Advanced Numerical Analysis

Languages

- Persian (Naive)
- English (Fluent)
- French and Deutsch (Elementary Level)

References

- **S. M. Hosseini**, Full Professor, Faculty of Basic Sciences, Department of Mathematics, Tarbiat Modarres University, Tehran, Iran, Email: hossei_m@modares.ac.ir
- **B. Mehri**, Full Professor, Department of Mathematics, Sharif University of Technology, Tehran, Iran, Email: mehri@sharif.edu
- **B. Z. Zangeneh**, Associated Professor, Department of Mathematics, Sharif University of Technology, Tehran, Iran, Email: zangeneh@sharif.edu