LIST OF PAPERS: MARK S. JOSHI

Books

(1) M.S. Joshi, the Concepts and Practice of Mathematical Finance, Dec 2003, Cambridge University Press, second edition November 2008
(2) M.S. Joshi, C++ Design Patterns and Derivatives Pricing, Cambridge University Press, June 2004, second edition May 2008
(3) M.S. Joshi, chapter of second edition of "the Theory of Distributions" by F.G. Friedlander, Cambridge University Press, 1999
(4) Mark Joshi, Nick Denson, Andrew Downes, Quant job interview questions and answers, Createspace May 2008

Journal Papers

(1) M.S. Joshi, An intrinsic characterization of polyhomogeneous Lagrangian distributions, *Proc Amer. Math. Soc, 125,* (1997), no.5, 1537-1543
(2) M.S. Joshi, Complex powers of the wave operator, *Portugalae Mathematicae,* Vol 54 Fasc. 3 (1997), 345-362
(3) M.S. Joshi, A commutator proof of the propagation of polyhomogeneity for semi-linear equations, *Communications on PDEs* Vol 22, (1997), No 3 and 4, 435-463
(4) M.S. Joshi, Antonio sa Barreto, The generation of semi-linear singularities by a swallowtail caustic, *American Journal of Mathematics* 120 (1998), 529-550
(5) M.S. Joshi, Antonio sa Barreto, Recovering asymptotics of short range potentials, *Commun. on Math Phys.* 193, 197-208 (1998)
(6) M.S. Joshi, Recovering the total singularity of a potential from backscattering data, *Les Annales de L'institut Fourier,* 48, 5, (1998), 1513-1532
(7) M.S. Joshi, A symbolic construction of the forward fundamental solution of the wave operator, *Communications in PDEs* Vol 23, Nos 7 & 8, 1998, 1349-1418
(8) M.S. Joshi, Geometric proofs of composition theorems for generalized Fourier integral operators, *Portugalae Mathematicae,* Vol. 56, Fasc 2 (1999), 129-154
(9) M.S. Joshi, A. Sa Barreto, Recovering asymptotics of metrics from fixed energy scattering data, *Inventiones Mathematicae* 137, 127-143 (1999)
(10) M.S. Joshi, A. Sa Barreto, Recovering asymptotics of magnetic potentials from fixed energy scattering data, *Asymptotic Analysis,* 21 (1999), 61-70
(11) M.S. Joshi, Recovering asymptotics of Coulomb-like potentials, *SIAM Journal of Mathematical Analysis,* Vol. 30, no 3, 516-526, (1999)

(12) M.S. Joshi, S. McDowall, Total Determination of Material Parameters from Electromagnetic Boundary Information, *Pacific Journal of Mathematics* Vol. 193, No. 1, (2000), 107-129
(13) T.Christiansen, M.S. Joshi, Recovering asymptotics at infinity of perturbations of stratified media, Journees Equation aux derivees partielles, (La Chapelle sur Erdre, 2000), Exp. No. II, 9 pp., Univ. Nantes, Nantes, 2000
(14) M.S. Joshi, Explicitly recovering asymptotics from fixed energy scattering data, *Communications in P.D.E.s* 25(9-10), 1907-1923, (2000)
(15) M.S. Joshi, A. Sa Barreto, Inverse scattering on asymptotically hyperbolic manifolds, *Acta Mathematica* Vol. 184, (2000), 41-86
(16) T.J. Christiansen, M.S. Joshi, Higher Order Scattering on Asymptotically Euclidean Manifolds, *Canadian Journal of Mathematics,* 52 (2000), no. 5, 897–919
(17) M.S. Joshi, A Sa Barreto, The Wave Group on Asymptotically Hyperbolic Manifolds, *Journal of Functional Analysis,* 184 (2001), no. 2, 291–312.
(18) C.J. Hunter, P. Jäckel, M.S. Joshi, Drift Approximations in a Forward-Rate Based LIBOR Market Model, published in Risk Magazine as Getting the Drift, July 2001
(19) M.S. Joshi, A model form for exact $b-$metrics, *Proceedings of the A.M.S.* Vol 129, Number 2, 581-584, (2001)
(20) R. Rebonato, M.S. Joshi, A joint empirical and theoretical investigation of the modes of deformation of swaption matrices: implications for model choice, International Journal of Theoretical and Applied Finance, Vol. 5, No. 7 (2002) 667-694
(21) M.S. Joshi, J. Theis, Bounding Bermudan swaptions in a swap-rate market model, Quantitative Finance 2 No 5 (October 2002) 370–377
(22) T. Christiansen, M.S. Joshi, Scattering on stratified media: the microlocal properties of the scattering matrix and recovering asymptotics of perturbations, *Annales de l'Institut Fourier (Grenoble)* 53 (2003), no. 2, 565–624
(23) M.S. Joshi, R. Rebonato, A stochastic volatility displaced-diffusion extension of the LIBOR market model, Quantitative Finance 3 No 6 (December 2003) 458-469
(24) M.S. Joshi, W. Lionheart, The Dirichlet to Neumann Map for harmonic differential forms, Asymptotic Analysis 41 (2005), no. 2, 93–106
(25) R. Rebonato, S. Mahal, M. Joshi, L-D Buchholz, K. Nyholm, Evolving Yield Curves in the Real-World Measures: A Semi-Parametric Approach *Journal of Risk,* Vol. 7, No. 3, pp. 29–62, Spring 2005
(26) M.S. Joshi, D.S. Kainth, Rapid computation of prices and deltas of nth to default swaps in the Li Model, Quantitative Finance, volume 4, issue 3, (June 04), pages 266–275
(27) M.S. Joshi, A.M. Stacey, Intensity Gamma: a new approach to pricing portfolio credit derivatives, Risk Magazine, July 2006, 78–83

(28) M.S. Joshi, Achieving decorrelation and speed simultaneously in the Libor market model, Journal of Risk, Volume 9, Number 1, Fall 2006, 147–153
(29) M.S. Joshi, T. Leung, Using Monte Carlo simulation and importance sampling to rapidly obtain jump-diffusion prices of continuous barrier options, *Journal of Computational Finance* July 2007, pp 93–105
(30) M.S. Joshi, A simple derivation of and improvements to Jamshidian's and Rogers' upper bound methods for Bermudan options, *Applied Mathematical Finance,* July 2007, pp 197–205
(31) M.S. Joshi, L. Liesch, Effective implementation of generic market models, *ASTIN Bulletin*, Dec 2007. pp 453–473,
(32) C. Fries, M.S. Joshi, Partial Proxy Simulation Schemes for Generic and Robust Monte-Carlo Greeks, *Journal of Computational Finance,* Volume 11, Number 3, Spring 2008, pp 79–106
(33) M.S. Joshi, A.M. Stacey, New and robust drift approximations for the LIBOR market model, *Quantitative Finance* Volume 8 Number 4 June 2008, pp 335–434
(34) C. Beveridge, M.S. Joshi, Juggling Snowballs, *Risk Magazine,* Dec 2008, 100–104
(35) M.S. Joshi, Achieving smooth asymptotics for the prices of European options in binomial trees, *Quantitative Finance*, Vol. 9, No. 2, March 2009, 171–176
(36) J.-H. Chan, M. Joshi, R. Tang, C. Yang, Trinomial or binomial: accelerating American put option pricing on trees, *Journal of Futures Markets,* Volume 29 Issue 9, 826 – 839
(37) M.S. Joshi, The convergence of the American put option, *Journal of Risk,* Vol. 11, Number 4, Summer 2009, 87–108,
(38) M.S. Joshi, Achieving higher order convergence for the prices of European options in binomial trees, to appear in *Mathematical Finance*, accepted April 2008,
(39) M.S. Joshi, Graphical Asian options, to appear in *Wilmott Journal,*
(40) Nick Denson, M.S. Joshi, Flaming logs, to appear in *Wilmott Journal,*

Other

(1) M.S. Joshi, Rapid Drift Computations in the LIBOR market model, Wilmott May 2003
(2) M.S. Joshi, Applying importance sampling to pricing single tranches of CDOs in a one-factor Li model, Wilmott, Mar 2005
(3) M.S. Joshi, Option Pricing and the Dirichlet problem, Wilmott Magazine, September 2006, 70–71
(4) M.S. Joshi, The mathematics of money, article in *Princeton Companion to Mathematics,* 2008, 910–916

(5) M.S. Joshi, A. Stacey, Intensity Gamma, article to appear in *Encyclopedia of Quantitative Finance,*

preprints

(1) M.S. Joshi, A precise calculus of paired Lagrangian distributions, *MIT thesis, 1994*
(2) M.S. Joshi, Pricing Discretely Sampled Path-Dependent Exotic Options Using Replication Methods, preprint
(3) M.S. Joshi, Monte Carlo bounds for callable products with non-analytic break costs, preprint
(4) R. Rebonato, M.S. Joshi, The Kolmogorov Project, preprint
(5) C. Beveridge, N. Denson and M.S. Joshi, Comparing discretisations of the Libor market model in the spot measure, preprint 2008,
(6) F. Ametrano and M.S. Joshi, Smooth simultaneous calibration of the LMM to caplets and co-terminal swaptions, preprint 2008,
(7) C. Fries, M.S. Joshi, Conditional analytic Monte Carlo pricing scheme for auto-callable products, preprint 2008,
(8) C. Beveridge, M.S. Joshi, Practical Policy Iteration: Generic Methods for Obtaining Rapid and Tight Bounds for Bermudan Exotic Derivatives Using Monte Carlo Simulation (January 23, 2009). http://ssrn.com/abstract=1331904
(9) N. Denson, M.S Joshi, Vega Control (May 3, 2009). http://ssrn.com/abstract=1398523
(10) M.S. Joshi, C. Yang, Fast Delta Computations in the Swap-Rate Market Model (May 7, 2009). http://ssrn.com/abstract=1401094
(11) M.S. Joshi, C. Yang, Efficient Greek Estimation in Generic Market Models (July 23, 2009). http://ssrn.com/abstract=1437847
(12) C. Beveridge, M.S. Joshi, Interpolation Schemes in the Displaced-Diffusion LIBOR Market Model and the Efficient Pricing and Greeks for Callable Range Accruals (August 25, 2009). http://ssrn.com/abstract=1461285
(13) J-H Chan, M.S. Joshi, Minimal Partial Proxy Simulation Schemes for Generic and Robust Monte-Carlo Greeks (May 18, 2009). http://ssrn.com/abstract=14063
(14) N. Denson, M.S. Joshi, Fast and Accurate Greeks for the Libor Market Model (August 13, 2009). http://ssrn.com/abstract=1448333
(15) M.S. Joshi, R. Tang, Pricing and Deltas of Discretely-Monitored Barrier Options Using Stratified Sampling on the Hitting-Times to the Barrier (July 30, 2009). http://ssrn.com/abstract=1441142