

Marco Avellaneda: List of Publications
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Quantitative Finance

1. M Avellaneda and S Stoikov, High-frequency trading in a limit order book, *Quant. Finance* 2008
2. M Avellaneda, A look ahead at options pricing and volatility, *Quantitative Finance*, 2004
3. M Avellaneda, MD Lipkin, A market-induced mechanism for stock pinning, *Quantitative Finance*, 2003
4. M Avellaneda, D. Boyer-Olson, J. Busca, P. Friz, Reconstruction of Volatility: Pricing Index Options by the Steepest Descent Approximation, *RISK*, 2003
5. J Kampen, M Avellaneda, On parabolic equations with gauge function term and applications to the multidimensional Leland Equations, *Applied Mathematical Finance*, 2003
6. M Avellaneda, D Boyer-Olson, J Busca, P Friz, Application of large deviation methods to the pricing of index options in finance, *Comptes rendus de l'Académie des Sciences de Paris, Mathématique*, 2003
7. R Cont, M Avellaneda, Introduction to the special issue on volatility modeling, *Quantitative Finance*, 2002
8. KP Scherer, M Avellaneda, All for One and One for All? A Principal Component Analysis of Latin American Brady Bond Debt from 1994 to 2000, *International Journal of Theoretical and Applied Finance*, 2002
9. M Avellaneda, L Wu, Credit contagion: Pricing cross-country risk in Brady debt markets *International Journal of Theoretical and Applied Finance*, 2001
10. M Avellaneda, J Zhu, Distance to default, *RISK*, 2001, Distancia al Incumplimiento, *Spanish RISK*, 2002
11. M Avellaneda, R Gamba, Conquering the Greeks in Monte Carlo: efficient calculation of the market sensitivities and hedge-ratios of financial asset via Monte Carlo simulation, in *Proceedings of the First Bachelier Congress*, 2001, and in *Quantitative Analysis in Financial Markets*, vol II, 2001

12. M. Avellaneda, R Buff, C. Friedman, N Grandchamp, L. Kruk, Weighted Monte-Carlo: A new technique for calibrating asset-pricing models, *International Journal of Theoretical and Applied Finance*, 2001
13. M Avellaneda, Variance Swap Volatility and Option Strategies, *Derivatives Week*, Nov 2000
14. M Avellaneda, P Laurence, *Quantitative Modeling of Derivative Securities: From Theory to Practice*, Chapman-Hall, 2000
15. M Avellaneda, R Buff, Combinatorial implications of nonlinear uncertain volatility models: the case of barrier options, *Applied Mathematical Finance*, 1999
16. M Avellaneda, An Introduction to Option Pricing and the Mathematical Theory of Risk, *Probability Theory and Applications*, 1999
17. M Avellaneda, L Wu, Pricing Parisian-style options with a lattice method, *International Journal of Theoretical and Applied Finance*, 1999
18. M Avellaneda, editor: *Quantitative Analysis in Financial Markets: Collected Papers of the New York University Mathematical Finance Seminar Volumes I,II, III*, World Scientific, 1999, 2000, 2001
19. Y Zhu, M Avellaneda, A risk-neutral stochastic volatility model, *International Journal of Theoretical and Applied Finance*, 1998
20. M Avellaneda and J. Newman, Positive Interest Rates and Non-Linear Term-structure models, unpublished, *CIMS-NYU Working Paper*, 1998
21. M Avellaneda, A Carelli, F Stella, Following The Bayes Path to Option Pricing, *J. of Computational Intelligence in Finance*, 1998
22. M Avellaneda, Minimum-relative-entropy calibration of asset pricing models, *International Journal of Theoretical and Applied Finance*, 1998
23. M Avellaneda, The Minimum-Entropy Algorithm and Related Methods for Calibrating Asset-Pricing Models, *Proceedings of the International Congress of Mathematicians, Documenta Mathematica*, 1998
24. Y Zhu, M Avellaneda, An E-ARCH model for the term structure of implied volatility of FX options, *Applied Mathematical Finance*, 1997
25. M Avellaneda, C Friedman, R Holmes, D Samperi, Calibrating volatility surfaces via relative-entropy minimization, *Applied Mathematical Finance*, 1997

26. M Avellaneda, A Paras, Managing the volatility risk of portfolios of derivative securities: the Lagrangian uncertain volatility model. *Applied Mathematical Finance*, 1996
27. P Lewicki, M Avellaneda, Pricing Interest Rate Contingent Claims in Markets with Uncertain Volatilities, *Working Paper, Courant Institute of Mathematical Sciences* 1996
28. M Avellaneda, A Levy and A Paras, Pricing and Hedging Derivative Securities in Markets with Uncertain Volatility, *Applied Mathematical Finance*, 1995
29. M Avellaneda, Antonio Paras, Dynamic hedging portfolios for derivative securities in the presence of large transaction costs, *Applied Mathematical Finance*, 1994

Statistics and Approximation Theory

30. G Davis, S Mallat, M Avellaneda, Adaptive greedy approximations, *J. Constructive Approximations*, 1997

Turbulence and Turbulent Diffusion

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45. M Avellaneda, AJ Majda, Stieltjes Integral Representation and Effective Diffusivity Bounds for Turbulent Transport, *Physical Review Letters*, 1989

Burgers' Equation, MHD equilibria

46. R Ryan, M Avellaneda, The One-Point Statistics of Viscous Burgers Turbulence Initialized with Gaussian Data, *Communications in Mathematical Physics*, 1999
47. M Avellaneda, E Weinan and R. Ryan, PDF for velocity and velocity gradients in Burgers' Turbulence, *Physics of Fluids*, Volume 7, Issue 12, 1995

48. M Avellaneda, E Weinan, Statistical properties of shocks in Burgers turbulence, *Communications in Mathematical Physics*, 1995
49. P Laurence, M Avellaneda , A Moffatt-Arnold formula for the mutual helicity of linked flux tubes, *Geophysical & Astrophysical Fluid Dynamics*, 1993
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Flow in Porous Media

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57. S. Torquato and M. Avellaneda Cross-Property Relations for Transport in Porous Media: Rigorous Link Between Fluid Permeability, Electrical Conductivity, and Relaxation Times, in *Multiphase Transport in Porous Media*, American Society of Mechanical Engineers, 73 (1991).
58. R. Lipton, M. Avellaneda, Darcy's law for slow viscous flow past a stationary array of bubbles, *Proc. Royal Soc. Edinburgh*, 114A (1990),

Composites

59. Avellaneda M.; Berlyand L. V. Clouet J-F., Frequency dependent acoustics of composites with interfaces. *SIAM J. Applied Math*, 60:6, 2143-2181 (2000).
60. M Avellaneda, PJ Swart, Calculating the performance of 1–3 piezoelectric composites for hydrophone applications, *The Journal of the Acoustical Society of America*, 1998
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Partial Differential Equations & Homogenization Theory

74. S. Alama, M. Avellaneda, P. A. Deift and R. Hempel, On the existence of eigenvalues of a divergence form operator $A+B$ in a gap of A . *Asymptotic Anal.* 1994
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81. M Avellaneda, FH Lin Compactness methods in the theory of homogenization, *Comm. Pure Appl. Math*, 1988

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83. M Avellaneda, FH Lin, Homogenization of elliptic problems with L_p boundary data *Applied Mathematics and Optimization*, 1987
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Ph. D. Dissertation

85. M Avellaneda, *Large Deviation Estimates and the Homological Behavior of Brownian Motion on Manifolds*, – Dissertation University of Minnesota, 1985.
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