PDE and Martingale Methods in Option Pricing (Bocconi Springer Series)

Andrea Pascucci
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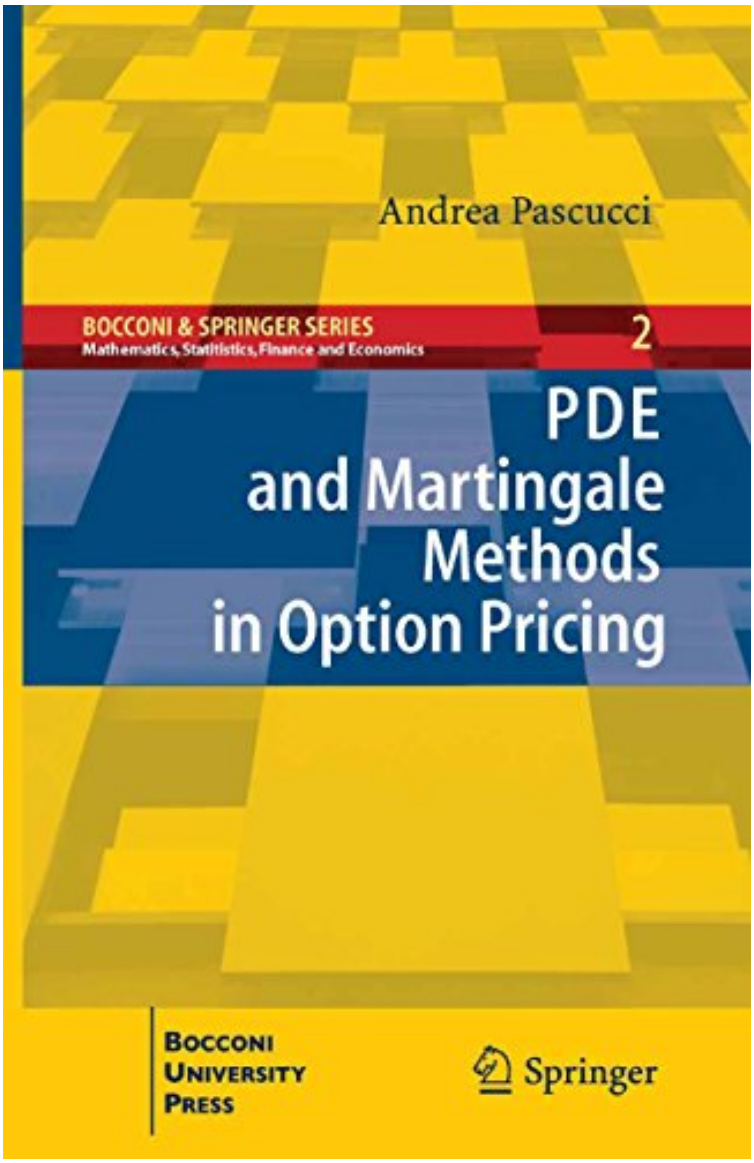

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Andrea Pascucci : PDE and Martingale Methods in Option Pricing (Bocconi Springer Series) before purchasing it in order to gage whether or not it would be worth my time, and all praised PDE and Martingale Methods in Option Pricing (Bocconi Springer Series):

This book offers an introduction to the mathematical, probabilistic and numerical methods used in the modern theory of option pricing. The text is designed for readers with a basic mathematical background. The first part contains a presentation of the arbitrage theory in discrete time. In the second part, the theories of stochastic calculus and parabolic PDEs are developed in detail and the classical arbitrage theory is analyzed in a Markovian setting by means of of PDEs techniques. After the martingale representation theorems and the Girsanov theory have been presented, arbitrage pricing is revisited in the martingale theory optics. General tools from PDE and martingale theories are also used in the analysis of volatility modeling.The book also contains an Introduction to Leacute;vy processes and Malliavin calculus. The last part is devoted to the description of the numerical methods used in option pricing: Monte Carlo, binomial trees, finite differences and Fourier transform.

From the reviews:ldquo;The author provides an excellent overview of methods from the theory of partial differential equations and stochastic processes used in mathematical finance. hellip; The book is well written, the mathematical level is quite sophisticated and a broad range of material is covered. At the same time, there is a clear focus on applications. The book is therefore warmly recommended for graduate students as well as for professionals in the financial industry.rdquo; (Johan Tysk, Mathematical s, Issue 2012 i)ldquo;The book is written for graduate and advanced undergraduate students and gives an introduction to the modern theory of option pricing. hellip; this book covers a wide range of topics with good motivations on a rigorous mathematical level.rdquo; (Souml;ren Christensen, Zentralblatt MATH, Vol. 1214, 2011)About the AuthorAndrea Pascucci is Professor of Mathematics at the University of Bologna where he is director of a master program in Quantitative Finance. His research interests include second order parabolic partial differential equations and stochastic analysis with applications to finance (pricing of European, American and Asian options).