

Curriculum Vitæ for Philip Protter

EDUCATION

- **B.A.** Yale University, 1971
- **Ph.D.** University California, San Diego, 1975

PROFESSIONAL EXPERIENCE

- **Assistant Professor of Mathematics**, Duke University 1975-78
- **Assistant Professor of Mathematics & Statistics**, Purdue University 1978-81
- **Associate Professor of Mathematics & Statistics**, Purdue University 1982-88
- **Professor of Mathematics & Statistics**, Purdue University 1988 -- 2002
- **Professor of Operations Research**, Cornell University 2000 -- present
- **Director of Financial Engineering at Cornell**, 2000 -- 2007

PROFESSIONAL ACTIVITIES

- Visiting Member, *Institute for Advanced Study*, 1977-78
- Invited Visitor, *University of Rennes, France*, 1981-82
- Invited Visitor, *University of Provence (Marseille, France)*, May-June 1984
- Invited Course, *Third Chilean Winter School in Probability and Statistics, Santiago de Chile*, July 1984
- Invited Visitor, *University of Provence (Marseille, France)*, May-June 1985
- Invited Course, *University of Perugia (Italy) Summer School*, August 1985
- Visiting Professor, *University of Wisconsin, Madison*, 1985-86
- Visiting Professor, *University of Rouen (Rouen, France)*, 1987-88
- Invited Visitor, *University of Strasbourg (France)*, March 1988
- Invited Course, *University of Perugia (Italy)*, August 1988
- Invited Visitor, *University of Provence (Marseille, France)*, June 1989
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, July 1990
- Invited Visitor, *University of Bonn*, May 1991
- Invited Course, *14th Annual Finnish Summer School in Probability (Lahtia, Finland)*, June 1991
- Invited Visitor, *University of Rome (Italy)*, June/July 1991
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, July/August 1991
- Invited Visitor, *University of Paris I*, June 1993
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, July 1993
- Invited Visitor, *University of Warwick*, 1 week in March 1994
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, July 1994
- Invited Visitor, *University of Paris VI*, Fall 1994
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, May-July 1995
- Invited Visitor, *Humboldt University (Berlin)*, June 1996
- Invited Visitor, *University of Rennes (France)*, May/July 1996
- Invited Visitor, *Humboldt University (Berlin)*, June 1996
- Invited Visitor, *University of Nancy I (Nancy, France)*, July 1997
- Invited Course, *University of Perugia (Italy) Summer School*, August 1997
- Invited Course, *ETH (Zurich)*, May/June 1998
- Invited Visitor, *University of Rome I*, August 1998
- Invited Visitor, *INRIA (Sophia-Antipolis, France)*, Fall 1998
- Invited Visitor, *University of Paris X*, June 1999
- Invited Visitor, *INRIA (Sophia-Antipolis)*, July 1999
- Invited Visitor, *University of Marne-la-Vallée*, May 2000
- Invited Visitor, *University of Paris VI*, June 2000
- Invited Visitor, *University of Nice (France)*, June 2001
- Invited Visitor, *University of Paris VI*, June 2003
- Invited Visitor, *University of Nice (France)*, December 2003

- Invited Visitor, *University of Tokyo*, Second half of November, 2004
- Invited Visitor, *INRIA (Sophia-Antipolis)*, January to July, 2005
- Invited Visitor, *University of L'Aquila*, June/July, 2006
- Invited Visitor, *University of Paris IX (Dauphine)*, September—December, 2007
- Invited Visitor, *Columbia University*, May, 2009
- Invited Visitor, *University of Nice*, July-August, 2009

GRANTS

A. Summer Research

- *NSF Summer Research Grants*, 1977-93
- *NSA Grant*, 1993-96
- *ONR Grant*, 1996-99
- *NSF Grant*, 1999 - 2002
- *NSA Grant*, 2000 – 2003
- *NSF Grant*, 2002 - 2005
- *NSA Grant*, 2005 – 2008
- *NSF Grant*, 2005—2008

B. Other Grants

- *NSF Postdoctoral Research Fellowship* (declined), 1979-80
- *NSF-CNRS Exchange of Scientists Program awardee* (to Paris), 1979-80
- *Purdue XL International Travel Grant* (\$750), Fall 1988
- *John D. and Catherine T. MacArthur Foundation award* for 1990-91
- *U.S.-Chile Scientific Cooperation Purdue XL International Travel Grant* (\$1,130), Summer 1991
- *NSF-INRIA Grant* (\$60,000) 1994-2000
- *Purdue Global Initiative Grant* (\$2,500), 1996
- *Purdue XL International Travel Grant* (\$1,050), August 1996
- *NSF Grant*, (\$31,100) U.S. - Argentina Program: Latin American Congress on Statistics and Probability; Cordoba, Argentina, September 21-25, 1998
- *NSF Grant*, Graduate and Postdoctoral Training in Probability Theory and its Applications
- *NSF Grant* to organize a meeting, 2006
- *NSA Grant* to organize a meeting, 2006
- Fulbright-De Tocqueville Distinguished Chair, taken in Paris, France, Fall, 2007

ORGANIZATIONAL ACTIVITY

- *A.M.S. regional meeting in Chicago*; Spring, 1985 (Special session).
- *I.M.S. regional meeting at Purdue*; Summer, 1986 (Special session).
- *A.M.S. winter meeting in Louisville*; January, 1992 (Special session).
- *A.M.S. winter meeting in Cincinnati*; January 1993 (Special session).
- *Stochastic Numerics Conference* (sole organizer); Purdue, March 2-4, 1995.
- *Scientific Committee of the Sixth Latin American Congress of Probability and Statistics Viña del Mar*, Chile; November 20-25, 1995.
- *Co-organizer of Stochastics Numerics Conference 2*, Sophia-Antipolis, France, February 29-March 2, 1996.
- *Co-organizer of Stochastics Numerics Conference 3* (Princeton, March 19-22, 1997).
- *Scientific Committee of the 24th Conference on Stochastic Processes and Their Applications* (June 16-20, 1997, in Viña del Mar, Chile).
- *Co-organizer of Stochastics Numerics Conference 4*, June 14 -- 16, 1999; Paris
- *Scientific Committee, Monte Carlo 2000*, July 3 -- 5, 2000; Monaco
- *Invited Session: AAAS Annual Meeting*; February 15 -- 20, San Francisco
- *Invited Session: Fourth International Symposium on Probability and its Applications* (IMS meeting); July 31 – August 2, 2002, Banff, Canada
- *Sole organizer of Cornell Finance Seminar*, March 26 and 27, 2004
- *Co-Organizer of BIRS Session on Mathematical Finance*, June 5—10, 2004
- *Co-Organizer of the CCCP Conference on Finance, New York City*, April 28—29, 2006

- *Scientific Committee and Session Organizer, 31st Conference on Stochastic Processes and their Applications Paris, July 17 - 21, 2006*
- *Sole organizer of Cornell Liquidity Risk Meeting, June 27-28, 2008*

PROFESSIONAL SOCIETIES

- Institute of Mathematical Statistics
- American Mathematical Society (Member of Editorial Board of Book Reviews for the *Bulletin of the AMS*, 2000 – present)
- American Association for the Advancement of Science (Mathematics Section Board Member, 2006 – present)
- Bernoulli Society for Mathematical Statistics & Probability
- Association for Women in Mathematics

RESEARCH INTERESTS

- Stochastic Finance Theory
- Stochastic Analysis and Its Applications
- Stochastic Numerical Analysis
- Filtering Theory
- Weak convergence of Stochastic Processes
- Markov Process Theory

EDITORIAL WORK

- **Editor in Chief**, *Stochastic Processes and their Applications*, 2002 – April, 2006
- **Associate Editor**, *Stochastic Processes and their Applications*, 1996—2002 and April 2006 -- present
- **Associate Editor**, *Revista de Matemáticas Aplicadas*, 1991-- present
- **Associate Editor**, *Annals of Probability*, 1988-1990 and 2000 -- 2002
- **Associate Editor**, *Infinite Dimensional Analysis and Quantum Probability*, 1997-present
- **Associate Editor**, *Annals of Applied Probability*, 2000 -- 2002
- **Associate Editor**, *Finance and Stochastics*, 2000 -- present
- **Associate Editor**, *Mathematical Finance*, 2000 -- present
- **Associate Editor**, *Probability Surveys*, 2005 – present
- **Associate Editor**, *Sankhya, Series A*, 2006 – present
- **Bulletin of the AMS Book Reviews Editorial Board**, 2001 – 2012
- **SIAM Classics Editorial Board**, 2006 -- 2012

HONORS

1. Fellow of the Institute for Mathematical Statistics
2. Visiting Member, Institute for Advanced Study, 1977-78
3. NSF-CNRS Exchange of Scientists Program awardee (to Paris), 1979-80
4. John D. and Catherine T. MacArthur Foundation award, 1990-91
5. Best Teacher, Cornell, ORIE, 2001
6. Best Teacher, Cornell, ORIE, 2005
7. R. Von Mises Lecture, Humboldt Universität, Germany (Inaugural Lecture), June 7, 2007
8. Fulbright-De Tocqueville Distinguished Chair, Fall, 2007
9. Bullitt Lecture, University of Louisville, KY, April 3, 2008

PUBLICATIONS

1. On the Existence, Uniqueness, Convergence, and Explosions of Solutions of Systems of Stochastic Integral Equations. *Annals of Probability* **5**; 243-261, 1977.

2. Stability of the Classification of Stopping Times. *Z. für Wahrscheinlichkeitstheorie und. verw. Geb.* **37**; 201-209, 1977.
3. Right-continuous Solutions of Systems of Stochastic Integral Equations. *J. of Multivariate Analysis* **7**; 204-214, 1977.
4. Markov Differentials in Integral Equations. *Second Vilnius Conference on Probability Theory and Mathematical Statistics* **3**; 179-180, 1977.
5. Markov Solutions of Stochastic Differential Equations. *Z. für Wahrscheinlichkeitstheorie und. verw. Geb.* **41**; 39-58, 1977.
6. H^p Stability of Solutions of Stochastic Differential Equations. *Z. für Wahrscheinlichkeitstheorie und. verw. Geb.* **44**; 337-352, 1978.
7. A Comparison of Stochastic Integrals. *Annals of Probability* **7**; 176-189, 1979.
8. (with Sharpe M.) Martingales with Given Absolute Value. *Annals of Probability* **7**; 1056-1058, 1979.
9. An Extension of Kazamaki's Results on BMO Differentials. *Annals of Probability* **8**; 1107-1118, 1980.
10. Stochastic Differential Equations with Jump Reflection at the Boundary. *Stochastics* **3**; 193-201, 1980.
11. (with Cinlar E., Jacod J. and Sharpe M.) Semimartingales and Markov Processes. *Z. für Wahrscheinlichkeitstheorie und verw. Geb.* **54**; 161-220, 1980.
12. (with Davis B.) Filtering with Singular Cumulative Signals. *Purdue Technical Report #81-7*; 1981. (Unpublished).
13. (with Jacod J.) Quelques Remarques Sur un Nouveau Type d'equations Differentielles Stochastiques. *Séminaire de Probabilités XVI, Springer Lecture Notes in Math.* **920**; 447-458, 1982.
14. Stochastic Differential Equations with Feedback in the Differentials. *Séminaire de Probabilités XVI, Springer Lecture Notes in Math.* **920**; 459-468, 1982.
15. Point Process Differentials with Evolving Intensities. In *Nonlinear Stochastic Problems* (Edited by R. S. Bucy and J. M. F. Moura); pp. 467-472, 1983.
16. (with Sznitman A.) An Equation Involving Local Time. *Séminaire de Probabilités XVII, Springer Lecture Notes in Math.* **986**; 62-66, 1983.
17. Volterra Equations Driven by Semimartingales. *Annals of Probability* **13**; 519-530, 1985.
18. Approximations of Solutions of Stochastic Differential Equations Driven by Semimartingales. *Annals of Probability* **13**; 716-743, 1985.
19. Semimartingales and Stochastic Differential Equations. A course given at the Third Chilean Winter School of Probability and Statistics in Santiago de Chile, July 1984. *Purdue Technical Report #85-25*.
20. Stochastic Integration Without Tears, (with Apology to P. A. Meyer). *Stochastics* **16**; 295-325, 1986.
21. Semimartingales and Measure Preserving Flows. *Annals of the Institut Henri Poincaré* **22**; 127-147, 1986.
22. Reversing Gaussian Semimartingales Without Gauss. *Stochastics* **20**; 39-49, 1987.
23. (with Pardoux E.) A Two-Sided Stochastic Integral and Its Calculus. *Probability Theory and Related Fields* **76**; 15-49, 1987.
24. (with Jacod J.) Time Reversal on Lévy Processes. *Annals of Probability* **16**; 620-641, 1988.
25. A Connection Between the Expansion of Filtrations and Girsanov's Theorem. *Stochastic Partial Differential Equations and Applications II, Springer Lecture Notes in Math.* **1390**; 221-224, 1989.
26. *Stochastic Integration and Differential Equations: A New Approach*, Springer Verlag, 1990.
27. (with Pardoux E.) Volterra Equations with Anticipating Kernels; *Annals of Probability* **18**; 1635-1655, 1990.
28. (with Barlow M.T.) On Convergence of Semimartingales, *Séminaire de Probabilités XXIV, Springer Lect. Notes in Math.* **1426**; 188-193, 1990.
29. Weak Convergence in Analysis, in *White Noise Analysis*, World Scientific; 331-336, 1990.
30. (with Kurtz T.G.) Wong-Zakai Corrections, Random Evolutions, and Numerical Schemes for SDEs, in *Stochastic Analysis*, Academic Press; 331-346, 1991.
31. (with Kurtz T.G.) Weak Limit Theorems for Stochastic Integrals and Stochastic Differential Equations, *Annals of Probability* **19**; 1035-1070, 1991.
32. (with Kurtz T.G.) Characterizing the Weak Convergence of Stochastic Integrals, in *Stochastic Analysis* (M. Barlow and N. Bingham, eds.); 255-259, 1991.
33. (with Jacod J.) Une Remarque sur les Equations Differentielles Stochastiques à Solutions Markoviennes, *Séminaire de Probabilités XXV, Springer Lect. Notes in Math.* **1485**; 138-139, 1991.
34. (with Duffie D.) The Boundary Between Discrete and Continuous Time Finance: Weak Convergence of the Financial Gain Process, *J. of Mathematical Finance* **2**; 1-15, 1992.

35. (with Carlen E.) On Semimartingale Decompositions of Convex Functions of Semimartingales, *Illinois J. Math*, **36**; 420-427, 1992.
36. (with Jacod J.) A Remark on the Weak Convergence of Processes in the Skorohod Topology, *J. Theoretical Probability* **6**; 463-472, 1993.
37. (with San Martin J.) General Change of Variables Formulas for Semimartingales in One and Finite Dimensions, *Proba. Th. Rel. Fields* **97**; 363-381, 1993.
38. (with Léon, J.) Some Formulas for Anticipative Girsanov Transformations, in *Chaos Expansion, Multiple Wiener-Itô Integrals and Their Applications*, (C. Houdre and V. Perez-Abreu, eds.) CRC press (pp. 267-292), 1994.
39. (with Ma J. and Yong J.) Solving Forward-Backward Stochastic Differential Equations Explicitly-a Four Step Scheme, *Proba. Th. Rel. Fields* **98**; 339-359, 1994.
40. (with A. Kohatsu-Higa) The Euler Scheme for SDEs driven by Semimartingales, in *Stochastic Analysis on Infinite Dimensional Spaces*, (H. Kunita and H.H. Kuo, eds.), Pitman, 141-151, 1994.
41. (with Ahn H.) A Remark on Stochastic Integration, in *Séminaire de Probabilités XXVIII, Springer Lect. Notes in Math* **1583**; 312-315, 1994.
42. (with Kurtz T.G. and Pardoux E.) Stratonovich Stochastic Differential Equations Driven by General Semimartingales, *Annales Inst. H. Poincaré* **31**; 351-377, 1995.
43. (with Föllmer, H. and Shiryaev, A.N.) Quadratic Covariation and An Extension of Itô's Formula, *Bernoulli* **1**; 149-169, 1995.
44. (with O'Connell C.) An Elementary Approach to Naturality, Predictability, and the Fundamental Theorem of Local Martingales, Purdue Statistics Department Technical Report
45. (with D. Nualart) Skorohod integral for a product of two stochastic processes, *J. Theoretical Probability*, **9** 1029-1037, 1996.
46. (with J. Douglas, Jr. and J. Ma) Numerical methods for forward-backward stochastic differential equations, *Ann. Applied Proba* **6**; 940-968, 1996.
47. (with D. Talay) The Euler scheme for Lévy driven stochastic differential equations, *Ann. Proba* **25**; 393-423, 1997.
48. (with J. Ma and J. San Martin) Anticipating stochastic integrals for martingales, *Bernoulli* **4**; 81 -- 114, 1998.
49. (with Tom Kurtz) Limit theorems for solutions of stochastic equations I, *CIME School in Probability, Springer Lecture Notes in Mathematics*, **1627**; 1-41, 1996.
50. (with Tom Kurtz) Limit theorems for solutions of stochastic equations II, *CIME School in Probability, Springer Lecture Notes in Mathematics*, **1627**; 197-285, 1996.
51. (with Jacod, Jean) Asymptotic Error Distributions for the Euler Method for Stochastic Differential Equations, *Ann. Proba* **26**; 267-307, 1998.
52. (with Ma, J. and San Martin, J.) Anticipating stochastic integrals for martingales, *Bernoulli* **4**; 81-114, 1998.
53. (with Dritschel, Michael) Complete Markets with Discontinuous Security Price, *Finance and Stochastics* **3**; 203-214, 1999.
54. (with H. Föllmer) An extension of Itô's formula in n dimensions, *Probability Theory and Related Fields* **116**; 1 -- 20, 2000.
55. (with Jean Jacod and Sylvie Méléard) Martingale Representation: Formulas and Robustness, *Annals of Probability* **28**; 1747 -- 1780, 2000.
56. (with Jean Jacod) *Probability Essentials*, Springer Verlag, 2000.
57. (with Del Moral, Pierre and Jacod, Jean) The Monte- Carlo method for filtering with discrete time observations, *Probability Theory and Related Fields* **120**; 346 -- 368, 2001.
58. A Partial Introduction to Financial Asset Pricing Theory, *Stochastic Processes and Their Applications* **91**; 169 -- 203, 2001.
59. (with J. Ma and J. Zhang) Explicit Form and Path Regularity of Martingale Representations, in *Levy Processes -- Theory and Applications*, Birkhauser (T. Mikosch and S. Resnick, editors), 337 -- 360, 2001.
60. (with C. O'Connell) An Elementary Approach to Naturality, Predictability, and the Fundamental Theorem of Local Martingales, *Stochastic Models*, **17**; 449—458, 2001.
61. (with J. Ma, J. San Martin, and S. Torres) Numerical Methods for Backward Stochastic Differential Equations, *Annals of Applied Probability*, **12**; 302—316, 2002.
62. (with E. Clément and D. Lamberton) An Analysis of a Least Squares Regression Algorithm for American Option Pricing, *Finance and Stochastics*, **17**; 449—471, 2002.

63. Editorial: A New Prize in Honor of Kiyosi Itô, *Stochastic Processes and their Applications*, **108**; 151—153, 2003.
64. (with U. Çetin, R. Jarrow, and Y. Yildirim), Modeling credit risk with partial information, *Annals of Applied Probability*, **14**; 1167—1178, 2004.
65. (with U. Çetin and R. Jarrow), Liquidity Risk and Arbitrage Pricing Theory, *Finance and Stochastics*, **8**; 311—341, 2004.
66. (with J. Jacod, T. Kurtz, and S. Méléard), The approximate Euler method for Lévy driven stochastic differential equations, *Annales Institut Henri Poincaré*, **41**, 523—528, 2005; Special issue dedicated to the memory of P.A. Meyer.
67. (with R. Jarrow), A Short History of Stochastic Integration and Mathematical Finance: The Early Years, 1880-1970, *The Herman Ruben Festschrift*, IMS Lecture Notes, 45; 75—91, 2004 (ed. Anirban Das Gupta)
68. (with R. Jarrow), Structural versus Reduced Form Models: A New Information Based Perspective, *Journal of Investment Management*, **2**; 34—43, 2004.
69. (with R. Jarrow), Large Traders, Hidden Arbitrage, and Complete Markets, *Journal of Banking and Finance*, 29; 2803—2820, 2005.
70. (with R. Jarrow) Liquidity Risk and Risk Measure Computation, *Review of Futures Markets*, **14**: 27-39, 2005.
71. (with U. Çetin, R. Jarrow, and M. Warachka), Pricing Options in an Extended Black Scholes Economy with Illiquidity: Theory and Empirical Evidence, *Review of Financial Studies*, 2006 **19**: 493-529
72. (with R. Jarrow) Liquidity Risk and Option Pricing Theory, in *Handbook in Operation Research and Management Science: Financial Engineering*, **15**, 727—762, J. Birge and V. Linetsky, eds., North Holland, 2007.
73. (with R. Jarrow) An Introduction to Financial Asset Pricing Theory, in *Handbook in Operation Research and Management Science: Financial Engineering*, **15**, 13—69, J. Birge and V. Linetsky, eds., North Holland, 2007.
74. (with R. Jarrow and D. Sezer) Information Reduction via Level Crossings in a Credit Risk Model, *Finance and Stochastics*, 2007 **11**: 195-212.
75. (with K. Shimbo) No Arbitrage and General Semimartingales, *Markov Processes and Related Topics: A Festschrift for Thomas G. Kurtz*, IMS Lecture Notes—Monograph Series 4, 267—283, 2008
76. (with H. Sayit and R. Jarrow) No Arbitrage Without Semimartingales, Conditionally accepted for publication, *Annals of Applied Probability*.
77. (with R. Jarrow and K. Shimbo) Asset Price Bubbles in Complete Markets, in *Advances in Mathematical Finance*, Springer-Verlag, M.C. Fu et al, editors, 97—122, 2007.
78. (with J. Jacod) Risk Neutral Compatibility with Option Prices, Conditionally accepted for publication in *Finance and Stochastics*.
79. The Work of Kyosi Itô, *Notices of the American Mathematical Society*, **54**, 744—745, 2007.
80. (with R. Jarrow and K. Shimbo) Asset Price Bubbles in Incomplete Markets, To appear in *Mathematical Finance*
81. (with S. Pal) Analysis of strict local martingales via h-transforms, Submitted for publication.
82. (with K. Lee) Hedging claims with feedback jumps in the price process, *Communications on Stochastic Analysis*, **2**, issue 1, 2008 (Special issue dedicated to Leonard Gross).
82. (with R. Jarrow) Forward and Futures Prices with Bubbles, Submitted for publication.
83. (with N. Diener) Valuation of Swing Options Using Reflected Backward Stochastic Differential Equations, Submitted for publication.
84. The Financial Meltdown, *Matapli*, **87**, 61—68, 2008; also reprinted in the *Gazette* of the Société des Mathématiques de France, 2009.

BOOK REVIEWS:

1. Stochastic Integration and Generalized Martingales, a book review of the above book by A.U. Kussmaul. *Bulletin of the American Mathematical Society*. **84**; (1978), 1346-1351.
2. Stochastic Differential Equations on Manifolds, a book review of the above book by K. D. Elworthy. *The American Scientist* (1984).
3. Semimartingales and Their Stochastic Calculus on Manifolds, a book review of the above book by Laurent Schwartz. *The American Scientist* **73**; (1985), 300-301.
4. A book review of three books on Stochastic Integration by: K.L. Chung and R. Williams; R. J. Elliott; and M. Métivier. *Annals of Probability* **14**; (1986), 343-346.

5. Stochastic Differential Systems: Analysis and Filtering. V. S. Pugachev and I.N. Sinityn. *The American Scientist* (January, 1989).
6. The Malliavin Calculus, by Denis Bell. *Bulletin of the A.M.S. (New Series)* **20**; (1989), 123-127.
7. Diffusion Processes and Partial Differential Equations. Kazuaki Taira. *The American Scientist* **78**; (1990), 475-476.
8. Limit Theorems for Stochastic Processes. J. Jacod and A.N. Shiryaev. *SIAM Review* **33**; (1991), 332-333.
9. Random Series and Stochastic Integrals. S. Kwapien and W. Woyczynski. *SIAM Review* **37**; (1995), 135-136.
10. Numerical Solution of SDE Through Computer Experiments, P.E. Kloeden, E. Platen, H. Schurz. *SIAM Review* **37**;
11. A Book Review of Seven Books on Finance Theory, *SIAM Review* (March, 1999)
12. Arbitrage Theory in Continuous Time, T. Björk, *Journal of Finance*, **55**, No. 2 (February, 2000)
13. Stochastic Calculus and Financial Applications, J. Michael Steele, *SIAM Review* (2001)
14. Numerical Methods and Stochastics, T.J. Lyons and T.S. Salisbury, Eds., 2004, to appear in *CMS Notes*.
15. Mathematics for Finance: An Introduction to Financial Engineering, Capinski and T. Zastawniak, *American Mathematical Monthly*, **111**; 923—926, 2004.
16. Point Process Theory and Applications: Marked Point Processes and Piecewise Deterministic Processes, Martin Jacobsen, *SIAM Review*, **49**;159—161, 2007.
17. Louis Bachelier's Theory of Speculation: The Origins of Modern Finance, Mark Davis and Alison Etheridge, to appear in the *Bulletin of the American Mathematical Society*, probably in 2008.

BOOKS / NOTES:

1. *Stochastic Integration and Differential Equations: A New Approach*, Springer-Verlag, 1990.
2. Limit Theorems for Solutions of Stochastic Equations I, II (with Tom Kurtz) *CIME School in Probability*, Springer-Verlag *Lecture Notes in Math* 1627, pp. 1 -- 41 and 197 -- 285 (1996).
3. *Probability Essentials* (with Jean Jacod), Springer-Verlag, 2000.
4. *Probability Essentials, Second Edition* (with Jean Jacod), Springer-Verlag, 2003
5. *L'essentiel en théorie des probabilités* (with Jean Jacod), Cassini, 2003.
6. *Stochastic Integration and Differential Equations, Second Edition*, Springer-Verlag, 2004
7. *Probability Essentials, Corrected Second Edition* (with Jean Jacod), Springer-Verlag, 2004
8. *Stochastic Integration and Differential Equations, Second Edition, Version 2.1*, Springer-Verlag, 2005
9. *Discretization of Processes (with Jean Jacod)*, in preparation, 2008

TEXTBOOK

1. *Calculus with Analytic Geometry, Fourth Edition* (with M. H. Protter), Jones and Bartlett, Boston, 1998.

Other Publishing Activities

1. Columnist for *Financial Engineering News* ("*Stochastics on the Street*"), 2006 (Six Columns)

Ph.D. STUDENTS

- **P. Sundar** (December, 1985). Currently Professor at Louisiana State University. Thesis: *Ergodic Solutions of Stochastic Differential Equations*.
- **J. San Martin** (January, 1990). Currently Professor at the University of Chile (Santiago, Chile) Thesis: *Stratonovich Differential Equations*.
- **A. Kohatsu-Higa** (May, 1992). Currently Associate Professor at the University Pompeu Fabra (Barcelona, Spain), and Associate Professor at Osaka University, Japan. Thesis: *Reflecting Stochastic Differential Equations with Jumps*.
- **F. Antonelli** (August, 1993). Currently Professor at the University of L'Aquila (L'Aquila, Italy). Thesis: *Backward-Forward Stochastic Differential Equations*.
- **Yingjie Liu** (August, 1993). Thesis: *Numerical Approaches to Stochastic Differential Equations with Boundary Conditions*. Current employment unknown.

- **H. Ahn** (August 1994). Currently working for Nomura Securities in London. Thesis: *Semimartingale Representation and the Wong-Zakai Problem*.
- **Liqing Yan** (June, 2000). Currently Assistant Professor at the University of Florida. Thesis: *The Euler Scheme with Irregular Coefficients*.
- **Xiang Long** (June 2001). Currently employed at Nomura Securities in New York City. Thesis: *Variance Reduction for Numerical Solutions of Stochastic Differential Equations*
- **Kisseop Lee** (June 2002). Currently employed at the University of Louisville. Thesis: *Hedging of Options When the Price Process Has Jumps Whose Arrival Rate Depends on the Price History*
- **Deniz Sezer** (August 2005). Currently employed at York University, Toronto. Thesis: *A Theory of Filtration Shrinkage*
- **Yan Zeng** (August 2005). Currently employed at Florida State University. Thesis: *Compensators of Stopping Times*
- **Jesús Rodríguez** (August 2005). Currently employed at North Carolina State. Thesis: *A Modified Barlow Model Applied to Electricity Derivative Pricing*
- **Hasanjan Sayit** (August 2005). Currently employed at Univ. of Houston. Thesis: *Realistic No Arbitrage Conditions*
- **Marcel Blais** (January 2006). Currently employed at Worcester Polytechnic. Thesis: *Liquidity and Modeling the Stochastic Supply Curve for a Stock Price*
- **Kazuhiro Shimbo** (May 2007). Currently employed at Mizuho Bank, New York. Thesis: *Understanding Mathematical Models of Bubbles in Financial Markets*
- **Nicolas Diener** (August 2008). Currently employed at Barclays Capital, New York. Thesis: *Mathematical Models for Swing Options and Subprime Mortgage Derivatives*
- **Alexandre Roch** Current Student
- **Sergio Pulido**, Current Student

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