

**JAKŠA CVITANIĆ**  
**CURRICULUM VITAE**  
cvitanic@hss.caltech.edu

**ACADEMIC TRAINING:**

May 1992      Ph.D. in Statistics , Columbia University  
Oct. 1991      M.Phil. in Statistics, Columbia University  
June 1988      M.S. in Mathematics, University of Zagreb, Croatia  
July 1985      B.S. in Mathematics, University of Zagreb, Croatia

**ACADEMIC POSITIONS:**

2005– present; Professor of Mathematical Finance, Caltech  
2009 – present, Affiliated Programme Faculty, EDHEC-Risk Institute, Nice.  
1999– 2006; Professor of Mathematics and Economics, U. of Southern California  
1997–1999; Associate Prof., Dept of Statistics, Columbia University  
1992–1997; Assistant Prof., Dept of Statistics, Columbia University  
1993–94; Postdoc, Inst. of Math. and its Appl., U. of Minnesota

**Ph.D STUDENTS (and their first jobs):**

- Gennady Spivak (Goldman, Sachs & Co.), “Maximizing probability of a perfect hedge”, Columbia U., 1998.
- Jay Blumenstein (J.P. Morgan), “Minimizing exp. loss of hedging in discrete time”, Columbia U., 1999.
- David Rios (Credite Suisse First Boston), ”Utility maximization for a large investor”, Columbia U., 2000.
- Wei-Chen Miao (co-advisor; Assist. Prof., National Central University, Taiwan), ”Quadratic variation estimators for diffusion models in finance”, USC, 2004.
- Xuhu Wan (co-advisor; Assistant Prof., Hong Kong U. of Sc. and Techn. Business School), ”Dynamic Principal-Agent Models in Continuous Time”, USC, 2005.
- Coskun Cetin (co-advisor; Visiting Assistant Prof., Whittier College), ”Backward Stochastic Differential Equations with quadratic growth and their applications”, USC, 2005.
- Xudong Zeng (Postdoc, University of Missouri-Columbia), “Optimal portfolios in regime switching models”, USC, 2006.
- Agostino Capponi (Purdue University and Goldman-Sachs London), ”Credit Risk Modeling with Misreporting” Caltech, 2009.
- Noah Myung (co-advisor; Naval Graduate School Monterey), ”Organizational and Financial Economics”, Caltech, 2009.

**EDITORIAL BOARDS:**

**Co-Editor:** *Finance & Stochastics*, 2000 – present; *Mathematics and Financial Economics*, 2006 – present.

**Associate Editor:** *Annals of Finance* 2004 - present; *Mathematical Finance* 2002 - present; *SIAM Journal on Financial Mathematics* 2008 – present; *Asia-Pacific Fin. Markets*, 1998 - present; *Glasnik Matematički* 2002 - present; *Annals of Applied Probability*, 1998 -2003; *Mathematics of Operations Research*, 1999 –2002.

**Book Series Editorial Board:** *Springer Briefs in Quantitative Finance* 2011 – .

**REFEREE FOR:**

Adv. in Appl. Prob., Ann. of Applied Probability, Ann. of Probability, Appl. Math. Finance, Appl. Math. & Optimization, Econometrica, Economic Theory, European Journal of Operations Research, Finance & Stochastics, J. of Business, J. of Computational Statistics and Data Analysis, Journal of Economic Theory, J. of Economic Dynamics and Control, J.

of Finance, Management Science, Mathematical Finance, Mathematics of Operations Research, Quantitative Finance, Review of Financial Studies, Review of Finance, SIAM J. Control and Optimization, US, Swiss and Canada grant proposals.

#### **AWARDS AND DISTINCTIONS:**

American Statist. Assoc. Scholastic Excellence Award, 1992.

Member of the Council of the Bachelier Finance Society, 2003 – 2005.

#### **BOOKS:**

[1] J. CVITANIĆ and J. ZHANG (2011) *Contract Theory in Continuous Time Models*. Springer Finance, forthcoming.

[2] J. CVITANIĆ and F. ZAPATERO (2004) *Introduction to the Economics and Mathematics of Financial Markets*. The MIT Press, Cambridge, Massachusetts.

#### **EDITED BOOKS AND SPECIAL ISSUES:**

[1] *Handbooks in Mathematical Finance: Option Pricing, Interest Rates and Risk Management*. Eds. J. Cvitanić, E. Jouini and M. Musiela. Cambridge University Press, 2001.

[2] Special issue on Columbia-JAFEE conference on the Mathematics of Finance, Ed. J. Cvitanić. *Asia-Pacific Financial Markets*, **6**, 1999.

#### **LECTURE NOTES AND BOOK CHAPTERS:**

[1] J. CVITANIĆ (2001) *Theory of Portfolio Optimization in Markets with Frictions*. In *Handbooks in Mathematical Finance: Option Pricing, Interest Rates and Risk Management*. Eds. J. Cvitanić, E. Jouini and M. Musiela. Cambridge University Press.

[2] J. CVITANIĆ (1997) *Optimal Trading Under Constraints*. *Lecture Notes in Mathematics* 1656, Springer.

[3] J. CVITANIĆ (1997) *Nonlinear Financial Markets: Hedging and Portfolio Optimization*. In *Mathematics of Derivative Securities*, Dempster and Pliska Eds., *Proc. of the Isaac Newton Institute*, Cambridge University Press.

#### **PUBLISHED REFEREED PAPERS:**

J. CVITANIĆ, E. JOUINI, S. MALAMUD and C. NAPP (2011) Financial Markets Equilibrium with Heterogeneous Agents. *Review of Finance*, forthcoming.

J. CVITANIĆ & S. MALAMUD (2011) Price Impact and Portfolio Impact. *Journal of Financial Economics*, forthcoming.

J. CVITANIĆ, S. RADAS & H. ŠIKIĆ (2011) Co-development Ventures: Optimal Time of Entry and Profit-Sharing. *J. of Economic Dynamics and Control*, forthcoming.

J. CVITANIĆ & S. MALAMUD (2010) Relative Extinction of Heterogeneous Agents. *The B.E. Journal of Theoretical Economics* **Vol 9** : Iss. 2 (Contributions), <http://www.bepress.com/bejte/vol10/iss1/art4>.

B. CORNELL, J. CVITANIĆ & L. GOUKASIAN (2010) Optimal investing with perceived mispricing. *Annals of Finance* **6**, 83 - .

J. CVITANIĆ, X. WAN & J. ZHANG (2009) Continuous-Time Principal-Agent Problems with Hidden Action and Lump-Sum Payment. *Applied Mathematics and Optimization* **59**, 99-146.

J. CVITANIĆ, X. WAN & J. ZHANG (2008) Principal-Agent Problems with Exit Options. *The B.E. J. in Theoretical Economics*, **8**, <http://www.bepress.com/bejte/vol8/iss1/art23>

A. CAPPONI and J. CVITANIĆ (2008) Credit Risk Modeling with Misreporting and Incomplete Information. *International J. of Theoretical and Applied Finance* **12**, 81–112.

J. CVITANIĆ, A. LAZRAK, & T. WANG (2008) Sharpe ratio as a performance measure in a multi-period model. *J. of Econ. Dynamics and Control*, **32**, 1622-1649.

- J. CVITANIĆ, Z. WIENER and F. ZAPATERO (2008) Analytic pricing of employee stock options. *Review of Financial Studies*, **21**, 683 - 724.
- J. CVITANIĆ, V. POLIMENIS and F. ZAPATERO (2008) Optimal Portfolio Allocation with Higher Moments. *Annals of Finance*, **4**, 1–28.
- J. CVITANIĆ, L. GOUKASIAN & F. ZAPATERO (2007) Optimal Risk Taking with Flexible Income. *Management Science*, **53**, 1594–1603.
- J. CVITANIĆ & J. ZHANG (2007) Optimal Compensation with Adverse Selection and Dynamic Actions. *Mathematics and Financial Economics*, **1**, 21–55.
- A. CADENILLAS, J. CVITANIĆ and F. ZAPATERO (2007) Optimal Risk-Sharing with Effort and Project Choice. *Journal of Economic Theory*, **133**, 403–440.
- A. CADENILLAS, J. CVITANIĆ and F. ZAPATERO (2007) Stochastic Control methods for the problem of optimal compensation of executives. *Stochastic Differential Equations: Theory and Applications: A Volume in Honor of Professor Boris L. Rozovskii*. Edited by Peter H. Baxendale & Sergey V. Lototsky. World Scientific.
- J. CVITANIĆ, B. ROZOVSKI & I. ZALIAPIN (2006) Numerical estimation of volatility values from discretely observed diffusion data. *The Journal of Computational Finance*, **4**.
- J. CVITANIĆ, A. LAZRAK, L. MARTELLINI & F. ZAPATERO (2006), Dynamic Portfolio Choice with Parameter Uncertainty and the Economic Value of Analysts' Recommendations. LEAD ARTICLE, *Review of Financial Studies*, **19**, 1113-1156.
- J. CVITANIĆ, X. WAN & J. ZHANG (2006) Optimal Contracts in Continuous-Time Models. *J. Applied Mathematics and Stochastic Analysis*, vol. 2006, Article ID 95203, 1–27.
- J. CVITANIĆ, R. LIPTSER & B. ROZOVSKI (2006) Filtering approach to tracking volatility from prices observed at random times. *The Annals of Applied Probability*, **16**, 1633-1652.
- J. CVITANIĆ & J. ZHANG (2005) The Steepest Descent Method for FBSDEs. *Electronic Journal of Probability*, **10**, 1468-1495.
- A. CADENILLAS, J. CVITANIĆ and F. ZAPATERO (2004) Leverage decision and manager compensation with choice of effort and volatility. *Journal of Financial Economics*, **73**, 71-92.
- J. CVITANIĆ, A. LAZRAK, L. MARTELLINI & F. ZAPATERO (2003) Optimal Allocation to Hedge Funds: An Empirical Analysis. *Quantitative Finance* **3**, 1-12.
- J. CVITANIĆ, J. MA & J. ZHANG (2003). Efficient computation of hedging portfolios for options with discontinuous payoffs. *Mathematical Finance* **13**, 135-151.
- J. CVITANIĆ, L. GOUKASIAN & F. ZAPATERO (2003) Monte Carlo computation of optimal portfolios in complete markets. *J. of Econ. Dynamics and Control*. **27**, 971-986.
- J. CVITANIĆ, L. GOUKASIAN & F. ZAPATERO (2002 ). Hedging with Monte Carlo simulation. In E. Kontoghiorghes, B. Rustem and S. Siokos (eds.), *Computational Methods in Decision-Making, Economics and Finance*. Kluwer Academic Publishers. Dordrecht.
- J. CVITANIĆ, A. LAZRAK, M.C. QUENEZ & F. ZAPATERO (2001) Incomplete information with recursive preferences. *Intern. J. of Theoretical and Appl. Finance* **4**, 245-261.
- J. CVITANIĆ, W. SCHACHERMAYER & H. WANG (2001) Utility maximization in incomplete markets with random endowment. *Finance & Stochastics* **5**, 259-272.
- J. CVITANIĆ & H. WANG (2001) On optimal terminal wealth under transaction costs. *J. of Mathematical Economics* **35**, 223-232.
- J. CVITANIĆ & I. KARATZAS (2001) Generalized Neyman-Pearson Lemma via convex duality. *Bernoulli* **7**, 79-97.
- MA, J. & J. CVITANIĆ (2001) Reflected forward-backward SDE's and obstacle problems with boundary conditions. *Journal of Appl. Math. & Stoch. Anal.* **14**, 113-138.
- J. CVITANIĆ (2000) Minimizing expected loss of hedging in incomplete and constrained markets. *SIAM J. Control & Optimization*, **38**.
- J. CVITANIĆ (1999) Methods of partial hedging. *Asia-Pacific Fin. Markets* **6**, 7-35.

G. SPIVAK & J. CVITANIĆ (1999) Maximizing the probability of perfect hedge. *The Annals of Applied Probability* **9**, 1303-1328.

J. CVITANIĆ & I. KARATZAS (1999) On dynamic measures of risk. *Finance & Stochastics* **4**, 451-482.

J. CVITANIĆ, I. KARATZAS & H.M. SONER (1999) Backward SDEs with constraints on the gains-process. *Annals of Probability* **26**, 1522-1551.

J. CVITANIĆ, H. PHAM & N. TOUZI (1999) Super-replication in stochastic volatility models under portfolio constraints. *J. of Applied Probability* **36**, 523-245.

J. CVITANIĆ, H. PHAM & N. TOUZI (1998) A closed form solution to the problem of super-replication under transaction costs. *Finance & Stochastics* **3**, 35-54.

M. BROADIE, J. CVITANIĆ & M. SONER (1998) Optimal replication of contingent claims under portfolio constraints. *Rev. of Financial Studies* **11**, 59-79.

D. CUOCO & J. CVITANIĆ (1998) Optimal consumption choices for a large investor. *J. Econ. Dynamics and Control* **22**, 401-436.

J. CVITANIĆ & I. KARATZAS (1996) Backward SDE's with reflection and Dynkin games. *Annals of Probability* **24**, 2024-2056.

J. CVITANIĆ & I. KARATZAS (1996) Hedging and portfolio optimiz. under transaction costs: martingale approach. *Math. Finance* **6**, 133-165.

J. CVITANIĆ & J. MA (1996) Hedging options for a large investor and Forward-Backward SDE's. *Annals of Applied Probability* **6**, 370-398.

M. SONER, S. SHREVE & J. CVITANIĆ (1995) There is no nontrivial hedging portfolio for option pricing with transaction costs. *Annals of Applied Probability* **5**, 327-355.

J. CVITANIĆ & I. KARATZAS (1995) On portfolio optimization under drawdown constraints. *IMA Volumes in Math. and its Appl.* **65**, 35-46.

J. CVITANIĆ & I. KARATZAS (1995) Contingent claim valuation and hedging with constr. portfolios. *IMA Volumes in Math. & Appl.* **65**, 13-34.

J. CVITANIĆ & I. KARATZAS (1993) Hedging contingent claims with constrained portfolios. *Annals of Applied Probability* **3**, 652-681.

J. CVITANIĆ & I. KARATZAS (1992) Convex duality in constrained portfolio optimization. *Annals of Applied Probability* **2**, 767-818.

#### **PAPERS IN REVISION, SUBMITTED PAPERS AND WORKING PAPERS:**

J. CVITANIĆ, X. WAN & H. YANG (2011), Dynamics of Contract Design with Screening. Submitted to *Management Science*.

A. CAPPONI, J. CVITANIĆ & T. YOLCU (2011), A Variational Approach to Contracting under Imperfect Observations. Submitted.

A. CAPPONI, J. CVITANIĆ & T. YOLCU (2011), Contracting With Effort and Misreporting. Submitted.

P.BREWER, J. CVITANIĆ & C. PLOTT (2011) Flash Crashes, Book Resting Times and Call Markets: A Simulation Study. Working paper.

J. CVITANIĆ, C. PLOTT and C.-Y. TSENG (2011) Price mean-reversion in markets with random lifetimes and reservation values. Working paper.

J. CVITANIĆ, J. MA & J. ZHANG (2011) Laws of Large Numbers for Self-Inciting Correlated Defaults. In revision for *Stochastic Processes and Applications*.

E. ASPAROUHOVA, P. BOSSAERTS, CORNELL, J. ČOPIĆ, J. CVITANIĆ and D. MELOSO (2010) Experiments on Asset Pricing under Delegated Portfolio Management. Submitted to *The Review of Financial Studies*.

J. CVITANIĆ and S. MALAMUD (2010) Nonmyopic Optimal Portfolios in Viable Markets. Working paper.

J. CVITANIĆ and A. KIRILENKO (2010) High-frequency trading and asset prices. Submitted to *The Review of Financial Studies*.

A. CADENILLAS, J. CVITANIĆ and F. ZAPATERO (2005) Executive Stock Options as a Screening Mechanism. Working paper.

J. CVITANIĆ (2008) On managerial risk-taking incentives when compensation may be hedged against. Working paper.

#### **WORK IN PROGRESS:**

J. CVITANIĆ, R. KANIEL, & B. WEI (2011), Optimal compensation of hedge fund managers under asymmetric information.

J. CVITANIĆ, A. LIOUI & D. SCHROEDER (2010), Long Term Predictability.

J. CVITANIĆ, L. GOUKASIAN, L. MARTELLINI & F. ZAPATERO (2008), An Integrated Model of Asset-Liability Management.

J. CVITANIĆ, L. GOUKASIAN, & F. ZAPATERO (2008), CFO compensation, Hedging Interest Rate Risk and Capital Structure.

#### **GRANTS:**

1994-1995 NSF Grant DMS-93-19816, Co-PI, \$58,000.

1995-1998 NSF Grant DMS-95-03582, PI, \$75,000.

1995-1998 ARO Grant DAAH04-95-1-0528, Co-PI, \$240,000.

1998-2001 NSF Grant DMS-97-32810, Co-PI, \$225,000.

2001-2004 NSF Grant DMS 0099549, PI, \$90,000.

2004-2007 NSF Grant DMS 04-03575, PI, \$289,000.

2007-2009 NSF Grant DMS 06-31366, PI, \$124,160.

2007-2008 NSF of Croatia Grant, PI, \$90,000.

2010-2012 NSF Grant DMS 10-08219, PI, \$333,000.

#### **INVITED CONFERENCE TALKS AND SUMMER SCHOOLS:**

- 1. Invited speaker, *Workshop on Financial Mathematics*, Institute Henri Poincare, Paris, France, January 1992.
- 2. Invited speaker, *Math. Finance Wkshp*, IMA, Minneapolis, June '93.
- 3. Invited speaker, *IMS Eastern Regional Conf.*, Cleveland, April '94.
- 4. Invited speaker, *Bank of England Conference - Mathematics of Finance: Models, Theory and Computation*, The Newton Institute of Mathematical Sciences, University of Cambridge, May 1995.
- 5. Invited speaker, *CIRANO-CRM Conference on Mathematical Finance*, Université de Montréal, May 1996.
- 6. Lecturer, *Centro Internazionale Matematico Estivo 1996 Summer School on Financial Mathematics*, Bressanone, Italy, July 1996.
- 7. Invited speaker, *Quantitative Methods in Finance*, Australia 1997.
- 8. Lecturer, Mini-course on Financial Mathematics, Berliner Graduiertenkolleg "Stochastische Prozesse und Probabilistische Analysis", Technische Universität Berlin, Berlin, Germany, July 1998.
- 9. Invited speaker, *International conference on Mathematical Finance*, Hammamet, Tunisia, June 1999.
- 10. Lecturer, Mini-course on Financial Mathematics, Université Paris I, June 1999.
- 11. Invited Speaker, *Southern California Probability Symposium*, USC, Fall 1999.
- 12. Invited Speaker, Mathematical Congress, Zagreb, June 2000.
- 13. Lecturer, Mini-course on Financial Mathematics, Johannesburg, South Africa, July 2000.
- 14. Invited Speaker, Mathematical Finance Day, Boston University, September 2000.
- 15. Invited Speaker, Columbia-JAFEE conference on Mathematical Finance, Tokyo, December 2000.
- 16. Invited speaker, Workshop on Applications of Malliavin Calculus to Finance. INRIA

Rocquencourt, France. December 2001.

- 17. Invited Speaker, So. California Probability Symposium, Irvine, CA, Nov 2001.
- 18. Invited Speaker, Conference on "Incomplete Financial Markets", Carnegie Mellon University, May 2002.
- 19. Invited Speaker, CAP Workshop on Derivative Securities and Risk Management, Columbia University, Nov 2002.
- 20. Plenary Speaker, Quantitative Methods in Finance, Cairns/Sydney, Australia, Dec 2002.
- 21. Invited Speaker, Mini-Workshop on Mathematical Finance, Purdue University, May 2003.
- 22. Invited Speaker, AMS Midwest Meeting, session on "Stochastic Analysis and Applications", May 2003, Indiana University.
- 23. Plenary Speaker, Croatian Congress of Mathematics, June 2004, Split, Croatia.
- 24. Invited Speaker, Bachelier Finance Society Third World Congress, Chicago, July 2004.
- 25. Invited Speaker, Newton Institute Programme on "Developments in Quantitative Finance: Workshop on Monte Carlo methods", Cambridge University, May 2005.
- 26. Plenary Speaker, Stanford-Tsukuba Joint Workshop on Financial Engineering and Systems Management, Stanford University, March 2006.
- 27. Lecturer, a one-day course on "Optimal Contracts in Continuous Time", Kyoto, September 2006.
- 28. Plenary Speaker, Daiwa Workshop on Financial Engineering, Tokyo, September 2006.
- 29. Lecturer, intensive course on options, EDHEC, Nice, November 2006.
- 30. Lecturer, three-day intensive course on financial derivatives for managers, Kolocep, Croatia, 2007.
- 31. Plenary Speaker, Conference on portfolio management for pension funds, Split, Croatia, November 2007.
- 32. Invited Speaker, Workshop on Stochastic Analysis in Finance and Insurance, Oberwolfach, Germany, January 2008.
- 33. Plenary Speaker, Bachelier Finance Society Fifth World Congress, London, July 2008.
- 34. Invited Speaker, 2nd Western Conference on Mathematical Finance, U. of Texas at Austin, Nov 2008.
- 35. Invited Speaker, Midwest Finance Association, Las Vegas, February 2010
- 36. Invited Speaker, Eastern Finance Association, Miami Beach, April 2010.
- 37. Invited Speaker, CEPR Gerzensee Asset Pricing Meetings, July 2010 .
- 38. Invited Speaker, Oxford Mann Institute Workshop on "New Directions in Quantitative Finance", Oxford University, July 2010.
- 39. Invited Speaker, European Finance Association Conference, Frankfurt, August 2010.
- 40. Invited Speaker, SIAM Conference on Financial Mathematics and Engineering, San Francisco, November 2010.
- 41. Invited Speaker, Conference on Financial Mathematics, Mathematic Institute, Oberwolfach, February 2011.
- 42. Plenary Speaker, Conference on Stochastic Analysis in Finance and Insurance, U. of Michigan, May 2011.
- 43. Plenary Speaker, International Conference on Mathematical Finance and Economics, Istanbul, July 2011.
- 44. Invited Speaker, CEPR Gerzensee Asset Pricing Meetings, July 2011 .

#### **CONFERENCE ORGANIZER:**

- 1. Co-organizer, *Workshop in Honor of Prof. Y.S. Chow*, Columbia University, New York, April 1993.
- 2. Co-organizer, annual *Workshop on Mathematical Finance* , Columbia University, New

York, Nov '94, Oct '95 and '96, Apr '98 and '99.

- 3. Organizing Committee, Conference on Nonlinear Analysis, NYU, May 2000.
- 4. Co-organizer, Conference on "Financ. Mathematics: Risk Management, Modeling and Numerical Methods", Institute for Pure and Appl. Math., Los Angeles, January 2001.
- 5. Organizing committee, Summer School in Mathematical Finance, Dubrovnik, Croatia, September 2001.
- 6. Co-organizer, Workshop on "New Directions in Financial Modeling", USC, April 2002.
- 7. Co-organizer: "Numerical Probabilistic Methods for High-Dimensional Problems in Finance", AIM, Palo Alto, December 2003.
- 8. Co-organizer: A session on "Financial Mathematics", AMS West Meeting, April 2004.
- 9. Co-organizer: Programme on "Optimization Problems in Financial Economics", Banff International Research Station, Banff, Canada, May 2006.
- 10. Co-organizer: "1st Croatian Quants Day", Zagreb, Croatia, February 2008.
- 11. Scientific committee: "Conference on Numerical Methods in Finance", 15-17 April 2009 at Ecole des Ponts ParisTech.
- 12. Scientific committee: Workshop on "New Directions in Financial Mathematics", IPAM, UCLA, Jan 2010.
- 13. Organizing committee: "Workshop on Foundations of Mathematical Finance", the Fields Institute, Toronto, Jan 11-15, 2010.
- 14. Co-organizer: "Fourth Western Conference on Mathematical Finance" and "International Colloquium on Backward Stochastic Differential Equations" USC, Los Angeles, June 2011.

#### **ADMINISTRATIVE ACTIVITIES:**

- 2005 – present, representative for Business and Economics Management major, Caltech.
- 2006-07, Chair of the Search Committee for Business and Economics Management, Caltech.
- 2008-09, 2006-07, HSS Students/Faculty Committee on Undergraduate Curriculum
- 2003 – 2005, Personnel Committee, USC College
- 2002 – 2005, USC, Associate Chair of the Department of Mathematics and Head of the Computational Mathematics and Statistics Section
- 1999 – 2005, Co-Director of the Master's of Science Program in Math. Finance, USC.
- 2002, Member of the Merit/Promotion Committee, Dept. of Math, USC.
- 2002–03, Chair of the Committee for Restructuring the Graduate Program, Dept. of Mathematics, USC
- 2001 – 2005, Academic Advisor for the joint Econ/Math major at USC.
- 2001–02, Member of the Internal Review Committee for the Department of Finance and Business Economics at USC.
- 2001, Chair of the Committee for Future Structure of Department of Mathematics, USC
- 2001, Chair of the Hiring Committee for the CMS section, Dept of Mathematics, USC
- 1997–1999, Co-Director of the Master's Program in Math. Finance, Columbia University.
- 1998–99, Member of Columbia Univ. Executive Committee of Arts and Sciences Faculty.
- 1994–98, Dept of Statistics representative for undergraduates, Columbia U.

#### **ACTIVITIES IN Ph.D. PROGRAMS:**

- A member of dissertation defense committees for:
  1. Caltech: Yonathan Schwarzkopf (Physics), Agostino Capponi (Computer Science, Chair), Noah Myung (Social Sciences, Co-Chair), Michael Alton (Social Sciences), Guido Maretto (Social Sciences), Ramon Van Handel (Physics).
  2. USC: Co-advisor for Wei-Chen Miao, Xuhu Wan, Coskun Cetin and Xudong Zeng. On the committee for Pawel Szerszen (Economics), Shin-Huei Wang (Economics), Yuri

Marynets (Economics), Jose Villalobos (Mathematics), Alexander Lytvak (Mathematics), Dmitri Kantsyrov (Economics). In the past, 3 other students in Finance, 1 in Mathematics, 3 in Engineering, 2 in Economics.

3. Columbia University: Advisor for Gennady Spivak, Jay Blumenstein, and David Rios; On the committee of 6 other students in Statistics, 3 in Operations Research, 3 in Finance, 1 in Economics;

4. Other institutions: Bruno Bouchard (Mathematics, U. Paris VI, 199?), Christoph Frei (ETH Zurich, Mathematics, 2009), Uwe Wystup (Carnegie Mellon U., Mathematics, 200?).

### **COURSES AND DEGREES INITIATED AND DEVELOPED:**

- *Equilibrium Models in Financial Economics*, Ph.D course, Caltech 2010-11
- *Continuous-time Financial Economics*, Ph.D course, EDHEC Nice, 2009 –
- *Fixed Income and Credit Risk Derivatives*, undergraduate course, Caltech 2007 –
- *Mathematical Finance*, Ph.D course, Caltech, 2006 –.
- *Optimal Contracts*, Ph.D course, Caltech, 2006-07.
- *Stochastic Calculus for Finance*, graduate course, Dept. of Statistics, Columbia University 1996 - 1999, Dept. of Mathematics, USC 1999 – 2005.
- *Financial Markets*, undergraduate course, Department of Economics, USC, 2001-2005.
- M.S. in Mathematical Finance (co-developer) Columbia University, 1997 – 1999.
- Joint Economics-Mathematics B.S. degree (co-developer), USC 2002.
- M.S. in Mathematical Finance (co-developer), USC.
- B.A. and B.S. in Applied and Computational Mathematics (co-developer) USC.