

Curriculum Vitae for David Nualart

David Nualart

Date and place of birth: 03/21/1951, Barcelona, Spain

Professional address

Department of Mathematics

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EDUCATION

Licenciado en Ciencias (Matemáticas), University of Barcelona, 1972

PhD. in Mathematics, University of Barcelona, 1975

PROFESSIONAL EXPERIENCE

Assistant Professor, Department of Statistics, University of Barcelona, 1972-73

Associate Professor, Department of Statistics, University of Barcelona, 1973-76 and 1978-84

Associate Professor of Mathematics, Department of Mathematics, E.T.S.A.B., Polytechnique University of Barcelona, 1976-78

Professor of Statistics and Operational Research, Department of Statistics, University of Barcelona, 1984-2005

Director of the IMUB (Institute of Mathematics of the University of Barcelona), 2001-2004

Professor, Department of Mathematics, Kansas University, 2005-2012

Black-Babcock Distinguished Professor, Department of Mathematics, Kansas University, 2012 to present

RESEARCH INTERESTS

Multiparameter stochastic processes. Two-parameter martingales. Stochastic calculus in the plane. Markov property for random fields. Stochastic Analysis. Malliavin calculus. Anticipative stochastic calculus. Large deviations. Stochastic partial differential equations. Fractional Brownian motion. Mathematical finance.

AWARDS

- Elected Fellow of the Institute of Mathematical Statistics in 1997
- Doctor Honoris Causa by the University Blaise Pascal of Clermond-Ferrand in 1998
- Price *IBERDROLA de Ciencia y Tecnologia* 1999 (60,000 euros)
- Distinction for the Research by the *Generalitat de Catalunya* for the period 2000-2005 (personal research grant of 30,000 euros per year)
- Corresponding Member of the *Real Academia de Ciencias Exactas Físicas y Naturales* of Madrid (since 2003)

- Member of the *Reial Acadèmia de Ciències i Arts* of Barcelona (since 2003)
- Research Prize of the *Real Academia de Ciencias de Madrid* in 1991 (3,000 euros)
- *G. Baley Price Award for Excellence in Teaching*. Department of Mathematics, Kansas University, 2008
- *International Conference on Malliavin Calculus and Stochastic Analysis in honor of David Nualart*. University of Kansas, March 2011

PROFESSIONAL ACTIVITES

Postdoctoral Fellowship, *LAAS, Toulouse, France*, 1975-76

Visiting Professor, *Department of Mathematics, University of Paris-Sud (Orsay, France)*, March 1979 and April-June 1980

Visiting Professor, *Department of Mathematics, Louis Pasteur University (Strasbourg, France)*, March 1988

Invited Visitor, *Department of Mathematics and Computer Sciences, Bar-Ilan University (Ramat-Gan, Israel)*, Nov. 1984, 5-18 May 1988

Invited Visitor, *Department of Mathematics, Simón Bolívar University (Venezuela)*, April 1985

Visiting Professor, *Faculty of Sciences, University of Provence (Marseille, France)*, Dec. 1985, March 1988, Dec. 1988, Feb. 1989

Visiting Professor, *Department of Mathematics, University of California (Irvine, USA)*, Jan.-March 1986, June-Aug. 1987, Aug. 1990, July 1991

Visiting Professor, *Department of Mathematics, University of Rennes (France)*, March 1987

Visiting Professor, *Department of Mathematics, University of Orléans (France)*, June 1987

Invited Visitor, *Department of Electrical Engineering, Technion Israel Institute of Technology (Haifa, Israel)*, May 1987, May-June 1988

Visiting Professor, *Department of Mathematics, University of Clermont-Ferrand (France)*, Feb. 1988, April 1989

Invited Visitor, *Dipartimento di Matematica, Università degli studi di Roma (Roma, Italia)*, June 20-24 1988

Invited Visitor, *BIBOS, University of Bielefeld (Germany)*, Oct. 31 to Nov. 4 1988

Invited Visitor, *ENST (Paris, France)*, March 1989

Visiting Professor, *Department of Mathematics, Ecole Polytechnique Fédérale de Lausanne (Switzerland)*, Oct.-Dec. 1989

Invited Visitor, *Department of Mathematics, CINVESTAV (Mexico)*, April-May 1990

Visiting Professor, *Laboratoire de Probabilités, University of Paris VI (Paris, France)*, Oct. 1990 to March 1991, Feb. 1993, Feb.-July 1994

Invited Visitor, *Instituto de Matemáticas, Universidad de la República (Montevideo, Uruguay)*, Aug. 1994

Invited Visitor, *Department of Mathematics, University of Southern California (Los Angeles, USA)*, Aug. 1995

Invited Visitor, *Instituto de Matemáticas, UNAM (México)*, Feb. 1996

Invited Visitor, *MSRI, (Berkeley, USA)*, Oct.-Nov. 1997

Invited Visitor, *Institut für Mathematik, Bochum University (Bochum, Germany)*, Dec. 1997
Visiting Professor, *Department of Mathematics, Kansas University (Lawrence, USA)*, August-December 2003
Invited Visitor,, *Institute of Mathematics, Helsinki University of Technology (Helsinki, Finland)*, 7-27 May 2005
Visiting Professor, *Department of Mathematics, University of Lorraine, Nancy, France*, 1-31 May 2012
Visiting Professor, *CIB, École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland*, 2-16 June 2012

INTERNATIONAL COMMITTEES

Member of the *Panel Mathematics and Information Sciences of the European Community*, 1992-94
Member of the *European Regional Committee of the Bernoulli Society*, 1992-94
Member of the *Council of the Bernoulli Society*, 1994-96
Member of the *Scientific Committee of the CRM* 2001-2005
Member of the *Scientific Committee of the RSME* 1999-2005
Member of the *Scientific Committee of the Probability Summer School at Saint Flour, France*, 2001-2011
Member of the *Committee on Fellows of the IMS*, 2010-2013

ORGANIZATIONAL ACTIVITY

Co-organizer of the Séminaire de Probabilités XXIII, Barcelona, Spain, Sept. 26-30, 1988
Co-organizer of the Barcelona Seminar of Stochastic Analysis, Sant Feliu de Guíxols, Spain, Sept. 23-27, 1991
Co-organizer of the Semester on Stochastic Analysis, CRM, Barcelona, Spain, Sept. 1991 to Feb. 1992
Chairman of a Round table on Anticipating stochastic differential equations at the Third European Symposium: Analysis and Probability, Paris, France, Jan. 6-10, 1992
Chairman of the Session on Stochastic Analysis in the 2nd International Symposium: Probability and Applications, Bloomington, Indiana, USA, March 18-21, 1993
Member of the Scientific Committee of Stochastic Partial Differential Equations and Random Media, Luminy, Marseille, France, May 30 to June 3, 1994
Organizer of the Barcelona meeting on Stochastic Analysis and its Applications, Barcelona, Spain, June 30 to July 4, 1997
Chairman of the Session on Recent Advances in Probability and Stochastic Analysis in the 51st Session of the International Statistical Institute, Istanbul, Turkey, August 18-27, 1997
Co-organizer of the Session on Malliavin Calculus in the annual program in Stochastic Analysis, MSRI, Berkeley, USA, Oct.-Nov.1997
Co-organizer of Infinite dimensional stochastic analysis. MSRI, Berkeley, USA, Nov. 3-7, 1997
Organizer of the Workshop on Fractional Brownian motion, IMUB, Barcelona, Spain, Feb. 15-16, 2001
Organizer of the Summer School of Stochastic and Finance, IMUB, Barcelona, Spain, Sept. 1-7, 2001

Co-organizer of the EuroConference on Stochastic Inequalities and their Applications, CRM, Barcelona, Spain, June 17-21, 2002

Chairman of the Organizing Committee of the 6th World Congress of the Bernoulli Society and 67th Annual Meeting of the Institute of Mathematical Statistics, IMUB, Barcelona, Spain, July 26-31, 2004

Chairman of the Panel Probability and Mathematical Statistics of the International Congress of Mathematics, Madrid, 2006

Local Organizer of the Seminar on Stochastic Processes 2012, Department of Mathematics, University of Kansas, March 22-24, 2012

Organizer of a special session on "Stochastic Analysis" at the 2012 AMS Central Section Meeting, Department of Mathematics, University of Kansas, March 30 to April 1-24, 2012

EDITORIAL WORK

Associate Editor, *SIAM Journal on Mathematical Analysis*, 2009-2014

Associate Editor, *Stochastic Partial Differential Equations*, 2012-present

Associate Editor, *Bulletin des Sciences Mathématiques*, 2002-present

Associate Editor, *Journal of Stochastic Analysis and its Applications*, 1990-present

Associate Editor, *Publicacions Matemàtiques*, 1988-present

Associate Editor, *ALEA*, 2005-present

Associate Editor, *TEST*, 1992-2012

Associate Editor, *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales*, 2009-present

Associate Editor, *Stochastic Processes and Their Applications*, 2009-2012

Associate Editor, *Electronic Journal of Probability*, 1995-2005 and 2009-2011

Associate Editor, *Electronic Communications in Probability*, 1995-2005 and 2009-2011

Associate Editor, *Bernoulli*, 1995-2009

Associate Editor, *Colectanea Mathematica*, 2000-2007

Associate Editor, *Revista Matemática Iberoamericana*, 2000-2006

Associate Editor, *Annals of Probability*, 1991-93

Associate Editor, *Probability Theory and Related Fields*, 1990-2000

Associate Editor, *Potential Analysis*, 1992-2006

Associate Editor, *Qüestió*, 1990-2006

Associate Editor, *Stochastica*, 1975-92

Associate Editor, *Annals de la Faculté de Sciences de Toulouse*, 1992-95

Chief Editor, *Electronic Communications in Probability*, 2006-2008

GRANTS

- DGICYT (Dirección General de Investigación Científica y Técnica) Project Number PB86-0238 (3,030,000 PTA), 1987-89. Title: *Applications of Malliavin calculus to some problems in stochastic analysis* (Principal Investigator)
- DGICYT Project Number PB90-0452 (6,471,000 PTA), 1990-92. Title: *Anticipating stochastic calculus* (Principal Investigator)

- NATO Collaborative Research Grant Programme, Project Number 910268 (887,250 PTA), 1991-92. Title: *Random fields and bilinear stochastic partial differential equations* (Principal Investigator of the Spanish team)
- DGICYT Project Number PB93-0052 (6,800,000 PTA), 1995-97, Title: *Stochastic partial differential equations* (Principal Investigator)
- EEC Science Programm. Project Number CT91-627 (2,862,000 PTA), 1992-94. Title: *Champs aléatoires et équations aux dérivées partielles stochastiques* (Principal Investigator of the Spanish team)
- EEC Science Programm. Project Number CT91-0459 (2,862,536 PTA), 1993-96. Title: *Stochastic Analysis* (Principal Investigator of the Spanish team)
- EEC. TMR Program. Project Number ERBF MRX CT 960075 A (123,875 ECUS), 1997-2000. Title: *Stochastic Analysis and its Applications* (Principal Investigator of the Spanish team)
- DGICYT Project Number PB96-0087 (4,500,000 PTA), 1998-2000. Title: *Stochastic Evolution Equations* (Principal Investigator)
- MCyT (Ministerio de Ciencia y Tecnología) Project Number BFM2000-0598 (5,896,800 PTA), 2001-03. Title: *Stochastic modelling with fractal noises and Lévy processes* (Principal Investigator)
- MCyT (Ministerio de Ciencia y Tecnología) Project Number BFM2003-04294 (42,800 eur), 2004-06. Title: *Stochastic Analysis of Gaussian and Lévy processes* (Principal Investigator)
- INTAS Project Number 1999-00016 (90,000 ECUS), 2000-01. Title: *Stochastic calculus, statistics and limit theorems for stochastic processes and fields of semi- and nonsemimartingale type; asymptotics of random evolutions and of solutions of stochastic equations, applications to mathematical finance* (Principal Investigator of the Spanish team)
- CIRIT (Generalitat de Catalunya) Project 1995SGR 00143 (1,500,000 PTA) (Principal Investigator)
- CIRIT (Generalitat de Catalunya) Project 1997SGR 970207 (1,150,000 PTA) (Principal Investigator)
- CIRIT (Generalitat de Catalunya) Project 1999SGR 990060 (1,300,000 PTA) (Principal Investigator)
- CIRIT (Generalitat de Catalunya) Project SGR2001-00068 (45,075.91 Euros) (Principal Investigator)
- NSF grant DMS-0604207. June 2006 to May 2009. (\$ 170,000). Title: *Stochastic Calculus of Variations and Stochastic Analysis with Fractal Noises* (Principal Investigator)
- NSF grant DMS-0904538. June 2009 to May 2012. (\$ 347,552). Title: *Stochastic Analysis of Gaussian Fractional Noises* (Principal Investigator)
- NSF grant DMS-1140866. August 2011 to August 2012. \$ 34,600). Title: *Seminar on Stochastic Processes 2012* (Principal Investigator)

- NSF grant DMS-1208625. August 2012 to July 2015. (\$ 315,000). Title: *Stochastic Analysis of Gaussian Fractional Noises* (Principal Investigator)
- ARO grant FED0070445. August 2013 to July 2016. (\$ 308,753). Title: *Stochastic Evolution Equations* (Principal Investigator)
- NSF grant DMS-1512891. August 2015 to July 2018. (\$ 332,275). Title: *Stochastic Partial Differential Equations, Fractional Noises and Limit theorems* (Principal Investigator)

PUBLICATIONS (articles in referred journals)

1. J. Aguilar, D. Nualart: Estimation optimale en puissances de degré N . *C. R. Acad. Sci. Paris* **284** (1977) 81–83.
2. D. Nualart: Weak convergence to the law of two-parameter continuous processes. *Z. Wahrsch. verw. Gebiete* **55** (1981) 255–259.
3. D. Nualart, M. Sanz: Changing time for two-parameter strong martingales. *Ann. Inst. H. Poincaré* **XVII**, **2** (1981) 147–163.
4. D. Nualart: Martingales à variation indépendante du chemin. *Lecture Notes in Math.* **863** (1981) 128–148.
5. D. Nualart, M. Sanz: The conditional independence property in filtrations associated to stopping lines. *Lecture Notes in Math.* **863** (1981) 202–210.
6. D. Nualart, M. Sanz: A singular stochastic integral equation. *Proc. Amer. Math. Soc.* **86** (1982) 139–142.
7. D. Nualart: Two-parameter diffusion processes and martingales. *Stochastic Process. Appl.* **15** (1983) 31–57.
8. D. Nualart: Différents types de martingales à deux indices. *Lecture Notes in Math.* **986** (1983) 398–417.
9. D. Nualart: On the distribution of a double stochastic integral. *Z. Wahrsch. verw. Gebiete* **65** (1983) 49–60.
10. D. Nualart: On the quadratic variation of two-parameter continuous martingales. *Ann. Probab.* **12** (1984) 445–457.
11. D. Nualart: Une formule d’Itô pour les martingales continues à deux indices et quelques applications. *Ann. Inst. H. Poincaré* **20** (1984) 251–275.
12. D. Nualart: Variations quadratiques et inégalités pour les martingales à deux indices. *Stochastics* **15** (1985) 51–63.
13. D. Nualart, M. Sanz: Malliavin calculus for two-parameter Wiener functionals. *Z. Wahrsch. verw. Gebiete* **70** (1985) 573–590.
14. E. Merzbach, D. Nualart: Different kinds of two-parameter martingales. *Israel J. Math.* **52** (1985) 193–208.
15. E. Merzbach, D. Nualart: A characterization of the spatial Poisson process and changing time. *Ann. Probab.* **14** (1986) 1380–1390.

16. D. Nualart: Application du calcul de Malliavin aux équations différentielles stochastiques sur le plan. *Lecture Notes in Math.* **1204** (1986) 379–395.
17. D. Nualart: Malliavin calculus and stochastic integrals. *Lecture Notes in Math.* **1221** (1986) 182–194.
18. D. Nualart, M. Zakai: Generalized stochastic integrals and the Malliavin calculus. *Probab. Theory Related Fields* **73** (1986) 255–280.
19. D. Nualart, E. Pardoux: Stochastic calculus associated with Skokrohod’s integral. *Lecture Notes in Control and Inf. Sciences* **96** (1987) 363–372.
20. D. Nualart, F. Utzet: A property of two-parameter martingales with path-independent variation. *Stochastic Process. Appl.* **24** (1987) 31–49.
21. D. Nualart: Some remarks on a linear stochastic differential equation. *Statist. Probab. Lett.* **5** (1987) 231–234.
22. E. Merzbach, D. Nualart: A martingale approach to point processes in the plane. *Ann. Probab.* **16** (1988) 265–274.
23. D. Nualart, M. Zakai: Generalized multiple stochastic integrals and the representation of Wiener functionals. *Stochastics* **23** (1988) 311–330.
24. D. Nualart, E. Pardoux: Stochastic calculus with anticipating integrands. *Probab. Theory Related Fields* **78** (1988) 535–581.
25. D. Nualart: Noncausal stochastic integrals and calculus. *Lecture Notes in Math.* **1316** (1988) 80–129.
26. D. Nualart, J. Vives: Continuité absolue de la loi du maximum d’un processus continu. *C. R. Acad. Sci. Paris* **307** (1988) 349–354.
27. R. Carmona, D. Nualart: Random nonlinear wave equations: propagation of singularities. *Ann. Probab.* **16** (1988) 730–751.
28. R. Carmona, D. Nualart: Random nonlinear wave equations: smoothness of the solution. *Probab. Theory Related Fields* **79** (1988) 469–580.
29. D. Nualart, A. S. Üstünel, M. Zakai: On the moments of a multiple Wiener-Itô integral and the space induced by the polynomials of the integral. *Stochastics* **25** (1988) 233–240.
30. O. Julià, D. Nualart: The distribution of a double stochastic integral with respect to two independent Brownian sheets. *Stochastics* **25** (1988) 171–182.
31. D. Nualart, J. Yeh: Existence of a strong solution to stochastic differential equations in the plane with stochastic boundary processes. *J. Multivariate Anal.* **28** (1989) 149–171.
32. A. Millet, D. Nualart, M. Sanz: Integration by parts and time reversal for diffusion processes. *Ann. Probab.* **17** (1989) 208–238.
33. D. Nualart, M. Zakai: Generalized Brownian functionals and the solution to a stochastic partial differential equation. *J. Funct. Anal.* **84** (1989) 279–296.

34. D. Nualart, M. Sanz: Stochastic differential equations on the plane: Smoothness of the solution. *J. Multivariate Anal.* **31** (1989) 1–29.
35. D. Nualart, J. Yeh: Dependence of the boundary condition for linear stochastic differential equations on the plane. *Stochastic Process. Appl.* **33** (1989) 45–61.
36. A. Millet, D. Nualart, M. Sanz: Time-reversal for infinite dimensional diffusion. *Probab, Theory Related Fields* **82** (1989) 315–347.
37. D. Nualart, M. Zakai: The partial Malliavin calculus. *Lecture Notes in Math.* **1372** (1989) 362–381.
38. D. Nualart: Une remarque sur le développement en chaos d’une diffusion. *Lecture Notes in Math.* **1372** (1989) 165–168.
39. Nguyen Minh Duc, D. Nualart, M. Sanz: Planar semimartingales obtained by transformations of two-parameter martingales. *Lecture Notes in Math.* **1372** (1989) 566–582.
40. D. Lépingle, D. Nualart, M. Sanz: Dérivation stochastique de diffusions réfléchies. *Ann. Inst. H. Poincaré* **25** (1989) 283–305.
41. D. Nualart, M. Zakai: A summary of some identities of the Malliavin calculus. *Lecture Notes in Math.* **1390** (1989) 192–196.
42. D. Nualart, A. S. Üstünel: Mesures cylindriques et distributions sur l’espace de Wiener. *Lecture Notes in Math.* **1390** (1989) 186–191.
43. E. Merzbach, D. Nualart: Generalized holomorphic processes and differentiability. *J. Theoret. Probab.* **2** (1989) 419–432.
44. D. Nualart et A. S. Üstünel: Une extension du Laplacien sur l’espace de Wiener et la formula d’Itô associée. *C. R. Acad. Sci. Paris* **309** (1989) 383–386.
45. D. Nualart, M. Zakai: On the relation between the Stratonovich and Ogawa integrals. *Ann. Probab.* **17** (1989) 1536–1540.
46. E. Merzbach, D. Nualart: Markov properties for point processes on the plane. *Ann. Probab.* **18** (1990) 342–358.
47. Nguyen Minh Duc, D. Nualart: Stochastic processes possessing a Skorohod integral representation. *Stochastics* **30** (1990) 47–60.
48. Nguyen Minh Duc, D. Nualart, M. Sanz: Application of Malliavin calculus to a class of stochastic differential equations. *Probab. Theory Related Fields* **84** (1990) 549–571.
49. D. Nualart, A. S. Üstünel, M. Zakai: Some relations among classes of σ -fields on Wiener space. *Probab. Theory Related Fields* **85** (1990) 119–129.
50. D. Nualart, M. Zakai: Multiple Wiener-Itô integrals possessing a continuous extension. *Probab. Theory Related Fields* **85** (1990) 129–135.
51. P. Bernard, D. Nualart: Régularité C^∞ des noyaux de Wiener d’une diffusion. *Ann. Inst. H. Poincaré* **26** (1990) 287–297.

52. D. Nualart, J. Vives: Anticipative calculus for the Poisson process based on the Fock space. *Lecture Notes in Math.* **1426** (1990) 154–165.
53. D. Nualart, M. Sanz, M. Zakai: On the relation between increasing functions associated with two-parameter continuous martingales. *Stochastic Process. Appl.* **34** (1990) 99–119.
54. Nguyen Minh Duc, D. Nualart, M. Sanz: The Doob–Meyer decomposition for anticipating processes. *Stochastics Stochastic Rep.* **34** (1991) 221–239.
55. D. Nualart, E. Pardoux: Boundary Value Problems for Stochastic Differential Equations. *Ann. Probab.* **19** (1991) 1118–1144.
56. D. Nualart, E. Pardoux: Second order stochastic differential equations with Dirichlet boundary conditions. *Stochastic Process. Appl.* **39** (1991) 1–24.
57. D. Nualart, A.S. Üstünel: Geometric analysis of conditional independence on Wiener space. *Probab. Theory Related Fields* **89** (1991) 407–422.
58. D. Nualart, M. Wschebor: Intégration par parties dans l’espace de Wiener et approximation du temps local. *Probab. Theory Related Fields* **90** (1991) 83–109.
59. D. Nualart: Randomized stopping points and optimal stopping on the plane. *Ann. Probab.* **20** (1992) 883–900.
60. A. Millet, D. Nualart: Support theorems for a class of anticipating stochastic differential equations. *Stochastics Stochastics Rep.* **39** (1992) 1–24.
61. D. Nualart, E. Pardoux: White noise driven quasilinear SPDEs with reflection. *Probab. Theory Related Fields* **93** (1992) 77–89.
62. R. Carmona, D. Nualart: Traces of random variables on Wiener space and the Onsager–Machlup functional. *J. Funct. Anal.* **107** (1992) 402–438.
63. D. Nualart, J. Vives: Smoothness of Brownian local times and related functionals. *Potential Anal.* **1** (1992) 257–263.
64. A. Millet, D. Nualart, M. Sanz: Large deviations for a class of anticipating stochastic differential equations. *Ann. Probab.* **20** (1992) 1902–1931.
65. M. Chaleyat Maurel, D. Nualart: The Onsager–Machlup functional for a class of anticipating processes. *Probab. Theory Related Fields* **94** (1992) 247–270.
66. E. Mayer Wolf, D. Nualart, V. Pérez–Abreu: Large deviations for multiple Wiener–Itô integral processes. *Lecture Notes in Math.* **1526** (1992) 11–31.
67. G. da Prato, P. Malliavin, D. Nualart: Compact families of Wiener functionals. *C. R. Acad. Sci. Paris* **315** (1992) 1287–1291.
68. D. Nualart, J. Vives: Chaos expansions and local times. *Publ. Mat.* **36** (1992) 827–836
69. P. Malliavin, D. Nualart: Quasi sure analysis of stochastic flows and Banach space valued smooth functionals on the Wiener space. *J. Funct. Anal.* **112** (1993) 287–317.
70. P. Malliavin, D. Nualart: Quasi sure analysis and Stratonovich anticipative stochastic differential equations. *Probab. Theory Related Fields* **96** (1993) 45–55.

71. D. Nualart: Anticipating stochastic differential equations. Round table. *Bull. Sci. Math.* **117** (1993) 49–62.
72. P. Imkeller, D. Nualart: Continuity of the occupation density for anticipating stochastic integral processes. *Potential Anal.* **2** (1993) 137–155.
73. M. Farré, D. Nualart: Nonlinear stochastic integral equations in the plane. *Stochastic Process. Appl.* **46** (1993) 219–240.
74. R. Buckdahn, D. Nualart: Skorohod stochastic differential equations with boundary conditions. *Stochastics Stochastics Rep.* **45** (1993) 211–235.
75. A. Grorud, D. Nualart, M. Sanz: Hilbert-valued anticipating stochastic differential equations. *Ann. Inst. H. Poincaré* **30** (1994) 133–161.
76. D. Nualart, E. Pardoux: Markov field properties of solutions of white noise driven quasi-linear parabolic pdes. *Stochastics Stochastics Rep.* **48** (1994) 17–44.
77. D. Nualart, M. Thieullen: Skorohod stochastic differential equations on random intervals. *Stochastics Stochastics Rep.* **49** (1994) 149–167.
78. P. Imkeller, D. Nualart: Integration by parts on the Wiener space and the existence of occupation densities. *Ann. Probab.* **22** (1994) 469–493.
79. L. Gorostiza, D. Nualart: Nuclear Gelfand triples on Wiener space and applications to trajectorial fluctuations of particle systems. *J. Funct. Anal.* **125** (1994) 37–66.
80. M. Ferrante, D. Nualart: On the Markov property of a stochastic difference equation. *Stochastic Process. Appl.* **52** (1994) 239–250.
81. R. Buckdahn, D. Nualart: Linear stochastic differential equations and Wick products. *Probab. Theory Related Fields* **99** (1994) 501–526.
82. C. Donati-Martin, D. Nualart: Markov property for elliptic stochastic partial differential equations. *Stochastics Stochastics Rep.* **46** (1994) 107–115.
83. I. Gyöngy, D. Nualart: Implicit scheme for quasi-linear parabolic partial differential equations perturbed by space-time white noise. *Stochastic Process. Appl.* **58** (1995) 57–72.
84. C. Florit, D. Nualart: A local criterion for smoothness of densities and application to the supremum of the Brownian sheet. *Statist. Probab. Lett.* **22** (1995) 25–31.
85. A. Alabert, M. Ferrante, D. Nualart: Markov property of stochastic differential equations. *Ann. Probab.* **23** (1995) 1262–1288.
86. M. E. Caballero, B. Fernández, D. Nualart: Smoothness of distributions for solutions of anticipating stochastic differential equations. *Stochastics Stochastics Rep.* **52** (1995) 303–322.
87. I. Gyöngy, D. Nualart, M. Sanz-Solé: Approximation and support theorem in modulus spaces. *Probab. Theory Related Fields* **101** (1995) 495–509.
88. D. Nualart, S. Tindel: Quasilinear stochastic elliptic equations with reflection. *Stochastic Process. Appl.* **57** (1995) 73–82.

89. M. Chaleyat-Maurel, D. Nualart: Onsager-Machlup functionals for solutions of stochastic boundary value problems. *Lecture Notes in Math.* **1613** (1995) 44–55.
90. M. Ferrante, D. Nualart: Markov field property for stochastic differential equations with boundary conditions. *Stochastics Stochastics Rep.* **55** (1995) 55–69.
91. D. Nualart, P. Protter: Skorohod integral of a product of two stochastic processes. *J. Theoret. Probab.* **4** (1996) 1029–1037.
92. C. Florit, D. Nualart: Diffusion approximation for hyperbolic stochastic differential equations. *Stochastic Process. Appl.* **65** (1996) 1–15.
93. T. Bojdecki, L. Gorostiza, D. Nualart: Time-localization of random distributions on Wiener space. *Potential Anal.* **6** (1997) 183–205.
94. A. Kohatsu-Higa, J. León, D. Nualart: Stochastic differential equations with random coefficients. *Bernoulli* **3** (1997) 233–245.
95. A. Alabert, D. Nualart: A second order Stratonovich differential equation with boundary conditions. *Stochastic Process. Appl.* **6** (1997) 21–47.
96. D. Nualart, S. Tindel: Quasilinear stochastic hyperbolic differential equations with nondecreasing coefficient. *Potential Anal.* **7** (1997) 661–680.
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18. D. Nualart: Aplicació del càlcul de Malliavin a certs funcionals del brownià amb dos paràmetres. Llibre homenatge a Sales (Pub. Univ. Barc.) (1985) 105–117.
19. D. Nualart: Les martingales i les seves aplicacions des d’una perspectiva històrica. *Butlletí Soc. Cat. Mat.* **4** (1989) 33–46.

20. A. Millet, D. Nualart, M. Sanz: Composition of large deviation principles and applications. *Stochastic Analysis: Liber Amicorum for Moshe Zakai* 383–396, Academic Press 1991.
21. D. Nualart: Nonlinear transformations of the Wiener measure and applications. *Stochastic Analysis: Liber Amicorum for Moshe Zakai*, 397–432, Academic Press 1991.
22. A. Millet, D. Nualart, M. Sanz: Small perturbations for quasilinear anticipating stochastic differential equations. *International Series of Numerical Mathematics* **402** (1991) 149–157, Birkhäuser.
23. A. Alabert, D. Nualart: Some remarks on the conditional independence and the Markov property. In: *Stochastic Analysis and Related Topics, Progress in Probability* 31, Birkhäuser (1992) 343–364.
24. D. Nualart: Caracterización geométrica de la independencia en un espacio gaussiano. *Rev. R. Acad. Cienc. Exactas Fis. Nat.* **86** (1992) 237–250.
25. D. Nualart, E. Pardoux: Stochastic differential equations with boundary conditions. In: *Stochastic Analysis and Applications, Progress in Probability* 26, Birkhäuser (1992) 155–175.
26. N. Frangos, D. Nualart, M. Sanz: On the Itô formula for two-parameter martingales. In: *Stochastic Partial Differential Equations and Their Applications, Lecture Notes in Control and Inf. Sciences* **176** (1992) 92–100.
27. D. Nualart, M. Zakai: Positive and strongly positive Wiener functionals. In: *Barcelona Seminar on Stochastic Analysis, Progress in Probability*, 32, Birkhäuser (1993) 132–146.
28. D. Nualart, J. Vives: Smoothness of local time and related Wiener functionals. *Probability and Stochastic Series, Chaos Expansions, Multiple Wiener-Itô Integrals and their Applications*, Ed. by Ch. Houdré and V. Pérez-Abreu, CRC Press, pp. 317–335, 1994.
29. D. Nualart, J. Vives: A duality formula on the Poisson space and some applications. In: *Proceedings of the Ascona conference on Stochastic Analysis. Progress in Probability* 36, 205–213, Birkhäuser, 1995.
30. D. Nualart: Markov properties for solutions of stochastic differential equations. *Proceedings of Symposia in Pure Mathematics* **57** (1995) 456–471.
31. D. Nualart, M. Thieullen: Anticipative stochastic differential equations driven by a multidimensional Brownian motion. *Israel Mathematical Conference Proceedings* 10 (1996) 169–181.
32. M. E. Caballero, B. Fernández, D. Nualart: Composition of skeletons and support theorems, In: *Stochastic Differential and Difference Equations, I. Csiszàr and Gy. Michaletzky (eds.) Progress in Systems and Control Theory*, Birkhäuser (1997), pp. 21–33.
33. E. Alòs, D. Nualart: A maximal inequality for the Skorohod integral, In: *Stochastic Differential and Difference Equations, I. Csiszàr and Gy. Michaletzky (eds.) Progress in Systems and Control Theory*, Birkhäuser, (1997), pp. 241–251.
34. D. Nualart, C. Rovira and S. Tindel: Probabilistic models for vortex filaments based on fractional Brownian motion. *RACSAM Rev. R. Acad. Cienc. Exactas Fis Nat. Ser. A. Mat.* **95** (2001) 213–218.

35. D. Nualart and Y. Ouknine: Stochastic differential equations with additive fractional noise and locally unbounded drift. In: *Stochastic Inequalities. Proceedings.* Eds: E. Giné, C. Houdré and D. Nualart. Birkhäuser, (2003), 353-365.
36. D. Nualart and P. Vuillermot: A stabilization phenomenon for a class of stochastic partial differential equations, in “Stochastic Partial Differential Equations and Applications - VII”, G. Da Prato & L. Tubaro eds., Chapman and Hall/CRC vol. 245, 2005, pp. 215-227.
37. D. Nualart and P. Vuillermot: Variational solutions for a class of fractional stochastic partial differential equations. *Comptes Rendus de l’Académie des Sciences de Paris* **340** (2005) 281–286.
38. D. Nualart: A White noise approach to fractional Brownian motion, in “Stochastic Analysis: Classical and Quantum, Perspectives of White Noise Theory”, T. Hida Ed., World Scientific 2005, 112-126.
39. J. M. Corcuera, D. Nualart and W. Schoutens: Moment derivatives and Lévy-type market completion, in “Exotic Option Pricing and Advanced Lévy Models”, Wim Schoutens, Andreas Kyprianou and Paul Wilmott eds., Wiley 2005.
40. D. Nualart: Fractional Brownian motion: stochastic calculus and applications. Proceedings of the International Congress of Mathematicians, Madrid, Spain, 2006, 1541-1562.
41. L. Decreasefond and D. Nualart: Flow properties of differential equations driven by fractional Brownian motion. In: *Stochastic Differential Equations – Theory and Applications*, 249–262, eds: Peter Baxendale and Sergey Lototsky. Interdiscip. Math.Sci., 2, World Sci. Publ., Hackensack, NJ, 2007.
42. Y. Hu and D. Nualart: Differential equations driven by Hölder continuous functions of order greater than $1/2$. In: *Stochastic Analysis and Applications*, 399–413, Abel Symp., 2, Springer, Berlin, 2007.
43. D. Nualart and S. Ortiz-Latorre: Multidimensional Wick-Itô formula for Gaussian processes. In: *Stochastic Analysis, Stochastic Systems and Applications to Finance.* Ed: A. Tsoi, D. Nualart and G. Yin, World Scientific 2011, 3-26.

PUBLICATIONS (EDITOR)

1. *Stochastic Processes and Related Topics.* Eds: M. Dozzi, H.J. Engelbert, D. Nualart. Akademie-Verlag, Berlin, 1991.
2. *Barcelona Seminar on Stochastic Analysis.* Eds: D. Nualart and M. Sanz. Progress in Probability, Birkhäuser, 1993.
3. *Stochastic Inequalities and Applications.* . Eds: E. Giné, C. Houdré and D. Nualart. Progress in Probability, Birkhäuser, 2003.

INVITED LECTURES

1. *Colloque ENST-CNET sur les processus à deux indices*, Paris, France, June 30 to July 1, 1980. Title: “Martingales à variation indépendante du chemin”

2. *Journées SMF de Probabilités*, Orsay, France, 1982. Title: “Martingales à accroissements orthogonaux”
3. *Une journée d’étude sur les processus à deux indices*, Paris, France, 1982. Title: “Continuité de la variation quadratique d’une martingale continue de carré intégrable”
4. *First Catalan International Symposium on Statistics*, Barcelona, Spain, Sept. 23-24, 1983. Title: “Stochastic analysis of processes with two parameters”
5. *XIV Congreso Nacional de Estadística, I.O. e Informática*, Granada, Spain, April 9-14, 1984. Title: “Fórmulas de diferenciación estocástica para procesos con varios parámetros”
6. *Journées SMF de Probabilités*, Marseille (Luminy), France, Dec. 10-12, 1984. Title: “Calcul de Malliavin pour les processus à deux indices”
7. *Probabilidad y espacios de Banach*, Zaragoza, Spain, 1985. Title: “Malliavin calculus and stochastic integrals”
8. *Séminaire de Probabilités XXII*, Toulouse, France, March 16-20, 1987. Title: “Retournement du temps pour les diffusions”
9. *Journées de Calcul Stochastique*, Angers, France, June 9-10, 1987. Title: “Calcul de Malliavin partiel”
10. *Stochastic Partial Differential Equations and Applications II*, Trento, Italy, Feb. 1-6, 1988. Title: “Generalized Brownian functionals and stochastic partial differential equations”
11. *The 17th Conference on Stochastic Processes and Their Applications*, Roma, Italy, June 27 to July 1, 1988. Title: “Anticipative stochastic calculus”
12. *Second Silivri Workshop on Stochastic Analysis*, Silivri, Turkey, July 18-29, 1988. Title: “Continuity of multiple stochastic integrals”
13. *VII Winter School on Statistics and Probability*, Santiago de Chile, Sept. 12-16, 1988. Titles: “Cálculo estocástico anticipativo”, “Estudio de algunas ecuaciones diferenciales estocásticas anticipativas”
14. *Séminaire de Probabilités XXIII*, Barcelona, Spain, Sept. 26-30, 1988. Title: “Sur une équation différentielle stochastique avec conditions au bord”
15. *Stochastische Analysis*, Oberwolfach, Germany, Oct. 23-29, 1988. Title: “Characterization of the conditional independence on the Wiener space”
16. *Workshop on Stochastic Analysis and Applications*, Lisboa, Portugal, Sept. 4-8, 1989. Title: “Stochastic differential equations with boundary conditions”
17. *Journées de Probabilités*, Luminy, France, Sept. 11-26, 1989. Title: “Calcul stochastique anticipatif”
18. *Random Partial Differential Equations*, Oberwolfach, Germany, Nov. 19-25, 1989. Title: “Stochastic parabolic equations with reflection”
19. *Stochastic Partial Differential Equations and Applications III*, Trento, Italia, Jan. 7-12, 1990. Title: “Stochastic partial differential equations with reflection”

20. *Seminar on Stochastic Processes*, Vancouver, Canada, May 10-12, 1990. Title: “Stochastic differential equations with boundary condition”
21. *Semester on Probability Theory: Stochastic Analysis*, Warsaw, Poland, June 15-30, 1990. Titles: “Approximation of local time of continuous martingales”, “Anticipating stochastic calculus”
22. *Workshop on Stochastic Analysis*, Silivri, Turkey, July 24 to Aug. 4, 1990. Title: “Large deviations for multiple stochastic integrals”
23. *Conference on Stochastic Partial Differential Equations*. Charlotte, USA, May 3-8, 1991. Title: “Markov properties for parabolic stochastic partial differential equations”
24. *Conference in Honor of Moshe Zakai*, Haifa, Israel, June 2-3, 1991. Title: “Nonlinear transformations of the Wiener measure and applications”
25. *19th European Meeting of Statisticians*, Barcelona, Spain, Sept. 2-7, 1991. Title: “Anticipating stochastic calculus and its applications”
26. *Third European Symposium: Analysis and Probability*, Paris, France, Jan. 6-10, 1992. Title: “Markov properties for SPDEs”
27. *Workshop on Stochastic Analysis and Geometry*, Bonn, Germany, April 6-10, 1992. Title: “Traces on the Wiener space and applications”
28. *SPDE Conference*, Marseille, France, April 13-17, 1992. Title: “Linear anticipating stochastic differential equations”
29. *Joint Statistical Meeting ASA, BS, IMS*, Boston, USA, August 9-13, 1992. Title: “Markov properties for stochastic (partial) differential equations”
30. *Primer Congreso Iberoamericano de Estadística e I.O.*, Cáceres, Spain, Sept. 29 to Oct. 2, 1992. Title: “Propiedad de Markov para ecuaciones diferenciales estocásticas con condiciones frontera”
31. *Seminar on Stochastic Analysis, Random Fields and Applications*, Monte Verità, Ascona, Switzerland, June 7-12, 1993. Title: “Parabolic differential equations with random boundary conditions”
32. *AMS Summer Institute on Stochastic Analysis*, Cornell, USA, July 1993. Title: “Markov property for solutions of stochastic differential equations”
33. *Fourth European Symposium on Stochastic Analysis*, Lisboa, Portugal, Aug. 30 to Sept. 4, 1993. Title: “Local time and Skorohod integral”
34. *Brownian sheet symposium*, Bar-Ilan University, Israel, Sept. 6-8, 1993. Title: “Local criterion for smoothness of probability laws and applications”
35. *Journées de Probabilités*, Toulouse, France, Sept. 13-18, 1993. Title: “Propriété de Markov pour les équations aux dérivées partielles stochastiques”
36. *Fourth Eugene Lukacs Symposium*, Bowling Green, USA, March 24-26, 1994. Title: “Elliptic stochastic partial differential equations”

37. *Workshop on Stochastic Analysis* Metz, France, April 6-8, 1994. Title: “Onsager-Machlup functional for SDE with boundary conditions”
38. *Fifth Workshop on Stochastic Analysis*. Silivri, Turkey, July 18-29, 1994. Title: “Markov property for random fields”
39. *Symposium on Stochastic Analysis*. Bonn, Germany, Oct. 4-8, 1994. Title: “Factorization of densities and conditional independence”
40. *Workshop on Stochastic Evolution Equations and Dynamical Systems*, Warwick, England, March 27-31, 1995. Title: “Implicit approximation for SPDEs”
41. *Calcul stochastique en dimension infinie*. Clermont-Ferrand, France, Sept. 12-15, 1995. Title: “Calcul stochastique des variations et support de la loi d’une fonctionnelle de Wiener”
42. *Probability Towards 2000*, New York, USA, Oct. 2-6, 1995. Title: “Anticipating stochastic calculus”
43. *London Mathematical Society. Meeting on Stochastic Analysis*, London, UK, Oct. 20-21, 1995. Title: “The Markov property and stochastic boundary value problems”
44. *First Winter Workshop/School on Stochastic Partial Differential Equations*, USC, Los Angeles, USA, Jan. 3-7, 1996. Title: “Linear SPDE’s driven by space-time white noise”
45. *Georgia Institute of Technology*, Atlanta, USA, 1996 (Jan. 8-9). Two invited talks on “An introduction to Malliavin Calculus and some of its applications”
46. *Conference on Stochastic Differential and Differentia Equations*, Györ, Hungary, Aug. 21-24, 1996. Title: “Anticipating stochastic differential equations”
47. *4th World Congress of the Bernoulli Society*, Wien, Austria, Aug. 26-31, 1996. Title: “Markov random fields and stochastic boundary value problems”
48. *Second Seminar on Stochastic Analysis, Random Fields and Applications*, Monte Verità, Ascona, Switzerland, Sept. 16-21, 1996. Title: “Stochastic evolution equations with random generators”
49. *18th Midwest Probability Colloquium*, Northwestern University, Evanston, USA, Oct. 18-19, 1996. Two invited talks on “Application of Malliavin calculus to the regularity and support of probability laws”
50. *Stochastic Analysis*, Oberwolfach, Germany, Oct. 27 to Nov. 2, 1996. Title: “Random evolution equations and anticipating stochastic integrals”
51. *Rencontre Barcelona-Marseille-Toulouse*, Amiane, France, Nov. 8-10, 1996. Title: “Calcul stochastique anticipatif et application aux edps”
52. *International Conference on Random Dynamical Systems*, Bremen, Germany, April 28 to May 2), 1997. Title: “Stochastic evolution equations”
53. *Second conference on Stochastic Analysis and Probabilities*, Marrakech, Marrocco, (April 28 to May 2, 1998. Title: “Evolution equation of a stochastic semigroup with white-noise drift”
54. *Primera Trobada Matemàtica*, Barcelona, Spain, March 27, 1998. Title: “Equació de Burgers perturbada per un soroll aleatori”

55. *Stochastic Analysis and its Applications*, Paris, France, May 25-30, 1998. Title: “Random evolution equations with stochastic semigroups”
56. *Stochastic processes and related problems*, Kyushu, Japan, Sept. 11-12, 1998. Title: “Quadratic covariation and Itô’s formula for smooth non-degenerate martingales”
57. *Mid Term Meeting of the TRM Contract on Stochastic Analysis*, Imperial College, London, UK, May 21-22, 1999. Title: “Stochastic Burgers equation”
58. *Stochastic analysis and mathematical physics*, Lisboa, Portugal, May 24-29, 1999. Title: “Stochastic Burgers equation”
59. *Equations différentielles stochastiques rétrogrades et applications*. Université du Maine, le Mans, France, June 3-4, 1999. Title: “Backward stochastic differential equations in the plane”
60. *The London Mathematical Society, EPSRC, and TMR meeting on Stochastic Analysis*. Durham, UK, (June 30 to July 7, 1999. Title: “Stochastic calculus with respect to the fractional Brownian motion”
61. *International Conference on Mathematical Analysis and its Applications*, Taiwan, Jan. 17-21, 2000. Title: “Stochastic calculus with respect to fractional Brownian motion”
62. *Lectures on probabilistic topics in 3D fluids*, Barcelona, Spain, July 3-7, 2000. Title: “Introduction to stochastic calculus for the fractional Brownian motion”
63. *Workshop on Fractional Brownian Motion*, Barcelona, Spain, 15-16 Feb., 2001. Title: “Vorticity models based on fractional Brownian motion”
64. *Backward and ordinary stochastic differential equations*, Rennes, France, April 23-24, 2001. Title: “Stochastic differential equations driven by fractional Brownian motion”
65. *Application of Lévy Processes in Financial Mathematics*, Eurandom, Eindhoven, Holland, June 22-23, 2001. Title: “Backward stochastic differential equations driven by Lévy processes”
66. *The Midnight Sun Workshop on Stochastic Analysis and Mathematical Finance*, Kautokeino, Norway, June 27 to July 2, 2001. Title: “Stochastic Calculus with respect to the Fractional Brownian Motion and Applications”
67. *Meeting on Stochastic Analysis*, Berlin, Germany, July 2-6, 2001. Title: “Stochastic Calculus with respect to the Fractional Brownian Motion and Applications”
68. *Symposium on Stochastic Partial Differential Equations and Related Topics*, Warwick, UK, July 16-27, 2001. Two invited talks on “Sde’s driven by fractional Brownian motions”, “Probabilistic models for vortex filaments based on fractional Brownian motion”
69. *International Conference on Stochastic Analysis and Applications*, Hammamet, Tunis, Oct. 22-27, 2001. Title: “Stochastic analysis with respect to the fractional Brownian motion and Applications”
70. *Application du Calcul de Malliavin en Finance*, Inria-Rocquencourt, France, Dec. 13-14, 2001. Title: “Application of Malliavin Calculus to the utility maximization of an insider”

71. *Stochastic Partial Differential Equations and Applications VI*, Levico-Terme, Italy, Jan. 6-12, 2002. Title: “Regularization effect of fractional noise on ordinary and partial differential equations”
72. *Lévy Processes - Theory and Applications*, Aarhus, Denmark, Jan. 21-25, 2002. Title: “Predictable representation for Lévy processes and applications”
73. *II Jornades de la Xarxa Temàtica "Dinàmiques no lineals d'autoorganització espaciotemporal"*, Barcelona, Spain, Feb. 6-8, 2002. Title: “Efecto regularizador del ruido en ecuaciones en derivadas parciales”
74. *Fractional Brownian motion*, Warwick, UK, 2-3 May, 2003. Title: “Planar fractional Brownian motion”
75. *Exotic option pricing under advanced Lévy models*, Eurandom, Eindhoven, The Netherlands, 3-4 May, 2004. Title: “Lévy market models: Completion, hedging and portfolio optimization”
76. *International Conference on Stochastic Analysis, Classical and Quantum - Perspectives of White Noise Theory*, Nagoya, Japan, 1-5 Nov. 2004. Title: “Stochastic calculus: Recent developments via fractional calculus”
77. *Primer Congreso Conjunto de Matemáticas RSME-SCM-SEIO-SEMA*, Valencia, Spain, 31 Jan. to 4 Feb. 2005. Title: “Regularización de ecuaciones diferenciales ordinarias y en derivadas parciales mediante un ruido aleatorio”
78. *Fourth Symposium on Lévy Processes: Theory and Applications*, Manchester, UK, 10-14 Jan. 2005. Title: “Hedging and portfolio optimization in Lévy market models”
79. *Workshop on Stochastic Analysis*, Hankasalmi, Finland, 18-21 May 2005. Title: “Central limit theorem via chaos expansions and applications to fractional Brownian motion”
80. *2e Colloque Autosimilarité et Applications*, Toulouse, France, 20-24 June 2005. Title: “Stochastic calculus with respect to fractional Brownian motion”
81. *9th Vilnius Conference on Probability Theory and Mathematical Statistics*, Vilnius, Lithuania, June 25-30 2006. Title: “Stochastic calculus with respect to fractional Brownian motion and applications”
82. *ICM*, Madrid, Spain, August 22-30 2006. Title: “Fractional Brownian motion: Stochastic Calculus and Applications”
83. *1019th AMS Meeting*, Salt Lake City, Utah, October 7-8 2006. Title: “Stochastic heat equation driven by fractional noise”.
84. *Conference on SPDE's*, Cornell University, April 22-25, 2007. Title: “Stochastic heat equation and intersection local times”
85. *Stochastic Analysis and Related Fields*, Toulouse, France, June 20-21, 2007. “Stochastic heat equation and intersection local times”
86. *32nd Conference on Stochastic Processes and Their Applications*, University of Illinois at Urbana-Champaign, August 6-10, 2007. Title: “Central limit theorem for functionals of Gaussian processes and applications”

87. *Kansas-Missouri Winter School of Applied Probability*, Columbia, February 14-15, 2008. Title: “Bifractional Brownian motion”
88. *Stochastic Analysis and Applications from Mathematical Physics to Mathematical Finance*, Princeton University, June 13–15, 2008. Title: “Central limit theorems for functionals of Gaussian processes”.
89. *30th Midwest Probability Colloquium*, Thursday program, October 23, 2008. Two invited talks on “Fractional Brownian motion”.
90. *Differential equations driven by fractional Brownian motion as random dynamical systems: qualitative properties*, BIRS Focused Research Group, Banff, Canada, September 29 to October 4, 2008. Title: “Stochastic Analysis with respect to the fractional Brownian motion”.
91. *1044th AMS Meeting*, University of Alabama in Huntsville, Alabama, October 23–25, 2008. Title: “Self-intersection local time of the fractional Brownian motion”.
92. *Workshop on Infinitely Divisible Processes*, CIMAT Guanajuato, Mexico, March 16–20, 2009. Title: “Central Limit Theorem for multiple Skorohod Integrals”.
93. *International Conference on Non-autonomous and Stochastic Dynamical Systems, and Multidisciplinary Applications*, Sevilla, Spain, June 22–26, 2009. Title: “Stochastic differential equations driven by a fractional Brownian motion with Hurst parameter $H > 1/2$ ”.
94. *2009 Workshop on Stochastic Analysis at Purdue*, Purdue University, September 29- October 1, 2009. Title: “Central limit theorem for the modulus of continuity of the Brownian local time”.
95. *1053rd AMS Meeting, Florida Atlantic University*, Boca Raton, Florida, October 30- November 1, 2009. Title: “Stochastic differential equations driven by a fractional Brownian motion with any Hurst parameter”.
96. *Theory and Qualitative Behavior of Stochastic Dynamics*, SAMSI, February 8–10, 2010. Title: “Feynman-Kac formula for the heat equation driven by fractional noise”.
97. *Classical and Random Dynamics in Mathematical Physics*, University of Texas at Austin, March 31 - April 3, 2010. Title: “SPDEs: Regularity of the probability law of the solution” .
98. *Workshop “Rough Path in Interaction”*, Institute Henri Poincaré, Paris, France, June 11, 2010. Title: “Rough paths above the fractional Brownian Motion using Volterra’s representation”.
99. *Workshop on Stochastic Analysis and Related Fields*, Telecom, Paris, France, June 14–15, 2010. Title: “Clark-Ocone formula and Central Limit Theorems for Brownian Local Time”.
100. *Groupe de Travail Aspects Fractals*, University of Paris 6, Paris, France, June 16, 2010. Title: “Central limit theorem for multiple Skorohod integrals”.
101. *Stochastic Analysis & Stochastic Partial Differential Equations*, BIRS, Banff, Canada, April 1-6, 2012. Title: “Hölder continuity for the solutions to a class of nonlinear SPDEs”.
102. *Long Range Dependence, Self-Similarity and Heavy Tails*, Research Triangle Park, North Carolina, April 19-21, 2012. Title: “Variational properties of fractional martingales and related processes”.

103. *Stan Days*, University of Lorraine, Nancy, France, May 9-11, 2012. Title: “Central limit theorem for additive functionals of the fractional Brownian motion”.
104. *Stochastic Analysis and Applications*, EPFL, Lausanne, Switzerland, June 4-8, 2012. Title: “Feynman-Kac formula for the heat equation driven by fractional noise”.
105. *8th Purdue Symposium on Statistics*, Purdue University, July 21-24, 2012. Title: “Weak symmetric integrals and change-of-variable formulas for Gaussian processes”.
106. *6th European Congress of Mathematics*, Kraków, Poland, July 2–7, 2012. Title: “Stochastic calculus with respect to the fractional Brownian motion”.
107. *36th Conference on Stochastic Processes and their Applications*, July 29 to August 2, 2013, Boulder, Colorado. Organizer of an invited session on “Stochastic Analysis”. Invited talk on “Central limit theorem for functionals of two independent fractional Brownian motions”.
108. *NSF/CBMS Conference: Analysis of Stochastic Partial Differential Equations*, East Lansing, Michigan, August 19–23, 2013. Title: “Hölder continuity of the solution to the 3-dimensional stochastic wave equation”.
109. *Stochastic Analysis and Applications Conference*, Oxford, United Kingdom, September 23–27, 2013. Title: “Convergence of densities for random variables on a finite Wiener chaos”.
110. *Workshop: Statistics, Jump Processes and Malliavin Calculus: Recent Applications*, Barcelona, Spain, June 25-26, 2014. Title: “Convergence of densities for random variables on a finite Wiener chaos”.
111. *10 AIMS Conference on Dynamical Systems*, Madrid, Spain, July 07-11, 2014. Two invited talks on “Numerical approximation schemes for fractional diffusions” and “Stochastic heat equation with multiplicative colored noise”.
112. *37th Conference on Stochastic Processes and Their applications*, Buenos Aires, Argentina, July 28 to August 1, 2014. Medallion lecture on “Malliavin calculus and normal approximation”.
113. *AMS Spring Eastern Sectional Meeting*, Georgetown University, Washington DC, March 7–8, 2015. Title: “Stochastic heat equation with rough multiplicative noise”
114. *AMS Spring Western Sectional Meeting*, University of Nevada, Las Vegas, April 19, 2015. Title: “Quantitative stable limit theorems for multiple Skorohod integrals”
115. *Workshop on Markov Processes and Related Topics*, Shanghai, China, June 27, 2015. Title: “Numerical approximation schemes for fractional diffusions”
116. *IMS China Conference, Yunnan University*, Kunming, China, July 1-4, 2015. Title: “Stochastic heat equation with rough multiplicative noise”
117. *Conference in honor of Professor Vlad Bally: Stochastic Calculus, Monte Carlo Methods and Mathematical Finance*, University of Le Mans, October 6-9, 2015. Title: “Stochastic heat equation with rough multiplicative noise”
118. *Workshop on deterministic and stochastic partial differential equations*, Brown University, November 6-8, 2015. Title: “Parabolic Anderson model driven by colored noise”

119. 2015 *CMS Winter Meeting, Montréal, Canada*, December 4-7, 2015]. Title: “Parabolic Anderson model driven by colored noise”

INVITED COURSES

1. Course on “Noncausal stochastic integrals and calculus” at the *Workshop on Stochastic Analysis*, Silivri, Turkey, July 7-19, 1986
2. Course on “Introducción al cálculo estocástico anticipativo” at the *Congreso Latinoamericano de Probabilidad y Estadística Matemática*, Montevideo, Uruguay, Sept. 19-28, 1988
3. Course on “Cálculo estocástico para procesos no adaptados” at the *VIII Winter School on Statistics and Probability*, Santiago de Chile, July 17-28, 1989
4. Course on “Malliavin Calculus and related topics” at the *8th Winterschool on Stochastic Processes and Optimal Control*, Georgenthal, DDR, Jan. 22-27, 1990
5. Mini-Course on “Stochastic Anticipating Calculus” at the *Workshop on Stochastic Analysis*, Warwick, UK, April 8-12, 1991
6. Course on “Markov fields and transformations of the Wiener measure” at the *Fourth Workshop on Stochastic Analysis*, Oslo, July 6-10, 1992
7. Course on “Markov fields and transformations of the Wiener measure” at the *Semester on Analysis and Probability*, Pisa, Italy, Oct. 1-14, 1992
8. Course on “Analysis on Wiener space and anticipative stochastic calculus” at the *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, July 10-26, 1995
9. Course on “Random Parabolic Equations and Anticipating Stochastic Calculus” at the *Kyushu Probability Summer School on Partial Differential Equations and Probabilities*, Kyushu, Japan Sept. 7-10, 1998
10. Course on “Stochastic calculus with respect to the fractional Brownian motion and applications” at the *Séptimo Simposio de Probabilidad y Procesos Estocásticos*, Mexico June 23-28, 2002
11. Mini-Course on “Stochastic Calculus with respect to fractional Brownian motion” at the *Madeira Math Encounters XXIII*, Madeira, Portugal 5-12 Sept., 2002
12. Mini-Course on “An introduction on rough path analysis and its applications” at the Helsinki University of Technology, 22-24 May 2005
13. Mini-Course on “Fractional Brownian motion: Stochastic Calculus and Applications” at the XIV Escuela Latinoamericana de Matemática, Uruguay, 1-9 December 2005.
14. *International Multidisciplinary Workshop on Stochastic Modeling*, Sevilla, Spain, June 25-29, 2007. Minicourse of five lectures on “Introduction to stochastic differential equations”
15. *NSF-CBMS Reseach Conference* on “Malliavin Calculus and its Applications” at Kent State University, August 7–12, 2008.
16. *RMMC Summer School 2014*. Course on “An Introduction to Malliavin calculus and its applications”, University of Wyoming, May 26 to June 6, 2014.

17. *School of formation and Randomness 2014*. Course on “Malliavin calculus and normal approximations”, Puerto Varas, Chile, December 9–12, 2014.
18. *Jilin University*, Changchun, China, July 2015. Course on “An introduction to Malliavin calculus and its applications”

CONTRIBUTED TALKS

1. *XI R.A.M.E.*, Murcia, Spain, 1971
2. *Jornadas Hispano Matemáticas Hispano–Lusitanas*, Madrid, Spain, 1973
3. *XII R.A.M.E.*, Málaga, Spain, 1976
4. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, Aug. 22 to Sept. 8, 1976
5. *Jornadas Matemáticas Hispano–Lusitanas*, Jaca, Spain, 1977
6. *First World Conference on Mathematics at the Service of Man*, Barcelona, Spain, 1977
7. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, July 5-22, 1978
8. *International Congress of Mathematicians*, Helsinki, 1978
9. *Jornadas Matemáticas Hispano–Lusitanas*, Santander, Spain, June 5-8, 1979
10. *Second International Conference on Information Sciences and Systems*, Patras, Greece, July 9-14, 1979
11. *Jornadas Matemáticas Hispano–Lusitanas*, Coimbra, Portugal, May 4-8, 1981
12. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, July 6-22, 1981
13. *Third Vilnius Conference on Probability Theory and Mathematical Statistics*, Vilnius, Lithuania, 1981
14. *XI Conference of the Bernoulli Society on Stochastic Processes and Their Applications*, Clermont–Ferrand, France, June 28 to July 2, 1982
15. *XII Conference on Stochastic Processes and Their Applications*, Ithaca, New York, July 11-15, 1983
16. *Ecole d’Eté de Calcul des Probabilités*. Saint-Flour, France, Aug. 19 to Sept. 3, 1984
17. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, Aug. 19 to Sept. 3, 1986
18. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, Aug. 21 to Sept. 7, 1988
19. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, July 2-18, 1990
20. *XX Conference on Stochastic Processes and Their Applications*, Nahariya, Israel, June 4-19, 1991
21. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, Aug. 18 to Sept. 4 1991
22. *Ecole d’Eté de Calcul des Probabilités*, Saint-Flour, France, July 7-23, 1994

23. *C.I.M.E., session on Stochastic PDE's and Kolmogorov Equations in Infinite Dimensions*, Cetraro, Italy, Aug. 24 to Sept. 1, 1998
24. *26th Conference on Stochastic Processes and Their Applications*. Beijing, China, June 14-18, 1999
25. *Ecole d'Eté de Calcul des Probabilités*, Saint-Flour, France, July 8-24 1999
26. *Ecole CIMPA-UNAS-UNESCO "Méthodes probabilistes pour les équations aux dérivées partielles"*, Marrakech, Marrocco, April 7-21, 2000. Title: "Stochastic calculus with respect to fractional Brownian motion"

PhD STUDENTS

- Marta Sanz (1977). Currently Professor at the University of Barcelona. Ph. D. from UB. Title: *Stochastic calculus for processes with a multidimensional parameter*
- Frederic Utzet (1985). Currently Professor at the UAB (Universitat Autònoma de Barcelona). Ph. D. from UB. Title: *Study of some properties of two-parameter continuous martingales*
- Olga Julià (1985). Currently Associate Professor at the University of Barcelona. Ph. D. from UB. Title: *Differentiation, probability law and local time of stochastic integrals in the plane*
- Conchita Arenas (1987). Currently Associate Professor at the University of Barcelona. Ph. D. from UB. Title: *Point processes in the plane and optimal stopping*
- Mercè Farré (1991). Currently Associate Professor at the UAB. Ph. D. from UB. Title: *Study of some stochastic integral equations on the plane*
- Marco Ferrante (1993). Currently Associate Professor at the Università di Padova. Ph. D. from SISSA, Trieste. Title: *Markov field property for stochastic difference equations with boundary conditions*
- Josep Vives (1994). Currently Associate Professor at the UAB. Ph. D. from UB. Title: *Stochastic calculus of variations on the Wiener and Poisson spaces; application to the regularity of the supremum and local time*
- Aureli Alabert (1995). Currently Associate Professor at the UAB. Ph. D. from UB. Title: *Stochastic differential equations with boundary values*
- Samy Tindel (1996). Currently Professor at the University of Nancy. Ph. D. from University of Paris VI
- Elisa Alòs (1998). Currently Assistant Professor at the Universitat Pompeu Fabra of Barcelona. Ph. D. from UB. Title: *Anticipating stochastic integral equations*
- Carmen Florit (1999). Currently employed at the University of Barcelona. Ph. D. from UB. Title: *Martingale problem and approximation in law for two-parameter diffusions*
- Noureddine Lanjri (1999). Currently employed at the University Ibn Tofail, Marocco. Ph. D. from UB. Title: *Stochastic Burgers equation and backward stochastic differential equations*

- Silvia Moret (2000). Ph. D. from UB. Title: *Generalizations of Itô's formula and exponential estimates for martingales*
- Salvador Ortiz (2008) (co-adviser with A. Kohatsu-Higa). Ph. D. from UB. Title: *Contributions to the study of Gaussian processes and the modelization of financial markets with insider information*
- Joao Guerra (2009) (co-adviser with J. M. Corcuera). Ph. D. from UB. Title: *Beyond Brownian motion: topics on stochastic calculus for fractional Brownian motion and Lévy markets*
- Jian V. Song (2010) (co-adviser with Y. Hu). Ph. D. from the University of Kansas. Title: *Some topics on the fractional Brownian motion and stochastic partial differential equations*. Current position: Triennial Assistant Professor, Rutgers University
- Xiaoming Song (2011) (co-adviser with Y. Hu). Ph. D. from the University of Kansas. Title: *Malliavin calculus for backward stochastic differential equations and stochastic differential equations driven by fractional Brownian motion and some numerical schemes*. Current position: Post-doctoral Research Associate, University of North Carolina at Chapel Hill
- Pedro Lei (2012). Ph. D. from the University of Kansas. Title: *On the self-similar Gaussian processes*
- Lu Fei (2013) (co-adviser with Y. Hu) Ph. D. from the University of Kansas. Title: *Some applications of Malliavin calculus to SPDE and convergence of densities*. Current position: Mathematics Postdoctoral Fellow, Lawrence Berkeley National Laboratory.
- Daniel Harnett (2013). Ph. D. from the University of Kansas. Title: *Central limit theorems for some symmetric stochastic integrals*. Current position: Assistant Professor at the University of Wisconsin-Stevens Point.
- Jingyu Huang (2015). (co-adviser with Y. Hu). Ph. D. from the University of Kansas. Title: *Stochastic partial differential equations driven by colored noise*. Current position: Postdoc at the MSRI, Berkeley.
- Yanghui Liu (co-adviser with Y. Hu), current student
- Hongjuan Zhou (co-adviser with Y. Hu), current student
- Xia Panqui (co-adviser with Y. Hu), current student
- Arturo Jaramillo, current student
- Nicholas Ma, current student
- Peter Lewis, current student

MASTER STUDENTS

- William Reith, KU, 2007
- James Melbourne, KU, 2009
- Ferdinand Hallaré, KU, 2009

- Fengmei Wu, KU, 2013
- Oleksandr Pavlenko, 2015

COURSES TAUGHT AT KU

- Fall semester 2005: Math 290 (Elementary Linear Algebra), Math 590 (Linear Algebra)
- Spring semester 2006: Math 290 (Elementary Linear Algebra), Math 865 (Introduction to Stochastic Processes)
- Fall semester 2006: Math 966 (Stochastic Calculus), Math 728 (Statistics Theory)
- Spring semester 2007: Math 865 (Introduction to Stochastic Processes), Math 940 (Advanced Probability)
- Fall semester 2007: Math 996 (Malliavin Calculus), Math 142 (Calculus II honors), Math 122/142 (Coordinator)
- Spring semester 2008: Math 996 (Introduction to Stochastic Partial Differential Equations)
- Fall semester 2008: Math 320 (Elementary Differential Equations), Math 500 (Intermediate Analysis)
- Spring semester 2009: Math 796 (Mathematical Finance)
- Fall semester 2009: Math 122 (Calculus II), Math 122/142 (Coordinator), Math 727 (Probability Theory)
- Spring semester 2010: Math 996 (Random Matrices)
- Fall semester 2010: Math 526 (Applied Mathematical Statistics I), Math 866 (Stochastic Processes II)
- Spring semester 2011: Math 996 (Stochastic Analysis on Wiener Space)
- Fall semester 2011: Math 627 (Probability), Math 142 (Calculus II honors), Math 122/142 (Coordinator)
- Spring semester 2013: Math 865 (Introduction to Stochastic Processes)
- Fall semester 2013: Math 866 (Stochastic Processes II)
- Spring semester 2014: Math 526 (Applied Mathematical Statistics I), Math 996 (Special Topics course on Stochastic Partial Differential Equations)
- Fall semester 2014: Math 727 (Probability Theory)
- Spring semester 2015: Math 122 (Calculus II)
- Fall semester 2015: Math 866 (Stochastic Processes II)
- Spring semester 2016: Math 940 (Theory of Probability)

REFEREE (journals)

- Acta Mathematica Sinica
- Annals de l'Institut Henri Poincaré
- Annals of Applied Probability
- Annals of Probability
- Applied Mathematical Letters
- Annals of Statistics
- Bernoulli
- Bulletin des Sciences Mathématiques
- Collectanea Mathematica
- Communications on Stochastic Analysis
- Comptes Rendus de l'Académie de Sciences de Paris
- Discrete and Continuous Dynamical Systems
- Electronic Journal of Differential Equations
- Estadística Española
- Journal of Applied Mathematics and Optimization
- Journal of Dynamics and Differential Equations
- Journal of Functional Analysis
- Journal of Multivariate Analysis
- Journal of the Australian Mathematical Society
- Journal of Theoretical Probability
- Markov Processes and Related Fields
- Mathematical Finance
- Mathematical Methods in the Applied Sciences
- Mathematische Nachrichten
- Osaka Journal of Mathematics
- Philosophical Transactions: Physical Sciences and Engineering,
- Portugalia Mathematicae
- Probability Theory and Related Fields
- Proceedings of the the American Mathematical Society
- Probability Surveys

- Publicacions Matemàtiques
- Publicationes Mathematicae Debrecen
- Publications de l'Institut Mathématique
- Quantitative Finance
- Qüestió
- Revista Matemàtica Complutense
- SIAM Journal of Control
- SIAM Journal on Mathematical Analysis
- Statistics and Probability Letters
- Stochastic Analysis and Applications
- Stochastic Processes and Their Applications
- Stochastica
- Stochastics and Dynamics
- Stochastics and Stochastics Reports
- Systems and Control Letters,
- Trabajos de Estadística
- Transactions of the American Mathematical Society

REFeree (agencies)

- Army Research Office
- CBMS
- Comisión Sectorial de Investigación Científica of Uruguay
- European Research Council
- Fondecyt National Research Funding
- French National Research Agency
- German Research Foundation
- INTAS
- NSA Mathematical Sciences Grant Program
- National Science Foundation
- Research Council of Norway

- Swiss National Science Foundation
- The Israel Science Foundation

PROFESSIONAL SOCIETIES

International Statistical Institute

Institute of Mathematical Statistics

Bernoulli Society

Societat Catalana de Matemàtiques

Real Sociedad Matemática Española

The American Association for the Advancement of Science

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