

CURRICULUM VITAE ET STUDIORUM

Marco FUHRMAN

(updated January 2018)

EDUCATION AND ACADEMIC ACTIVITY.

Personal data

Born in Milan, Italy, on the 4th of August 1964.

Education and career

1988. Master degree *cum laude* in Electronical Engineering at Politecnico di Milano. Master thesis supervisor: Prof. Giovanni Prouse.

1993. PhD in Mathematics at Università di Milano. PhD thesis supervisor: Prof. Brunello Terreni (co-advisor: Prof. Giuseppe Da Prato).

1990-1998. Assistant Professor (Ricercatore) at Politecnico di Milano in Mathematical Analysis (gruppo 90, later A02A).

1998-2002. Associate Professor of Probability and Mathematical Statistics (SSD MAT/06) at Politecnico di Milano.

2002-2016. Full Professor of Probability and Mathematical Statistics (SSD MAT/06) at Politecnico di Milano.

2016-nowadays. Full Professor of Probability and Mathematical Statistics (SSD MAT/06) at Università degli studi di Milano.

Visiting positions

1994. Visiting fellow at the Polish Academy of Sciences in Warszawa (6 months).

1995. Visiting fellow at Universität Bielefeld (2 months).

2004. Visiting professor (“Professeur invité”) at Université de Rennes 1 (2 weeks).

2005. Professeur invité at Université de Rennes 1 (2 weeks).

2011. Professeur invité at Université de Rennes 1 (2 weeks).

2013. Professeur invité at Université Paris Diderot (2 weeks).

2015. Invited professor (“Chercheur étranger de haut niveau”) at Université du Maine, Le Mans (1 week).

Research interests

I started my research activity in spectral theory of operators, semigroups of linear operators and applications to evolution equations. I have then addressed several issues in stochastic analysis and stochastic evolution equations, including well-posedness, regularity, filtering, Malliavin calculus, Markov transition semigroups, applications to stochastic partial differential equations.

Recently I am carrying out research in stochastic optimal control and backward stochastic differential equations (BSDEs), studying applications to controlled stochastic partial differential equations, partial differential equations on abstract spaces, stochastic systems described by multivariate point processes.

Academic activity

Member of the Departmental Council (“Giunta di Dipartimento”) of the Department of Mathematics at Politecnico di Milano in 1992-1993.

Coordinator of the students tutoring services at the Lecco branch of Politecnico di Milano in 1998-2000.

Deputy Head (“Vicedirettore”) of the Department of Mathematics at Politecnico di Milano in 2002-2004.

Chairman of the Faculty of the PhD programme (“Coordinatore del Dottorato”) in Mathematical Engineering at Politecnico di Milano in 2001-2006. Member of the PhD Faculty till nowadays.

Deputy Head (“Vicepreside”) of the School of Systems Engineering at Politecnico di Milano in 2011-2012.

Chairman of the Faculty of the Bachelor and Master programme (“Presidente del Consiglio di Corso di Studio”) in Mathematical Engineering at Politecnico di Milano, January-July 2016.

Member of the INDAM-GNAMPA (INDAM is an Italian national mathematical institute - Gruppo Nazionale Analisi Matematica, Probabilità e Applicazioni).

Participant in the European Union projects “Evolution Equations” (HPRN-CT-2002-00281), “QP-Applications” (HPRN-CT-2002-00279) and Marie Curie Skłodowska ITN Grant “Controlled Systems” (GA 213841/2008).

Evaluation and reviewing activity

Member of the editorial board of the journal *Applied Mathematics and Optimization* since 2017.

I was a member of Committees for the selection of applicants to positions of Assistant Professor (“Ricercatore”, in 2008 and 2015), Associate Professor (2014), Full Professor (2015). I also took part several times in the selection of applicants to PhD positions and to post-doc positions (“assegni di ricerca”).

I acted as a referee for the following journals: *Abstract and Applied Analysis*, *Annals of Probability*, *Applied Mathematics and Optimization*, *Automatica*, *Bulletin des Sciences Mathématiques*, *Discrete and Continuous Dynamical Systems A*, *Electronic Journal of Probability*, *Hiroshima Mathematical Journal*, *International Journal of Control*, *International Journal of Stochastic Analysis*, *Journal of Evolution Equations*, *Journal of Mathematical Analysis and Applications*, *Journal of Theoretical Probability*, *Mathematics of Control, Signals, and Systems*, *NoDEA - Nonlinear Differential Equations and Applications*, *Potential Analysis*, *Probability Theory and Related Fields*, *Semigroup Forum*, *SIAM Journal of Control and Optimization*, *SIAM Journal of*

Mathematical Analysis, Stochastic Partial Differential Equations: Analysis and Computations, Stochastic Processes and their Applications, Stochastics - An International Journal of Probability and Stochastic Processes.

I was a referee of scientific proposals submitted for funding to: MIUR (PRIN 2009 projects), USA National Science Foundation (2005), European Research Council (2008), National Security Agency - American Mathematical Society (2015). I was a referee for the MIUR-VQR 2004-2010.

Direction of financed research projects

Director of a local unit of MIUR-PRIN 2015 project “Deterministic and stochastic evolution equations” (two-year project).

Principal investigator of the national MIUR-PRIN 2010-2011 project “Evolution differential problems: deterministic and stochastic approaches and their interactions” (a three-year research project of the Italian Ministry for University MIUR, involving five local units at the Universities of Lecce, Parma, Pisa, Trento and the Politecnico di Milano).

Director of a local unit of MIUR-PRIN 2008 project “Evolution equations” (two-year project).

Director of a local unit of MIUR-PRIN 2006 project “Kolmogorov’s equations” (two-year project).

Principal investigator of the research project INDAM-GNAMPA “Backward stochastic differential equations and applications” in 2005 (one-year project).

Director of a local unit of MIUR-PRIN 2004 project “Kolmogorov’s equations” (two-year project).

Director of a local unit of MIUR-PRIN 2002 project “Kolmogorov’s equations” (two-year project).

Organization of conferences.

Summer school “Stochastic Control and Related Partial Differential Equations”, in the framework of the Marie Curie Skłodowska ITN project “Deterministic and stochastic control systems”. Università di Milano-Bicocca, June 27 - July 8, 2011.

Workshop “Topics in Stochastic Control”, in the framework of the Marie Curie Skłodowska ITN project “Deterministic and stochastic control systems”. Politecnico di Milano, July 11-13, 2011.

Workshop “Problemi differenziali di evoluzione: approcci deterministici e stocastici e loro interazioni”. Politecnico di Milano, December 5-6, 2013.

Teaching and supervising activity

In Italy I have taught several courses at Bachelor, Master and PhD level. I have been one of the main lecturers at the following courses at PhD level given at international schools:

Spring School “Stochastic Control in Finance” (Roscoff, France, March 7-18, 2010), in the framework of the Marie Curie Skłodowska ITN project “Deterministic and stochastic control systems”. Title of the course: “Hamilton-Jacobi-Bellman equations in infinite dimensions” (in collaboration with Fausto Gozzi - LUISS Rome).

Control of PDEs, interactions and application challenges (CIRM Marseille-Luminy, November 5-9, 2012). Title of the course: “Stochastic equations and control theory” (in collaboration with Anne de Bouard - CNRS et École Polytechnique).

I have been the supervisor of several Bachelor students in Mathematical Engineering in the preparation of their final work (a thesis or an oral exposition).

I have been the Master thesis supervisor of 6 students in Mathematical Engineering and 2 in Mathematics.

I have been the PhD thesis supervisor of the following students:

- Federica Masiero (Università di Milano, thesis defended in 2004, now Associate Professor at Università di Milano-Bicocca)
- Fulvia Confortola (Università di Milano, thesis defended in 2005, now Assistant Professor at Politecnico di Milano)
- Anton Ibragimov (Marie Curie Skłodowska - ITN student, Università di Milano-Bicocca, thesis defended in 2010, now at Barclays Bank - Kyiv)
- Andrea Cosso (Politecnico di Milano, thesis defended in 2014, now Assistant Professor at Università di Bologna)
- Carlo Orrieri (Università di Pavia, thesis defended in 2015, now post-doc at Università di Roma “La Sapienza”)
- Elena Bandini (Politecnico di Milano, thesis defended in 2016, now Assistant Professor at Università di Milano-Bicocca).

At present I am supervising the following students:

- Alessandro Calvia (PhD student at Università di Milano-Bicocca)
- Nahuel Foresta (PhD student at Politecnico di Milano)

I have been the scientific supervisor of the following post-doc students (in parenthesis the approximate period):

- Giuseppina Guatteri (2002)
- Federica Masiero (2004)
- Fulvia Confortola (2005)
- Elisa Mastrogiacomo (2011)
- Petr Veverka (2015)

Talks at workshops and conferences.

I have given the following talks in the framework of workshops or conferences (in quotation marks the title of the talk).

Differential equations in Banach spaces (Bologna, July 1-5, 1990). “Sums of linear operators: a priori estimates and strong solutions”.

Third international workshop-conference on evolution equations, control theory and biomathematics (Han-sur-Lesse, Belgium, October 20-26, 1991). “Bounded imaginary powers of abstract differential operators”.

Incontro di lavoro su equazioni di evoluzione (Pisa, April 22-23, 1992). “Somme di operatori lineari in spazi di Hilbert”.

Convegno del gruppo MURST 40% “Equazioni differenziali” (Firenze, April 15-16, 1993). “Un problema ai limiti lineare per un’equazione differenziale astratta del secondo ordine”.

European workshop on evolution equations (Blaubeuren, Germany, Novembre 1-5, 1993). “Some perturbation results for generators of analytic semigroups”.

Nonlinear parabolic problems (Levico Terme, Italy, June 11-16, 1995). “On a smoothing property of a degenerate equation with infinite variables”.

Dynamical systems and applications of stochastic differential equations (Pisa, June 28-30, 1995). “Hypercontractivity of Ornstein-Uhlenbeck semigroups”.

XV Congresso Nazionale dell’Unione Matematica Italiana (Padova, September 11-15, 1995). “Regolarità dei semigrupperi di transizione ed equazioni paraboliche degeneri in dimensione infinita”.

Workshop Scuola Normale Superiore - Bar Ilan University (Cortona, Italy, November 19-23, 1995). “On some Markov semigroups in Hilbert spaces”.

Convegno del gruppo MURST 40% “Equazioni differenziali” (Ferrara, June 3-6, 1996). “Ipercontrattività di alcuni semigrupperi non simmetrici” (conferenza pubblicata sugli atti del convegno).

Deterministic and stochastic evolutionary systems (Pisa, July 16-17, 1996). “Strong Feller property for semilinear equations with nonlinearity of gradient type”.

Stochastic PDE’s and applications - IV (Levico Terme, Italy, January 7-11, 1997). “Perturbations of non symmetric Ornstein-Uhlenbeck semigroups”.

Qualitative properties of operators semigroups (Roma, June 3-4, 1999). “Properties of some semigroups arising in probability theory”.

Stochastic PDE’s and applications - V (Levico Terme, Italy, January 10-15, 2000). “Some results on transition probabilities and invariant measures for stochastic evolution equations”.

Lectures on probabilistic topics in 3D fluids (Barcelona, July 3-7, 2000). “On logarithmic derivatives for probabilities in Hilbert spaces”.

Convegno in onore di Brunello Terreni (Milano, September 27-28, 2000). “On a class of quasi linear equations in infinite dimensional spaces”.

Stochastic analysis and related topics (Pisa, June 22-23, 2001). “Forward-backward stochastic evolution systems”.

Stochastic Evolution Equations and Applications (Oberwolfach, September 30 - October 6, 2001). “Forward-backward stochastic equations in Hilbert spaces and applications”.

Stochastic PDE’s and applications - VI (Levico Terme, Italy, January 6-12, 2002). “Backward stochastic equations in Hilbert spaces and elliptic semilinear PDEs”.

Two days on Kolmogorov equations (Pisa, October 17-18, 2003). “Backward SDEs and generalized gradients”.

Boundary control and optimization (IFIP 7.2) (Pisa, February 26-28, 2004). “Forward-backward stochastic differential equations and stochastic optimal control”.

Workshop on Kolmogorov's equations (Parma, November 26-27, 2004). “Forward-backward stochastic differential equations and stochastic optimal control”.

Stochastic equations and related topics (Jena, March 28 - April 1, 2005). “Forward-backward systems of stochastic differential equations with stochastic coefficients”.

Fourth Colloquium on Backward Stochastic Differential Equations and Applications (Shanghai, May 30 - June 1, 2005). “Some results on BSDEs in infinite dimensions”.

22nd IFIP Conference on System Modelling and Optimization (Torino, July 18-22, 2005). “Optimal control of a stochastic heat equation with boundary-noise and boundary-control”.

Workshop on Stochastic Partial Differential Equations (Pisa, April 3-7, 2006). “Some results on backward stochastic differential equations in infinite dimensions”.

Workshop on Kolmogorov Equations (Parma, November 1-3, 2006). “Forward-backward systems of stochastic differential equations with random coefficients”.

Journées de Probabilités 2007 (La Londe les Maures, Toulon, September 10-14, 2007). “Optimal stochastic control and BSDEs in infinite dimensions”.

Stochastic partial differential equations and applications - VIII (Levico Terme, Italy, January 6-12, 2008). “Some problems and results on functional stochastic differential equations”.

5th Colloquium on Backward Stochastic Differential Equations, Finance and Applications (Le Mans, June 18-20, 2008). “Some problems and results on functional stochastic differential equations”.

First CIRM-HCM Joint Meeting: Stochastic Analysis, SPDEs, Particle Systems, Optimal Transport (Levico Terme, Italy, January 24-30, 2010). “Continuous-time Markov chains with noise-free observation: filtering and optimal stopping”.

The 6th International Symposium on Backward Stochastic Differential Equations and Applications (Los Angeles, June 8-10, 2011). “Some results on the stochastic maximum principle in the optimal control of SPDEs”.

Control of PDEs, interactions and application challenges (CIRM Marseille-Luminy, November 5-9, 2012). “Stochastic maximum principle in the optimal control of SPDEs”.

Evolution equations, deterministic and stochastic models and applications (Trento, November 26-27, 2012). “Stochastic maximum principle in the optimal control of SPDEs”.

Backward stochastic differential equations (Rennes, May 22-24, 2013). “BSDEs and point processes”.

Problemi differenziali di evoluzione: approcci deterministici e stocastici e loro interazioni (Politecnico di Milano, December 5-6, 2013). “Optimal control and point processes”.

Stochastic partial differential equations and applications - IX (Levico Terme, Italy, January 6-11, 2014). “Optimal control of point processes, backward stochastic differential equations and associated parabolic PDEs”.

Séminaire triangulaire de probabilités (Angers-Brest-Le Mans-Rennes) (Rennes, November 10, 2014). “Optimal control of pure jump Markov processes and constrained backward stochastic differential equations”.

Stochastic partial differential equations and applications - X (Levico Terme, Italy, May 30 - June 3, 2016). “Constrained backward stochastic differential equations and optimal control with partial observation”.

Stochastic analysis day (Pisa, July 25, 2016). “Backward stochastic differential equations and optimal control with partial observation”.

Deterministic and stochastic evolution equations (Parma, September 4-6, 2017). “The randomization method in stochastic optimal control and its applications”.

International Conference on Stochastic Analysis, Stochastic Control and Applications (Hammamet, Tunisia, October 24-27, 2017). “Control randomization for infinite horizon optimal control problems”.

Opening Conference of the Thematic Semester on Stochastic Modelling (Verona, December 18-21, 2017). “Partial observation optimal control and BSDEs”.

Seminars

Politecnico di Milano: “On Boussinesq’s model for free convection” (September 1988)

Università di Milano: “Somma di operatori lineari e applicazioni” (November 15, 1990).

Politecnico di Milano: “Somme di operatori lineari e applicazioni” (May 15 and 22, 1991).

Universität Tübingen: “Sums of noncommuting linear operators and applications” (January 16, 1992).

Università di Pisa: “Somme di operatori lineari e semigrupperi” (March 26, 1992).

Université de Nancy: “Sommes d’opérateurs linéaires et applications” (December 2, 1992).

Università di Pisa: “Perturbazioni di generatori di semigrupperi analitici e operatori lineari a più valori” (May 26, 1993).

Università di Bologna: “Perturbazioni di generatori di semigrupperi analitici e operatori lineari a più valori” (July 1, 1993).

Polish Academy of Sciences, Warszawa: “Analytic transition semigroups” (March 8, 1994).

Università di Roma “La Sapienza”: “Somme di operatori lineari” (February 22, 1995).

Universität Bielefeld: “Smoothing properties of transition semigroups in Hilbert spaces” (April 20, 1995).

Ruhr Universität Bochum: “Generalized Mehler semigroups” (April 28, 1995).

Università di Milano: “Alcuni risultati sul semigruppero di Ornstein-Uhlenbeck” (January 18, 1996).

Università di Trento: “Sul semigruppero di Ornstein-Uhlenbeck” (August 27, 1996); “Semigrupperi di Markov e calcolo di Malliavin” (August 29, 1996).

Universität Bielefeld: “Regularity of transition probabilities in infinite dimensions” (December 4, 1996).

Università di Trento: “Semigrupperi di Mehler generalizzati” (October 10, 1997).

Politecnico di Milano: “Equazioni di evoluzione stocastiche in spazi di Hilbert” (April 2, 1998).

Università di Trento: “Ipercontrattività di alcuni semigrupperi di Markov” (May 28, 1998).

Politecnico di Milano: “Introduzione alle disuguaglianze di Sobolev logaritmiche” (March 25, 1999).

Università di Pavia: “Equazioni di evoluzione stocastiche retrograde e equazioni a derivate parziali in spazi di Hilbert” (March 19, 2002).

Scuola Normale Superiore di Pisa: “On a class of stochastic optimal control problems in Hilbert spaces” (February 21, 2003).

Università di Trento: “Controllo stocastico a energia minima con vincoli di stato” (October 2, 2003).

Université de Rennes 1: “EDS rétrogrades en dimension infinie” (June 28, 2004).

École Normale Supérieure de Cachan (Antenne de Bretagne, Rennes): “EDP en dimension infinie: représentation probabiliste des solutions et applications au contrôle stochastique” (June 30, 2004).

Université de Rennes 1: “Forward-backward systems of stochastic differential equations with stochastic coefficients” (January 23, 2006).

Università di Pavia: “Equazioni differenziali stocastiche ‘backward’, equazioni a derivate parziali e problemi di controllo ottimo stocastico” (June 12, 2008).

Politecnico di Milano: “On a class of nonlinear PDEs on Hilbert spaces and applications” (June 11, 2009).

Université de Rennes 1: “Continuous-time Markov chains with noise-free observation: filtering and optimal stopping” (January 30, 2012).

Université Pierre et Marie Curie - Paris VI: “Backward stochastic differential equations and point processes” (February 21, 2013).

Université Paris Diderot “Optimal control of pure jump Markov processes and constrained backward stochastic differential equations” (May 7, 2105).

Université du Maine, Le Mans: “BSDEs for optimal control problems with partial observation” (October 15, 2015).

PUBLICATIONS

1) Papers

48. Confortola, F., Fuhrman, M., Guatteri, G., Tessitore, G.
Linear-quadratic optimal control under non-Markovian switching.
Stochastic Analysis and Applications 36 (2018), no. 1, 166–180.
47. Fuhrman, M., Hu, Y., Tessitore, G.
Stochastic maximum principle for optimal control of partial differential equations driven by white noise.
Stochastics and Partial Differential Equations: Analysis and Computations. Published on line 6 Dec 2017, doi 10.1007/s40072-017-0108-3, 1–31.
46. Bandini, E., Fuhrman, M.
Constrained BSDEs representation of the value function in optimal control of pure jump Markov processes.
Stochastic Processes and their Applications 127 (2017), no. 5, 1441–1474.
45. Fuhrman, M., Masiero, F., Tessitore, G.
Reflected BSDEs, optimal control and stopping for infinite-dimensional systems.
ESAIM. Control, Optimisation and Calculus of Variations 23 (2017), no. 4, 1419–1445.

44. Confortola, F., Fuhrman, M., Jacod, J.
Backward stochastic differential equations driven by a marked point process: an elementary approach, with an application to optimal control.
The Annals of Applied Probability 26 (2016), no. 3, 1743–1773.
43. Cosso, A., Fuhrman, M., Pham, H.
Long time asymptotics for fully nonlinear Bellman equations: a Backward SDE approach.
Stochastic Processes and their Applications 126 (2016), no. 7, 1932–1973.
42. Fuhrman, M., Orrieri, C.
Stochastic maximum principle for optimal control of a class of nonlinear SPDEs with dissipative drift.
SIAM Journal on Control and Optimization 54 (2016), no. 1, 341–371.
41. Fuhrman, M., Pham, H., Zeni, F.
Representation of non-Markovian optimal stopping problems by constrained BSDEs with a single jump.
Electronic Communications in Probability 21 (2016), paper no. 3, 7 pp.
40. Fuhrman M., Pham, H.
Randomized and backward SDE representation for optimal control of non-Markovian SDEs.
The Annals of Applied Probability 25 (2015), no. 4, 2134–2167.
39. Confortola, F., Fuhrman, M.
Backward stochastic differential equations associated to jump Markov processes and applications.
Stochastic Processes and their Applications 124 (2014), no. 1, 289–316.
38. Fuhrman, M., Hu, Y., Tessitore, G.
Stochastic Maximum Principle for Optimal Control of SPDEs.
Applied Mathematics and Optimization 68 (2013), no. 2, 181–217.
37. Confortola, F., Fuhrman, M.
Backward Stochastic Differential Equations and Optimal Control of Marked Point Processes.
SIAM Journal on Control and Optimization 51 (2013), no. 5, 3592–3623.
36. Confortola, F., Fuhrman, M.
Filtering of continuous-time Markov chains with noise-free observation and applications.
Stochastics. An International Journal of Probability and Stochastic Processes 85 (2013), no. 2, 216–251.
35. Fuhrman, M., Hu, Y., Tessitore, G.
Stochastic maximum principle for optimal control of SPDEs,
Comptes Rendus Acad. Sci. Paris, Ser. I 350 (2012), 683–688.
34. Fuhrman, M., Masiero, F., Tessitore, G.
Stochastic equations with delay: optimal control via BSDEs and regular solutions of Hamilton-Jacobi-Bellman equations,
SIAM Journal on Control and Optimization 48 (2010), no. 7, 4624–4651.

33. Fuhrman, M., Hu, Y., Tessitore, G.
Ergodic BSDEs and optimal ergodic control in Banach spaces,
SIAM Journal on Control and Optimization 48 (2009), no. 3, 1542–1566.
32. Fuhrman M., Hu, Y.
Backward stochastic differential equations in infinite dimensions with continuous drivers and applications,
Applied Mathematics and Optimization 56 (2007), no. 2, 265-302.
31. Debussche, A., Fuhrman, M., Tessitore, G.
Optimal control of a stochastic heat equation with boundary-noise and boundary-control. ESAIM. Control, Optimisation and Calculus of Variations 13 (2007), no. 1, 178–205 (electronic).
30. Fuhrman M., Hu, Y., Tessitore G.
On a class of stochastic optimal control problems related to BSDEs with quadratic growth, SIAM Journal on Control and Optimization 45 (4) (2006), 1279-1296.
29. Fuhrman M., Hu, Y.
Infinite horizon BSDEs in infinite dimensions with continuous driver and applications, Journal of Evolution Equations 6 (2006), no. 3, 459-484.
28. Fuhrman, M., Tessitore, G.
Generalized directional gradients, backward stochastic differential equations and mild solutions of semilinear parabolic equations,
Applied Mathematics and Optimization 51 (2005), no. 3, 279-332.
27. Fuhrman M., Tessitore, G.
Existence of optimal stochastic controls and global solutions of forward-backward stochastic differential equations,
SIAM Journal on Control and Optimization 43 (2004), no. 3, 813-830.
26. Bonaccorsi, S., Fuhrman, M.
Integration by parts and smoothness of the law for a class of stochastic evolution equations, Infinite Dimensional Analysis, Quantum Probability and Related Topics 7 (2004), no. 1, 89-129.
25. Fuhrman, M., Tessitore, G.
Infinite horizon backward stochastic differential equations and elliptic equations in Hilbert spaces,
The Annals of Probability 32 (2004), no. 1 B, 607-660.
24. Fuhrman, M., Paganoni, A.M.
Linear control systems on unbounded time intervals and invariant measures of Ornstein-Uhlenbeck processes in Hilbert spaces,
SIAM Journal on Control and Optimization 42 (2003), no. 5, 1776-1794.
23. Fuhrman, M.
A class of stochastic optimal control problems in Hilbert spaces: BSDEs and optimal control laws, state constraints, conditioned processes,
Stochastic Processes and their Applications 108 (2003), no. 2, 263-298.

22. Fuhrman, M., Tessitore, G.
The Bismut-Elworthy formula for Backward SDE's and applications to nonlinear Kolmogorov equations and control in infinite dimensional spaces,
Stochastics and Stochastics Reports 74 (2002), no. 1-2, 429–464.
21. Fuhrman, M., Tessitore, G.
Nonlinear Kolmogorov equations in infinite dimensional spaces: the backward stochastic differential equations approach and applications to optimal control,
The Annals of Probability 30 (2002), no. 3, 1397–1465.
20. Fuhrman, M.
Logarithmic derivatives of invariant measure for stochastic differential equations in Hilbert spaces,
Stochastics and Stochastics Reports 71 (2001), no. 3-4, 269–290.
19. Fuhrman, M.
Regularity properties of transition probabilities in infinite dimensions,
Stochastics and Stochastics Reports 69 (2000), no. 1-2, 31-65.
18. Fuhrman, M., Röckner, M.
Generalized Mehler semigroups: the non Gaussian case,
Potential Analysis 12 (2000), no. 1, 1-47.
17. Bonaccorsi, S., Fuhrman, M.
Regularity results for infinite dimensional diffusions. A Malliavin calculus approach,
Rendiconti di Matematica Accademia dei Lincei, s. 9, 10 (1999), 35-45.
16. Da Prato, G., Fuhrman, M., Malliavin, P.
Asymptotic ergodicity of the process of conditional law in some problem of non linear filtering,
Journal of Functional Analysis 164 (1999), no. 2, 356-377.
15. Fuhrman, M.
On a class of stochastic equations in Hilbert spaces: solvability and smoothing properties,
Journal of Stochastic Analysis and Applications 17 (1999), no. 1, 43-69.
14. Fuhrman, M.
Hypercontractivity properties of nonsymmetric Ornstein–Uhlenbeck semigroups in Hilbert spaces,
Journal of Stochastic Analysis and Applications 16 (1998), no. 2, 241-260.
13. Favini, A., Fuhrman M.
Approximation results for semigroups generated by multivalued linear operators and applications,
Differential and Integral Equations 11 (1998), no. 5, 781-805.
12. Ahmed, N.U., Fuhrman, M., Zabczyk, J.
On filtering equations in infinite dimensions,
Journal of Functional Analysis 143 (1997), no. 1, 180-204.
11. Fuhrman, M.
On the sum of generators of analytic semigroups,
Rend. Istit. Mat. Univ. Trieste 28 (Suppl.) (1997), 147-199.

10. Fuhrman, M.
Sums of generators of analytic semigroups and multivalued linear operators,
Annali di Matematica pura ed applicata, (IV) 173 (1997), 63-105.
9. Fuhrman, M.
Smoothing properties of nonlinear stochastic equations in Hilbert spaces,
NoDEA - Nonlinear Differential Equations and Applications 3 (1996), no.4, 445-464.
8. Da Prato, G., Fuhrman, M., Malliavin, P.
Asymptotic ergodicity for the Zakai filtering equation,
Comptes Rendus Acad. Sci. Paris, 321 (I) (1995), 613-616.
7. Fuhrman, M.
Hypercontractivité des semi-groupes de Ornstein-Uhlenbeck non symétriques,
Comptes Rendus Acad. Sci. Paris, 321 (I) (1995), 929-932.
6. Fuhrman, M.
A note on the nonsymmetric Ornstein-Uhlenbeck process in Hilbert spaces,
Applied Mathematics Letters 8 (1995), no. 3, 19-22.
5. Fuhrman, M.
Analyticity of transition semigroups and closability of bilinear forms in Hilbert spaces,
Studia Mathematica 115 (1995), no. 1, 53-71.
4. Fuhrman, M.
Sums of linear operators of parabolic type in a Hilbert space: strict solutions and maximal regularity,
Advances in Mathematical Sciences and Applications 4 (1994), no. 1, 1-34.
3. Fuhrman, M.
Sums of linear operators of parabolic type: a priori estimates and strong solutions,
Annali di Matematica pura ed applicata, (IV) 164 (1993), 229-257.
2. Fuhrman, M.
Bounded solutions for abstract time-periodic parabolic equations with nonconstant domain,
Differential and Integral Equations 4 (1991), no. 3, 493-518.
1. Fuhrman, M.
On Boussinesq's model for free convection in an unbounded domain,
Rendiconti Istituto Lombardo Sc. Lett., A 122 (1988), 231-271.

2) Contributions

1. Fuhrman, M., Tessitore, G.
HJB Equations Through Backward Stochastic Differential Equations.
Chapter 6 (pp. 685–781) in the book:
Fabbri, G., Gozzi, F., Swiech, A.
Stochastic optimal control in infinite dimension. Dynamic programming and HJB equations. With a contribution by Marco Fuhrman and Gianmario Tessitore.
Probability Theory and Stochastic Modelling, 82. Springer, Cham, 2017. xxiii+916 pp.

3) Proceedings

6. Alippi, C., Fuhrman, M., Roveri, M.
 $k - NN$ classifiers: investigating the $k = k(n)$ relationship,
 proceedings of the Conference “IJCNN 08 – International Joint Conference on Neural Networks 2008” (Hong Kong, 1-6 June 2008).
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