# Selected list of publications

Boualem Djehiche

January 12, 2012

- B. Djehiche (1992): Bernstein processes and spin-1/2 particles. J. Math. Physics, 33, (9), p. 3050-3059.
- H. Andersson and B. Djehiche (1992): Multitype epidemics and Brownian sheets. Research Rep. 168. Inst. Actuar. Math. and Math. Stat. Stockholm University.
- B. Djehiche (1993): A Large Deviation estimate for ruin probabilities. Scand. Actuarial J. (1), p. 42-59.
- B. Djehiche (1993): Bernstein processes and Pauli-type equations. J. Potential Analys. 2, p. 349-370.
- H. Andersson and B. Djehiche (1994): A functional limit theorem for the total cost of a multitype standard epidemic. Adv. Appl. Prob. 26, p. 690-697. (This is the published part of item 2)
- H. Andersson and B. Djehiche (1995): Limit theorems for multitype epidemics. Sto. Proc. Appli. 56 (1995) p. 57-75.
- B. Djehiche and I. Kaj (1995): The rate function of some Measure-Valued Jump Processes. The Ann. of Proba. Vol. 23, No 3, p. 1414-1438.
- B. Djehiche and T. Kolsrud (1995): Canonical Transformations for Diffusions. C. R. Acad. Sci. Paris. T. 321, Serie I, p. 339-344.
- H. Andersson and B. Djehiche (1997): Limit theorems for the total size of a spatial epidemic. J. Appl. Prob. 34, p. 698-710.

- B. Djehiche and A. Schied (1998): Large deviations for hierarchical systems of interacting jump processes. J. Theo. Prob. Vol. 11, No. 1, p. 1-24.
- H. Andersson and B. Djehiche (1998): A Threshold limit theorem for the stochastic logistic epidemic. Adv. Applied Prob. 35, p. 662-670.
- B. Djehiche and I. Kaj (1999): A Sample Path Large Deviations Principle for $L^2$-Martingale-Measure Processes. Bull. Scien. Math. 123, p. 467-499.
- B. Djehiche and M. Eddahbi (1999): Large deviations for a stochastic Volterra-type equation in the Besov-Orlicz space. Stoch. Proc. Appl. 81, p. 39-72.
- A. Berkaoui, B. Djehiche and Y. Ouknine (2001): Sur les grandes deviations en theorie de filtrage non lineaire. Studia Mathematica, Vol. 148, No. 1, pp. 5-21.
- B. Djehiche and M. Eddahbi (2001): Hedging options in market models modulated by fractional Brownian motion. Stochastic Analysis and Applications, Vol. 19, No. 5, pp. 753-770.
- A. Dermoune and B. Djehiche (2001): Pressure–less gas equations with viscosity and nonlinear diffusions. C. R. Acad. Sci. Paris. t. 332, serie 1, p. 745-750.
- A. Dermoune and B. Djehiche (2002): Global solution of the pressure–less gas equations with viscosity. Physica D, Vol. 163/3-4, pp. 184-190.
- B. Djehiche, M. Eddahbi and Y. Ouknine (2002): A logarithmic Sobolev inequality for one-dimensional multivalued stochastic differential equations. Probability and Mathematical Statistics, vol 22 (1), pp. 13-18.
- P. Alaton, B. Djehiche and D. Stillberger (2002): On Modelling and Pricing Weather Derivatives. Applied Mathematical Finance. Volume 9, Number 1/March 01, pp. 1-20.
- B. Djehiche and P. Hörfelt (2005): Standard approaches to asset and liability risk. (Invited paper) Scandinavian Actuarial Journal, (5), pp. 377-400.

- S. Bahlali, B. Djehiche and B. Mezerdi (2006): Existence and optimality necessary conditions in relaxed control problems. J. Appl. Math. Stoch. Analysis, Art. ID 72762, 23 pp.

- K. Bahlali, B. Djehiche and B. Mezerdi (2007):On the stochastic maximum principle in optimal control of degenerate diffusions with Lipschitz coefficients. Appl. Math. and Optim. Vol. 56(3), pp. 364-378.

- A. Dermoune, B. Djehiche and N. Rahmania (2008): Consistent estimators of the smoothing parameter in the Hodrick-Prescott Filter. J. Japan Statist. Soc., Vol. 38 (No. 2), pp. 225-241.

- S. Bahlali, B. Djehiche and B. Mezerdi (2007): The relaxed stochastic maximum principle in singular optimal control of diffusions. SIAM J. Control and Opt. Vol. 46, No. 2, pp. 427-444

- B. Djehiche and S. Hamadène (2009): On a finite horizon starting and stopping problem with risk of abandonment. The International J. of Theoretical and Applied Finance (IJTAF), Vo. 12, No. 4, 523-543.

- B. Djehiche and J. Svensson (2009): Large deviations for heavy-tailed factor models. Statistics and Probability Letters (79), pp. 304-311.

- T. Arnarsson, B. Djehiche, M. Poghosyan, H. Shahgholian (2009): A PDE approach to regularity of solutions to finite horizon optimal switching problmes. Nonlinear Analysis, Series A: Theory, Methods and Applications.

- A. Dermoune, B. Djehiche and N. Rahmania (2009): Multivariate Extension of the Hodrick-Prescott Filter- Optimality and Characterization. Studies in Nonlinear Dynamics and Econometrics: Vol. 13: No.3. http://www.bepress.com/snde/vol13/iss3/art4.

- F. Chighoub, B. Djehiche and B. Mezerdi (2009): The stochastic maximum principle in optimal control of degenerate diffusions with non-smooth coefficients. Random Operators and Stochastic Eqs.17, pp. 35-53.

- K. Bahlali, F. Chighoub, B. Djehiche and B. Mezerdi (2009): Optimality necessary conditions in singular stochastic control problems with non-smooth coefficients. J. Math. Anal. Appl. 355 (2009), pp. 479-494.

- R. Buckdahn, B. Djehiche, J. Li and S. Peng (2009): Mean-Field Backward Stochastic Differential Equations. A Limit Approach. The Annals of Probability, Vol. 37, No. 4, 1524-1565.

- F. Chighoub, B. Djehiche and B. Mezerdi (2009): A stochastic maximum principle in singular control of diffusions with nonsmooth coefficients. To appear in Australian J. Math. Analys. and Applications.

- B. Djehiche, S. Hamadène and A. Popier (2009): A finite horizon optimal multiple switching problem. SIAM J. Control and Optimization, Volume 48, Issue 4, pp. 2751-2770.

- B. Djehiche and A. Gioulekas (2009): Tail risk optimisation. Insights/Q4 2009, IPM Informed Portfolio Management AB, Stockholm.

- B. Djehiche, S. Hamadène and I. Hdhiri (2010): Stochastic Impulse Control for Non-Markovian Processes. Applied Math. and Optimization, 61(1), 126.

- B. Djehiche and J. Rinnè (2010): Can Stocks Help Mend the Asset and Liability Mismatch? Scandinavian Actuarial Journal, 2: 148-160.

- D. Andersson and B. Djehiche (2010): A maximum principle for relaxed stochastic control of linear SDE's with application to bond portfolio optimization. Math. Methods in Operations Research, 72(2), 273310.

- D. Andersson and B. Djehiche (2011): A maximum principle for stochastic control of SDE's of mean-field type. To appear in Applied Math. and Optimization, 63(3), 341356.

- B. Djehiche, S. Hamadène and M-A. Morlais (2011): Optimal stopping of expected profit and cost yields in an investment under uncertainty. Stochastics, 83(4-6), 431-448.

- B. Djehiche, M. N'zi and J-M. Owo (2011): Stochastic viscosity solutions for SPDEs with continuous coefficients. To appear in J. Math. Analys. and Applications, 384(1), 6369.

- A. Dermoune, B. Djehiche and N. Rahmania (2011): Estimation of the smoothing parameters in the HPMV filter. Analele Stiintifice ale Universitatii A. I. Cuza, Iasi, Sectiunea Matematica, Vol. LVII, 61-75.

- R. Buckdahn, B. Djehiche and J. Li (2011): A General Stochastic Maximum Principle for SDEs of Mean-field type. To appear in Applied Math. and Optimization, 64(2), 197216.
- B. Djehiche, M. Marcus and N. Rahmania (2011): On a Graduation Problem involving both the Hodrick-Prescott Filter and Optimal Spline Smoothing. Far East J. Theoretical Statistics, Vol. 36(1), 1-19.

## Manuscripts and preprints

- C. Carlemalm and B. Djehiche (1996): On the problem of blind deconvolution using a stochastic differential calculus approach. Trita-Mat-1996-MS-06. Dept of Math. The Royal Institute of Technology.
- B. Djehiche (2004): Some remarks on the valuation of insurance contracts and related strategic asset allocation. Internal report, Skandia Liv, Stockholm.
- B. Djehiche and A. Gioulekas (2005): How to combine strategies while keeping drawdowns at a minimum. Internal report, IPM Informed Portfolio Management, Ltd.
- A. de Ridder and B. Djehiche (2007): Extreme Day Returns: Evidence from Sweden (Preprint).
- Y. Bineau, B. Djehiche and N. Rahmania (2009): A new multivariate approach for measuring equilibrium models: Application to the US data.
- B. Djehiche and N. Rahmania (2010): Modeling and estimating correlated growth and business cycles in a multivariate Hodrick-Prescott filter.
- B. Djehiche and A. Hamdi (2011): A full balance sheet two-modes optimal switching problem.

## Lecture Notes

- H. Andersson and B. Djehiche (1997): An Introduction To Martingale Theory. Lecture Notes. Inst. Actuar. Math. and Math. Stat. Stockholm University.

- B. Djehiche (2000): Stochastic calculus. An introduction with applications. Lecture Notes. Dept. Math. The Royal Institute of Technology.

- B. Djehiche (2000): Extremes. An overview with applications.

- A. Dermoune and B. Djehiche (2001): A probabilistic family of solutions of the pressure–less gas equations. Preprint, Université de Lille, France.