

# Bibliography

[] *Monographs:*

- [1] D. Belomestny and J. Schoenmakers. *Advanced Simulation-Based Methods for Optimal Stopping and Control*. Palgrave Macmillan UK, 2018.
- [2] J. Schoenmakers. *Robust Libor Modelling and Pricing of Derivative Products*. Financial Mathematics. Chapman & Hall/CRC, 2005.

[] *Refereed articles published or accepted:*

- [3] Bayer, C., Redmann, M., Schoenmakers, J. (2020+). Dynamic programming for optimal stopping via pseudo-regression. arXiv:1808.04725, *Quant. Finance*, to appear.
- [4] Bayer, C., Belomestny, D., Redmann, M., Riedel, S., Schoenmakers, J. (2020). Solving linear parabolic rough partial differential equations. *J. of Math. Anal. and Appl.*, <https://doi.org/10.1016/j.jmaa.2020.124236> online first.
- [5] Belomestny, D., Kaledin, M., Schoenmakers, J. (2020). Semi-tractability of optimal stopping problems via a weighted stochastic mesh algorithm. *Mathematical Finance*, <https://doi.org/10.1111/mafi.12271> early view.

- [6] Belomestny, D., Schoenmakers, J. (2020). Optimal stopping of McKean-Vlasov diffusions via regression on particle systems. *SIAM J. on Contr. Optim.*, 58, pp. 529–550.
- [7] Belomestny, D., Schoenmakers, J., Spokoiny, V., Zharkynbay, B. (2020). Optimal stopping via reinforced regression. *Comm. in Math. Sci.*, 18, pp. 109–121.
- [8] Belomestny, D., Hildebrand, R., and Schoenmakers, J. (2019). Optimal stopping via pathwise dual empirical maximisation. *Appl. Math. and Opt.*, 79, 715–741.
- [9] Belomestny, D., Schoenmakers, J. (2018). Projected particle methods for solving McKean-Vlasov stochastic differential equations. *SIAM J. on Num. Anal.*, 56, 3169–3195.
- [10] Bayer, C., Mai, H., and J. Schoenmakers (2018). Forward-reverse expectation-maximization algorithm for Markov chains: Convergence and numerical analysis. *Adv. Appl. Prob.*, 2, pp. 621–644.
- [11] Krätschmer, V., Ladkau, M., Laeven, R. A., Schoenmakers, J., and Stadje, M. (2018). Optimal Stopping under Uncertainty in Drift and Jump Intensity. *Math. of Oper. Res.*, 43, 1177–1209.
- [12] Belomestny, D., Mai, H., Schoenmakers, J. (2017). Generalized Post-Widder inversion formula with application to statistics. *J. of Math. Anal. and Appl.*, 455, 89-104.
- [13] Anker, F., Bayer, C., Eigel, M., Ladkau, M., Neumann, J., Schoenmakers, J. (2017). SDE based regression for linear random PDEs. *SIAM J. on Sci. Comp.*, 39, A1168-A1200.
- [14] Anker, F., Bayer, C., Eigel, M., Neumann, J., Schoenmakers, J. (2017). A fully adaptive interpolated stochastic sampling

- method for random PDE. *Int. J. for Uncertainty Quantification*, 7, no. 3, 189-205.
- [15] Bayer, C., and J. Schoenmakers (2016). Option pricing in affine generalized Merton models. In: *Advanced Modelling in Mathematical Finance - In honour of Ernst Eberlein* (Springer, J. Kallsen, A. Papapantoleon eds.).
- [16] Bayer, C., Friz, P. K., Riedel, S., and J. Schoenmakers (2016). From rough path estimates to multilevel Monte Carlo. *SIAM J. on Num. Anal.*, 54, no. 3, 1449-1483.
- [17] Belomestny, D., Schoenmakers, J. (2016). Statistical inference for time-changed Lévy processes via Mellin transform approach. *Stoch. Proc. and their Appl.*, 126, no. 7, 2092-2122.
- [18] Milstein, G. N., J. Schoenmakers (2016). Uniform approximation of the CIR process via exact simulation at random times. *Adv. Appl. Probab.*, Vol. 48, No. 4, 1095-1116.
- [19] Grbac, Z., Papapantoleon, A., Schoenmakers, J., Skovmand, D. (2015). Affine LIBOR models with multiple curves: theory, examples and calibration. *SIAM J. Financial Math.*, Vol. 6, pp. 984-1025.
- [20] Belomestny, D., Ladkau, M., and J. Schoenmakers (2015). Multilevel simulation based policy iteration for optimal stopping – convergence and complexity. *SIAM J. on Uncertainty Quantification*, Vol. 3, pp. 460-483.
- [21] Belomestny, D., Schoenmakers, J. (2015). Statistical Skorohod embedding problem: optimality and asymptotic normality. *Statistics and Probability Letters*, 104, 169-180.
- [22] Belomestny, D., Joshi, M.S., and J. Schoenmakers (2015). Addendum to: Multilevel dual approach for pricing American style derivatives. *Finance and Stochastics*, 19, pp. 681–684.

- [23] Milstein, G. N., J. Schoenmakers (2015). Uniform approximation of the Cox-Ingersoll-Ross process. *Adv. Appl. Probab.*, Vol. 47, No. 4, 1132-1156.
- [24] Bender, C., Schoenmakers, J., and J. Zhang (2015) Dual representations for general multiple stopping problems. *Mathematical Finance*, 25, 339–370.
- [25] Bayer, C., and J. Schoenmakers (2014). Simulation of conditional diffusions via forward-reverse stochastic representations *Ann. Appl. Probab.*, 24, pp. 1994–2032.
- [26] Schoenmakers, J. (2013) Coupling local currency Libor models to FX Libor models. In: *Recent Developments in Computational Finance* (World Scientific, T. Gerstner and P.E. Kloeden eds.)
- [27] Belomestny, D., Schoenmakers, J., and F. Dickmann (2013). Multilevel dual approach for pricing American style derivatives. *Finance and Stochastics*, 17, pp. 717-742.
- [28] Ladkau, M., Schoenmakers, J., and J. Zhang (2013). Libor model with expiry-wise stochastic volatility and displacement *Int. J. Portfolio Analysis and Management*, 1 pp. 224–249
- [29] Balder, S., Mahayni, A., and J. Schoenmakers (2013). Primal-dual linear Monte Carlo algorithm for multiple stopping — An application to flexible caps. *Quant. Finance*, 13, pp. 1003–1013.
- [30] Schoenmakers, J., Zhang, J., and J. Huang (2013). Optimal dual martingales, their analysis and application to new algorithms for Bermudan products. *SIAM J. Financial Math.*, 4, 86–116.
- [31] Belomestny, D., Ladkau, M., and J. Schoenmakers (2012). Tight bounds for American options via multilevel Monte

- Carlo. *IEEE Proc. Winter Simulation Conference*, invited paper.
- [32] Papapantoleon A., Schoenmakers, J., and D. Skovmand (2012). Efficient and accurate log-Levy approximations to Levy driven LIBOR models. *J. of Computational Finance*, 15, 3–44.
- [33] Schoenmakers, J. (2012) A pure martingale dual for multiple stopping. *Finance and Stoch.*, 16, 319–334.
- [34] Mahayni, A., and J. Schoenmakers (2011). Minimum return guarantees with funds switching rights—An optimal stopping problem. *J. of Econ. Dyn. and Control*, 35, 1880–1897.
- [35] Belomestny, D., J. Schoenmakers (2011) A jump-diffusion Libor model and its robust calibration. *Quant. Fin.*, 11, pp. 529–546.
- [36] Kraetschmer, V., and J. Schoenmakers (2010) Representations for optimal stopping under dynamic monetary utility functionals. *SIAM J. Fin. Math.* 1, 811–832.
- [37] Belomestny, D., Kolodko, A., and J. Schoenmakers (2010). Regression methods for stochastic control problems and their convergence analysis. *SIAM J. Control Optim.*, 48, 3562–3588
- [38] Belomestny, D., Kolodko, A., and J. Schoenmakers (2010). Pricing CMS spreads in the Libor market model. *Int. J. Theor. Appl. Finance*, 13, 45–62.
- [39] Belomestny, D., Milstein, G.N., and J. Schoenmakers (2010). Sensitivities for Bermudan options by regression methods. *Decisions in Econ. and Fin.*, Vol. 33, 2, 117–138.
- [40] Belomestny, D., Bender, C., and J. Schoenmakers (2009). True upper bounds for Bermudan products via non-nested Monte Carlo. *Mathematical Finance*, Vol. 19, No. 1 , 53–71.

- [41] Belomestny, D., Kampen, J., and J. Schoenmakers (2009). Holomorphic transforms with application to affine processes. *J. of Funct. Anal.*, Vol. 257, 4, pp. 1222-1250
- [42] Belomestny, D., Mathew, S., and J. Schoenmakers (2009). Multiple stochastic volatility extension of the Libor market model and its implementation. *Monte Carlo Methods Appl.*, 15 (2009) pp. 285-310
- [43] Kampen, J., Kolodko, A., and J. Schoenmakers (2008). Monte Carlo Greeks for exotic products via approximative Greenian Kernels. *SIAM J. of Sci. Comp.* Vol. 31, 1, 1–22.
- [44] Bender, C., Kolodko, A., and J. Schoenmakers (2008). Enhanced policy iteration for American options via scenario selection. *Quant. Finance*, Vol. 8, Number 2, pp. 135–146.
- [45] Milstein, G.N., Schoenmakers, J., and V. Spokoiny (2007). Forward and reverse representations for Markov chains. *Stoch. Proc. and their Appl.*, 117 pp. 1052–1075.
- [46] Reiß, O., Schoenmakers, J., and M. Schweizer (2007). From Structural Assumptions to a Link between Assets and Interest Rates. *Journal of Economic Dynamics & Control*, 31, 2007, 593–612.
- [47] Spivakovskaya, D., Heemink, A.W., and J. Schoenmakers (2007). Two-particle models for the estimation of the mean and standard deviation of concentrations in coastal waters. *SERRA*, Vol. 21, Number 3, pp. 235-251.
- [48] Bender, C., Kolodko, A., and J. Schoenmakers (2006). Iterating cancelable snowballs and related exotics. *RISK* September 2006.

- [49] Bender, C., J. Schoenmakers (2006). An iterative algorithm for multiple stopping: Convergence and stability. *Advances in Appl. Prob.*, Volume 38, Number 3, pp. 729-749.
- [50] Kolodko, A., J. Schoenmakers (2006). Iterative construction of the optimal Bermudan stopping time. *Finance and Stochastics*, **10**(1), 27-49.
- [51] Bender, C., Kolodko, A., and J. Schoenmakers (2006). Policy iteration method for American options: overview. *Monte Carlo Meth. and Appl.* 12, No. 5-6, 347-362.
- [52] van den Berg, E., Heemink, A.W., Lin, H.X., and J. Schoenmakers (2006). Probability density estimation in stochastic environmental models using reverse representations. *SERRA*, **20**, (1-2) , pp. 126–139.
- [53] Spivakovskaya, D., Heemink, A.W., Milstein, G.N., and J. Schoenmakers (2005). Simulation of the transport of particles in coastal waters using forward and reverse time diffusion. *Advances in Water Resources*, 28, pp. 927–938.
- [54] Haaf, H., Reiß, O., and J. Schoenmakers (2004). Numerically stable computation of creditrisk<sup>+</sup>. *Journal of Risk*, 6 (4), pp. 1–10.
- [55] Kolodko, A., J. Schoenmakers (2004). Upper bounds for Bermudan style derivatives. *Monte Carlo Methods Appl.*, 10(3-4), pp. 331–343.
- [56] Milstein, G.N., Reiß, O., and J. Schoenmakers (2004). A new monte carlo method for american options. *Int. J. of Theoretical and Applied Finance*, 7(5), pp. 591–614.
- [57] Milstein, G.N., Schoenmakers, J., and V. Spokoiny (2004). Transition density estimation for stochastic differential equa-

- tions via forward-reverse representations. *Bernoulli*, 10(2), pp. 281–312.
- [58] Schoenmakers, J., B. Coffey (2003). Systematic generation of parametric correlation structures for the libor market model. *Int. J. of Theoretical and Applied Finance*, 6(5), pp. 507–519.
- [59] Kurbanmuradov, O., Sabelfeld, K., and J. Schoenmakers (2002). Lognormal approximations to libor market models. *Journal of Computational Finance*, 6, pp. 69–100.
- [60] Milstein, G.N., J. Schoenmakers (2002). Monte carlo construction of hedging strategies against multi-asset European claims. *Stochastics Stochastics Rep.*, 73(1-2), pp. 125–157.
- [61] Schoenmakers J., Heemink A.W., Ponnambalam K., and P.E. Kloeden (2002). Variance reduction for Monte Carlo simulation of stochastic environmental models. *Appl. Math. Mod.* 26, pp. 785-795.
- [62] Schoenmakers, J., P. Kloeden (1999). Robust option replication for a Black–Scholes model extended with nondeterministic trends. *J. Appl. Math. Stochastic Anal.*, 12(2), pp. 113–120.
- [63] Ponnambalam, K., Heemink, A.W., and J. Schoenmakers (1997). Estimation of risk in environmental systems In: *Measurement and modelling in environmental pollution I*. (WITpress, C.A. Brebbia, R. San Jose, eds.)
- [64] Schoenmakers, J., A.W. Heemink (1997). Fast Valuation of Financial Derivatives. *Journal of Computational Finance*, 1, no. 1, pp. 47-62.



□ *Preprints/Submitted:*

- [65] Laeven, R., Schoenmakers, J., Schweizer, N., Stadje, M. (2020). Robust multiple stopping – A path-wise duality approach, WIAS Preprint 2728.
- [66] Bayer, C., Belomestny, D., Hager, P., Pigato, P., Schoenmakers, J. (2020). Randomized optimal stopping algorithms and their convergence analysis, WIAS Preprint 2697.
- [67] Hildebrand, R., Schoenmakers, J., Zhang, J., Dickmann, F. (2016). Regression based duality approach to optimal control with application to hydro electricity storage. WIAS preprint 2330.

□ *Theses:*

- [68] Habilitation thesis: Robust Libor modelling and pricing of derivative products, Humboldt University Berlin, 2009.
- [69] Doctor thesis (PhD): On excursions of stochastic processes, Cox-point processes, entrance behaviour and resolvents, Delft University of Technology, 1992.
- [70] Master thesis: Locally equi-continuous semigroups on locally convex sequence spaces (in dutch), Eindhoven University of Technology, 1988.