

Publication List

Research monographs

- [1] P. Del Moral. Mean field simulation for Monte Carlo integration (626p.) Chapman & Hall. Monographs on Statistics & Applied Probability (June 2013).
 - [2] P. Del Moral, P. Hu, L. Wu. On the concentration properties of Interacting particle processes HAL-INRIA RR-7677 (2011). Foundations and Trends in Machine Learning, Vol. 3, No. 3 - 4, 225-389 (2012).
 - [3] P. Del Moral. Feynman-Kac formulae. Genealogical and interacting particle systems with applications. Probability and its Applications (New York). (573p.) Springer-Verlag, New York (2004).
 - [4] P. Del Moral and L. Miclo. Branching and interacting particle systems approximations of Feynman-Kac formulae with applications to non-linear filtering. In *Séminaire de Probabilités, XXXIV*, volume 1729 of *Lecture Notes in Math.*, pages 1–145. Springer, Berlin (2000).
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Pedagogical books

- [5] P. Del Moral, C. Vergé. *Modèles et Methodes Stochastiques. Une introduction avec applications.* Springer Series : Maths et Applications, SMAI, [516p.] to appear (2014).
 - [6] P. Del Moral, B. Rémillard, and S. Rubenthaler. *Intégration, Probabilités et Processus Stochastiques.* Ellipses, Paris (2006).
 - [7] N. Bartoli and P. Del Moral. *Simulation et algorithmes stochastiques : Une introduction avec applications.* Cépadués, Toulouse (2001).
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Direction of work

- [8] Evolve - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation III. Edts. O. Schuetze, C. A. Coello Coello, A. Tantar, E. Tantar, P. Bouvry, P. Del Moral, P. Legrand International Conference held at Cinvestav, Mexico, August 2012. Studies in Computational Intelligence, vol. 500 (2014).
- [9] Evolve - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation IV. Edts. M. Emmerich, A. Deutz, O. Schuetze, T. Back, E. Tantar, A. Tantar, P. Del Moral, P. Legrand, P. Bouvry, C. A. Coello International Conference held at Leiden University, July 10-13 2013. Advances in Intelligent Systems and Computing, vol. 227 (2013).

- [10] **Evolve : A bridge between Probability, Set Oriented Numerics and Evolutionary Computation I.** Edts : E. Tantar, A. Tantar, P. Del Moral, C. A. Coello Coello, P. Legrand, O. Schutze, P. Bouvry. Springer Series: Studies in Computational Intelligence, Vol. 447, No. XII, 412 p. Springer (2013).
- [11] R. Carmona, P. Del Moral, P. Hu, N. Oudjane **Numerical Methods in Finance.** Springer New York, Series: Proceeding in Mathematics, Series: Springer Proceedings in Mathematics, Vol. 12, XVII, 471 p. (2012). .
- [12] **Evolve - A Bridge between Probability, Set Oriented Numerics, and Evolutionary Computation II.** Edts O. Schutze, C. A. Coello Coello, A. Tantar, E. Tantar, P. Bouvry, P. Del Moral and P. Legrand. *Advances in Intelligent Systems and Computing, 2013, Volume 175*, Springer (2012).

Book chapters

- [13] P. Del Moral, E. Tantar, A. Tantar. **On the foundations and the applications of evolutionary computing [90p.]** in *Evolve - A bridge between Probability, Set Oriented Numerics and Evolutionary Computation I.* Studies in Computational Intelligence, Vol. 447, No. XII, 412 p. Springer (2013).
- [14] R. Carmona, P. Del Moral, P. Hu, N. Oudjane **An introduction to particle methods in finance** in *Numerical Methods in Finance (43p.)*. Springer New York, Series: Springer Proceedings in Mathematics, Vol. 12, XVII, 471 p. (2012).
- [15] P. Del Moral, B. Rémillard, S. Rubenthaler. **Monte Carlo approximations of american option that preserve monotonicity and convexity.** in *Numerical Methods in Finance (28p.)*. Springer New York, Series: Proceeding in Mathematics, (to appear 2011-2012).
- [16] P. Del Moral, and A. Doucet **Particle Methods: An introduction with applications** HAL-INRIA RR-6991 [48p], July 2009. *2008 Machine Learning Summer School, Springer LNCS/LNAI Tutorial book no. 6368* (2011).
- [17] P. Del Moral, and Fr. Patras. **Interacting path systems for credit portfolios risk analysis** HAL-INRIA RR-7196 [9p], (Feb. 2010). To appear in : *Recent Advancements in the Theory and Practice of Credit Derivatives*. D. Brigo, T. Bielecki, F. Patras Eds. Bloomberg Press (2010).
- [18] P. Del Moral, F. Patras, and S. Rubenthaler. **A mean field theory of nonlinear filtering.** HAL-INRIA, **Technical Report RR 6437**. In D. Crisan and B. Rosovsky, editors, *Oxford Handbook of Nonlinear Filtering*, pages 1–39. Oxford University Press, to appear (2010).
- [19] P. Del Moral, A. Doucet, and A. Jasra. **Sequential monte carlo for bayesian computation.** In *Bayesian Statistics 8*, pages 91–115. Oxford University Press (2007).

- [20] P. Del Moral and P. Lezaud. **Branching and interacting particle interpretations of rare event probabilities.** In *Stochastic hybrid systems*, volume 337 of *Lecture Notes in Control and Inform. Sci.*, pages 277–323. Springer, Berlin (2006).
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- [29] P. Del Moral, A. Doucet. **A new class of interacting Markov chain Monte Carlo methods** *Comptes rendus Académie des Sciences, Série : Mathématiques* Vol. 348 - N 1-2, p. 79-83 (2010).

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