

# LIST OF PUBLICATIONS OF MARIO ABUNDO

## Journals/Collections

41. M. Abundo: *An inverse first-passage problem for one-dimensional diffusions with random starting point*. Statistics and Probability Letters, 82 (1) (2012), 7-14;  
doi.org/10.1016/j.spl.2011.09.005
40. M. Abundo: *On the first-passage area of a one-dimensional jump-diffusion process*. Methodol. Comput. Appl. Probab. Online First, April 2011: DOI: 10.1007/s11009-011-9223-1.
39. M. Abundo and M. Abundo: *The first-passage area of an emptying Brownian queue*. International Journal of Applied Mathematics (IJAM), vol. 24, No 2, (2011), 259-266.
38. M. Abundo: *First passage problems for one-dimensional diffusions with random jumps from a boundary*. Stochastic Anal. Appl. 29 (1) (2011), 121- 145.
37. M. Abundo: *First-Passage Problems for Asymmetric Diffusions and Skew-diffusion Processes*. Open Systems & Information Dynamics Vol. 16, No. 4 (2009), 325-350.
36. M. Abundo: *On the Continuous Diffusion Approximation of Some Discrete Markov Chains*. The Open Applied Mathematics Journal, 2009, 3, 7-13.
35. M. Abundo: *On the First Hitting Time of a One-dimensional Diffusion and a Compound Poisson Process*. Methodol. Comput. Appl. Probab. (2010) 12:473–490  
(Online First, 2008: DOI10.1007/s11009-008-9115-1).
34. M. Abundo: *On the distribution of the time average of a jump-diffusion process* International Journal of Applied Mathematics (IJAM), vol. 21, No. 3 (2008), 447-454.
33. M. Abundo: *Some Remarks on the maximum of a one-dimensional diffusion process*. Prob. Math. Statis. Vol. 28 (1) (2008), 107-120.
32. M. Abundo: *On first-passage problems for asymmetric one-dimensional diffusions* Lecture Notes in Computer Science, Computer Aided Systems Theory – EUROCAST 2007, vol. 4739, pp. 179-186, Springer Berlin/ Heidelberg, 2007.
31. M. Abundo: *Limit at zero of the first-passage time density and the inverse problem for one-dimensional diffusions* Stochastic Anal. Appl., 24 (2006), 1119-1145.
30. M. Abundo: *The arc-sine law for the first instant at which a diffusion process equals the ultimate value of a functional* Int. J. Pure Appl. Math., 30 (1), 13-22 (2006).
29. M. Abundo: *Qualitative behaviour of the first-passage-time density of a one-dimensional diffusion over a moving boundary* Scientiae Mathematicae Japonicae, 64, No. 2 (2006), 199-216, : e-2006, 641-658.
28. M. Abundo: *Stopping a stochastic integral process as close as possible to the ultimate value of a functional* Scientiae Mathematicae Japonicae , 60 No. 3 (2004), 475-479,  
: e-2004, (10) 417- 421.
27. M. Abundo: *On the risk of extinction for a population subject to a random markov evolution with jumps* Open Sys. & Information Dyn. 11, 105-121 (2004).
26. M. Abundo: *On the first-passage time of diffusion processes over a one-sided stochastic boundary* Stochastic Analysis and Applications vol. 21, No. 1, 1-23 (2003).
25. M. Abundo: *Some comparison results of solutions of diffusion and jump-diffusion equations*. Advances and Applications in Statistics vol. 2 (1), 51-78 (2002).
24. M. Abundo: *Some conditional crossing results of Brownian motion over a piecewise-linear boundary* Statistics and Probability Letters, vol. 58 (2), 131-145 (2002).
23. M. Abundo, L. Accardi, N. Rosato, L. Stella: *Analysing protein energy data by a stochastic model for cooperative interactions: comparison and characterization of cooperativity* J. Math. Biol. 44, 341-359 (2002).

22. M. Abundo: *On first-passage-times for one-dimensional jump-diffusion processes.* Prob. Math. Stasis., vol 20, Fasc. 2, 399-423 (2000).
21. M. Abundo: *Some results about boundary crossing for Brownian motion.* Ricerche di Matematica vol. L, (2), 283-301 (2001).
20. M. Abundo: *On first-crossing times of one-dimensional diffusions over two time-dependent boundaries.* Stochastic Analysis and Applications. , 18 (2), 179-200 (2000).
19. M. Abundo: *On some properties of one-dimensional diffusion processes on an interval* Prob. Math. Stasis., vol 17, Fasc. 2 (1997), pp. 235-268.
18. M. Abundo, P. Baldi, L. Caramellino : *A diffusion approximation which models hierarchic interactions in cooperative biological systems* Open Systems & Information Dynamics 5: 1-23, (1998).
17. M. Abundo, L. Accardi, N. Rosato, L. Stella: *A stochastic model for the cooperative relaxation of proteins, based on a hierarchy of bonds between aminoacidic residues* Math. Models and Meth. in Appl. Sci., vol. 8, No. 2 (1998) 327-358.
16. M. Abundo, L. Accardi, N. Rosato, G. Mei, A. Finazzi Agrò : *A stochastic model for the sigmoidal behaviour of cooperative biological systems* Biophysical Chemistry 58 (1996) 313-323.
15. M. Abundo, L. Caramellino : *Some remarks about a Markov chain which models cooperative biological systems* Open Systems & Information Dynamics Vol. 3 No 3 (1995) 325-343.
14. M. Abundo, L. Accardi, N. Rosato : *A Markovian model for cooperative interactions in proteins* Math. Models and Meth. in Appl. Sci. Vol. 5, No. 6 (1995) 835-863.
13. M. Abundo, C. Rossi : *Some scenario Analyses for HIV epidemic* Statistica Applicata, vol. 6, n. 2, 121-136 (1994).
12. M. Abundo, C. Rossi: *A stochastic model of the impact of genetic variability of HIV on the immune system in infected patients* In Modeling the AIDS Epidemic E. H. Kaplan and M.L. Brandeau (Editors), 481-498, Raven Press, New York, 1994.
11. M. Abundo, L. Accardi, A. Auricchio : *Hyperbolic automorphisms of Tori and pseudo-random sequences* Calcolo vol. 29, 213-240 (1992).
10. M. Abundo, C. Rossi, O. Rubiu : *Estimation of parameters for a stochastic model of tumoral cells treated with anticancer agents* J. Exp. Clin. Cancer Res., 12, 2, 81-90 (1993).
9. M. Abundo : *A stochastic model for predator-prey systems: basic properties, stability and computer simulation* J. Math. Biol. 29: 495-511 (1991).
8. M. Abundo, L. Accardi : *Squeezing corrections to the Bloch equations* Il Nuovo Cimento vol. 106 B, n. 2, 187-194 (1991).
7. M. Abundo, G. Mele : *Absolutely continuous invariant measures for expanding maps of a d-dimensional unit cube in  $R^d$  and their entropy* Note di Matematica vol X, n.2. 217-233 (1990). Note di Matematica vol X, n.2. 217-233 (1990).
6. M. Abundo, C. Rossi : *Numerical Simulations of a stochastic model for cancerous cells submitted to chemotherapy* J. Math. Biol. (1989) 27: 81,90.
5. M. Abundo : *An almost sure invariance principle for the maps  $S_a(x)=ax(1-x)$  in the interval  $[0,1]$*  Le Matematiche, Vol. XLII (1987)- Fasc. I-II, 11-18 .
4. M. Abundo : *Entropy and characteristic exponents for the quadratic map on the unit interval* Note di Matematica vol. VII (1987), 47-54.
3. M. Abundo : *A remark about topological and measure entropy for a class of maps of the interval  $[0,1]$*  Rendiconti del Circolo Matematico di Palermo Serie II, Tomo XXXV (1986), 456-465.
2. M. Abundo, B. Tirozzi : *A central limit theorem for expanding maps of the interval  $[0,1]$*  Boll. Un. Mat. Ital. (6) 4-A (1985), 237-244.

1. M. Abundo, B. Tirozzi : *The central limit theorem for a class of maps of the interval [0,1]*  
Boll. Un. Mat. Ital. (6) 3-B (1984), 25-37.

## Proceedings of conferences with referee

14. M. Abundo, M. Abundo: *On the first-passage area of an emptying Brownian queue.*  
in: Computer Aided System Theory (Quesada-Arenciba, Rodrigues, Moreno-Diaz R. jr.,  
Moreno-Diaz R. eds.) Extended Abstracts of the 13th International Conference on Computer  
Aided System Theory, EUROCAST 2011, IUCTC Universidad de Las Palmas de Gran Canaria,  
ISBN: 978-84-693-9560-8, 70-71
13. M. Abundo: *On First-passage Problems for one-dimensional diffusions with random jump  
reflection at a boundary.* In: R. Trappl (Ed.) *Cybernetics and Systems 2010* , pp 163-168, Austrian  
Society for Cybernetics Studies, Vienna, 2010.
12. P. Abundo, N. Rosato and M. Abundo *A Stochastic Model for Infective Events in Operating  
Room Caused by Air Contamination.* In: Proceedings of BIOCOMP 2007, CP1028, Collective  
Dynamics: *Topics on Competition and Cooperation in the Biosciences* (L.M. Ricciardi, A.  
Buonocore, and E. Pirozzi eds.), American Institute of Physics, 2008, pp. 198-209.
11. M. Abundo: *On First-passage Problems for Asymmetric Diffusions.*  
In: R. Trappl (Ed.) *Cybernetics and Systems 2008* , pp 238-243, Austrian Society for  
Cybernetics Studies, Vienna, 2008.
10. M. Abundo: *On first-passage problems for asymmetric one-dimensional diffusions*  
in: Computer Aided System Theory (Quesada-Arenciba, Rodrigues, Moreno-Diaz R. jr.,  
Moreno-Diaz R. eds.) Extended Abstracts of the 11th International Conference on Computer  
Aided System Theory, EUROCAST 2007, IUCTC Universidad de Las Palmas de Gran Canaria,  
ISBN: 978-84-690-3603-7, 66-67
9. M. Abundo: *The inverse first-passage time problem for one-dimensional diffusions*  
In: R. Trappl (Ed.) *Cybernetics and Systems 2006* , pp 226-231, World Scientific, 2006.
8. M. Abundo: *Extinction risk for a population driven by a jump-diffusion equation*  
In: R. Trappl (Ed.) *Cybernetics and Systems 2004* , pp 169-175, World Scientific, 2004.
7. M. Abundo: *On comparison of solutions of diffusion and jump-diffusion equations*  
In: R. Trappl (Ed.) *Cybernetics and Systems 2002* , pp 307-312, Austrian Society for  
Cybernetics Studies, Vienna, 2002.
6. M. Abundo: *On boundary up-crossing for Brownian motion.* In: R. Trappl (Ed.) *Cybernetics  
and Systems 2000* , pp 295-300, Austrian Society for Cybernetics Studies, Vienna, 2000.
5. M. Abundo: *Some remarks on first-crossing-time problem for one-dimensional diffusion  
processes.* In: R. Trappl (Ed.) *Cybernetics and Systems '98* , pp 384-389, Austrian Society  
for Cybernetics Studies, Vienna, 1998.
4. M. Abundo: *Diffusion approximation of discrete Markov chains with Binomial-like  
transition probabilities* In: R. Trappl (Ed.) *Cybernetics and Systems '96* ,  
pp 508-513, Austrian Society for Cybernetics Studies, Vienna, 1996.
3. M. Abundo: *Analysis of noise in cooperative systems in Biology*  
In: R. Trappl (Ed.) *Cybernetics and Systems '94*, pp 823-830, World Scientific, 1994.
2. M. Abundo: *A stochastic model for protein aggregation*  
In: *Topics on Biomathematics*, I. Barbieri et Al. (Editors), 113-118, World Scientific, 1993.
1. M. Abundo: *On the non-exit problem for some stochastic dynamical systems*  
In: R. Trappl (Ed.) *Cybernetics and Systems Research '92* , pp 837-844, World Scientific,  
1992.

## Technical reports

5. M. Abundo: *Sequencing DNA fragments by using a simulated annealing algorithm*  
Technical Report Centro Matematico V. Volterra N.46, July 90.
4. M. Abundo: *The simulated annealing algorithm viewed as an iterated function system*  
Technical Report Centro Matematico V. Volterra N.45, July 90.
3. M. Abundo: *Proprietà di trasformazioni sull' intervallo [0,1]*  
Technical Report Dipartimento di Matematica II Università di Roma (1986) .
2. M. Abundo, S. Ghinami, B. Tirozzi: *1/f noise for a stochastic dynamic of a one dimensional lattice spin system* Technical Report Dipartimento di Matematica II Università di Roma, (1985)
1. M. Abundo: *Equivalenza tra l'ensemble canonico e l'ensemble di Gibbs per opportuni campi di Gibbs* Estratto della Tesi di Laurea, 1979.

## Preprints

1. M. Abundo, C. Macci, G. Stabile: *Asymptotic estimates of exit probabilities for small noise diffusions* (2010).
2. M. Abundo: *First-passage time of a stochastic integral process with deterministic integrand through a linear boundary*. Preprint 2011.

## Books

1. M. Abundo: *Esercizi e temi d'esame di Calcolo delle Probabilità e Statistica*.  
Aracne Editrice, Roma, II edizione, 2006 (ISBN 88-548-0493-2).
2. M. Abundo: *Esercizi e problemi di Analisi Matematica I. Con brevi richiami di teoria*.  
Aracne Editrice, Roma, 2007 (ISBN 978-88-548-1300-7)