

Philip A. Ernst, Ph.D.
Publication List

Published or in Press (see website for preprints)

Legend: () denotes a postdoctoral fellow co-author. (**) denotes a Ph.D. student co-author. (***) denotes that co-author is a Nobel Prize winner.*

39. Ernst, P.A. and Mei, H.* (2025+). Minimax sequential testing for drifts of stochastic differential equations. *SIAM Journal on Control and Optimization*, to appear.
38. Ernst, P.A., Rogers, L.C.G., and Zhou, Q.* (2025) Yule’s “nonsense correlation”: Moments and density. *Bernoulli*, **31**: 412–431.
37. Ernst, P.A., Mei, H.*, and Peskir, G. (2024). Quickest real-time detection of multiple Brownian drifts. *SIAM Journal on Control and Optimization*, **62**: 1832–1856.
36. Bednarz, E., Ernst, P.A., and Osekowski, A. (2024). On the diameter of the stopped spider process. *Mathematics of Operations Research*, **49**: 346–365.
35. Ernst, P.A., Ma, X., Nazari, M., Qian, H., Wang, L., and Yin, G. (2024). Numerical Solutions of A Class of Optimal Stopping. *Nonlinear Analysis: Hybrid Systems*, **53**: 101507.
34. Ernst, P.A. and Mei, H.* (2023). Exact optimal stopping for multidimensional linear switching diffusions. *Mathematics of Operations Research*, **48**: 1589–1606.
33. Ernst, P.A., Huang, D.** and Viens, F.G. (2023). Yule’s “nonsense correlation” for Gaussian random walks. *Stochastic Processes and their Applications*, **162**: 423–455.
32. Ernst, P.A. and Peskir, G. (2022). Quickest real-time detection of a Brownian coordinate drift. *The Annals of Applied Probability*, **32**: 2652–2670.
31. Ernst, P.A., Imerman, M., Shepp, L.A., and Zhou, Q.* (2022). Fiscal stimulus as an optimal control problem. *Stochastic Processes and their Applications*, **150**: 1091–1108.
30. Bruss, F.T., Ernst, P.A. and Huang, D.** (2022). The rencontre problem. *Stochastic Processes and their Applications*, **150**: 938–971.
29. Ernst, P.A., Kagan, A.M., and Rogers, L.C.G. (2022). The least favorable noise. *Electronic Communications in Probability*, **27**: 1–11.
28. Gerber, S., Markowitz, H.M.***, Ernst, P.A., Miao, Y.**, Javid, B., and Sargen, P. (2022). The Gerber statistic: a robust co-movement measure for portfolio optimization. *The Journal of Portfolio Management*, **48**: 87–102.
27. Ernst, P.A. and Franceschi, S. (2021). Asymptotic behavior of the occupancy density for obliquely reflected Brownian motion in a half-plane and Martin boundary. *The Annals of Applied Probability*, **31**: 2991–3016.

26. Ernst, P.A., Franceschi, S., and Huang, D.** (2021). Escape and absorption probability for obliquely reflected Brownian motion in a quadrant. *Stochastic Processes and their Applications*, **142**: 634–670.
25. Ernst, P.A. and Rogers, L.C.G. (2020). The value of insight. *Mathematics of Operations Research*, **45**: 1193–1209.
24. Ernst, P.A., Peskir, G., and Zhou, Q.* (2020). Optimal real-time detection of a drifting Brownian coordinate. *The Annals of Applied Probability*, **30**: 1032–1065.
23. Ernst, P.A., Rogers, L.C.G., and Zhou, Q.* (2020). When is it best to follow the leader? *Stochastic Processes and their Applications*, **130**: 3394–3407.
22. Ernst, P.A. and Shaman, P. (2019). The bias mapping of the Yule–Walker estimator is a contraction. *Statistica Sinica*, **29**: 1831–1849.
21. Ernst, P.A. and Viens, F.G. (2019). In memory of Larry Shepp: An editorial. *High Frequency*, **2**: 74–75.
20. Ernst, P.A., Kendall, W.S., Roberts, G.O., and Rosenthal, J.S. (2019). MEXIT: Maximal un-coupling times for stochastic processes. *Stochastic Processes and their Applications*, **129**: 355–380.
19. Ernst, P.A. and Soleymani, F. (2019). A Legendre-based computational method for solving a class of Itô stochastic delay differential equations. *Numerical Algorithms*, **80**: 1267–1282.
18. Ernst, P.A., Kimmel, M., Kurpas, M., and Zhou, Q.* (2018). Thick distribution tails in models of cancer secondary tumors. *Advances in Applied Probability*, **50**: 99–114.
17. Ernst, P.A., Asmussen, S., and Hasenbein, J.J. (2018). Stability and tail asymptotics in a multiclass queue with state dependent arrival rates. *Queueing Systems*, **90**: 207–224.
16. Zhou, Q.*, Ernst, P.A., Morgan, K.L., Rubin, D.B., and Zhang, A. (2018). Sequential rerandomization. *Biometrika*, **105**: 745–752.
15. Ernst, P.A., Rogers, L.C.G., and Zhou, Q.* (2017). The value of foresight. *Stochastic Processes and their Applications*, **127**: 3913–3927.
14. Ernst, P.A., Shepp, L.A., and Wyner, A.J. (2017). Yule’s “nonsense correlation” solved! *The Annals of Statistics*, **45**: 1789–1809.
13. Ernst, P.A., Thompson, J.R., and Miao, Y.** (2017). Tukey’s transformational ladder for portfolio management. *Financial Markets and Portfolio Management*, **31**: 317–355.
12. Ernst, P.A. (2017). Minimizing Fisher information with absolute moment constraints. *Statistics and Probability Letters*, **129**: 167–170.
11. Ernst, P.A., Thompson, J.R., and Miao, Y.** (2017). Portfolio Selection: The Power of Equal Weight. In *Models and Reality: A Festschrift for James R. Thompson*, pp. 225–236.

10. Ernst, P.A. and Grigorescu, I. (2017). Asymptotics for the time of ruin in the war of attrition. *Advances in Applied Probability*, **49**: 388–410.
9. Ernst, P.A. and Shepp, L.A. (2017). On occupation times of the first and third quadrants for planar Brownian motion. *Journal of Applied Probability*, **54**: 337–342.
8. Ernst, P.A., Brown, L.D., Shepp, L.A., and Wolpert, R.L. (2017). Stationary Gaussian Markov processes as limits of stationary autoregressive time series. *Journal of Multivariate Analysis*, **155**: 180–186.
7. Ernst, P.A. (2017). On the arbitrage price of European call options. *Stochastic Models*, **33**: 48–58.
6. Ernst, P.A. and Shepp, L.A. (2016). Eliminating a loophole in the national flood insurance program. *Law, Probability and Risk*, **15**: 251–258.
5. Ernst P.A. (2016). Exercising control when confronted by the (Brownian) spider. *Operations Research Letters*, **44**: 487–490.
4. Ernst, P.A., Pemantle, R., Satopää, V., and Ungar, L. (2016). Bayesian aggregation of two forecasts in the partial information framework. *Statistics and Probability Letters*, **119**: 170–180.
3. Ernst, P.A. and Shepp, L.A. (2016). On the time for Brownian motion to visit every point on a circle. *Journal of Statistical Planning and Inference*, **171**: 130–134.
2. Ernst, P.A. and Shepp, L.A. (2015). Revisiting a theorem of L.A. Shepp on optimal stopping. *Communications on Stochastic Analysis*, **9**: 419–423.
1. Ernst, P.A., Foster, D.P., and Shepp, L.A. (2014). On optimal retirement. *Journal of Applied Probability*, **51**: 333–345.