Frederic Paik Schoenberg

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Professional experience

Professor & Vice-Chair, UCLA Statistics	7/06 - present
Editor (with Nicolas Christou), Journal of Environmental Statistics	7/08 - present
Associate Professor & Vice-Chair, External Affairs, UCLA Statistics	7/04 - present
Assistant Professor, UCLA Statistics	7/98 - 6/04

Education

Ph.D., Statistics, University of California, Berkeley	8/93 - 12/97
Ph.D. Advisor, David Brillinger	
B.S., Mathematics, Honors and Magna cum Laude, Brown University	5/93

Awards

NSF grant: "Spatial-temporal Analysis of Earthquake Catalogs using Point Processes."	8/03 - 8/06
Faculty Career Development Award, UCLA	7/01 - 6/02
NSF grant: "Fire hazard estimation using point process methods,"	8/99 - 8/03
Dean's Marshal Award for the Division of Physical Sciences, UCLA	6/99
Loeve Fellowship recipient, U.C. Berkeley	8/93 - 6/97

Primary Research Interest:

Point processes, and applications to earthquakes and wildfires.

Publications

Petty, K., Bickel, P., Jiang, J., Ostland, M., Rice, J., Ritov, Y., and Schoenberg, F. (1998). Accurate estimation of travel times from single loop detectors. *Transportation Research A*, 1, 1-17.

Schoenberg, F. (1999). Transforming spatial point processes into Poisson processes. *Stochastic Processes and their Applications*, 81(2), 155-164.

Schoenberg, F. and Bolt, B. (2000). Short-term exciting, long-term correcting models for earthquakes. *Bulletin of the Seismological Society of America*, 90(4), 849-858.

Schoenberg, F. (2000). Summary of Data on Hyperemesis Gravidarum. *Birthkit*, Spring: 4,8.

Schoenberg, F., Berk, R., Fovell, R., Li, C., Lu, R., and Weiss, R. (2001). Approximation and inversion of a complex meteorological system via local linear filters. *J. Applied Meteorology*, 40(3), 446-458.

Publications, continued

Kagan, Y. and Schoenberg, F. (2001). Estimation of the upper cutoff parameter for the tapered Pareto distribution. *J. Appl. Prob.* 38A, 158–175.

Berk, R., Fovell, R., Schoenberg, F., and Weiss, R. (2001). The use of statistical tools for evaluating computer simulations: an editorial essay. *Climate Change*, 51, 119-130.

Schoenberg, F. (2001). Evidence for threshold-type relationships between fire incidence and ecological factors. *Proc. Forest Fires 2001: Operational Mechanisms, Firefighting Means and New Technologies*, Athens, Greece, March 13-16, K. Saini, ed., pp 158-162.

Schoenberg, F., Brillinger, D., and Guttorp, P. (2002). Point processes, spatial-temporal. in *Encyc. of Environmetrics*, A. El-Shaarawi and W. Piegorsch, eds. Wiley, NY, vol. 3, pp 1573–1577.

Brillinger, D.R., Guttorp, P.M., and Schoenberg, F.P. (2002). Point processes, temporal. in *Encyclopedia of Environmetrics*, A. El-Shaarawi and W. Piegorsch, eds. Wiley, NY, vol. 3, pp 1577-1581.

Guttorp, P.M., Brillinger, D.R., and Schoenberg, F.P. (2002). Point processes, spatial. in *Encyclopedia of Environmetrics*, A. El-Shaarawi and W. Piegorsch, eds. Wiley, NY, vol. 3, pp 1571–1573.

Schoenberg, F. (2002) Tessellations. in *Encyclopedia of Environmetrics*, A. El-Shaarawi and W. Piegorsch, eds. Wiley, NY, vol. 3, pp 2176-2179.

Schoenberg, F. (2002) On rescaled Poisson processes and the Brownian bridge. *Ann. Int. Statist. Math.*, 54(2), 445-457.

Berk, R., Bickel, P., Campbell, K., Fovell, R., Keller-McNulty, S., Kelly, E., Linn, R., Park, B., Perelson, A., Rouphail, N., Schoenberg, F., and Sacks, J. (2002). Workshop on statistical approaches for the evaluation of complex computer models. *Statist. Sci.*, 17, 173-192.

Schoenberg, F.P., Peng, R., Huang, Z., and Rundel, P. (2003). Detection of nonlinearities in the dependence of burn area on fuel age and climatic variables. *Int. J. Wildland Fire*, 12(1), 1-10.

Schoenberg, F.P., Ferguson, T., and Li, C. (2003). Inverting Dirichlet tessellations. *Computer Journal*, 46(1), 76-83.

Schoenberg, F.P., Peng, R., and Woods, J. (2003). On the distribution of wildfire sizes. *Environmetrics*, 14(6), 583–592.

Schoenberg, F.P. (2003). Multi-dimensional residual analysis of point process models for earthquake occurrences. *JASA* 98(464), 789–795.

Schoenberg, F.P. (2004). Consistent parametric estimation of the intensity of a spatial-temporal point process. *J. Stat. Plan. Inf.* 128(1), 79–93.

Publications, continued

Vere-Jones, D., and Schoenberg, F.P. (2004). Rescaling marked point processes. *Australian and New Zealand Journal of Statistics* 46(1), 133–143.

Schoenberg, F.P. (2004). Testing separability in multi-dimensional point processes. *Biometrics* 60, 471–481.

Brillinger, D.R., Robinson, E.A., and Schoenberg, F.P., editors (2004). *Time Series Analysis and Applications to Geophysical Systems*, IMA Volumes in Mathematics and its Applications, Springer, New York.

Peng, R. D., Schoenberg, F. P., and Woods, J. (2005). Multi-dimensional point process models for evaluating a wildfire hazard index. *JASA* 100(469), 26–35.

Zaliapin, I., Kagan, Y., and Schoenberg, F. (2005). Approximating the distribution of Pareto sums. *Pure and Applied Geophysics* 162(6-7), 1187–1228.

Schoenberg, F.P. (2005). Review of Statistical Inference and Simulation for Spatial Point Processes by Jesper Moller and R.P. Waagepetersen. *JASA* 100(469), 349–350.

Schweitzer, S., Connell, J., Schoenberg, F., and Rubini, L. (2005). Clustering in the biotechnology industry. *Proceedings of the 4th Global Conference on Business and Economics*, St. Hugh's College, Oxford, June 26-28, 2005.

Veen, A. and Schoenberg, F.P. (2005). Assessing spatial point process models using weighted K-functions: analysis of California earthquakes. in *Case Studies in Spatial Point Process Models*, Baddeley, A., Gregori, P., Mateu, J., Stoica R., and Stoyan, D. (eds.), Springer, NY.

Schoenberg, F.P. (2005). Comment on 'Residual analysis for spatial point processes' by Baddeley, Turner, Moeller, and Hazelton. JRSS B , 67, 661.

Connell, J., Schweitzer, S.O., and Schoenberg, F.P. (2005). Factors underlying high-technology industrial clusters in the United States: the case of biotechnology firms. in "Health Policy and High-Tech Industrial Development: Learning from Innovation in the Health Industry", Di Tommaso, M.R. and Schweitzer, S.O., eds., Cheltenham, England: Edward Elgar Publishers.

Schoenberg, F.P. (2006). On non-simple marked point processes. *Ann. Inst. Stat. Math.*, 58(2), 223-233.

Schweitzer, S., Connell, J., Schoenberg, F., and Rubini, L. (2006). Clustering in the biotechnology industry. *Proceedings of the 4th Global Conference* on Business and Economics, St. Hugh's College, Oxford, June 26-28 2005.

Publications, continued

Schweitzer, S., Connell, J., and Schoenberg, F. (2006). Clustering in the biotechnology industry. *Int. J. Healthcare Technology and Management* 7(6), 554-566.

Schoenberg, F.P. (2007). Comment on 'A note on testing separability in spatial-temporal marked point processes,' by Rentao Assuncao and Alexandra Maia. *Biometrics* 63(1), 294–295.

Schoenberg, F.P., Chang, C., Keeley, J., Pompa, J., Woods, J., and Xu, H. (2007). A critical assessment of the Burning Index in Los Angeles County, California. *Int. J. Wildland Fire*, 16(4), 473–483.

Schoenberg, F.P. A note on the separability of multidimensional point processes with covariates. In review.

Schoenberg, F.P. (2007). Discussion of "Modern statistics for spatial point processes" by Moller and Waagepetersen. Scandinavian Journal of Statistics, 34, 700-701.

Schoenberg, F.P., and Xu, H. Directional kernel regression for wind and fire data. *Forest Science*, in review.

Schoenberg, F.P., Barr, C., and Seo, J. (2008). The distribution of Voronoi cells generated by Southern California earthquake epicenters. *Environmetrics*, 20(2), 159–171.

Veen, A. and Schoenberg, F.P. (2008). Estimation of space-time branching process models in seismology using an EM-type algorithm. *JASA*, 103(482), 614-624.

Schoenberg, F.P. and Tranbarger, K.E. (2008). Description of earthquake aftershock sequences using prototype point processes. *Environmetrics*, 19, 271–286.

Schoenberg, F.P., Pompa, J.L., and Chang, C. (2009). A note on non-parametric and semi-parametric modeling of wildfire hazard in Los Angeles County, California. Environmental and Ecological Statistics 16(2), 251–269. .

Adelfio, G. and Schoenberg, F.P. (2009). Introduction to a diagnostic approach for point processes based on weighted second-order statistics. *Annals of the Institute of Statistical Mathematics*, to appear.

Chang, J., and Schoenberg, F.P. (2009). Santa Barbara ambulance response performance under load. *Western Journal of Emergency Medicine*, 10(1), 42–47.

Chang, C., and Schoenberg, F.P. (2009). Testing separability in multi-dimensional point processes with covariates. *Annals of the Institute of Statistical Mathematics*, to appear.

Publications, continued

Eslami, E., Nishimura, A., and Schoenberg, F. (2009). Impact of weather covariates on wildfire in Tanjung Puting National Park. *Int. J. Forestry Research*, to appear.

Schoenberg, F.P., Chu, A., and Veen, A. (2009). On the relationship between lower magnitude thresholds and bias in ETAS parameter estimates. *Journal of Geophysical Research*, in review.

Nairn-Birch, N., Diez, D., Eslami, E., Macias Fauria, M., Johnson, E., and Schoenberg, F. (2009). Simulation and Estimation of Probabilities of Phases of the Pacific Decadal Oscillation. *Environmetrics*, in review.

Peng, R., and Schoenberg, F.P. Estimating fire interval distributions using coverage process data. In review.

Tranbarger, K.E. and Schoenberg, F.P. On the computation and application of point process prototypes. *Informatics*, in review.

Schoenberg, F., and Zhuang, J. On thinning a spatial point process into a Poisson process using the Papangelou intensity. *J. Stat. Plan. Inf.*, in review.

Moeller, J., and Schoenberg, F.P. (2009). Thinning spatial point processes into Poisson processes. *Adv. Appl. Prob.*, in review.

Barr, C., and Schoenberg, F.P. (2009). On the estimation of point process intensities using Voronoi diagrams. JRSS-B , in review.

Wong, K., and Schoenberg, F.P. (2009). On mainshock focal mechanisms and the spatial distribution of aftershocks. *BSSA*, in review.

Xu, H., and Schoenberg, F.P. (2009). Point process modeling of wildfire hazard in Los Angeles County, California. *AoAS*, in review.

Schoenberg, F.P. (2009). Introduction to point processes. *Encyclopedia of Operations Research and Management Science*, to appear.

Diez, D., Schoenberg, F.P., and Woody, C.D. (2009). Analysis of neuronal responses to stimuli in cats using point process prototypes. *Biometrics* , in review.

Invited Talks See http://www.stat.ucla.edu/∼frederic/talks.html

Teaching

Stat. 252: Statistics in the Physical Sciences. UCLA.	Spr 04.
Stat. 222: Spatial Statistics. UCLA.	F08, F07, S05, F03, F02, S01.
Stat. 221: Time Series Analysis. UCLA.	F06, F05, W04, F01, W00, W99.
Stat. 210a: Applied Statistics. UCLA.	Fall 02.
Stat. 202b: Numerical Linear Algebra. UCLA.	Win 05.
Stat. 201b: Regression Analysis. UCLA.	Win 09, Win 08.

Stat. 189: Honors, Applied Statistics. UCLA.	Fall 04.
Stat. 170: Intro. to Time Series Analysis. UCLA.	Win 01.
Stat. 110A: Applied Statistics. UCLA.	F04, S03, S02, W02, F98.
Stat. 100a: Intro. to Probability Theory. UCLA.	Fall 01.
Stat. 89: Honors, Intro. to Statistical Reasoning. UCLA.	Spr 08, Fall 2004.
Stat. 35b: Probability with Applications to Poker. UCLA.	Fall 08, Fall 07, Winter 07.
Stat. 19: Seminar, Applied Probability & Poker. UCLA.	S09, W09, F08, S08, F06, S06, F05.
Stat. 13: Statistics for the Life Sciences. UCLA.	Fall 08, Spr 08, Spr 07, Spr 06.
Stat. M12: Statistics for Social Sciences. UCLA.	Fall 99.
Stat. M11: Statistics for Business & Economics. UCLA.	S02, S01, F00, W00, S99.
Stat. 10: Intro. to Statistical Reasoning. UCLA.	S06, F04, S04, W01, Sum 99.
Stat. 2: Intro. to Statistics. UC Berkeley.	Summer 97

Citizenship: USA.

Date of birth: 8/30/71.