

## Yongtao Guan

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### EDUCATION

2003 Ph.D. in Statistics. Texas A&M University.

1998 B.S. in Statistics, Minor in Economics. Peking University.

### EXPERIENCE

July 2006-Present Assistant Professor, Division of Biostatistics, Yale University.

Aug. 2003-June 2006 Assistant Professor, Department of Management Science, University of Miami.

Aug. 1998-Aug. 2003 Instructor and Research Assistant, Texas A&M University.

### RESEARCH INTERESTS

Spatial statistics, recurrent event analysis, dimension reduction.

### PUBLICATIONS

*Papers published or accepted for publication in refereed statistical journals:*

Waagepetersen, R. and **Guan, Y.** (2008), “Two-Step Estimation for Inhomogeneous Spatial Point Processes”, *Journal of the Royal Statistical Society, Series B*. Tentatively accepted, subject to minor revision.

**Guan, Y.** (2008), “Fast Block Variance Estimation Procedures for Inhomogeneous Spatial Point Processes”, *Biometrika*. To appear.

**Guan, Y.** (2008), “On Consistent Nonparametric Intensity Estimation for Inhomogeneous Spatial Point Processes”, *Journal of the American Statistical Association*. To appear.

**Guan, Y.** (2008), “A Goodness-of-Fit Test for Inhomogeneous Spatial Poisson Processes”, *Biometrika*. To appear.

**Guan, Y.**, Waagepetersen, R. and Beale, C. (2008), “Second-Order Analysis of Inhomogeneous Spatial Point Processes with Proportional Intensity Functions”, *Journal of the American Statistical Association*, 103, 769–777.

**Guan, Y.** (2008), “A KPSS Test for Stationarity for Spatial Point Processes”, *Biometrics*, 64(3), 800–806.

**Guan, Y.** (2008), “A Marked Point Process Perspective in Fitting Spatial Point Process Models”, *Journal of Statistical Planning and Inference*, 138(7), 2143–2153.

**Guan, Y.** (2007), “Variance Estimation for Statistics Computed from Inhomogeneous Spatial Point Processes”, *Journal of the Royal Statistical Society, Series B*, 70(1), 175–190.

**Guan, Y.** and Loh, J. M. (2007), “A Thinned Block Bootstrap Variance Estimation Procedure for Inhomogeneous Spatial Point Patterns”, *Journal of the American Statistical Association*, 102, 1377-1386.

**Guan, Y.** (2007), “A Least-Squares Cross-Validation Bandwidth Selection Approach in Pair Correlation Estimations”, *Statistics and Probability Letters*, 77, 1722–1729.

**Guan, Y.** and Sherman, M. (2007), “On Least Squares Fitting for Stationary Spatial Point Processes”, *Journal of the Royal Statistical Society, Series B*, 69(1), 31–49.

**Guan, Y.** (2007), “A Composite Likelihood Cross-Validation Approach in Selecting Bandwidth for the Estimation of the Pair Correlation Function”, *Scandinavian Journal of Statistics*, 34, 336-346.

**Guan, Y.**, Sherman, M., and Calvin J.A. (2007), “On Asymptotic Properties of the Marked Variogram Estimator of a Marked Point Process”, *Journal of Statistical Planning and Inference*, 137, 148–161.

**Guan, Y.** and Afshartous, D. (2007), “Test for Independence between Marks and Points of Marked Point Processes: a Subsampling Approach”, *Environmental and Ecological Statistics*, 14, 101–111.

**Guan, Y.** (2006), “A Composite Likelihood Approach in Fitting Spatial Point Process Models”, *Journal of the American Statistical Association*, 101, 1502–1512.

**Guan, Y.**, Sherman, M., and Calvin J.A. (2006), “Assessing Isotropy for Spatial Point Processes”, *Biometrics*, 62, 119–125.

**Guan, Y.** (2006), “Tests for Independence between Marks and Points of a Marked Point Process”, *Biometrics*, 62, 126–134.

**Guan, Y.**, Sherman, M., and Calvin J.A. (2004), “A Nonparametric Test for Spatial Isotropy Using Subsampling”, *Journal of the American Statistical Association*, 99, 810–821.

*Papers in progress, submitted to or revised for refereed statistical journals:*

**Guan, Y.** (2008), “Moving-Block Variance Estimation for Second-Order Statistics of Inhomogeneous Spatial Point Processes”, *Journal of the American Statistical Association*. Submitted.

**Guan, Y.** and Yan, J. (2008), “Variance Estimation of Statistics Arising from Inhomogeneous Temporal Point Processes and Application in Residual Analysis”, *Biometrics*. Submitted.

Wang, H. and **Guan, Y.** (2008), “Sufficient Dimension Reduction for Spatial Point Processes”, *Biometrika*. In revision.

Wang, H. and **Guan, Y.** (2007), “A Note on Surrogate Assisted Slicing in Binary Response Regression”, *Computational Statistics and Data Analysis*. Submitted.

**Guan, Y.** (2006), “On Model Fitting Procedures for Inhomogeneous Neyman-Scott Processes”, *Journal of Statistical Computation and Simulation*. Submitted.

*Other publications/manuscripts:*

Afshartous, D., **Guan, Y.**, and Mehrotra, A. (2008), “Locating U.S. Coast Guard Air Stations for Responding to Distress Calls: a Simulation and Optimization Based Methodology”, *European Journal of Operation Research*. To appear.

Brown, H. E., Diuk-Wasser, M. A., **Guan, Y.**, Caskey, S. and Fish, D. (2008), “Comparison of Three Satellite Sensors at Three Spatial Scales to Predict Larval Mosquito Presence in CT Wetlands”, *Remote Sensing of the Environment*, 112, 2301-2308.

**Guan, Y.** (2007), “Discussion of ‘Modern Statistics for Spatial Point Processes’ by Møller and Waagepetersen”, *Scandinavian Journal of Statistics*, 34, 691–692.

Afshartous, D., **Guan, Y.**, Mehrotra, A., and Magnussen, J. (2004), “Optimal Deployment of Resources for the U.S. Coast Guard”, *Proceeding of the 10th International Conference on Productivity and Quality Research*, Miami, FL, Feb. 2004.

Sherman, M., **Guan, Y.**, and Calvin, J.A. (2003), “Assessing Spatial Isotropy”, in *Recent Advances and Trends in Nonparametric Statistics*, M. Akritas and D. Politis (Eds.), Elsevier (North Holland), 467–475.

## **GRANTS, HONORS & AWARDS**

06/06-05/09 “Spatial Point Pattern Analysis Using Composite Likelihood”, National Science Foundation, 12% effort, PI: Yongtao Guan.

01/07-03/09 “Integrating Earth Observation and Field Data into a Lyme Disease Model to Map and Predict Risks to Biodiversity and Human Health”, Environmental Protection Agency, Collaborator, 10% effort, PI: Durland Fish.

06/07-03/08 “Spatial Risk Model for Ixodes Scapularis-borne Borrelia”, Center for Disease Control, Collaborator, 5% effort, PI: Durland Fish.

06/04-08/04 James W. McLamore Summer Research Awards in Business and Social Sciences, University of Miami.

## **INVITED PRESENTATIONS**

Aalborg University, ASA CT Chapter Mini-Conference, Emory University,  
Joint Statistical Meeting, Purdue University, UCLA, University of Connecticut,  
University of Georgia, University of North Carolina (Biostat),  
University of Southern California, Yale University.

## **PROFESSIONAL SERVICE**

Referee for *Biometrics*, *Environmental and Ecological Statistics*, *Environmetrics*, *Journal of Agricultural, Biological and Environmental Statistics*, *JASA*, *Journal of Computational and Graphical Statistics*, *Statistics and Probability Letters*, *Stochastics and Stochastics Reports*, *JRSSB*, *Annals of Applied Statistics*.

Session chair of “Environmental and toxicological applications”, 2005 ENAR meeting.

## **PROFESSIONAL MEMBERSHIP**

American Statistical Association.

International Biometric Society.