# THE ANNALS of APPLIED STATISTICS

## AN OFFICIAL JOURNAL OF THE INSTITUTE OF MATHEMATICAL STATISTICS

#### Articles

Space and circular time log Gaussian Cox processes with application to crime event data SHINICHIRO SHIROTA AND ALAN E. GELFAND	481
Random effects models for identifying the most harmful medication errors in a large, voluntary reporting database SERGIO VENTURINI, JESSICA M. FRANKLIN, LAURA MORLOCK AND FRANCESCA DOMINICI	504
Assessing systematic risk in the S&P500 index between 2000 and 2011: A Bayesian nonparametric approachABEL RODRÍGUEZ, ZIWEI WANG AND ATHANASIOS KOTTAS	527
A continuous-time stochastic block model for basketball networks LU XIN, MU ZHU AND HUGH CHIPMAN	553
Robust and scalable Bayesian analysis of spatial neural tuning function data KAMIAR RAHNAMA RAD, TIMOTHY A. MACHADO AND LIAM PANINSKI	598
Improving efficiency in biomarker incremental value evaluation under two-phase designs YINGYE ZHENG, MARSHALL BROWN, ANNA LOK AND TIANXI CAI	638
Stochastic modelling and inference in electronic hospital databases for the spread of infections: <i>Clostridium difficile</i> transmission in Oxfordshire hospitals 2007–2010 MADELEINE CULE AND PETER DONNELLY	655
Modeling log-linear conditional probabilities for estimation in surveys YVES THIBAUDEAU, ERIC SLUD AND ALFRED GOTTSCHALCK	680
Photo- <i>z</i> estimation: An example of nonparametric conditional density estimation under selection bias RAFAEL IZBICKI, ANN B. LEE AND PETER E. FREEMAN	698
Hypothesis testing for network data in functional neuroimaging CEDRIC E. GINESTET, JUN LI, PRAKASH BALACHANDRAN, STEVEN ROSENBERG AND ERIC D. KOLACZYK	725
Assignment of endogenous retrovirus integration sites using a mixture model DAVID R. HUNTER, LE BAO AND MARY POSS	751
Structured subcomposition selection in regression and its application to microbiome data analysis	771
Spatial multiresolution analysis of the effect of PM <sub>2.5</sub> on birth weights JOSEPH ANTONELLI, JOEL SCHWARTZ, ITAI KLOOG AND BRENT A. COULL	792
Clustering correlated, sparse data streams to estimate a localized housing price index YOU REN, EMILY B. FOX AND ANDREW BRUCE	808
Nonparametric estimation of pregnancy outcome probabilities SARAH FRIEDRICH, JAN BEYERSMANN, URSULA WINTERFELD, MARTIN SCHUMACHER AND ARTHUR ALLIGNOL	840
Bayesian inference of high-dimensional, cluster-structured ordinary differential equation models with applications to brain connectivity studies TINGTING ZHANG, QIANNAN YIN, BRIAN CAFFO, YINGE SUN AND DANA BOATMAN-REICH	868

Continued on back cover

# THE ANNALS of APPLIED STATISTICS

### AN OFFICIAL JOURNAL OF THE INSTITUTE OF MATHEMATICAL STATISTICS

#### Articles—Continued from front cover

Evaluation of the cooling trend in the ionosphere using functional regression with incomplete curvesOLEKSANDR GROMENKO, PIOTR KOKOSZKA AND	
Jan Sojka	898
Vaccines, contagion, and social networks	
ELIZABETH L. OGBURN AND TYLER J. VANDERWEELE	919
Subgroup inference for multiple treatments and multiple endpoints in an Alzheimer's disease treatment trial PATRICK SCHNELL, QI TANG, PETER MÜLLER AND BRADLEY P. CARLIN	949
Quantification of multiple tumor clones using gene array and sequencing data YICHEN CHENG, JAMES Y. DAI, THOMAS G. PAULSON, XIAOYU WANG, XIAOHONG LI, BRIAN J. REID AND CHARLES KOOPERBERG	967
Generalized Mahalanobis depth in point process and its application in neural coding SHUYI LIU AND WEI WU	992
Integrative sparse <i>K</i> -means with overlapping group lasso in genomic applications for disease subtype discoveryZHIGUANG HUO AND GEORGE TSENG	1011
Multilevel models with stochastic volatility for repeated cross-sections: An application to tribal art pricesSILVIA CAGNONE, SIMONE GIANNERINI AND LUCIA MODUGNO	1040
Flexible risk prediction models for left or interval-censored data from electronic health records NOORIE HYUN, LI C. CHEUNG, QING PAN, MARK SCHIFFMAN AND HORMUZD A. KATKI	1063
Robust mixed effects model for clustered failure time data: Application to Huntington's disease event measures	
TANYA P. GARCIA, YANYUAN MA, KAREN MARDER AND YUANJIA WANG	1085
Variable selection for a categorical varying-coefficient model with identifications for determinants of body mass index	
JITI GAO, BIN PENG, ZHAO REN AND XIAOHUI ZHANG	1117
Lateral transfer in Stochastic Dollo models LUKE J. KELLY AND GEOFF K. NICHOLLS	1146
Allele-specific copy number estimation by whole exome sequencing HAO CHEN, YUCHAO JIANG, KARA MAXWELL, KATHERINE NATHANSON AND	
NANCY ZHANG	1169