

Doctoral Degrees Conferred 2008–2009

Supplementary List

The following list supplements the list of thesis titles published in the February 2010 *Notices*, pages 281–301.

ALABAMA

University of Alabama (4)

INFORMATION SYSTEMS, STATISTICS AND MANAGEMENT SCIENCE

Alhammedi, Yousof, Neural network control charts for Poisson processes.

Anderson, Billie, Study of reject inference techniques.

Devasher, Michael, An evaluation of optimal experimental designs subject to parameter uncertainty for properties of compartmental models used in individual pharmacokinetic studies.

CALIFORNIA

California Institute of Technology

(1)

CONTROL AND DYNAMICAL SYSTEMS

Shi, Ling, Resource optimization for networked estimator with guaranteed estimation quality.

University of California, Riverside (3)

MATHEMATICS

Alvarez, Vicente, A numerical computation of eigenfunctions for the Kusuoka laplacian on the Sierpinski gasket.

Childress, Scot Paul, Quantum measures, arithmetic coils, and generalized fractal strings.

Wong, Chau Yim, On a class of commuting squares.

University of California, Santa Cruz (1)

MATHEMATICS

Marks, Christopher, Classification of vector-valued modular forms of dimensions less than six.

COLORADO

University of Denver (1)

MATHEMATICS

Daly, Dan, Permutation patterns, reduced decompositions with few repetitions and the Bruhat order.

ILLINOIS

University of Chicago (8)

STATISTICS

Atlason, Oli, Generalized parametric models.

De la Cruz Cabrera, Omar, Geometric approaches in the analysis of genetic data.

Li, Yingying, Robustness of volatility estimations.

Matteson, David, Statistical inference for multivariate nonlinear time series.

Rosenthal, Dale, W. R., Trade classification and nearly-gamma random variables.

Song, Minsun, Restricted parameter space models for testing gene-gene interactions.

Zheng, Xinghua, Critical branching random walks and spatial epidemic.

Zibman, Chava, Adjusting for confounding in a semi-parametric Bayesian model of short term effects of air pollution on respiratory health.

IOWA

University of Iowa (4)

STATISTICS AND ACTUARIAL SCIENCE

Ahn, Kwang Woo, Topics in statistical epidemiology.

Fang, Xiangming, Generalized additive models with correlated data.

Hao, Xuemiao, Asymptotic tail probabilities in insurance and finance.

Song, Jung-Eun, Bayesian linear regression via partition.

KENTUCKY

University of Louisville (1)

BIOINFORMATICS AND BIostatISTICS

Lan, Ling, Inference for multistate models.

LOUISIANA

Tulane University (1)

BIostatISTICS

Yi, Yeonjoo, Two part longitudinal models of zero heavy data.

MASSCHUSETTS

Harvard University (8)

STATISTICS

Edlefsen, Paul, Profile HMMs for DNA sequence families: the conditional Baum-Welch and dynamical model-surgery algorithms.

Lenarcic, Alan, Bayesian two-glasso for the study of financial contagion.

Morgan, Charity, Assessing thought disordered behavior using finite mixture models and comparing approximations for logistic regression.

Olding, Benjamin, Methods of approximate inference: applications to stochastic differential equations, video microscopy, and network data.

Zhang, Jing, Bayesian inference of interactions in biological problems.

Zhang, Tingting, Nonparametric studies of doubly stochastic poisson processes, binomial data, and high dimension, low sample size data.

Zhang, Wei, Statistical methods for detecting expression quantitative trait loci (eQTL).

Yuan, Yuan, Decoding gene expression regulation through Motif discovery and classification.

MICHIGAN

Michigan Technological University (3)

MATHEMATICAL SCIENCES

Tang, Rui, Statistical methods for genome-wide association study.

Wang, Xuexia, Genetic association studies considering LD information and genome-wide application.

Ye, Zhan, Genetic association studies under the population stratification, family pedigree and application to genome-wide association studies

MINNESOTA

University of Minnesota (12)

SCHOOL OF MATHEMATICS

Bellay, Jeremy, The stability and transitions of coherent structures on excitable and oscillatory media.

Hiary, Ghaith, Fast methods to compute the Riemann Zeta function.

Korolev, Alexander, Large-distance asymptotics of steady-state incompressible fluid flows.

Letang, Delia, Subconvexity bounds for automorphic L-functions on GL₂.

Li, Fang, Stability from the point of view of diffusion, relaxation and spatial inhomogeneity.

Peterson, Jonathon, Limiting distributions and large deviations for random walks in random environments.

Rhoades, Brendon, Modeling and optimization of mortgage loan portfolios.

Striker, Jessica, Poset and polytope perspectives on alternating sign matrices.

Valiquette, Francis, Applications of moving frames to Lie pseudo-groups.

Xue, Chuan, Mathematical models of taxis-driven bacterial pattern formation.

Yang, Jiaqi, Design and implementation of accurate and efficient integral equation methods with applications to ultrasound vibro-acoustography and geophysical prosection.

Zhang, Wenliang, Lyubeznik numbers.

NEW HAMPSHIRE

Dartmouth College (3)

MATHEMATICS

Brown, Jonathan, Proper actions of groupoids on C^* -algebras.

Goehle, Geoff, Groupoid crossed products.

Mahoney, John, A composition formula for asymptotic morphisms.

NEW JERSEY

Rutgers The State University of New Jersey (8)

MATHEMATICS

Levitt, Ian, Some problems in extremal graph theory avoiding the use of the regularity lemma.

Mau, Sikimeti, The multiplihedra in Lagrangian Floer theory.

Neiman, Michael, Negative correlation and log-concavity.

Nguyen, Luc, Singular harmonic maps into hyperbolic spaces and applications to general relativity.

Rowland, Eric, Experimental methods applied to the computation of integer sequences.

Thanatipanonda, Thotsaporm, Symbolic-computational methods in combinatorial game theory and Ramsey theory.

Wang, Liming, Dynamics and asymptotic behaviors of biochemical networks.

Wood, Philip, On the probability that a discrete complex random matrix is singular.

Stevens Institute of Technology (3)

MATHEMATICAL SCIENCES

Bussolari, Luca, Hyperbolic planar billiards with nearly flat focusing boundaries.

Grechuk, Bogdan, Deviations measures: theory and application.

Molyboha, Anton, Optimization approaches to sensor placement for threat detection.

NEW YORK

Columbia University (3)

BIOSTATISTICS

Huang, Lin, Sequential test for right censored data with linear transformation models.

Tai, Wanling, Regularized estimation of covariance matrices for longitudinal data through smoothing and shrinkage.

Wisnivesky, Juan, Instrumental variable estimation for survival data: evaluating the effectiveness radiation therapy for the treatment of lung cancer in the elderly in the presence of allocation bias.

PENNSYLVANIA

Bryn Mawr College (1)

MATHEMATICS

Fukui, Ayako, L_p estimates for oscillatory singular integral operators and Marcinkiewicz integral operators.

Drexel University (1)

MATHEMATICS

Coletta, Meredith, Integrability in optical design.

Temple University (3)

STATISTICS

Miller, Charles William, Familywise robustness criteria revisited for newer multiple testing procedures.

Wang, Luqiang, Contributions to estimation of measures for assessing rater reliability.

Yang, Zijiang, New step down procedures for control of the familywise error rate.

NORTH CAROLINA

Duke University (8)

MATHEMATICS

- Baron, Rann*, Small Boolean networks.
- Bendich, Paul*, Analyzing stratified spaces using persistent version of intersection and local homology.
- Cooke, Ben*, Theory and practice in replica-exchange molecular dynamics simulation.
- Dai, Shu*, Bifurcations in the Echebarria-karma modulation equation for cardiac alternans in one dimension.
- Froehlich, Mihaela*, Two coating problems: thin film rupture and spin coating.
- Law, Jing*, Approximately counting perfect and general matchings in bipartite and general graphs.
- McCarthy, Janice*, TL2 index theory and D-particle binding.
- Smith, Abraham*, Integrability of second-order partial differential equations and the geometry of $GL(2)$ structures.

RHODE ISLAND

Brown University (6)

MATHEMATICS

- Katz, Daniel*, Sumfree subsets in cubes of arbitrary dimension.
- Liaw, Constanze*, Singular integrals and rank one perturbations.
- Lin, Yu-Lin*, Perturbation theorems for Hele-Shaw flows and their applications.
- Park, Donghoon*, 1-Motives with torsion and Cartier duality.
- Tsikkou, Charis*, Hyperbolic conservation laws with large initial data. Is the Cauchy problem well-posed? BV estimates for the P-system.
- Ulfarsson, Henning*, Extending Grothendieck topologies to diagram categories and Serre functors on diagram schemes.

SOUTH CAROLINA

Clemson University (10)

MATHEMATICS

- Chrispell, John*, Numerical analysis of a fractional step theta-method for fluid flow problems.
- Heindl, Raymond*, New directions in multivariate public key cryptography.
- Kandasamy, Hariharan*, Portfolio selection under various risk measures.
- Light, John*, Intersections and representations of graphs.
- Lyle, Jeremy*, Homomorphisms of graphs.
- Mateer, Todd*, Fast Fourier transform algorithms with applications.
- Samson, Sundeep*, Performance based decision under uncertainty and risk.
- Smith, Ethan*, On some problems concerning the distribution of primes.
- Tunno, Ferebee*, Time series analysis: a new look at some old problems.
- Zhu, Mingfu*, Modeling HIV drug resistance.

Medical University of South Carolina

(8)

DIVISION OF BIOSTATISTICS AND EPIDEMIOLOGY

- Kirbach, Stephanie*, The risk and consequences of cerebrovascular events, mortality, and institutionalization among Alzheimers patients on anti-psychotic therapy.
- Miller, Scott*, Handling treatment by covariate interactions in interim analyses of clinical trials.
- Nowacki, Amy*, Response-adaptive randomization in neurological clinical trials: obstacles in application.
- Ouyang, Bichun*, Modeling and Bayesian analysis of recurrent events and longitudinal data with dependent termination.
- Saunders, Lee*, A population-based study of repetitive traumatic brain injury mortality.
- Sims, Kellie*, Sphingolipids are altered in aging yeast cultures under caloric restriction.
- Wilson, Dulaney*, Health effects of plutonium exposure.
- Zhang, Boshao*, Two stage clonal expansion models of carcinogenesis for acute, continuous, and multiple exposure with applications.

TEXAS

Baylor University (4)

MATHEMATICS

- Bruder, Andrea*, Applied left-defined theory; the Jacobi polynomials, their Sobolev orthogonality and self-adjoint operators.
- Hopkins, Britney*, Multiplicity of positive solutions of even-order nonhomogenous boundary value problems.
- Jones, Leslie Brazil*, Adding machines.
- Nicely, Dywayne*, Restarting the Lanczos algorithm for large eigenvalue problems and linear equations.

Southern Methodist University (4)

STATISTICAL SCIENCE

- Delzell, Darcie Ann Pace*, Optimal statistical design for functional magnetic resonance imaging experiments.
- Kozlitina, Julia V.*, Tests for trend in the analysis of genetic associations studies.
- Nappa, Dario*, Bayesian classification using Bayesian additive and regression trees.
- Wang, Yan*, Dependencies in NAEP and their effects on analysis.

Texas Tech University (5)

MATHEMATICS AND STATISTICS

- Charles, Janelle*, Probability distribution estimation using control theoretic smoothing splines.
- Ji, Xiao Yi*, Frechet-Differentiation of functions of operators with application to functional data analysis.
- Kennaugh, Todd*, Complexity of atriodic continua.
- Pang, Johnny*, Some statistical methods for directly and indirectly observed functional data.
- Wesley, Curtis*, Discrete-time and continuous-time epidemic models with applications to the spread of Hantavirus in wild rodents and human populations.

The University of Texas at Dallas (1)

MATHEMATICAL SCIENCES

Ansari, Yassmin, Matrix theory motivated by quantum mechanics and engineering.**VERMONT****University of Vermont (1)**

MATHEMATICS AND STATISTICS

Annan, Kodwo, Mathematical modeling of solute transfer during hemodialysis.**VIRGINIA****University of Virginia (2)**

STATISTICS

Jeon, Youngsook, Optimal randomization and randomization test for multi-treatment clinical trials.*Wang, Xin*, Derivation and implementation of the asymptotics for approximate entropy (ApEn) with application to medicine.**Virginia Commonwealth University (1)**

BIOSTATISTICS

Kong, Xiangrong, Variable selection in competing risks using the L1 penalized Cox model.**Virginia Polytechnic Institute and State University (12)**

MATHEMATICS

Childers, Adam, Parameter identification and the design of experiments for continuous non-linear dynamical systems.*Deng, Shengfu*, A spatial dynamic approach to three-dimensional gravity-capillary water waves.*Fang, Quanlei*, Multivariable interpolation problems.*Herman, Mark*, Born-Oppenheimer corrections near a Renner-Teller crossing.*He, Xiaoming*, Bilinear immersed finite elements for interface problems.*Savel'ev, Eugeny*, Controllability of the stresses in multimode viscoelastic fluid of upper convected Maxwell type.*Stoyanov, Miroslav*, Model order reduction methods for solving high rank Riccati equations.*Weinhart, Thomas*, A posteriori error analysis of the discontinuous Galerkin method for linear hyperbolic systems of conservation laws.

STATISTICS

Gao, Feng, Classifying response-stressor relationship in ecological studies.*Lou, Jianying*, Diagnostics after a signal from control charts in normal process.*Wang, Xiaowei*, Weighted optimality of block designs.*Wilson, Sarah*, Control charts with missing observations.**WASHINGTON****University of Washington (13)**

APPLIED MATHEMATICS

Curtis, Christopher, Exact and approximate methods for the computation of the spectral stability of traveling-wave solutions.*Gull, Dean*, Stead state analysis of chemical reaction systems.*Jean, Larry*, Stochastic multi-scale modeling of carcinogenesis.*Ketcheson, David*, High-order strong stability preserving time integrators and numerical wave propagation for hyperbolic PDEs.*Nivala, Michael*, Nonlinear stability in integrable Hamiltonian systems.*Shi, Yiyi*, Understanding complex systems using random graph models.*Oliveras, Katie*, Stability of periodic traveling surface water waves.*Vellela, Melissa*, Mesoscopic dynamics of biochemical kinetic equations.

BIOSTATISTICS

Burington, Bart, Flexible bootstrap monitoring of group sequential trials with longitudinal response data.*Cotton, Cecilia*, Inference for treatments targeting control of an intermediate measure.*Saha, Paramita*, Time-dependent predictive accuracy: extending binary classification accuracy methods for censored survival data.*Scott, JoAnna*, Vaccine efficacy trials using stepped wedge design.*Rajan, Kumar Bharat*, Regression methods for classification accuracy in diagnostic studies with ordinal scale outcomes.**WISCONSIN****University of Wisconsin-Madison (14)**

STATISTICS

Casper, Theron, Survival and recurrent event analysis when ascertainment of events is delayed.*Chen, Chien-Wei*, Enhancing the prediction accuracy of regression trees: linear splits and variable selection.*Cho, Sang-Hoon*, Statistical inference under hierarchical models based on Izawa's bivariate gamma distribution with applications to gene data.*Han, Junhee*, Some problems with spatial statistics.*Jiang, Yuan*, Regularized regression and classification under general loss.*Kim, Joungyoun*, Estimating divergence times of African gorilla populations.*Lee, Minjung*, Topics in competing risks data.*Lin, Feng-Chang*, Statistical inferences on modulated renewal processes.*Shi, Weiliang*, LASSO-pattern search algorithm.*Stanhope, Stephen*, Detecting m- and miRNA targeting relationships from observational microarray studies: systems biology and statistical modeling.*Wang, Hui*, Bayesian analysis of cross-classified spatial-temporal data with autocorrelation.

Wang, Shubing, Weighted Fourier image analysis and modeling.

Xiao, Zhiguo, Topics in generalized method of moments estimation with application to find data with measurement error.

Zhang, Jun, Regression models for Spatial images.