Doctoral Degrees Conferred 2007–2008

Supplementary List

The following list supplements the list of thesis titles published in the February 2009 *Notices*, pages 281–301.

ALABAMA

University of Alabama at Birmingham (3)

BIOSTATISTICS

Ayanlowo, Ayanbola, Design of Phase II & III clinical trials.

Jones, Tamekia, A statistical approach identifying and limiting the effect of influential observations.

Sawrie, David, Preemptive power for the consulting statistician: novel application of internal pilot design and information based monitoring systems.

CALIFORNIA

Naval Postgraduate School (1)

APPLIED MATHEMATICS

Phillips, Donovan, Mathematical modeling and optimal control of battlefield information flow.

University of California, Berkeley (24)

MATHEMATICS

Al-Aidroos, Jameel, Perfect pairings in the tautological rings of the moduli spaces of stable curves.

Berg, Jennifer Danae, On the center of the lie superalgebra $q(n)^{(2)}$.

Burstein, Richard David, Hadamard subfactors of Bisch-Haagerup type.

Chen, Tianbing, Piecewise polynomial discretization and Krylov-accelerated multigrid for elliptic interface problems.

Clayton, Aubrey, Mutation-selection balance for polynomial selection costs and matrix-valued orthogonal polynomial.

Closson, Erik, The solovay sequence in derived models associated to mice.

Courtney, Dennis, Asymptotic lifts of UCP semigroups.

Dan-Cohen, Elizabeth, Structure of root-reductive lie algebras.

Fern, Jesse, Calculations of quantum error correction and fault tolerance thresholds.

Freeman, David Stephen, Constructing Abelian varieties for pairing-based cryptography.

Gray, Aaron, Functoriality of the logarithmic Riemann-Hilbert.

Han, Fei, Supersymmetric QFTS, super loop spaces and Bismut-Chern character.

Huggins, Peter, Polytopes in computational biology.

Jetchev, Dimitar, CM points, selmer groups, component groups and Euler systems.

Kirkpatrick, Kay, Rigorous derivation of the Landau equation in the weak coupling limit.

Lebow, Eli, Embedded contact homology of 2-torus bundles over the circle.

Levine, Lionel, Limit theorems for internal aggregation models.

Mihaescu, Radu, Distance methods in phylogeny.

Morton, Jason, Geometry of conditional independence.

Nachmias, Asaf, Percolation on finite groups.

Schlutenberg, Farmer, Measures in mice.

Tingley, Peter, Some results on the crystal commutor and affine sl(n) crystals.

Yao, Jiangang, Codimension one embedding of manifolds.

Zywina, David, The large sieve and Galois representations.

University of California, Riverside (4)

MATHEMATICS

McLoughlin, Peter, When is the adjoint of a finite-rank minimal projection also minimal.

Troutman, Tiffany, Infinity-harmonic functions, maps and morphisms of Riemannian manifolds.

Wrkich, James, Solvability of some inhomogeneous parabolic.

Yao, Chui Zhi, Discrete logarithm and related problems in cryptography.

University of California, Santa Barbara (10)

MATHEMATICS

Barbaro, Alethea, An interacting particle model for the migrations of pelagic fish.

Haynal, Heidi, PI degree parity in q-skew polynomial rings.

Kolpas, Allison, Coarse-grained analysis of collective motion in animal groups.

Learned, John, Graphical methods in representation theory.

Levitt, Rena, Biautomaticity and nonpositively curved spaces.

Macauley, Matthew, Coexter theory and discrete dynamical systems.

Rehkopf, Edward, Reduction of quadratic forms over polynomial rings.

Sentinella, Robert, Multi-scale modeling of liquid crystalline polymers.

Trethewey, Peterson, Conformal curvature and one-relator group theory.

Wiley, Chad, Nugatory crossings in closed 3-braid diagrams.

COLORADO

University of Colorado, Boulder (10)

APPLIED MATHEMATICS

Kurcz, Christopher, Fast convolutions with Helmholtz Green's functions and radially symmetric band-limited kernels.

Lim, Jisun, The qualitative study of a chemical reaction diffusion system and some integral equations.

Mao, Wenjin, Dimension jumping and auxiliary variable techniques for Markov chain Monte Carlo algorithms.

Nolting, Joshua, Efficiency-based local adaptive refinement for FOSLS finite elements.

Pietarila-Graham, Jonathan, Regularizations as subgrid models for turbulent flows.

Piret, Cecile, Analytical and numerical advances in radial basis functions.

Rojsiraphisal, Thaned, A study of the variability of the North Indian ocean.

Wang, Jian, Recovering Bayesian networks with applications to gene regulary networks.

Watson, Michael, A study of rotationally constrained convection in tall annular geometries.

Zuev, Julia, Recent advances in numerical PDEs.

University of Denver (1)

MATHEMATICS

Nagrath, Aditya, Properties of scattered lattices, and the introduction of a meet semilattice duality.

CONNECTICUT

Wesleyan University (1)

MATHEMATICS AND COMPUTER SCIENCE

Babichev, Andrey, Speedups of ergodic group extensions.

Yale University (4)

MATHEMATICS

Liu, Qihou, On the colored Jones polynomials of certain links.

Maitra, Rachel, Mathematically rigorous quantum field theories with a non-linear normal ordering of the Hamiltonian operator.

Patnaik, Manish, Geometry of loop Einstein series.

Zhu, Minxian, Vertex operator algebras arising from affine lie algebras.

IDAHO

Idaho State University (1)

MATHEMATICS

Lundeen, Suzanne, The finite reflection group H_4.

ILLINOIS

Illinois State University (5)

MATHEMATICS

Hofbauer, Pamela, Characterizing high school students' understanding of the purpose of graphical representations.

Knapp, Andrea, Prompting mathematics teacher development through dynamic discourse.

Naresh, Nirmala, Workplace mathematics of the bus conductors in Chennai, India.

Simmons, Eugene, The effects of using a QAR reading strategy to improve students' conceptual understanding.

Thompson, Kevin, Students' understanding of trigonometry enhanced through the use of a real word problem: improving the instructional sequence.

KENTUCKY

University of Kentucky (5)

STATISTICS

Hersh, Matt, Indentification of multiple functional peaks resulting from a common peak shape function.

Li, Hao, Identifying gene expression patterns in oligonucleotide microarray experiments.

McClintock, Scott, Stochastic securities market model with no short selling.

Vandyke, Rhonda, Classification of self-modeling regressions.

Zhu, Hua, Smoothed empirical likelihood for quantiles and some variations/extention of empirical likelihood for Buckley-James estimator.

MARYLAND

John Hopkins University (1)

APPLIED MATHEMATICS AND STATISTICS

Tan, Liang, Numerical methods for multi-dimensional American options.

University of Maryland (23)

APPLIED MATHEMATICS AND COMPUTER SCIENCE

Bard, George, Algorithms for solving linear and polynomial systems over finite fields with applications to cryptoanalysis.

Chakraborty, Purnendu, Molecular dynamic studies of organic coated nano aerosols.

Cheng, Bin, On the rotational shallow water and Euler equations.

Finkbiner, Amy, Global phenomena from local rules: Peer-to-peer networks and discrete crystal steps.

Ganesh, Nadarajasundaram, Small area estimation and prediction problems.

Heath, Jeffery, Global optimization of finite mixture models.

Johnson, Hunter, Definable families of finite VC dimension.

Li, Huilin, Small area estimation: an empirical best linear unbiased prediction approach.

Long, Nicholas, Involutions of shift of finite type: fixed point shifts, orbit quotients, and the dimension representation.

Lu, Guanhua, Asymptotic theory in multiple-sample semiparametric density ratio models and its applications to mortality forecasting.

Mai, Yabing, Comparing survival distributions in the presence of dependent censoring: asymptotic validity and bias corrections of the Logrank test.

Min, Min, Asymptotic normality in generalized linear mixed models.

O'Hara, Michael, Adiabatic quantum computation: noise in the adiabatic theorem and using the Jordan-Wigner transform to find effective Hamiltonians.

Oktay, Onur, Frame quantization theory and equiangular tight frames.

Smetaniouk, Taras, Pricing variance derivatives using hybrid models with stochastic interest rates.

Tate, Calandra, An investigation of the relationship between automated machine evaluation metrics and user performance on an information extraction task.

Truman, Kathryn, Analysis and extension of non-communative NTRU.

Wei, Dongming, Critical thresholds in Eulerian dynamics.

Wen, Shihua, Semi-paramatric cluster detection.

Widemann, David, Dimensionality reduction for hyperspectral data.

Yu, Tinghui, Estimation theory of a location parameter in small samples.

Zhang, Chensong, Adaptive finite element methods for variational inequalities: theory and applications in finance.

Zhong, Weigang, Entropy stable approximations of nonlinear conservation laws and related fluid equations.

MASSACHUSETTS

Harvard University (1)

MATHEMATICS

Paur, Katherine, Modeling the effects of population structure and vaccination strategy on infectious diseases.

MINNESOTA

University of Minnesota (13)

SCHOOL OF MATHEMATICS

Bemis, Christopher, Modeling and optimization of mortgage loan portfolios.

Chen, Yanlai, An adaptive high order discontinuous Galerkin method with error control for the Hamilton-Jacobi equations.

Chung, Kuerak, Based Cacti.

Jung, Yoon Mo, Variational modeling, analysis, and computing of image and visual segmentation problems.

Kim, Sangwook, Topology of diagonal arrangements and flag enumerations of matroid base polytopes.

Kontovourkis, Michalis, On elliptic equations with low-regularity divergence-free drift terms and the steady-state Navier-Stokes equation in higher dimenions.

Kurkcu, Harun, High-frequency scattering by infinite rough surfaces.

Mahajan, Deepa, Boundary-conforming discontinuous Galerkin methods via extension form subdomains.

Maxwell, Molly, Enumerating self-dual spanning trees and self-dual matroid bases.

Phan, Tuoc Van, On global existence of solutions to a cross-diffusion system.

Weimerskirch, Michael, On infinite indistinguishability quotient monoids in misere impartial combinatorial games.

Zhang, Hang, Static and dynamical problems of hydrogel swelling: modeling and analysis.

Zuniga, Jose Javier, Compactifications of moduli spaces.

NEW HAMPSHIRE

Dartmouth College (6)

MATHEMATICS

Andersen, Brooke, Distinguishing complete sets with respect to strong notions of reducibility.

Bayless, Jonathan, Carmichael's conjecture and the unit group function.

Bourke, John, Results of off-branch numbers.

Henrich, Allison, A sequence of degree one Vassiliev invariants for virtual knots.

Malandro, Martin, Fast Fourier transforms for inverse semigroups.

Pollack, Paul, Prime numbers and prime polynomials.

NEW JERSEY

Rutgers University - Newark (2)

MATHEMATICS AND COMPUTER SCIENCE

McDonald, Keith Tim, On p-adic zeta functions and their derivatives at s=0.

Min, Honglin, Hyperbolic graphs of surface groups.

Rutgers The State University of New Jersey (11)

MATHEMATICS

Bao, ShiTing, Gradient estimates for the conductivity problems.

Coskey, Samuel, Descriptive aspects of torsion-free abelian groups.

Costello, Kevin, Ranks of random matrices and graphs.

Duffy, Colleen, Graded traces and irreducible representations of Aut (A(Gamma)) acting on graded A(Gamma) and A(Gamma) dual.

Guo, Ren, Parameterizations of Teichmüller spaces of surfaces with boundary.

Hansen, Derek, Asymptotic perturbation formulas for the effect of scattering by small objects: an analysis over a broad band of frequencies.

Kennedy, Benjamin, Differential delay equations with several fixed delays.

Lins, Brian, Asymptotic behavior and Denjoywolff theorems for Hilbert metric nonexpansive maps.

Pudwell, Lara, Enumerative schemes for pattern - avoiding words and permutations.

Speck, Jared, On the questions of local and global existence for the hyperbolic PDEs occuring in some relativistic theories of gravity and electromagnetism.

Stucchio, Christopher, Selected problems in quantum mechanics.

NEW YORK

Columbia University (3)

BIOSTATISTICS

Chang, Chung, Statistical analysis for neuroimaging data.

Xu, Qiang, Existing approaches and a new weighted method for cox regression in the presence of missing covariates.

Zhang, Hui, Handling missing data without specifying auxiliary models.

PENNSYLVANNIA

University of Pennsylvania (2)

STATISTICS

Ghia, Kartikeya, Statistical applications in finance: permutation tests, regression trees, and normality tests.

Shirley, Kenneth, Hidden Markov models for alcoholism treatment trial data.

University of Pittsburgh (3)

STATISTICS

Iosif, Ana-Maria, Analysis of longitudinal random length data.

Lopez, Adriana, Markov models for longitudinal course of youth bipolar disorder.

Wu, Qiang, Clustering methodologies with applications to integrative analyses of post-mortem tissue studies in schizophrenia.

UTAH

Utah State University (1)

MATHEMATICS AND STATISTICS

Cook, Lawrence, Small sample methods for the analysis of clustered binary data.

