
Doctoral Degrees Conferred

2007–2008

ALABAMA

Auburn University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Ford, Robert, Path curvatures on a convex roof

Hollingsworth, Blane, Stochastic differential equations: A dynamical systems approach

Moore, Emilia, On the existence of even and K -divisible matchings

University of Alabama at Birmingham (3)

DEPARTMENT OF MATHEMATICS

Baker, Steven Jeffrey, Spectral properties of displacement models

Goswick, Lee, Dynamical, geometric and arithmetic properties of Euclidean lattices

Hamza, Eman, Localization properties for the unitary Anderson model

University of Alabama-Huntsville (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Duehring, Dawn, Periodic traveling wave solutions for diffusion equations with time-delayed and non-local responding reaction

Hester, Anthony, Semigroups generated by pseudo-contractive mappings under the Nagumo conditions

Sinko, Anne, Generalized colorings in graphs

University of Alabama-Tuscaloosa (6)

DEPARTMENT OF MATHEMATICS

Raridan, Chris, Useful results for the study of magical and expander graphs

Thomas, Shawanda, An optimal hedging strategy for multiple commodities

Xu, Ming, Optimal consumption rate under certain spending behavior

DEPARTMENT OF INFORMATION SYSTEMS STATISTICS AND MANAGEMENT SCIENCE

Natarajarathinam, Malini, Base stock policies for the stochastic inbound inventory routing problem

Upreti, Rahul, Inventory policies for containers with stochastic returns

Wang, Huaping, Missing data analysis in structural equation modeling—expectation maximization and multiple imputation methods

ARIZONA

Arizona State University (10)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Cates, Dennis, Edge detection using Fourier data with applications

Dur-e-ahmad, Muhammad, Structural plasticity of dendritic spines: A computational study

Erdem, Mustafa, Epidemics in structured population with isolation and cross-immunity

Gehrig, Eric, Hopf algebras, projections, and coordinates of the first kind in control theory

Malik, Tufail, Microbial quiescence, a survival strategy in environmental stress

Mendez, Guillermo, Tree-based methods to model dependent data

Sealey, Vicki, Calculus students' assimilation of the Riemann integral into a previously established limit structure

Sutton, Karyn, Theoretical studies on pneumococcal vaccination

Thalhauser, Craig, The two-state model of cancer growth: Evolutionary implications at the local and global scales

Zhong, Zimin, Curve registration in functional data analysis

University of Arizona (8)

DEPARTMENT OF MATHEMATICS

Berger, Lisa, Ranks of Abelian varieties in towers of function fields

Fernandes, Anthony, A partnership between a middle school teacher and a novice mathematics educator centered around the content

Ivkovic, Milos, Characterization and coding techniques for long-haul optical telecommunication systems

McLeman, Cameron, A Gold-Shafarevich equality and p -tower groups

Miller, Justin, On p -adic continued fractions and quadratic irrationals

PROGRAM IN APPLIED MATHEMATICS

Arpin, Sheree, Using mathematical models to investigate phenotypic oscillations in cichlid fish: A case of frequency-dependent selection

Shen, Fangfang, Approximating ideal-observer performance using Fisher information and the extreme value distribution in detection tasks

Shkarayev, Maxim, Effects of nonlinearity and disorder in communication systems

ARKANSAS

University of Arkansas at Fayetteville (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Gyurov, Boyko, Maximal inverse semigroups of transformations

Haller, Erin, Comparison principles for fully non-linear parabolic equations in Carnot groups with applications to the horizontal Gauss curvature flow

Taylor, Phillip, Analytic bounded point evaluations and polynomial approximation in the mean on crescents

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2007, to June 30, 2008) reported in the 2008 Annual Survey of the Mathematical Sciences by 213 departments in 154 universities in the United States. Each entry contains the name of the recipient and the thesis title. The number

in parentheses following the name of the university is the number of degrees listed for that university. A supplementary list containing names received since compilation of this list will appear in a summer 2009 issue of the *Notices*.

CALIFORNIA

California Institute of Technology (13)

DEPARTMENT OF APPLIED AND COMPUTATIONAL MATHEMATICS

Donaldson, Roger, Discrete geometric homogenisation and inverse homogenisation

Helgason, Hannes, Nonparametric detection and estimation of highly oscillatory signals

Hoch, David, Nonreflecting boundary conditions obtained from equivalent sources for time-dependent scattering problems

Monro, John, Jr., A super-algebraically convergent windowing-based approach to the evaluation of scattering from periodic rough surfaces

Sweatlock, Sarah, Asymptotic weight analysis of low-density parity check (LDPC) codes

Tian, Lixiu, Effective behavior of dielectric elastomer composites

Wang, Ke, A subdivision approach to the construction of smooth differential forms

CONTROL AND DYNAMICAL SYSTEMS

Flores, Melvin, Real-time trajectory generation for constrained nonlinear dynamical systems using nonuniform rational B-spline basis functions

Grubits, Katalin, Low-dimensional representations of transitions in molecular systems

Waydo, Stephen, Explicit object representation by sparse neural codes

DEPARTMENT OF MATHEMATICS

Levaillant, Claire, Irreducibility of the Lawrence-Kramer representation of the BMW algebra of type A_n-1

Tsankov, Todor, Amenability, countable equivalence, relations and their full groups

Venzke, Rupert, Braid forcing, hyperbolic geometry and pseudo-Anosov sequences of low entropy

Claremont Graduate University (3)

SCHOOL OF MATHEMATICAL SCIENCES

Beasley, Joseph, Performance feedback and control of solar concentrators using wave front sensing techniques

Paolini, Christopher, A service-oriented architecture for thermochemical computation

Xu, Dong, FEMVib, an ab initio multi-dimensional solver for probing vibrational dynamics in polyatomic molecules and free radicals

Stanford University (21)

DEPARTMENT OF MATHEMATICS

Akat, Muzaffer, A unified credit risk model

Alper, Jarod, Good moduli spaces for Artin stacks

Buyukboduk, Kazim, Kolyvagin systems over an Iwasawa algebra

Chang, Huai-Lian, Donaldson Thomas invariant of P^1 scroll

Duque, David Fernandez, Results in dynamic topological logic

Eichmair, Michael, Non-variational existence problems in general relativity

Groft, Chad Lawrence, Isoperimetric inequalities on the universal covers of compact spaces

He, Jian, Symplectic field theory of subcritical Stein manifolds

Helleloid, Geir Trygve, Automorphism groups of finite p -groups: Structure and applications

Ramras, Daniel Alexander, Stable representation theory of infinite discrete groups

Wu, Baosen, Degeneration formula of Donaldson-Thomas invariants

DEPARTMENT OF STATISTICS

Chang, George, Tools for multivariate bump hunting

Chen, Jiehua, Regression models with spatially correlated errors: Applications to urban core growth in China

Chen, Zehao, Estimation of high dimension covariance matrix and adaptive portfolio selection

Eckner, Andreas, Two essays on credit default correlation

Horel, Guillaume, Estimating integrated volatility with Markov chains

Li, Ping, Stable random projections and conditional random sampling, two sampling techniques for modern massive datasets

Salzman, Julia, Spectral analysis with Markov chains

Turnbull, Brit, Empirical null distributions and local false discovery rates

Ward, Gillian, Statistics in ecological modeling; the presence-only problem and other procedures

Zhen, Wei, Greedy functional learning machine in finance

University of California, Berkeley (6)

DEPARTMENT OF STATISTICS

Bhamidi, Shankar, Random networks: Flows and asymptotics

Dong, Rui, Coagulation-fragmentation duality for Poisson-Dirichlet distributions, and exchangeable partitions derived from Markovian coalescents

Peled, Ron, Global irregularities for Poisson processes—gravitational allocation and rough isometries

Rocha, Guilherme, Sparsity and model selection through convex penalties: Structured selection, covariance selection and some theory

Traskin, Mikhail, On the consistency of ensemble classification algorithms

GROUP IN BIOSTATISTICS

Bembom, Oliver, Statistical methods for causal inference when the assumption of experimental treatment assignment is violated

University of California, Davis (21)

DEPARTMENT OF MATHEMATICS

Breslin, William, Curvatures of surfaces in hyperbolic 3-manifolds

Farrell, Brendan, Analysis of noncommutative operator classes in information theory and harmonic analysis

Guan, Raymond, Advanced equalization techniques for wireless communications

Hodge, Andrew, The degrees of the logarithmic extension of the cotangent bundle to the moduli of pointed curves and Hitchin systems, spectral curves and KP equations

Lai, (Yuan-Juang) Yvonne, An effective compactness theorem for Coxeter groups

Lee, Jaejeong, Fundamental domains of convex projective structures

Liu, Shuang, Improving the classification of microarray data: Supervised and unsupervised methods

Rutherford, Daniel, Relationship between Legendrian knot invariants

Suh, Chan-Ho, Modified normal surface theories

Williams, Michael, Lens space surgeries on tunnel number one knots

Wilmarth, Constance, Projections of singular vectors of Verma modules over rank 2 Kac-Moody Lie algebras

Wright, Roy, Spatial and temporal heterogeneity of host-parasitoid interactions in lupine habitat

Yan, Pengchong, Broadband detection and imaging of multiple targets in clutter

DEPARTMENT OF STATISTICS

Gu, Zhonghua, Model diagnostics for generalized linear mixed models

Liu, Wei, Statistical network comparison

Lu, Ruixiao, Statistical issues in detection of biological signals in the analysis of microarray gene expression data

Nguyen, Thuan, New procedures of fence methods and their applications

Tang, En-Tzu, On estimation of the mean squared error in small area estimation and related topics

Tseng, Szu-Ching, A generalized self-consistency approach to semiparametric survival models

Zhang, Zhen, Functional data analysis for densities

Zhu, Li, Modeling dynamics in two statistical problems: Longitudinal disease activity score and parasite infection

**University of California,
Irvine** (5)

DEPARTMENT OF MATHEMATICS

- Li, Xiangrong*, Nonlinear simulations of solid tumor growth using a mixture model: Invasion and branching
- Munteanu, Ovidiu*, The structure of complete manifolds with positive spectrum
- Vargas, Benjamin*, Mixed end conditions and morphogen gradient formation
- Webster, Micah*, Nonlinear stability analysis of a free boundary problem
- Wong, Chiu Fai*, Zeta functions of projective toric hypersurfaces over finite fields

**University of California,
Los Angeles** (17)

DEPARTMENT OF MATHEMATICS

- Brandman, Jeremy*, A level set method for calculating eigenvalues of elliptic operators on closed surfaces and a proof of blow up of L^∞ weak solutions of an aggregation equation
- Busch, Joseph*, Lower bounds in arithmetic complexity via asymmetric embeddings
- Epstein, Inessa*, Some results on orbit inequivalent actions of non-amenable groups
- Hinde, Colin*, The essence of Ricci curvature
- Kwon, Soonsik*, Low regularity problem of the higher order KdV type equations and the orbital stability issues of soliton solutions
- Landa, Yanina*, Visibility of point clouds and exploratory path planning in unknown environments
- Leo, John*, Fourier coefficients of triangle functions
- Ni, Kang-Yu*, Variational PDE-based image segmentation and inpainting with applications in computer graphics
- O'Donnol, Danielle*, Intrinsically n -linked spatial graphs
- Prescott, Timothy*, Invariance principles for random environments and shape theorems
- Roy, Tristan*, Global existence of the defocusing cubic wave equation in dimension 3
- Sinapova, Dima*, A model for a very good scale and bad scale
- Smith, S. Alex*, Layered percolation on the complete graph
- Souldatos, Ioannis*, Characterizable cardinals and local Hanf numbers
- Waelder, Robert*, Elliptic genera in algebraic geometry
- Yanovsky, Igor*, Unbiased nonlinear image registration
- Zhu, Mingqiang*, Fast numerical algorithms for total variation based image restoration

**University of California,
Riverside** (5)

DEPARTMENT OF STATISTICS

- Lesch, Scott*, A new class of goodness-of-fit tests based on linear functions of order statistics for the exponential distribution under general Type II censoring schemes
- Liu, Junmei*, Estimating the number of species from a censored sample
- Wilson, Jason*, On the probability of correct selection when k is large
- Zhang, Qi*, Different statistical tests to assess the validity of one-part software reliability models
- Zhang, Wei*, Logistic regression with unknown sizes

**University of California,
San Diego** (12)

DEPARTMENT OF MATHEMATICS

- Angle, Robert*, Holomorphic Segre preserving maps
- Bucicovschi, Orest*, Simple Lie algebras, algebraic prolongations and contract structures
- Butler, Steven*, Eigenvalues and structures of graphs
- Clark, David*, Functorality for the $su(3)$ Khovanov homology
- Guo, Hong Xin*, The 3-dimensional steady gradient Ricci soliton
- Horn, Larissa*, Fun with tensor products
- Liese, Jeffrey*, Counting patterns in permutations and words
- Nordgren, Karl*, Well-posedness for the equations of motion of an inviscid, incompressible, self gravitating fluid with free boundary
- Regev, Alon*, Filtered algebraic algebras
- Richardson, Ross*, Combinatorial and geometric problems on point processes
- Riehl, Amanda*, Ribbon Schur functions and permutation patterns
- Robinson, Daniel*, Primal-dual methods for nonlinear optimization

**University of California,
Santa Barbara** (4)

DEPARTMENT OF STATISTICS AND APPLIED PROBABILITY

- Bagasheva, Biliana*, Bayesian methods in the investment management process
- Kaneda, Naohisa*, Fitting mixture models from kernel estimators
- Vestal, Douglas*, Interacting particle systems for pricing credit derivatives
- Wang, Dezhong*, Pricing tranches of a CDO and CDX index

**University of California,
Santa Cruz** (2)

DEPARTMENT OF APPLIED MATHEMATICS AND STATISTICS

- Patil, Anand*, Bayesian nonparametrics for inference of ecological dynamics

- Taddy, Matthew*, Bayesian nonparametric analysis of conditional distributions and inference for Poisson point processes

**University of Southern
California** (7)

DEPARTMENT OF MATHEMATICS

- Akopian, Vardan*, Modeling of Earth's ionosphere and variational approach for data assimilation
- Alaghband, Mohamad*, Stochastic models for understanding and pattern recognition of molecular data
- DiMuro, Joseph*, On prime power elements of $GL_d(q)$ acting irreducibly on large subspaces
- Han, Yong Ho*, Commuting triples of matrices
- Hiatt, Christopher*, Quantum traces in quantum Teichmüller space
- Mayberry, John*, The effects of noise on bifurcations in circle maps with applications to integrate-and-fire models in neural biology
- Villalobos, Jose*, Monte Carlo methods for FBSDEs in high dimensions

COLORADO

**Colorado State
University** (13)

DEPARTMENT OF MATHEMATICS

- Al-Azemi, Abdullah*, Classification algorithms for graphs, digraphs, and linear spaces
- Davis, Diane*, Toward a type B_n geometric Littlewood-Richardson rule
- Fatemeh, Emdad*, Signal fraction analysis for subspace processing of high dimensional data
- Jen-Mei, Chang*, Classifications on the Grassmannians: Theory and applications
- Mertens, Keith*, Mathematical methods for fluid-solid interfaces: Meandering streams and sand ripples
- Murphy, Ethan*, 2-D D-bar conductivity reconstructions on non-circular domains
- Muskat, Jeremy*, Algebraic curves over finite fields
- Peters, Pamela*, Gaussian maps for double covers of smooth toric surfaces
- Wildey, Timothy*, A posteriori analysis of operator decomposition on interface problems
- Yue, Qiao*, Radial basis functions (RBFs) for solving color conversion problems

DEPARTMENT OF STATISTICS

- Cao, Xiaofan*, Model selection based on expected square Hellinger distance
- Higgs, Megan*, Clipped latent-variable spatial models for ordered categorical data
- Wu, Rongning*, Estimation for some linear and nonlinear time series models

University of Colorado, Boulder (9)

DEPARTMENT OF MATHEMATICS

Bruns, Corey, Variations of independence in Boolean algebras

Davenport, John, Analysis of American options

Ernst, Dana, A diagrammatic representation of an affine C Temperley-Lieb algebra

Formichella, Marc, Functional equations among Barnes' integrals and hypergeometric series

Mann, Allen, Independence-friendly cylindrical set algebras

Nickodemus, Matthew, Natural dualities for finite groups with Abelian Sylow subgroups

Pohlmann, Brent, Structural properties of acyclic heaps with applications to Kazhdan-Lusztig theory

Radhakrishnan, Vinod, An asymptotic formula for the number of non-Serre curves in a two parameter family of elliptic curves

Sequin, Troy, Risk measures

CONNECTICUT

University of Connecticut, Storrs (9)

DEPARTMENT OF MATHEMATICS

Bowers, Adam, The Grothendieck inequality: Methods and applications

Kaur, Sawinder Pal, An eigenvalue problem for some nonlinear transformation of multidimensional arrays

Ranasinghe, Sudath, Model to develop a provision for adverse deviation (PAD) for the mortality risk of impaired lives

DEPARTMENT OF STATISTICS

Das, Sourish, Generalized linear models and beyond: An innovative approach from Bayesian perspective

Guo, Feng, Modeling genetic data using Bayesian hierarchical models

Li, Pengfei, A factor and vector-AR model for analyzing high dimension volatility for high frequency financial data

Mukhopadhyay, Jaydip, Mining tools for high-dimensional time series data using spectral methods

Xi, Yingmei, New development of Bayesian mixture models for survival and survey data

Yu, Fang, Bayesian methods for high-throughput gene expression data in bioinformatics

DELAWARE

University of Delaware (6)

DEPARTMENT OF MATHEMATICAL SCIENCE

Beckham, Jon Regan, Analysis of mathematical models of electrostatically deformed elastic bodies

Moulton, Derek, Mathematical modeling of field driven curvature surfaces

Ronkese, Robert, The analysis and numerical simulation of a mathematical model of bone growth and reabsorption

Vasquez, Paula, Modeling wormlike micellar solutions

Zhang, Ningyi, Inverse problem for wave propagation in a perturbed layered half-space and orthogonality relations in poroelastic materials

Zhang, Xinyi, Expected length of minimum spanning tree

DISTRICT OF COLUMBIA

George Washington University (9)

DEPARTMENT OF MATHEMATICS

Andress, Tanya, The spectrum and the first Čech cohomology group of a one dimensional tiling dynamical system

Barg, Michael, Direct methods in the calculus of variations with applications to tendon-reinforced piecewise-isotropic membranes

Jasso-Hernandez, Fanny, A homological algebraic approach to the Tutte polynomial

McKenna, Geoffrey, Graphs, algebra, and probability

Niebrzydowski, Maciej, Some applications of quandles and their homology to the geometry of knots

DEPARTMENT OF STATISTICS

Davi, Ruthanna, Joint testing of sensitivity, specificity, and kappa in diagnostic studies

Huang, Dalong, Effects of contamination on statistical inference using sib-pair analysis

Shu, Yu, Group sequential designs and inference of a medical diagnostic test with binary outcomes

VanRaden, Mark, Cumulative logit-Poisson and cumulative-logit negative binomial compound regression models for count data

Howard University (3)

DEPARTMENT OF MATHEMATICS

Attimu, Dodzi, Linear operators on some non-Archimedean Hilbert spaces and their spectral theory

Dembele, Bassidy, Malaria model in periodic environments

Legette, Lakeshia, Maximal groups in the Stone-Čech compactification of a discrete semigroup

FLORIDA

Florida Atlantic University (1)

DEPARTMENT OF MATHEMATICAL SCIENCES

Kalis, Jan, Sobolev inequalities

Florida Institute of Technology (4)

DEPARTMENT OF MATHEMATICAL SCIENCES

Mamillapalle, Sameer, A study of functional differential equations with anticipation and retardation

Sartor, Kenneth, A study of variational phase estimation methods for synthetic aperture radar applications

Seetharaman, Hariharan, Adapted wavelet methods for heat equation on unbounded domains

Shaykhian, Gholam, Integration and optimization: Irrational numbers for random sequences and scope of evolutionary algorithms

Florida State University (15)

DEPARTMENT OF MATHEMATICS

Chan, Wan-Kan, Analysis and approximation of a two-banded Ginzburg-Landau model of superconductivity

Chen, Zheng, ANOVA for parameter dependent nonlinear PDEs and numerical methods for the stochastic Stokes equations

Culham, Andrew, Asset pricing in a Lucas framework with boundedly rational heterogeneous agents

Moreno, Juan, Impulse control problems under non-constant volatility

Nguyen, Hoa, Centroidal Voronoi tessellations for mesh generation: From uniform to anisotropic adaptive triangulations

Novocin, Andrew, Factoring univariate polynomials over the rationals

Saka, Yuki, Analysis of two PDE models in fluid mechanics: Nonlinear spectral eddy-viscosity model of turbulence and infinite-Prandtl-number model of mantle convection

Singleton, Lee, Geometric and computational generation, correction, and simplification of cortical surfaces of the human brain

Zhu, Wuming, A spectral element method to price European options

DEPARTMENT OF STATISTICS

Choi, Seo-eun, A statistical approach to ocean circulation inverse problem

He, Jianghua, Time-varying coefficients models for longitudinal aging data

Norton, Jon, Spatiotemporal Bayesian hierarchical models, with application to birth outcomes

Stefanov, Dimitre, Cardiovascular risk functions based on multi-state models
Tan, Fei, A method for finding the nadir of non-monotonic relationships
Uhm, Dai Ho, Flexible additive risk models using piecewise constant hazard functions

University of Central Florida (4)

DEPARTMENT OF MATHEMATICS

Flores, Paul, Categorical properties of lattice-valued convergence spaces
Holmquist, Sonia, An examination of the effectiveness of the Adomian decomposition method in fluid dynamic applications
Vogel, Thomas, Soliton solutions of non-linear partial differential equations using variational approximations and inverse scattering techniques
Wlodarczyk, Tomasz, Stability and preservation properties of multisymplectic integrators

University of Florida (21)

DEPARTMENT OF MATHEMATICS

Aslan, Beyza, A continuous approach to the lightning discharge
Brodhead, Paul, Computable aspects of closed sets
Chen, Pengwen, Bergman metrics and their applications
Coleman, Micah, Asymptotic enumeration in pattern avoidance and in the theory of set partitions and asymptotic uniformity
Nguyen, Hung Ngoc, Representations of finite groups of Lie type
Sabuwala, Adnan, A convergence study of spectrally matched grids in the presence of non-smooth data and anisotropy
Strich, Robert, Passive states and essential observers in algebraic quantum field theory
Venkataraman, Prabhu, The 2-lien of a 2-gerbe
Zeng, Qingguo, Diffusion weighted magnetic resonance image analysis and medical image registration
Zheng, Xiqiang, Efficient Fourier transforms on hexagonal arrays

DEPARTMENT OF STATISTICS

Baldwin, Jamie, Evaluating adjustments to the mean squared error due to estimating variance parameters in linear mixed models
Giurcanu, Mihai, Biased bootstrap for semiparametric models
Lee, Keunbaik, Marginalized regression models for longitudinal categorical data
Li, Hongying, Mapping quantitative trait nucleotides with longitudinal data subject to non-ignorable dropout
Liu, Tian, Bayesian functional mapping of complex dynamic traits

Naranjo, Arlene, State-space models with exogenous variables and missing data
Papageorgiou, Georgios, Multivariate limited translation estimators
Roy, Ananya, Empirical and hierarchical Bayesian methods with applications to small area estimation
Ryu, Euijung, Modeling and inference for an ordinal effect size measure
Saha, Sourish, Response surface designs for linear mixed models
Santra, Upasana, Probability matching priors for the bivariate normal distribution

University of South Florida (12)

DEPARTMENT OF MATHEMATICS

Adhikari, Dhruva R., Applications of degree theories to non-linear operator equations in Banach spaces
Andreevska, Irena, Mathematical modeling and analysis of options with jump-diffusion volatility
Daqqa, Ibtisam, Subconstituent algebras of Latin squares
Davis, John C., Identification of parameters when the density of the minimum is given
Genova, Daniela, Forbidding and enforcing of formal languages, graphs, and partially ordered sets
George, Florence, Johnson's system of distributions and microarray data analysis
Hoare, Armando, Parametric, non-parametric and statistical modeling of stony coral reef data
Ibrahimu, Boubakari, The Leray-Schauder approach for the topological degree of perturbed maximal monotone operators
Mbah, Alfred K., On the theory of records and applications
Shih, Shou Hsing, Forecasting models for economic and environmental data
Staninska, Ana, A theoretical model for flexible tiles self-assembly
Taylor, Rodney, Lagrange interpolation on Leja points

GEORGIA

Emory University (6)

DEPARTMENT OF BIostatistics

Chen, Huichao, Statistical methods for modeling exposure and reproductive outcomes
Crawford, Sara, Multiple sources of informative dropout in longitudinal data
Wannemuehler, Kathleen, Likelihood-based measurement error adjustments in occupational and environmental exposure studies

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Hanson, Lauren, Techniques in constrained optimization involving partial differential equations
Magnant, Colton, Partitions of graphs under distance constraints
Nastase, Esmeralda, Color criticality and chromatic connectivity of graphs

Georgia Institute of Technology (7)

SCHOOL OF MATHEMATICS

Carroll, Christina, Enumerative combinatorics of posets
Inkermann, Torsten, Tree-based decompositions of graphs on surfaces and applications to the traveling salesman problem
Kampel, Guido, Mathematical modeling of fines migration and clogging in porous media
Kettner, Michael, Algorithmic and topological aspects of semi-algebraic sets defined by quadratic polynomials
Lessard, Jean-Philippe, Validated continuation for infinite dimensional problems
Ulusoy, Suleyman, The mathematical theory of thin film evolution
Viveros-Rogel, Jorge, An extension of KAM theory to quasi-periodic breather solutions in Hamiltonian lattice system

University of Georgia (13)

DEPARTMENT OF MATHEMATICS

Cinkir, Zubeyir, The tau constant of metrized graphs
Cooper, Bobbe Jane, Support varieties for tilting modules for GL_n
Davie, Emille Kenna, Characterizing right-veering homeomorphisms of the punctured torus via the Burau representation of B_3
Liu, Haipeng, Prewavelet solution to Poisson equations
Petrov, Peter Konstantinov, Nash problem on spaces of arcs
Platt, Kenyon, Classifying the representation type of infinitesimal blocks of category O_S
Rusinko, Joseph Patrick, Equivalence of mirror families constructed by toric degenerations of flag varieties
Wright, Caroline, Second cohomology groups of Frobenius kernels
Wu, Jianbao, Spherical splines for Hermite interpolation and surface design

DEPARTMENT OF STATISTICS

Cai, YiMei, Estimation of the seed dispersal distribution with genotypic data
Iaci, Ross, Multivariate association and dimension reduction
Park, Jin-Hong, Dimension reduction in time series

Zhang, ChenHua, Applications of smoothly varying functions and tail index estimation

ILLINOIS

Illinois Institute of Technology (2)

DEPARTMENT OF APPLIED MATHEMATICS

Erickson, John F., Generalized native spaces

Ortega, Oscar, Consensus and location: The mean function

Northern Illinois University (4)

DEPARTMENT OF MATHEMATICAL SCIENCES

Cappetta, Robert, Reflective abstraction and the concept of limit: An experimental study

Kisunzu, Phillip, Teacher instructional practices, students' mathematical dispositions and mathematics achievement

Poliak, Cathy, Observed confidence levels for regression parameters

Santra, Sourav, Some contributions to design and analysis of crossover experiments

Northwestern University (11)

DEPARTMENT OF MATHEMATICS

Alexander, Gary Clark, Index theorems on noncommutative two-tori and Hochschild cohomology of quantum special linear groups

Bailey, Scott, Topological splittings of spectra related to tmf

Chu, Chenghao, Representing cohomology theories in the triangulated category of motives

Dhand, Vivek, Geometric Langlands duality and forms of reductive groups

Novak, Christopher, Group actions via interval exchange transformations

DEPARTMENT OF ENGINEERING SCIENCES AND APPLIED MATHEMATICS

Donovan, Graham, Rare event simulation systems using the cross-entropy method

Kao, Justin, Mathematical modeling, simulation, and analysis of two problems in interfacial fluid dynamics

Tikhomirova, Anna, Mathematical modeling of structure formation in angiogenesis

Vaughan, Benjamin, Applications of the extended finite element method in mathematical biology

DEPARTMENT OF STATISTICS

Ge, Yang, Bayesian inference with mixtures of logistic regression: Functional approximation, statistical consistency and algorithmic convergence

Rhoads, Christopher, Utilizing prior information about the variance structure

Southern Illinois University, Carbondale (3)

DEPARTMENT OF MATHEMATICS

Abuhassan, Hassan, Some transformed distributions

Lin, Yuan, High-order finite difference methods for solving heat equations

deSouza, Comlan, Periodic eigenfunctions of the Fourier transform operator

University of Chicago (22)

DEPARTMENT OF MATHEMATICS

Bremer, Christopher, An Euler integral formula for epsilon factors of connections

Csima, Nora Elizabeth, Newton-Hodge filtration for F -crystals with structure

Day, Matthew, Symplectic structures on right-angled Artin groups: Between the mapping class group and the symplectic group

Gashi, Qëndrim, A conjecture of Kottwitz and Rapoport for split groups

Geline, Michael, Modular representation theory and the Schur index

Guillou, Bertrand, On some properties of motivic cohomology

Kamgarpour, Masoud, Stacky Abelianization of connected algebraic groups

Lange, Karen, The computational complexity of homogeneous models

Lee, Benjamin, On the algebraic de Rham complex

Longo, Nicholas P. M., Quasilinear Schrödinger equations

Masson, Robert, The growth exponent for planar loop-erased random walk

Nguyen, Tu Ahn, Unique continuation for parabolic equations and local well-posedness for mKdV equation

Peng, Irine, Quasi-isometries of some solvable groups

Schedler, Travis, Differential operators and Batalin-Vilkovisky structures in noncommutative geometry

Tikaradze, Akaki, The center and representations of infinitesimal Hecke algebra

Wallace, Christopher, Galois and motivic Galois groups

Zbarsky, Boris, On some stratifications of affine Deligne-Lusztig varieties for SL_3

DEPARTMENT OF STATISTICS

Hugeback, Angela, Point process models for astronomy: Quasars, coronal mass ejections and solar flares

Ke, Baoguan, A method for genetic mapping of quantitative traits and related statistical problems

Kim, Su Yeon, Adaptive evolution of conserved non-coding elements

Lim, Chae Young, Characteristics of a model error in an air quality model and fixed-domain asymptotic properties of spatial cross-periodograms

Zhao, Zhibiao, Nonparametric inference for stochastic diffusion models

University of Illinois at Chicago (18)

EPIDEMIOLOGY AND BIostatISTICS DIVISION

Evans, Charlesnika, Blood stream infections in veterans with spinal cord injury

Fitchett, George, The role of daily spiritual experience in cardiovascular disease

Gao, Sasha, Information recovery from surrogate outcomes in incomplete longitudinal data

Mattson, Christine, Risk compensation, circumcision, and HIV prevention in Kisumu, Kenya

McIntyre, Anne, Lessons learned from surveillance for bacterial infectious diseases

Qualls-Hampton, Raquel, Health-related quality-of-life and pain in an SCI population: Descriptive and factor

MATHEMATICS, STATISTICS & COMPUTER SCIENCE DEPARTMENT

Cashen, Christopher, Quasi-isometries among tubular groups

Chan, KungHo, Local positivity and Seshadri constants

Fathallah-Shaykh, Hassan, Modeling and local filtering of noise embedded in genome-scale microarray datasets

He, Peng, The risk neutral dynamics of market implied volatility and its application

Krop, Elliot, Enumerating matchings in regular graphs

Rafalski, Shawn, Immersed turnovers in hyperbolic 3-orbifolds

Vozoris, Kathryn, The complex field with a predicate for the integers

Yuce, Iker, Decompositions of 2-generator free Kleinian groups and hyperbolic displacements

Zhang, Weiya, Designs for a toxicity-efficacy model and inference on a normal mean with known coefficient of variation

Zhao, Ailing, Newton's method with deflation for isolated singularities of polynomial systems

Zhou, Ling, Association rule mining and quantitative association rule mining among infrequent items

Zhuang, Yan, Parallel implementation of polyhedral homotopy methods

**University of Illinois,
Urbana-Champaign** (24)

DEPARTMENT OF MATHEMATICS

- Azgin, Salih*, Model theory of valued difference fields
Bansal, Shivi, Rational points on lattice varieties
Cao, Zhu, Product identities for theta functions
Chaiya, Somjate, Complex dynamics and Salem numbers
Ferguson, Colin, Chain conditions on subnormal subgroups
Forgacs, Tamas, Interpolation of weighted L^2 -holomorphic functions in higher dimensions
Hu, Yong, Localization of divisors of integers and of some arithmetic functions
Huber, Timothy, Zeros of generalized Rogers-Ramanujan functions and topics from Ramanujan's theory of elliptic functions
Kadziela, Samuel, Rigid analytic uniformization of hyperelliptic curves
Kilbourn, Timothy, Congruence properties of Fourier coefficients of modular forms
Kou, Ming, Existence and convergence of stochastic Loewner evolution in multiply connected domains
Malicki, Maciej, Topologies and metrics on Polish groups
Moreno, Javier, Iterative differential Galois theory in positive characteristic: A model theoretic approach
Pahlajani, Chetan, Stochastic averaging correctors for a noisy Hamiltonian system with discontinuous statistics
Park, Seung Kook, Applications of algebraic curves to cryptography
Prince, Noah, Deltz-system methods in contemporary graph theory
Schoretsanitis, Konstantinos, Friche theory for metric structures
Sinthaveelert, Malinee, Prescribing dilations in space
Suer, Sonat, Model theory of differentially closed fields with several commuting derivations
Vandenbussche, Jennifer, Five topics in extremal and structural graph theory
Wang, Chunlin, On the estimator of the density of Feynman-Kac semigroups of 2-stable-like processes and the purely discontinuous Girsanov transform of 2-stable-like processes
Wu, Qingquan, Algorithmic aspects of biquadratic cubic and radical function field
Xiong, Maosheng, Distribution of Selmer groups of quadratic twists of a family of elliptic curves

DEPARTMENT OF STATISTICS

- Li, Di*, Markov chain marginal bootstrap for generalized estimating equations

INDIANA

**Indiana University,
Bloomington** (8)

DEPARTMENT OF MATHEMATICS

- Duncan, Jonathan*, First return recovery of Baire class one functions on ultrametric spaces
Franko, Jennifer, Braid group representations via the Yang Baxter equation
Irwin, Trevor, Friche limits and colimits with applications to continua
Jung, Min Kyung, Statistical methods for biological applications
Pham, Du, Comparison of finite volume and finite difference methods and convergence results for finite volume schemes
She, Chunfeng, A mathematical model for power derivatives
Zhang, Siyu, Pricing caps and swaptions when bond prices follow jump-diffusion processes and have log-price volatility
Zhou, Chunlai, Complete deductive systems for probability logics with applications in Harsanyi type spaces

**Indiana University-Purdue
University Indianapolis** (1)

DEPARTMENT OF MATHEMATICAL SCIENCES

- Ramsey, Bobby, Jr.*, A generalization of the Lyndon-Hochschild-Serre spectral sequence for polynomial cohomology

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- Azar, Monique*, Some lower and upper bounds in real algebraic geometry
Blanco-Silva, Francisco, The curvelet transform. A generalized definition and approximation properties
Deger, Mustafa Ersin, A biholomorphism from the Bell representative domain onto an annulus and kernel functions
Dwelle, Kayla, Some results on Hadamard closure and variation diminishing properties of totally nonnegative matrices
Gu, Nan, Some results in the problem of simultaneous resolution of singularities
Kumar, Manish, Fundamental group in positive characteristic
Lomeli, Luis, Functoriality for the classical groups over function fields
Maxin, Daniel, The interplay of isolation from reproduction with demography and sexually transmitted diseases
Mitchell, Ronald (Chris), Hochschild cohomology and the Smith resolution
Siudeja, Bartlomiej, Properties of heat kernels
Tan, Kuan, Applications of the Schwarz function to a class of multiply connected domains with symmetries
Tapp, Darren, Bernstein-Sato polynomials and Picard-Lefschetz monodromy

- Validashti, Javid*, Multiplicities of graded algebras
Vizcarra, Andrew, Regularity of sub-Gaussian processes and other random fields
Wang, Chunbo, Mixed finite element methods for the Stokes and Navier-Stokes equations
Yalcin, Umud, Rank three symplectic groups
Yang, Xiaofeng, Modeling, analysis and simulation of multi-phase flows
Zhang, Pei, Mathematical modeling of host-parasite dynamics
Zhao, Yanhong, On forward-backward stochastic differential equations and related numerical methods

DEPARTMENT OF STATISTICS

- Chen, Hui*, Voice over the internet: Statistical properties and quality of service
Cheng, Riyan, Statistical methods for mapping multiple complex traits
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Lu, Zhenqiang, Stenosis surveillance of hemodialysis patients
Xu, Hui, Some applications of the prior Bayes approach
Xu, Huiping, Estimation of a general correlation structure for latent class and latent variable models of multivariate binary data
Zhang, Jianying, Algorithm-based statistical modeling with application to multi-sensor tracking data with missing values

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- Chailuek, Kamthorn*, An extension of Bergman spaces and their Toeplitz operators
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Harper, John, Quillen homology of modules over operads
Jones, Benjamin, On the singular Chern classes of Schubert varieties via small resolution
Quinn, Sara, Algorithmic complexity of algebraic structures

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- Chung, Key One*, Weak homomorphisms of coalgebras
Fiedler, James, Greco-Latin squares as bijections
Halverson, Matthew, Asymptotic behavior of the solutions to a family of PDE's arising from the chemotaxis equations of Keller and Segal

Meng, Qiang, Topics in pricing American type financial contracts

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Wang, Zhongming, Development of level set method for computing the semi-classical limit in Schrödinger equations with potentials

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Chatterjee, Arindam, Applications of asymptotic expansions to some statistical problems

Huckett, Jennifer, Synthetic data methods for disclosure limitation

Lawrence, Michael, Interactive graphics, graphical user interfaces and software interfaces for the analysis of biological experimental data and networks

Ott, Ellis, Schools left behind; statistical issues with NCLB (No Child Left Behind)

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Choi, Yang Ho, Curvature arbitrage

Kwon, Hun, $W^{2,p}$ estimates for linear fourth order elliptic equations with BMO coefficients in Reifenberg flat domains

Medikonduri, Ram Kishore, Tabulation of tangles and solving tangle equations

Nicholson, Neil, On knots and their invariants

Ortiz-Rosado, Ricardo, Newton/AMG algorithm for solving complementarity problems arising in rigid body dynamics with frictional impacts

Pansera, Jerome, Local risk minimization, consistent interest-rate modeling and applications to life insurance

DEPARTMENT OF BIostatistics

Minggen, Lu, Analysis of panel count data using monotone polynomial splines

Shi, Qian, Bayesian methods of evaluation and use of surrogate endpoints in the single-trial settings

Tan, Huaming, Variable selection and estimation in the partially linear AFT model

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Zugui, Zhang, Model selection for nearly replicated data based on conceptual predictive statistics

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Caprau, Carmen, An $sl(2)$ tangle homology and seamed cobordisms

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Feng, Dai, Bayesian hidden Markov normal mixture models with application to MRI tissue classification

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Shin Kim, Aekyoung, The L^p Neumann problem for Laplace's equation on convex domains

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Zhang, Wei, GMRES on a tridiagonal Toeplitz linear system

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- Du, Xudong*, A finite difference method for studying thermal deformation in a 3D microsphere exposed to ultrashort pulsed lasers
- Liu, Chang*, Stochastic modeling of retail mortgage loans based on past due, prepaid, and default states
- Nilsen, Erik Alfonso*, Nonlinear dynamical analysis of brain electrical activity due to exposure to weak environmentally relevant electromagnetic fields
- Niu, Tianchan*, A hyperbolic two-step model based finite difference method for studying thermal deformation

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- Treayprasert, Tawikan*, Blow-up and quenching phenomena due to a concentrated nonlinear source on a semi-infinite interval

MARYLAND

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- Achy-Brou, Aristide*, Three novel approaches to analyzing longitudinal data: Regression on longitudinal propensity scores, enhanced sensitivity analysis framework and marked renewal stochastic processes
- An, Ming-Wen*, On the importance of designs in better addressing missing data due to death and to loss-to-follow-up
- Colantuoni, Elizabeth*, Topics in causal estimation for public health research

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- Yin, Yue*, Bayesian analysis of infectious disease time series data and optimal constrained Bayesian updating
- Zhou, Yijie*, Association of mortality rates with race and income among U.S. Medicare participants

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- Baughner, Ben*, Statistics of critical points in Kahler geometry and string theory
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- Sun, Zhibin*, Geomagnetic data assimilation using ensemble methods to estimate forecast error covariance

MASSACHUSETTS

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- Busuioc, Cecilia*, Eisenstein cohomology, Milnor K -theory and special values of L -functions

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- Matsura, Ryota*, Twisted root numbers of elliptic curves semistable at primes above 2 and 3
- Mikitchenko, Oleg*, Applications of the resolution of singularities to asymptotic analysis of differential equations
- Wahl, Eric*, Geodesics on isopotential surfaces and solutions to Newton’s N -body problem
- Yeats, Karen*, Growth estimates for Dyson–Schwinger equations
- Zollinger, Elizabeth*, A family of comets in the three-body problem

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- Montez-Rath, Maria*, Models for non-additive interaction effects
- Scaramucci, Amy*, A modified log rank test to account for left truncated survival data: A comparison with the usual log rank test
- Wang, Ling*, Bayesian model-based clustering of short-time series
- Yin, Xiaoyan*, Genetic association analyses of time-to-event data: Selection bias and imputation from the Framingham Heart Study

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- Tseng, Jimmy*, On shrinking target properties
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- Aryee, Martin*, Leveraging hidden correlations in high-dimensional biological data
- Basagana Flores, Xavier*, Design of observational longitudinal studies
- Ding, Xiao*, Family-based association tests with longitudinal measurements
- Fardo, David*, Statistical issues in genome-wide association studies
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- McDaniel, Samuel*, The analyses of array CGH data and current status data

Orellana, Liliana, Methodological challenges for the estimation of optimal dynamic treatment regimes from observational studies

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DEPARTMENT OF MATHEMATICS

Alvine, Amanda, Investigation of J -holomorphic curves in $M^3 \times S^1$

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Fedorchuk, Maksym, Severi varieties and the moduli space of curves

Freer, Cameron, Models with high Scott rank

Harvey, David, Algorithms for p -adic cohomology and p -adic heights

Lan, Kai-Wen, Arithmetic compactifications of PEL-type Shimura varieties

Pottharst, Jonathan, Selmer growth and a “triangulordinary” local condition

Smyth, David, Compact moduli of singular curves: A case study in genus one

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Fan, Xiaodan, Integrating correlated datasets to improve inference in computational biology

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Durant, Kathleen, Sentiment drift and its effect on the classification of web log posts

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Lahaie, Sebastien, A modular framework for multi-agent preference elicitation

Ledlie, Jonathan, A locality-aware approach to distributed systems

Lee, Benjamin, Statistical inference for efficient microarchitectural analysis

Michael, Loizos, Autodidactic learning and reasoning

Roper, Marcus, Symmetry breaking and un-breaking in microhydrodynamical systems: Swimming, pumping and ballistics

Thorpe, Christopher, Probably correct, secrecy preserving computation and its application in auctions and securities exchanges

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Yamins, Daniel, A theory of local-to-global algorithms for one-dimensional spatial multi-agent systems

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Chebikin, Denis, Polytopes, generating functions, and new statistics related to descents and inversions in permutations

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Gu, Jerin, Single-petaled K -types and Weyl group representations for classical groups

Havlickova, Marketa, Boundaries of K -types in discrete series

Kamrin, Kenneth, Stochastic and deterministic models for dense granular flow

Konvalinka, Matjaž, Combinatorics of determinantal identities

Lee, Peter, Gröbner bases in rational homotopy theory

Lipynskiy, Maksim, A semi-infinite cycle construction of Floer homology

Montarani, Silvia, Finite dimensional representations of symplectic reflection algebras for wreath products

Rubinstein, Yanir Akiva, Geometric quantization and dynamical constructions on the space of Kähler metrics

Rycroft, Christopher, Multiscale modeling in granular flow

Savva, Nikos, Viscous fluid sheets

Shapiro, Yakov, An extension of the Hodge theorem to certain non-compact manifolds

Sidenko, Sergiy, Kac’s random walk and coupon collector’s process on posets

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Yang, Fangyun, Dirac operators and monopoles with singularities

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DEPARTMENT OF MATHEMATICS

Long, David, Alexander and Thurston norms of links and 3-manifolds

Pelaez-Menaldo, Jose Pablo, Multiplicative properties of the slice filtration

Straus, Kenneth, Validation of a probabilistic model of language acquisition in children

Tufts University (2)

DEPARTMENT OF MATHEMATICS

Caterina, Gianluca, Least action principles and additive invariants for a class of reversible cellular automata

Munro, Erin C., The axonal plexis: A description of the behavior of a network of axons connected by gap junctions

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DEPARTMENT OF MATHEMATICS AND STATISTICS

Are, Sasanka, Coarse-graining dynamics of interacting particle systems

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Diehl, Michael, Large deviations of observables in classical and quantum lattice spin systems

Fenn, Molly, Generating equivalence class of B -stable ideals

Herring, Gregory, Some applications of computational mathematics: Tumor angiogenesis and Bose-Einstein condensates

Oh, Choonghong, Well-posedness theory of a one parameter family of coupled KdV-type systems and their invariant Gibbs measures

VonRenesse, Christine, Combinatorial aspects of toric varieties

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DEPARTMENT OF MATHEMATICAL SCIENCES

Richardson, Casey, Some problems in the mathematics of fracture: Paths from front kinetics and a level set method

MICHIGAN

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DEPARTMENT OF MATHEMATICS

Alraqad, Tariq, Construction of non-embeddability of quasi-residual designs

Karthikeyan, Palramani, Compact and Hilbert-Schmidt weighted composition operators on the Bergman space

Li, Shubiao, The generalized Lagrangian probability distribution: Properties and applications

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Sarker, Animesh, Compact and Hilbert-Schmidt weighted composition operators on the Hardy space

Michigan State University (14)

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Baykur, Refik Inanc, Symplectic structures, Lefschetz fibrations, and their generalization on smooth four-manifolds

Brooks, Cara, A discrepancy principle for parameter selection in local regularization of linear Volterra inverse problems

Goyt, Adam, Patterns in set partitions and compositions

Guha, Mohar, Front dynamics in non-smooth ignition systems in a noisy environment

Gurel, Erhan, Galois structure of modular forms of even weight

Lee, Ki-Moon, The maximum-likelihood decoding algorithms of low-density codes over binary erasure channels

Lee, Tsung-Lin, A rank-revealing method for low-rank matrices with updating, downdating, and applications

Li, Ying, Studies of nonlinear problems for Maxwell's equations

Luo, Xiaoyue, Local regularization for nonlinear Volterra integral equation of Hammerstein type

Seckin, Elif, Centralizers of elements of prime order in locally finite simple groups

Sun, Yuhui, Mathematical modeling of images and surfaces

Walia, Rajeev, Tensor factorization and spin construction for Kac-Moody algebras

Yu, Si-Ning, Matched interface and boundary (MIB) method for surface singularities and its applications

DEPARTMENT OF STATISTICS AND PROBABILITY

Zhang, Yanwei, A hierarchical Bayesian approach to model spatially correlated binary data: With applications to dental research

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DEPARTMENT OF MATHEMATICS AND SCIENCE

Qin, Huaizhen, Statistical approach for genome-wide association study and microarray analysis

Oakland University (4)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Kirkwood, Daniel, A hybrid algorithm for the common real zero problem

M'Bengue, M'Bagne, Analysis of models for nonlinear dynamic beams with or without damage or frictionless contact

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Agarwal, Mahesh, $p - L$ function for $\mathrm{GSp}(4) \times \mathrm{GL}(2)$

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Feng, Hualong, Vortex sheet simulations of 3D flows using an adaptive triangular panel/particle method

Huh, Sukmoon, Moduli spaces of stable sheaves on a plane and an embedded curve

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Min, Hyekyung, Stochastic control models of optimal dividend and capital financing

Mueller, Charles, On the varieties of pairs of matrices whose product is symmetric

Rong, Feng, Critically finite maps, attractors and local dynamics

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Cox, Dana, Understanding similarity: Bridging visual and analytical strategies for proportional thinking

MINNESOTA

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DIVISION OF BIostatISTICS, SCHOOL OF PUBLIC HEALTH

Cui, Yue, Smoothing analysis of variance and extending the definition of degrees of freedom

SCHOOL OF STATISTICS

Borba de Andrade, Bernardo, Topics in nonstandard probability theory

Dong, Yingwen, Inference and model selection

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Forzani, Liliana, Sufficient dimension reduction based on normal and Wishart inverse models

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Shao, Yongwu, Topics on dimension reduction

Strief, Jeremy, Bayesian sampling weights: An approximation to the Polya posterior

Zhang, Yongli, Model selection

MISSOURI

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Sanyal, Suman, Stochastic dynamic equations

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Borovyk, Vita, Box approximation and related techniques in spectral theory

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Pogan, Alexandru Alin, Dichotomy theorems and applications

Schlieper, Jared, Extremal sections of unit ball in Lorentz sequences space

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Zymonopoulou, Maria-Isavella, Sections of complex convex bodies

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Feller, Heidi, Solving boundary value problems using critical point theory

Gregg, Martha, C^* -extreme points in the generalized state space of a commutative C^* -algebra

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Lucas, Melissa, Ranks and bounds for indecomposable modules over one-dimensional Noetherian rings

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Sakuntasathien, Sawanya, Global well-posedness for systems of nonlinear wave equations

Weiss, Jacob, Second order dynamic equations on time scales

DEPARTMENT OF STATISTICS

Schmid, Kendra, Analysis of landmark data using multi-dimensional regression

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University of New Hampshire (1)

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Fang, Junsheng, Unitarily invariant norms and tensor products of maximal injective von Neumann subalgebras

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Hedden, Sarra, Methods in substance abuse clinical trials

Howard, Virginia, Nativity and interstate migration patterns and their effect on stroke risk factors

Jaffa, Miran, Development and application of models for slope estimation for univariate and bivariate longitudinal outcomes in the presence of informative right censoring

Johnson, Shayna, Racial disparities in living kidney donations among South Carolinians: The effect of health conditions, individual behavior, and family attributes

Karpievitch, Yuliya, Computational tools for MS-based proteomics

Mountford, William, Racial variation in long-term risk of cardiovascular disease mortality with regards to diabetes and hypertension

Rastogi, Amal, Arterial compliance and periodontal inflammation in adults

University of South Carolina (12)

DEPARTMENT OF MATHEMATICS

Jordan, Kelly, The necklace poset is a symmetric chain order

Kozek, Mark, Applications of covering systems of integers and Goldbach's conjecture with monic polynomials

Owens, Luke, Multigrid methods for two weakly over-penalized interior penalty methods

Rusu, Anamaria, Determining starlike bodies by their curvature integrals

Sanacory, Frank, The richness of the space of operators on a Banach space

DEPARTMENT OF STATISTICS

Adekpedjou, Akim, Estimation of the gap-time distribution with recurrent event data under an informative monitoring period

Autin, Melanie, Nonparametric methods in the analysis of estuarine water quality data

Deutsch, Roland, Benchmark analysis for two predictor variables

Ignatova, Iliana, Multistage samples and the minimum sum method for Medicare fraud investigations

Ni, Jun, Extensions of hierarchical Bayesian shrinkage estimation with applications to a marketing science problem

Quiton, Jonathan, General outlier detection and goodness of fit for recurrent event data

Zhang, Litong, The estimation of multi-dimensional item response theory model

TENNESSEE

University of Memphis (2)

DEPARTMENT OF MATHEMATICAL SCIENCES

Wheeler, Jeffrey Paul, The Cauchy-Davenport theorem and the Erdős-Heilbronn problem for finite groups

Zhang, Lijun, Stochastic and state space models of carcinogenesis with applications

University of Tennessee, Knoxville (2)

DEPARTMENT OF MATHEMATICS

LaGrange, John, Zero-divisor graphs, commutative rings of quotients, and Boolean algebras

Phillippi, R. David, A comparison of the deck group and the fundamental group of uniform spaces obtained by gluing

Vanderbilt University (7)

DEPARTMENT OF MATHEMATICS

Callender, Hannah, Mathematical modeling of species-specific diacylglycerol dynamics in the RAW 264.7 macrophage following $P2Y_6$ receptor activation by uridine 5'-diphosphate

Hinow, Peter, Partial differential equation models for intracellular diffusion, inverse problems in nanobiology and cell cycle specific effects of anticancer drugs

Jennings, David, Topological algebras and q -undemanding varieties

Lambert, Thomas Paul, On the classification of closed flat four-manifolds

Nowak, Piotr Wojciech, Property A as metric amenability and its applications to geometry

Spakula, Jan, K -theory of uniform Roe algebras

Yattselev, Maxym Leonidovich, Non-Hermitian orthogonality and meromorphic approximation

TEXAS

Baylor University (2)

DEPARTMENT OF MATHEMATICS

Jackson, Billy Joe, A general linear systems theory on time scales: Transforms, stability, and control

Rogers, James W., Adaptive methods for the Helmholtz equation with discontinuous coefficients at an interface

Rice University (16)

DEPARTMENT OF COMPUTATIONAL AND APPLIED MATHEMATICS

Castillo, Edward, Optical flow methods for the registration of compressible flow images and images containing large voxel displacements of artifacts

Eydelzon, Anatoly, A study on conditions for sparse solution recovery in compressive sensing

McClosky, Benjamin, Independence systems and stable set relaxations

Turner, Jesse, Multi-scale behavior in chemical reaction systems: Modeling, applications, and results

Young, Joseph, Program analysis and transformation in mathematical programming

DEPARTMENT OF MATHEMATICS

Jennings, Landan, Sufficient conditions for Hamiltonian paths

Jorgensen, Jamie, Surface homeomorphisms that do not extend to any handlebody and the Johnson filtration

Ralston, David, Heaviness: An extension of a lemma of Yuval Peres

Simpson, Matthew, On log canonical models of the moduli space of stable pointed genus zero curves

DEPARTMENT OF STATISTICS

Fox, Garrett, A Bayesian hierarchical model for detecting associations between haplotypes and disease using unphased SNPs

Gershman, Jason, Classification of time-course gene expression array data

Jabri, Hannah, Term structures and conditional probabilities of corporate default in an incomplete information setting

Kyj, Lada, Estimating realized covariance using high frequency data

Noyola-Martinez, Josue, Investigation of the Tau-leap method for stochastic simulation

Papkov, Galen, Locally-adaptive polynomial-smoothed histograms with application to massive and pre-binned data sets

Williams, Talithia, A dynamic spatio-temporal model for real-time estimation of rainfall data

Southern Methodist University (5)

DEPARTMENT OF MATHEMATICS

Cao, Guanghua (Kenney), Pricing and risk management of variable annuities and equity indexed annuities

Chaturvedi, Praveen, Single phase multi-component flow simulation in porous media

Lam, Kwan, Pattern formation in nonlinear chemical systems

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Robertson, Steve, Generalizations and applications of linear chirp stationary processes

Xu, Mengyuan, Filtering analysis of non-stationary time series by time deformation

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Abbott, Kevin, Applications of algebraic geometry to object/image recognition

Bondarenko, Ievgen, Groups generated by bounded automata and their Schreier graphs

Celik, Mehmet, Contributions to the compactness theory of the $\bar{\partial}$ Neumann operator

Dobrev, Veselin, Preconditioning of discontinuous Galerkin methods for second order elliptic problems

Dostert, Paul, Multiscale simulation methods for stochastic porous media flows and applications

Fuselier, Jenny, Hypergeometric functions over finite fields and relations to modular forms and elliptic curves

Ivanov, Nikolay, On the structure of some free products of C^* -algebras

Kannan, Lavanya, Densities in graphs and matroids

Kostic, Dimitrije, Graph searching and a generalized parking function

Moreira, Rivera, Products of representations of symmetric group and non-commutative versions

Ruffo, James, A straightening law for the Drinfel'd Lagrangian Grassmannian

Zheng, Bentuo, Embeddings and factorizations of Banach spaces

DEPARTMENT OF STATISTICS

Gold, David, Bayesian learning in bioinformatics

Jin, Lei, Generalized score tests for missing covariate data

Lee, Sang Han, Estimating and testing of functional data with restrictions

Liu, Lian, Topics in measurement error and missing data problems

Liu, Yingxue, Estimation of circadian parameters and investigation in cyanobacteria via semiparametric varying coefficient periodic models

Texas Tech University (6)

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Cupidon, Jean Rene, Functional data analysis

Ji, Xiao Yi, Fréchet differentiation of functions of operators with application to functional data analysis

Pang, Wai Kong Johnny, Some statistical methods for directly and indirectly observed functional data

Talukder, Mohammed H., Order-restricted analysis for repeated measures

Wang, Keyi, Variance reduction methods based on smoothing spline estimator for non-parametric regression model

Wesley, Curtis, Discrete time and continuous time epidemic models with applications to the spread of hantavirus in wild rodent and human populations

University of Houston (5)

DEPARTMENT OF MATHEMATICS

Linsenmann, Christopher, Adaptive multi-level-based shape optimization for stationary Stokes flows by path-following primal-dual interior point methods

Gucciardi, Barbara, Subgroupoids in coupled cell systems

Hao, Jiao, Numerical methods and simulations for fluid/particle interactions: Sedimentation in a viscoelastic fluid and cell lifting in shear flow

Nguyen, Ha, Whitney regularity for solutions to the Livsic coboundary equation on Cantor sets in dimension three

Patel, Swabhimita, Global existence for solutions of diffusively coupled reaction diffusion equations

University of North Texas (2)

DEPARTMENT OF MATHEMATICS

Atim, Alexander, Uniqueness results for the infinite unitary, orthogonal and associated groups

Pudipeddi, Sridevi, Localized radial solutions for nonlinear p -Laplacian equation in R^n

University of Texas at Arlington (6)

DEPARTMENT OF MATHEMATICS

Badiu, Florin, Study of multiple impacts of a rigid body with a flat surface

Busse, Theresa, Generalized inverse scattering transform for the nonlinear Schrödinger equation

Martines, Ian, Mathematical analysis of allelopathy and resource competition models

Mo, Min, Estimating absolute transcript concentration for microarrays using Langmuir adsorption theory

Stern, Paul, On progenitively Koszul commutative rings

Xie, Peng, Uniform compact/noncompact schemes for shock/boundary layer interaction

University of Texas at Austin (19)

DEPARTMENT OF MATHEMATICS

Carreon, Fernando, Singular limits of reaction diffusion equations of KPP type in an infinite cylinder

Chan, Chi Hin, The De Giorgi method as applied to the regularity theory of incompressible Navier-Stokes equations

Cozzi, Elaine, Incompressible fluids with vorticity in Besov spaces

Czubak, Magdalena, Well-posedness for the space-time monopole equation and Ward wave map

Garza, John, The height in terms of the normalizer of a stabilizer

Ghosh, Rohit, Incompleteness of the Giulietti-Ughi arc

Hammond, John, Regular realizations of p -groups

Hitt, Laura, Genus 2 curves in pairing-based cryptography and the minimal embedding field

Klonoff, Kevin, An index theorem in differential K -theory

Luxton, Mark, The log canonical compactification of the moduli space of six lines in \mathbb{P}^2

Moreira, Diego, Least supersolution approach to regularizing elliptic free boundary problems

Samuels, Charles, Auxiliary polynomials and Weil height

Van Horn-Morris, Jeremy, Constructions on open decompositions

Young, Andrea, Modified Ricci flow on a principal bundle

INSTITUTE FOR COMPUTER ENGINEERING AND SCIENCES

Bauman, Paul, Adaptive multiscale modeling of polymeric materials using goal-oriented error estimation, Arlequin coupling and goals algorithms

Cottrell, John, Isogeometric analysis and numerical modeling of the fine scale fields within the variational multiscale method

Khandelwal, Shweta, Ecology of infectious diseases with contact and percolation theory

Sokolova, Ekaterina, Indifference valuation in non-reduced incomplete models with a stochastic risk factor

Su, Qimou, Essays on derivatives pricing in incomplete financial markets

University of Texas at Dallas (2)

DEPARTMENT OF MATHEMATICAL SCIENCES

Sahi, Ramanjit, Tangle replacement moves on links

Yin, Kunshan, A Bayesian paradigm for method comparison studies

UTAH

Brigham Young University (1)

DEPARTMENT OF MATHEMATICS

Grout, Jason, The minimum rank problem over finite fields

University of Utah (8)

DEPARTMENT OF MATHEMATICS

Chamberlain, Erin, Modules with prescribed intersection properties

Iwao, Yoshihiro, Invariance of Gromov-Witten theory under a simple flop

McNulty, Meagan, Mathematical models of respiratory inflammation

Nesse, William, Random fluctuations in dynamical neural networks

Song, Qiang, Questions in local cohomology and tight closure

Thompson, Joshua, Grafting real complex projective structures

Todorov, Gueorgui, Pluricanonical map on threefolds of general type and the Gromov-Witten potential of the local

Zhang, Dali, Inverse electromagnetic problem for microstructure media

VERMONT

University of Vermont (1)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Mahassen, Hania, Weakly and strongly correlated two-dimensional layered Coulomb systems

VIRGINIA

Old Dominion University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Parrish, Sarah, Analysis and application of perfectly matched layer absorbing boundary conditions for computational aeroacoustics

Sabo, Roy, Modeling and efficient estimation of intra-family correlations

Thomas, Howard, II, On the use of quasi-Newton methods for the minimization of convex quadratic splines

University of Virginia (6)

DEPARTMENT OF MATHEMATICS

Bociu, Lorena, Existence, uniqueness and blow-up of solutions to wave equations with supercritical boundary interior sources and damping

Cramer, Wesley, Cyclotomic Specht filtrations and Delta filtrations

Daniels, Inger, Wellposedness of a nonlinear structural acoustic interaction with a Boussinesq plate equation

Ott, Katharine, Boundary integral equations in non-smooth domains

Pons, Matthew, Composition operators on Besov and Dirichlet type spaces

Suwanna, Sujin, On the mean square distance in the Anderson model

Virginia Polytechnic Institute and State University (9)

DEPARTMENT OF MATHEMATICS

Baccouch, Mahboub, Superconvergence and a posteriori error estimation for the discontinuous Galerkin method applied to hyperbolic problems on triangular meshes

Hughes, Sharon, Born Oppenheimer expansion for diatomic molecules with large angular momentum

Temimi, Helmi, A discontinuous Galerkin method for higher-order differential equations applied to the wave equation

Timsina, Tirtha, Sensitivities in option pricing models

DEPARTMENT OF STATISTICS

Fraker, Shannon, Evaluation of scan methods used in temporal monitoring of public health surveillance data

Lee, Mi Hyun, On independent reference priors

Li, Zheng-rong, Model-based tests for standards evaluation and biological assessments

Love, Kimberly, Modeling error in geographic information systems

Wan, Wen, A semiparametric method to multi-response optimization

WASHINGTON

University of Washington (32)

DEPARTMENT OF APPLIED MATHEMATICS

Bale, Brandon, Modeling the dynamics and stability of mode-locked fiber lasers

Gomez, Miguel, Optimization-based analysis of rigid mechanical systems with unilateral contact and kinetic friction

Jeon, Jihyoun, Mathematical modeling of pre-malignant lesions in multistage carcinogenesis

Patterson, Matthew, Computing the Abel map and the Riemann constant vector

Seo, Gunog, The dynamics of simple predator-prey models with Holling functional responses

Srivastava, Santosh, Bayesian minimum expected risk estimation of distributions for statistical learning

DEPARTMENT OF BIOSTATISTICS

- Chen, Lin*, Causal modeling in quantitative genomics
French, Benjamin, Analysis of aggregate longitudinal data with time-dependent exposure
Huang, Yang, Evaluating the predictiveness of continuous biomarkers
Hubbard, Rebecca, Modeling a non-homogeneous Markov process via time transformation
Leek, Jeffrey, Surrogate variable analysis
Rosenthal, Elisabeth, Linkage and segregation analysis allowing for multiallelic inheritance
Rudser, Kyle, Variable importance in predictive models: Separating borrowing information and forming contrasts
Taylor, Leslie, Estimating causal treatment effect in randomized clinical trials with noncompliance and outcome nonresponse
Yu, Xuesong, Statistical methods for analyzing genomic data with consideration of spatial structures

DEPARTMENT OF MATHEMATICS

- Bahuaud, Eric*, Intrinsic characterization of asymptotically hyperbolic metrics
Courdurier, Matias, Restricted measurements for the X-ray transform
Dochtermann, Anton, The topology of graph homomorphisms
Eroglu, Ilgar, Self-similar sets, projections and arithmetic sums
Frohman, Andrew, Face vectors of flag complexes
Kelly, Elizabeth, Schubert objects
Kissel, Kris, Generalizations of a result of Lewis and Vogel
Krishnan, Venkateswaran, A support theorem and an inversion formula for the geodesic ray transform
Langmore, Ian, Inverse transport with angularly averaged measurements
Warren, Micah, Special Lagrangian equations
Williams, Catherine, Asymptotic behavior of marginally trapped tubes in spherically symmetric black hole spacetimes
Yun, Sangwoon, A coordinate gradient descent method for structural non-smooth optimization

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- Berrocal, Veronica*, Probabilistic weather forecasting with spatial dependence
Mondal, Debashis, Wavelet variance analysis for time series and random fields
Oron, Assaf, "Up-and-down" and the percentile-finding problem
Pavlidis, Marios, Nonparametric estimation of multivariate monotone densities
Telesca, Donatello, Bayesian hierarchical curve registration

Washington State University (2)

DEPARTMENT OF MATHEMATICS

- Hsu, Chia-Yu*, A 3D bacterial swimming model coupled with external fluid mechanics using the immersed boundary method
Jeon, Jong-Sam, Powerful ray patterns

WEST VIRGINIA

West Virginia University (4)

DEPARTMENT OF MATHEMATICS

- Cai, Maomao*, Solutions for a 2-dimensional stabilized Kuramoto-Sivashinsky system
Sutyak, Andrea, Pierce-Engel hybrid expansions
Van Vliet, Daniel, Nonlinear approximation using Blaschke polynomials
Zhang, Taoye, Integer flow and Petersen minor

WISCONSIN

Medical College of Wisconsin (2)

DIVISION OF BIOSTATISTICS

- Liu, Jingxia*, Utilizing propensity scores to test treatment effects in survival data
Zhang, Yinghua, Selecting between the Cox and Aalen models for right censored survival data

University of Wisconsin, Madison (13)

DEPARTMENT OF MATHEMATICS

- Deng, Geng*, Simulated-based optimization
Henderickson, Anders, Supercharacter theories of finite cyclic groups
Holden, Christopher, Mod 4 Galois representations and elliptic curves
Hunter, James, Higher-order reverse topology
Kieserman, Noah, The Liouville phenomenon in the deformation problem of coisotropics
Mueller, Stefan, The group of Hamiltonian homeomorphisms and co-symplectic topology
Raghavan, Dilip, Madness and other topics in set theory
Rose, Michael, On Gromov-Witten invariants of stacks
Rouse, Jeremy, Arithmetic analytic and geometric aspects of the theory of modular forms
Shallue, Andrew, Two number theoretic algorithms that illustrate the power and limitations of randomness

- Tang, Yudong*, Geodesic rays and test configurations
Wang, Bing, On the conditions to extend Ricci flow
Wang, Jue, On lower branch exact coherent structures

University of Wisconsin, Milwaukee (9)

DEPARTMENT OF MATHEMATICAL SCIENCES

- Dudek, John*, A mathematical investigation of solutions for the two-component order parameter in the Ginzburg-Landau equations of superconductivity
Lee, Jae Kook, Some covers and relative covers of modules
Lehrke, Stephen, Asymptotic properties of the MLE of parameters of the multivariate O-U process
May, Margaret, Finite dimensional Z-compactifications
Mooney, Christopher, On boundaries of CAT(0) groups
Schroeder, Timothy, l^2 -homology of Coxeter groups
Sears, Christopher, Monotonicity of kneading sequences in families of one-kink maps
Shomberg, Asta, Estimation of false discovery rate under parametric assumptions with application to DNA microarrays
Zaidan, Younis, Analysis of Maxwell systems with various nonlinear polarization mechanisms

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Supplementary List

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

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- 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)

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- 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 commutator 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)

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- 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.

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

Wang, Jian, Recovering Bayesian networks with applications to gene regulatory 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, Identification 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/extension of empirical likelihood for Buckley-James estimator.

MARYLAND

John Hopkins University (1)

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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 cryptanalysis.

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.

Okta, 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-parametric 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 dimensions.

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

Mahajan, Deepa, Boundary-conforming discontinuous Galerkin methods via extension from 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)

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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 $\text{Aut}(A(\Gamma))$ 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 Denjoy-Wolff 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 occurring 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.

PENNSYLVANIA

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.