Doctoral Degrees Conferred

1999–2000

ALABAMA

Auburn University (7)

DISCRETE AND STATISTICAL SCIENCES

Küçükçifçi, Selda, The number of 8-cycles in 2-factorizations of $K_n$.

McGee, James R. III, Embedding and covering of 2-paths.

Roblee, Kenneth, Problems in external coding theory.

MATHEMATICS

Casablanca, Frank Jr., Orthogonal bases of symmetrized tensor spaces and units in Hecke algebras.

Gonzalez, Thomas, On K-to-1 maps.

Kosmatov, Nickolai, Multiple positive solutions of a nonlinear boundary value problem.

Naughton, Dominic, Simple modules for the Hamiltonian algebra.

University of Alabama, Birmingham (3)

MATHEMATICS

Murray, Regan, Traveling waves and osmotic fronts in a model for biodegradation.

Park, Peter, Multiscale numerical methods for the singularity perturbed convection-diffusion equation.

Si, Helen (Hui), Numerical study of interfacial flow with surface tension in two and three dimensions.

University of Alabama, Tuscaloosa (4)

MATHEMATICS

Brau Rojas, Agustín, Controlled Markov chains with risk-sensitive average cost criterion.

Cunningham, Geoffrey, Sums of squares in function fields of elliptic curves.

Ekstrom, Aaron, On the infinitude of elliptic Carmichael numbers.

Jackson, Jack, Splitting in finite metacyclic groups.

Marshall, David, Galois groups and Greenberg’s conjecture.

Sakamoto, Scott, The Cranmer abacus: Its use in teaching mathematics to students with visual impairments.

University of Arizona (17)

APPLIED MATHEMATICS

Liu, Hong, The Clifford analysis techniques for spherical PDE.

ARKANSAS

University of Arkansas (2)

MATHEMATICAL SCIENCES

Lakey, Dejenie, Elliptic boundary value problems, $C_0$, complete function systems and the Clifford II operator.

Wang, Chunnan, Analysis of a bivariate distribution in reliability theory.

ARKANSAS

University of Arkansas (2)

MATHEMATICAL SCIENCES

Liu, Hong, The Clifford analysis techniques for spherical PDE.

CALIFORNIA

California Institute of Technology (8)

APPLIED MATHEMATICS

Park, Peter, Multiscale numerical methods for the singularity perturbed convection-diffusion equation.

SI, Helen (Hui), Numerical study of interfacial flow with surface tension in two and three dimensions.

CONTROL AND DYNAMICAL SYSTEMS

Parrilo, Pablo, Structured semidefinite programs and semialgebraic geometry methods in robustness and optimization.

Pekarsky, Sergey, Discrete reduction of mechanical systems and multisymplectic geometry of continuum mechanics.

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 1999, to June 30, 2000) reported in the 2000 Annual Survey of the Mathematical Sciences by 237 departments in 158 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 2001 issue of the Notices.
Doctoral Degrees Conferred

Wang, Yong, Effects of actuator limits in bifurcation control with applications to active control of fluid instabilities in turbomachineries.

MATHEMATICS
Asparouhov, Tihomir, Sequential fixed width confidence intervals.
Kovrijine, Oleg, Some estimates of Fourier transforms.
Li, Tao, Immersed surfaces, Dehn surgery and essential laminations.

Claremont Graduate University (4)

Claremont Graduate University

Lai, Yongzeng, Quasi-Monte Carlo methods and their applications.
Lavretsky, Eugene, Neural networks for function approximation and control design.
Nguyen, Dong, Reliability modeling and function approximation and control.
Switkes, Jennifer, The geographic mosaic theory in relation to coevolutionary interactions.

Naval Postgraduate School (1)

Naval Postgraduate School

Huber, Michael, A boundary-layer mode of thermal capillary flow in a cold corner.

University of California, Berkeley (32)

University of California, Berkeley

Chen, John Jianguan, Analysis of human disease data: Several statistical approaches.
Kansou-Coune, Marie-Celine, An index of household material wealth based on principal components of disease indicators.
Ngo, Long, Model selection in linear mixed-effects models.

MATHEMATICS
Abrams, Aaron, Configuration spaces and braid groups of graphs.
Aguerre, Amad, The Birch-Tyler formula for modular abelian varieties of analytic rank zero.
Amelechikh, Michael, Free stochastic measures.
Biegelow, Stephen, Homological representations of braid groups.
Borger, James, On conductors over discrete valuation rings with general residue fields.
Calegari, Danny, Functions and the geometry of three-manifolds.
Collins, Peter, Dynamics of surface maps with homoclinic and heteroclinic tangles.
Goldman, Deborah, Algorithmic aspects of protein folding and protein structure similarity.
Gomes, Diosa, Hamilton-Jacobi equations, viscosity solutions and asymptotics of Hamiltonian systems.
Gomez, Emiliano, Deformations of pseudorepresentations.
Heitsch, Christine, Computational complexity of generalized pattern matching.
Ko, Sangjoo, More about tight contact structures on lens space.
Macbain, Diane, Structures on sets of monomial ideals.
Marks, Gregory, 2-primal rings.
Miller, Ezra, Resolutions and duality for monomial ideals.
Neaderhouser, Johanna, Classifying onedimensional attractors in rows on surfaces.
Oliveira, Marcelo, The canonical kernel function and representation theory of Lie groups.
Romano, David, Galois groups of strongly Eisenstein polynomials.
Smithline, Lawren, Slopes of p-adic modular forms.
Stein, William, Explicit approaches to modular Abelian varieties.
Thurston, Dylan, Wheeling: A diagrammatic analogue of the Duflot isomorphism.
Tsai, Harrison, Algorithms for algebraic analysis.
Wright, Jeffery, A numerical study of two-dimensional Faraday oscillations in inviscid fluids.
Xu, Cheng-Wei, Asymptotic stability for equilibria of nonlinear semi-flows with applications to rotating rods.

BIOSTATISTICS
Chen, John Jianguan, Analysis of human disease data: Several statistical approaches.

Statistics

Ling, Shiyi, Constructing genetic maps for outbred experimental crosses.
Orland, Michael, A Monte Carlo EM algorithm applied to travel time estimation and vehicle matching.
Viraj, Balint, Random walks and geometry on graphs of exponential growth.
Yeh, Ru-Fang, Statistical issues in geometric mapping and sequencing.

Biostatistics

Chen, John Jianguan, Analysis of human disease data: Several statistical approaches.

University of California, Los Angeles (18)

University of California, Los Angeles

Brown, Alexander, Hecke correspondences on Picard modular surfaces.
Calegari, Danny, Functions and the geometry of three-manifolds.
Collins, Peter, Dynamics of surface maps with homoclinic and heteroclinic tangles.
Goldman, Deborah, Algorithmic aspects of protein folding and protein structure similarity.

Statistics

Hardin, Johanna, Multivariate outlier detection and robust clustering with minimum covariance determinant estimation and S-estimation.
He, Guanghong, Statistical methods for curve data.
Ji, Ming, Statistical issues related to medical screening tests.

University of California, Irvine (2)

University of California, Irvine

MATHEMATICS
Clabane, Duna, Composition operators on holomorphic function spaces in several complex variables.

University of California, Berkeley (32)

University of California, Berkeley

Chen, John Jianguan, Analysis of human disease data: Several statistical approaches.
Kansou-Coune, Marie-Celine, An index of household material wealth based on principal components of disease indicators.
Ngo, Long, Model selection in linear mixed-effects models.

Statistics

Ling, Shiyi, Constructing genetic maps for outbred experimental crosses.
Orland, Michael, A Monte Carlo EM algorithm applied to travel time estimation and vehicle matching.
Viraj, Balint, Random walks and geometry on graphs of exponential growth.
Yeh, Ru-Fang, Statistical issues in geometric mapping and sequencing.

Biostatistics

Chen, John Jianguan, Analysis of human disease data: Several statistical approaches.
Zhou, Haomin, Wavelet transforms for discontinuous functions and its applications in image processing.

University of California, Riverside (5)

MATHEMATICS
Li, Zhiven, Biregular representation for string links.

STATISTICS
Burns, Colleen, Search designs for factor screening experiments with factors at three levels.
Koo, Gina, Masking microdata with mixtures of normal distributions.
Teschmacher, Lance, The pairwise comparison of search designs using three new criteria based on search probabilities.
Wang, Min-Jay, Effective implications of nonparametric nonlinear time series analysis.

University of California, San Diego (13)

MATHEMATICS
Barclay, Alexander, SQP methods for large-scale optimization.
Bartels, Arthur C., Link homotopy in codimension two.
Conant, James Roger, A knot bounding a graph of n is n/2 trivial.
Hun, Bibo, Tractability of algebraic function fields in one variable over global fields.
Knight, Robert Dean, Using Laguerre geometry to discover Euclidean theorems.
Kojcínovíc, Slabdoan, Extensions of CR mappings between generic algebraic submanifolds.
Kronewitter, F. Dell, Noncommutative computer algebra in linear algebra and control theory.
Lamel, Bernhard R., Mappings of real submanifolds in complex spaces in different dimensions.
Leibon, Gregory D., Random Delaunay triangulations, the Thurston-Andreev theorem, and metric uniformization.
Shepler, Anne V., Semi-invariant forms.
Skogman, Howard, Jacobi forms over number fields.
Wagner, Jennifer D., The combinatorics of the permutation enumeration of wreath products between cyclic and symmetric groups.
Willebring, Jeb Faulkner, Stability properties of q-multiplicities and branching formulas for representations of the classical groups.

University of California, Santa Barbara (5)

MATHEMATICS
Jiang, Bin, Non-overlapping domain decomposition and heterogeneous modeling used in solving free boundary problems.
White, Matthew, Some bounds for closed hyperbolic 3-manifolds.

STATISTICS AND APPLIED PROBABILITY
Kim, David, Quantile decomposition of a density.
Mackey, Howard, Diagnostics for binary response mixed models.
Wu, Dongfeng, Some contributions to the study of wavelet regression.

University of California, Santa Cruz (2)

MATHEMATICS
Georgiou, Ion, Fluid problems with diffusion.
Zeitlin, Thomas, A Poincaré theorem and a slice theorem for Teichmüller theory of punctured surfaces.

University of Southern California (1)

MATHEMATICS
Khan, Tauqur, Inverse problems, identification and control of distributed parameter systems: Applications to space structures with active materials.

COLORADO

University of Colorado

Colorado State University (5)

MATHEMATICS
LaFleur, Bonnie, Application of permutation methods to the generalized linear model.
Pan, Zhaoming, Surrogate markers for survival time in clinical trials: A proposed class of intermediate events as marker variables.

MATHEMATICS
Heberton, Caroline, Eulerian-Lagrangian localized adjoint method and smoothed aggregations algebraic multigrid.
Nesliturk, Ali, Approximating the incompressible Navier Stokes equations using a two level finite element method.
Siewert, Dahua, Biclique covers and partitions of bipartite graphs and digraphs and related matrix ranks of $\{0, 1\}$-matrices.

University of Denver (1)

MATHEMATICS AND COMPUTER SCIENCE
Breznay, Peter, Tightly connected hierarchical interconnection networks.

University of Northern Colorado (4)

MATHEMATICAL SCIENCES
Belloso, Rafael, A measurement model using path analysis with latent variables to assess the student affective domain before the learning of intro. statistics.
Lee, W., The relationship between students’ proof writing ability and van Hiele levels of geometric thought in college geometry.
Strickland, Jeffrey, How students make meaning in a reform calculus course.
Yuan, Yuan, The impact of student learning style and classroom environment interactions on the development of the function concept in college algebra students.

CONNECTICUT

University of Connecticut (10)

MATHEMATICS
Chueh, Chin-Mei, Stochastic economic modeling for the deferred annuity (accumulation) line of business.
Derado, Josip, Multivariate refinable interpolating functions.
Fei, Gailhua, Periodic solutions of Hamiltonian system and minimal period problems.
Gao, Fuchang, Majorizing measures and their applications in harmonic analysis.
Gonzales, Reo, Integral equation method for the continuous spectrum Schrödinger equation.
Kang, Yow-Ming, Analysis of the provision for adverse deviation (PAD) for pay-out annuities.
**Doctoral Degrees Conferred**

**STATISTICS**

**Holler, Keith**, Time series of random convex bodies.

**Klesczewski, Kenneth**, Extending the asymptotic properties of the maximum likelihood estimator to applications with random sample sizes.

**Wang, Fei**, Sample size determination under Bayesian modeling.

**Yale University** (12)

**BIOSTATISTICS**

**Kamina, Ayumi**, Modeling the emergence of drug-resistant mutants: Implications for treatment strategies of HIV-1 infection.

**MATHEMATICS**

**Chen, Fang**, Mixing and lifting of random walk on graph.

**Hill, Jennifer Ann**, Torsion theories and local cohomology.

**Karlsson, Bengt Anders**, Semicontinuous, nonpositive curvature, and multiplicative ergodic theory.

**Kim, Eun Heui**, Sequential adaptive sampling designs to estimate abundance in rare populations.

**Protsak, Victor**, Girth, genus, and fractional coloring of graphs.

**Qian, Hongxun**, Tutte polynomials and matroid constructions.

**Tsukamoto, Tatsuya**, Tutte graph theory.

**DISTRIBUTION OF COLUMBIA**

**American University** (5)

**Mathematics and Statistics**


**Lan, Feng**, Sequential adaptive sampling designs to estimate abundance in rare populations.

**Lee, Juneyoung**, A stochastic model for option pricing.

**Stylianou, Mario**, Sequential analysis of Durham and Flournoy’s Biased Coin Design (BCD) for phase I clinical trials.

**George Washington University** (10)

**Mathematics**

**Collier, William**, Applications of variational principles to modeling partially inflated scientific research balloons.

**Hansen, Clifford**, Dynamics of multidimensional substitutions.

**Pirnazar, Amir**, Girth, genus, and fractional coloring of graphs.

**Qin, Hongxun**, Tutte polynomials and matroid constructions.

**Sokolov, Maxim**, Quantum invariants, skein modules, and periodicity of 3-manifolds.

**Tsukamoto, Tatsuya**, Tutte graph theory.

**FLORIDA**

**Florida Institute of Technology** (1)

**Mathematical Sciences**

**Kermani, Sassan**, Extended trigonometric hyperbolic functions and control theory.

**Florida State University** (4)

**Mathematics**

**Szczepa, Denise**, A convolution property of some measures with self-similar fractal support.

**Statistics**

**Jaeger, Thomas**, Space-time models for count processes with application to hurricane activity.

**Laird, Glen**, Nonparametric inference for the proportionality function in the randomly censored model.

**Wang, Da-Jun**, Nonparametric dynamic regression models with applications to financial data analysis.

**University of Central Florida** (2)

**Mathematics**

**Brown, Kevin**, Linear and nonlinear Kelvin-Helmholtz instabilities of high velocity magnetized shear layers with generalized polytropic laws.

**El Hor, Aicha**, Statistical estimation of the locations of lightning events.

**University of Florida** (13)

**Mathematics**

**Bask, David**, Arbitrage pricing of several new exotic options: The partial tunnel and get-out options.

**Chastain, Stacey**, Geometric evolution equations.

**Delacruz, Omar**, Three topics in set theory: Finite and choice, cardinality of compact spaces, and singular Jonsson cardinals.

**Swearingen, Michael**, The risk-spread option in a potential theoretic framework.

**Van, Tri Pham Minh**, Approximation methods in fiber optics.

**Vanderbilt, Amy**, Common derivations in locally determined nonmonotonic rule systems and their complexity.

**Zapata, Jaime**, The generalized matrix product and fast Fourier transform for permutohedral aggregates.

**Statistics**


**Hartel, Jonathan**, Random effects models for ordinal and ordinal data.

**Kowalski, Scott**, The design and analysis of split-plot experiments in industry.

**Lee, Junyeung**, Design comparisons and modeling aspects for unbalanced random models.

**McGoff, Philip**, A unified approach to process optimization.

**Wang, Chen-Pin**, Bayesian analysis of competing risks models.

**University of Miami** (1)

**Mathematics and Computer Science**

**Rath, Kevin**, Favorable red and black on the integers with a minimum wager.

**University of South Florida** (2)

**Mathematics**

**Ivanov, Ivan**, Linear discrete operators and recovery in uniform algebras.
Robert, Henry, Predicting the performance of software systems via the power law process.

GEORGIA

Emory University (6)

Biostatistics

Baughman, Andrew, Latent structure models for evaluating diagnostic agreement using replicate binary measurements.

Hudgens, Michael, HIV, interval censoring and competing risks.

Vijapurkar, Ujjwala, Temporal and spatial prediction using quasi-likelihood regression models.

Mathematics and Computer Science

Kochergin, Sergey, Regularity properties for triple systems.

Wagner, Michelle, A constructive version of the blow-up.

Georgia Institute of Technology (6)

Mathematics

Pootheri, Sridar, Stable, Random probability measures with given mean and variance.

Borghesi, Simone, Higher degree formula.

Heckman, Christopher, Independent sets in graphs of bounded degree.

Kerce, James, Planar covers of graphs: Negami's conjecture.

Klabjan, Diego, On perturbation of delay-differential equations with periodic orbits.

Walls, Barrett, Coloring girth restricted graphs on surfaces.

Weedermann, Marion, On perturbation of delay-differential equations with periodic orbits.

Georgia State University (12)

Mathematics

Bloomer, Lisa, Smooth holomorphic curves in a line bundle on an affine algebraic variety over a real closed field.

Freitas, Pedro, On extremal self dual codes.

Ng, Tsz Wai, Calculations of intersection numbers of affine curves in projective space.

Przybyszewski, Janusz, On the Martinet ring of number fields.

Sun, Jian, Homotopical localization at a space.

Wald, Kevin, Automorphisms and non-invariant properties of the computable enumerable sets.

Wittwer, Janine, A sharp estimate on the norm of the Martingale transform.

Zhao, Wenhua, Generalization of genus zero two dimensional conformal field theory.

Zhao, Wenhua, Generalization of genus zero two dimensional conformal field theory: some results on Jacobian and intersection number of affine curves in C^2.

Statistics

Hayashi, Takashi, Hedging of contingent claims under model uncertainty.

University of Georgia (7)

Mathematics

Fuller, Edgar, The geometric and topological structure of holonomic knots.

Poonen, Bjorn, Characterizing and counting classes of unlabeled 2-connected graphs.

Watkins, Mark, Class numbers of imaginary quadratic fields.

Yin, Gaoning, Average size of the 2-Selmer groups of certain families of elliptic curves over Q.

Statistics

Chen, Yinqiu, Laws of large numbers for random sets and fuzzy random sets.

Wang, Ye, Parameter estimation of space time bilinear processes.

Zhou, Wenhua, Generalized linear models for spatially correlated data.

HAWAII

University of Hawaii (3)

Mathematics

Heenev, Xiaowei, Small lattices.

Sun, Shuhao, Sheaf representations of general rings.

Zheng, Lixin, The essential norm and spectrum of composition operators on space of bounded analytic function.

IDAHO

University of Idaho (3)

Mathematics

Bailey, Allen, Rings whose Krull dimensions are larger than their cardinalities.

Huang, Lixin, On generators of the symmetric and alternating groups and an application to Galois theory.

Huang, Lixin, Positive solutions to a second-order boundary value problem.

ILLINOIS

Northern Illinois University (4)

Mathematical Sciences

Cassidy, Jean, Solving the TLS problem via rank revealing LU factorization.

Devarajan, Karthik, Inference for a non-proportional hazards regression model and applications.

Muadah, Abdel-Razzaq, Nonparametric curve fitting of the probability density functions of random variables with applications.

Thrun, Jason, College student's rational-number-as-operator strategies: A focus on students' coordination of units and distributivity of operators in problem-solving situations.

Northwestern University (3)

Mathematics

Borysiewicz, Simone, Higher degree formula.

Catman, Gary, Elliptic calculations in algebraic topology.

Scorichenko, Alexander, Stable K-theory and functor homology.

Southern Illinois University, Carbondale (3)

Mathematics

Sears, Bradley, Two-element generation of unitary groups over finite fields.

Su, Meng, Some nonlinear boundary value problems of evolution equations.

Yan, Feng, Topics on stochastic differential equations.

University of Chicago (21)

Mathematics

Andrianov, Fedor, Clifford algebras and Shimura’s lift for theta-series.

Baranovsky, Vladimir, Moduli of sheaves on surfaces and action of the oscillator algebra.

Buch, Anders, Combinatorics of degeneracy loci.

Chen, Linda, Quantum cohomology of flag manifolds.

Hagelstein, Paul, Local integrability of strong and iterated maximal functions.

Hallstrom, Christopher, Heat transfer in rotating infinite Prandtl number convection.

Hunsicker, Eugenie, L^2-cohomology and L^2-harmonic forms for complete Kähler and warped product metrics.

Isaksen, Daniel, A model structure on the category of pro-simplicial sets.

Miller, Russell, Computable model theory and automorphisms of the computably enumerable set.

Nevins, Thomas, Topology of moduli spaces of framed sheaves on ruled surfaces.

Przeworski, Andrew, Tubes in hyperbolic 3-manifolds.

Przeworski, Adam, Homotopical localization at a space.

Robertson, Ian, The Euler class group of a line bundle on an affine algebraic variety over a real closed field.

Rowland, Todd, Smooth holomorphic curves in C^2.

Sun, Jian, K Matrix on manifolds.

Thomas, Hugh, An action of equivariant Cartier divisors on invariant cycles for toric varieties.

Wald, Kevin, Automorphisms and non-invariant properties of the computable enumerable sets.

Wittwer, Janine, A sharp estimate on the norm of the Martingale transform.

Zhao, Wenhua, Generalization of genus zero two dimensional conformal field theory: some results on Jacobian and intersection number of affine curves in C^2.

Statistics

Hayashi, Takashi, Hedging of contingent claims under model uncertainty.

University of Illinois, Chicago (12)

Mathematics, Statistics and Computer Science

Cungliado-Aguin, Jose, Topological invariants of the complement to arrangements of rational plane curves.

Fields, Joseph, On extremal self dual codes.

Freitas, Pedro, On the action of the symplectic group on the Siegel upper half plane.

Gyuris, Viktor, Variations of algebraizability.

Hedman, Shawn, Finitary axiomatizations of categorical theories.
Doctoral Degrees Conferred

Hu, Junda, Deformation to the normal bundle in arithmetic geometry.
Kern, Daniel, An optimal control policy for groundwater remediation using systematic perturbations.
Porta, Gaspar, On the convergence of the product of the exponential of two compact operators.
Robieson, Weinina, On weighted kappa and concordance correlations coefficients.
Shell, Amy, In service to mathematics: The life and work of Mina Rees.
Syed, Zamir, Algorithms for stochastic games and related topics.
Wottreng, Kristen, Computer methods in descriptive and differential geometry: Monge’s legacy.

University of Illinois, Urbana-Champaign (21)

MATHEMATICS
Axenovich, Maria Alex, Extremal problems in combinatorics—covering and coloring problems.
Bedenikovic, Anthony, The complements of 2-complexes in the 4-ball.
Branson, William Balko, Global analysis of meromorphic vector fields in the plane.
Chen, Ya-Chen, Extremal problems in graph theory: Hamiltonicity, minimum vertex-diameter-2-critical graphs and decomposition.
Eichhorn, Dennis, Some results on the congruential and gap-theoretic study of partition functions.
Ho, Jeffrey, On the quantum cohomology of Fano toric manifolds and the intersection cohomology of singular symplectic quotients.
Kalikakis, Dimitrios Emmanuel, Saddle surfaces.
Kim, Seon-Hong, Sums of polynomials, minmax problems and number theory.
Kuhlman, Douglas Andrew, On the orders of Jacobians of hyperelliptic curves.
Kundgen, Andre, Problems in extremal graph theory.
Liaw, Wen-Chin, Contributions to Ramanujan’s theories of modular equations, Ramanujan-type series for 1/pi, and partitions.
Maneesawarng, Chaiwat, External problems for curves in metric spaces of curvature bounded above.
McLallen, Nicola Whiteley, The mod-3 cohomology ring of the O’Nan sporadic simple groups.
Perry, David Michael, Maximal 2-extensions of number fields.
Richter, Benjamin, Monomial ideals, N-lists, and smallest graded Betti numbers.
Saveliev, Peter, Fixed points and coincidences.
Schwartz, Gary Keith, A reduction for Dade’s conjecture.
Song, Jong-Min, Sums of multiplicative functions over 4-smooth numbers and related differential difference equations.
Troitsky, Vladimir, Invariant subspace problem and spectral properties of bounded linear operators on Banach spaces, Banach lattices, and topological vector spaces.

STATISTICS
Fu, Linlin, Unified ordinal regression: Model assessment and semiparametric analysis.
Gao, Yonghong, Rank-based procedures for some multivariate problems.

INDIANA

Indiana University, Bloomington (11)

MATHEMATICS
Biwas, Anurik, On the lifting of intertwining operators and their parametrization.
Danner, Norman, Ordinal notations in typed lambda-calculus.
Gu, Daniel Xiangdong, Fully discretized fractional-step methods and applications to ocean primitive equations.
Ju, Ning, Numerical analysis for the parabolic p-Laplacian problem.
Kulkarni, Rajesh, On the Clifford algebra of a binary form.
McCooey, Michael, Symmetry groups of four-manifolds.
Ojou, Eric John, The orthogonal projection of fractal sets.
Swanson, David, Continuity properties of Sobolev functions.
Tamalia, Andrits, Concordance of classical knots.
Verma, Kaushal, The reflection principle and boundary regularity of correspondences.

Indiana University-Purdue University, Indianapolis (1)

MATHEMATICAL SCIENCES
Hansen, Karl, Hochschild homology of Morita equivalent étale groupoids.

Purdue University (10)

MATHEMATICS
Brown, Nathaniel, AF embeddability and topological entropy in noncommutative dynamical systems.
Chaplicki, Jędrzej, A generalization of Castelnuovo regularity for Grassmann manifolds.
Leinster, Christopher, Nonlinear wavelet approximation in anisotropic Besov spaces.
Lewis, Kathryn, Toeplitz operators and hyponormality.

University of Notre Dame (5)

MATHEMATICS
Allen, Brian, Linear systems analysis and decoding of convolutional codes.
Badzioch, Bernard, Algebraic theories in homotopy theory.
Lazarović, Laurentiu, Elliptic sectors in surface theory and the Carathéodory-Loewner conjectures.
McCoy, Charles, Relativization, categoricity, and the intersection of classical equivalence classes of matrices.
Miller, Charles, New types of soliton solutions in nonlinear evolution equations.

IOWA

Iowa State University (22)

MATHEMATICS
Baccam, Prasith (Sid), Genetic variation and evolution of equine infectious anemia virus rev quasispecies during long term persistent infection.
Chun, Changbum, Error estimates for the bifurcation function for semilinear elliptic boundary value problem.
James, Edna, Stochastic models for surface adsorption and reaction processes.
Mills, Mark, The intersection of some classical equivalence classes of matrices.
Pamuk, Serdal, Two dimensional models of tumor angiogenesis.

STATISTICS
Aabt, Pamela J., Quantile estimation using auxiliary information with application to soil texture data.
Barnet, Barbara Dombrski, A comparison of the effects of using interactive computer simulations versus hands-on activities on the conceptual understanding and attitudes of introductory statistics students.
Chiang, Andy Kok-Leong, Confidence intervals for functions of variance components.
Dodd, Kevin Wayne, Estimation of a distribution function from survey data.
<table>
<thead>
<tr>
<th>University of Iowa</th>
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<tbody>
<tr>
<td><strong>APPLIED MATHEMATICAL AND COMPUTATIONAL SCIENCE</strong></td>
<td></td>
</tr>
<tr>
<td>Aulwes, Rob, Computational methods in dual representations and invariant theory.</td>
<td></td>
</tr>
<tr>
<td><strong>BIOSTATISTICS</strong></td>
<td></td>
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<tr>
<td>Kirchner, H. Lester, Simultaneous estimation of intra- and pairwise inter-rater agreement under class exchangeability and order restricted properties for multiple raters.</td>
<td></td>
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<tr>
<td>Manos, George, A mixed effects generalized linear model approach to the analysis of binary longitudinal data subject to informative drop-out using Markov chain Monte Carlo methods.</td>
<td></td>
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<tr>
<td>Slager, Susan, Linkage disequilibrium mapping of complex disorders: Investigating statistical power to detect linkage.</td>
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<tr>
<td>Tang, Shenghui, Analysis of longitudinal data with informative competing causes of dropout.</td>
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<tr>
<td>West, Colin, An approach to longitudinal studies involving repeated categorical outcome variables with missing data.</td>
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<tr>
<td><strong>MATHEMATICS</strong></td>
<td></td>
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<tr>
<td>Chen, Jiuhua, Numerical analysis of some contact problems for viscoplastic materials.</td>
<td></td>
</tr>
<tr>
<td>Forman, Sylvia, Two star operations and their induced lattices.</td>
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<tr>
<td>Huang, Da, Nested sequence of balls and almost locally uniform rotundity.</td>
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<tr>
<td>Misaghian, Manouchehr, Theta correspondences $(U(1),U(2))$ over a $p$-adic local field.</td>
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<tr>
<td>Stefan, Marius, On the hyperfinite and abelian dimensions of free group factors.</td>
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<tr>
<td>Tran, Thai-Duong, Invariant theory for infinite-dimensional classical groups.</td>
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<tr>
<th>University of Kansas</th>
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<tbody>
<tr>
<td><strong>MATHEMATICS</strong></td>
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<tr>
<td>Canning, Eric, A smoothness property of wavelet paraproducts.</td>
<td></td>
</tr>
<tr>
<td>Garth, David, Small limit points of sets of algebraic interest.</td>
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<tr>
<td>Kaskova, Anna, On hyperplanes of hexagonal geometries.</td>
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<td>Mosbo, Majdalena, Compression of stereo audio data with vector-valued wavelets.</td>
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<td>Rodnianski, Igor, Pseudoholomorphic curves in almost complex manifolds.</td>
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<td><strong>STATISTICS</strong></td>
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<tr>
<td>Brown, Duane, Multiresponse lack-of-fit tests for non-replicated data.</td>
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<td>Chen, Yihfen, Significance tests for unreplicated experiments.</td>
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<tr>
<td>McCarter, Kevin S., Estimation and prediction for the Birnbaum-Saunders distribution using type-II censored samples, with a comparison to the inverse Gaussian distribution.</td>
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<td>Aldrich, Stephen, Exact and semisimple differential graded algebras and modules.</td>
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<td>Assez, Cynthia, $3PC(\cdot,\cdot)$-free Berge graphs are perfect.</td>
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<td>Bevelacqua, Anthony J., Isotropy of 4-dimensional torsion quadratic forms over $F(x,y)$ for certain fields $F$.</td>
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<td>Faulkner, Leanne, Engel properties for modular group algebras.</td>
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<td>Lutzer, Carl, On the extraction of topological and geometric data from the spectrum of the Dirichlet to Neumann operator.</td>
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<td>Riley, Douglas A., Global existence of strong solutions to the three-dimensional incompressible Navier-Stokes equations with special boundary conditions.</td>
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<td>Skipp, Daphne, Combinatorial scheduling models.</td>
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<td>Sykes, Jeffery D., Regularity of solutions of the mixed boundary problem for Laplace’s equation on a Lipschitz graph domain.</td>
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<td>Zaman, Naveed, Minimal generators.</td>
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<td>Fang, Hui, Empirical likelihood ratios in survival analysis.</td>
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<td>Hawkins, Dollena, Determining the number of components in mixtures of linear models.</td>
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<td>Johnson, Kjell, Influence function analysis for multivariate structure-seeking methodologies.</td>
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<td>Lu, Bin, General Riemann integrals and their computation via domains.</td>
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<td>Ru, Xueping, Applications of the method of quasi-reversibility to some ill-posed problems for the heat equation.</td>
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<td>Stan, Aurel, On harmonic analysis for white noise distribution theory.</td>
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<td>Turner, Galen, Structure and minors in graphs and matroids.</td>
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<td>Whipple, Gretchen, Totally ordered monoids.</td>
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<tr>
<td>Whitaker, John, Integral kernel operators in the Cochran-Kuo Sengupta space.</td>
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</table>
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Biostatistics

Blume, Jeffrey, A predictive spatial-temporal model for boreal forest succession. 
Miglioretti, Diana, Template mixture models for functional brain mapping. 
Xu, Jane, Surrogate endpoints in the analysis of longitudinal data.

Mathematical Sciences

Chen, Duxi, Borrowed strength density estimation and applications. 
Cheng, Christine, Three problems in graph labeling. 
Deeney, Megan, Optimal location of mesometric facilities. 
Huang, Jacqueline, American options and complementarity problems. 
Metzler, Carolyn, Complementarity models of competitive oligopolistic electric power distribution markets. 
Tao, Peng, The generalized borrowed strength method and the application to image recognition.

University of Maryland, Baltimore (3)

Mathematics and Statistics

Gu, Xiaonong, Some contributions to principal points, self-consistency and optimal vector quantization. 
Lee, Yi-Tzu, Tolerance regions in univariate and multivariate linear models. 
Sun, Yijun, Statistical meta-analysis with applications.

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Alvarez-Parrilla, Alvaro, Fourier coefficient relations and geodesics flow invariant distribution. 
Arnold, Elisabeth, Computing Graebner bases with Hilbert lucky primes. 
Charette, Virginie, Proper actions of discrete groups on 2 + 1 space time. 
Frohman, Thomas F., Buckling of elastic structures. 
Gohar-Roy, Pallabi, Multiple objective linear programming: Finding compromise and candidate solutions. 
Gurski, Katharine Fortune, Decay rates of internal waves in viscous near-critical fluids. 
Konkov, Mikhail, Parameter estimation with appreciation to finance. 
Kosinov, Boris, Computation with Gaussian random fields. 
Levitan, Svetlana, Mathematical modeling of lateralization and asymmetries in cortical maps.

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Biostatistics

Koa, Jingyue, A predictive spatial-temporal model for boreal forest succession.

Mathematics

Miglioretti, Diana, Template mixture models for functional brain mapping. 
Xu, Jane, Surrogate endpoints in the analysis of longitudinal data.

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Mathematics

Benton, Denise (Fuselier), Inferences in multivariate calibration. 
Deviiller, Chris, Conditional Cauchy equations of the cylindrical type and applications. 
Huang, Feng-Kuo, Polynomials and polynomial functions.

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Kosinov, Boris, Computation with Gaussian random fields. 
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Tempkin, Joshua, Spurious Lyapunov exponents computed using the Eckmann-Ruelle procedure.

Treiber, Oliver, Affine data representations and filter banks.

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Nam, Byung Ho, Discrimination and calibration in survival analysis: Extension of area under the ROC curve for discrimination and chi-square test for calibration.

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Cheung, Kin, Semiparametric estimation of the long memory parameter in FARIMA models.

Hayes, Michael, Geometric analysis of delayed bifurcation.

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Zhang, Shaoxue, On exponential maps.

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Cai, Tian Xi, Analysis of correlated failure time data.

Cheng, Debbie (Mein-Pay), Analysis of data from eradication studies of chronic viral infections.
Corcoran, Christopher, Computational methods for exact inference with correlated and uncorrelated binary data.

Fitzgerald, Anthony, Modeling response to anti-viral treatment using non-linear mixed effects models.

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Foukou, Andrea, Prediction based classification: Characterizing the relationship between HIV-1 genotype and response to treatment.

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Weston, Thomas, On Selmer groups of geometric Galois representations.


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Sandora, Mark, Chain polynomials and permutation statistics.

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El-Hashash, Mahmoud, Long cycles and Hamiltonian cycles in subgraphs of hypercubes.

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Heilman, Ward, On the toughness of cross products of paths and cycles.

Matei, Daniel, Fundamental groups of links and arrangements.

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May, Susan, Score based goodness-of-fit tests and the Cox proportional hazards model.


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Exzter, Edgard, Evans function analysis of the stability of periodic travelling wave solutions of the FitzHugh-Nagumo system.

Kho, Alvin, Multi-scale analysis for microscopic models in materials science and cell biology.

Murray, Maura, Sign codes from number fields.

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Velo, Ani, Optimal design of gradient fields with applications to electrostatics.

Central Michigan University (3)

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Becker, Paul, Investigation of non-abelian (120, 35, 10) difference sets.

Dennis, Kevin, Co-hyponormality of composition operators on the Hardy space.

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Belchew, Eugene, Finite-time blow-up of nonlinear wave equations.

Gao, Tangan, Finding all isolated roots of polynomial systems in C^n via stable mixed volume.

Kang, Joon Hyuk, The uniqueness of positive solution to generalized Lotka-Volterra competition model.

Mark, Thomas, TOFT, and Seiberg-Witten invariants of three-manifolds.

Wang, Tianjun, Determining the Jordan normal form of a matrix.

STATISTICS AND PROBABILITY

Demos, James A., Continuous time arbitrage approached as a problem in constrained hedging.

Dey, Jyotirmoy, Some properties and characterizations of neutral to the right priors and beta processes.

Geraldes, Margarida C., Covariates in adaptive designs for clinical trials.

Park, Chanho, Super-replication of European exotic options.

Sandra, Rajeshwari, Estimation in two sample doubly censored scale model.

White, Alexander, Exponentiated gradient portfolios in continuous time.

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Elliot, Michael, Models and methods for three problems in survey statistics: Sub-sampling callbacks to improve survey efficiency; model-based alternatives to weight trimming and methods for combining information from a census, a coverage measurement survey.

Heeringa, Steve, Multivariate imputation of coarsened survey data on household wealth.
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Liu, Qinggao, Exponential bounds and asymptotic expansions for singularly perturbed Markov chains.

**Western Michigan University (3)**

**Mathematics and Statistics**

Coffey, David, An investigation into relationships between alternative assessment and preservice elementary teachers' beliefs about mathematics.

Eroh, Linda, Rainbow Ramsey numbers.

Walker, Rebecca, Students' conceptions of mathematics and the transition from a standards-based reform curriculum to college mathematics.

**MINNESOTA University of Minnesota, Minneapolis (24)**

**Biostatistics**

Conlon, Erin, Estimation and flexible correlation structures in spatial hierarchical models of disease mapping.

**Mathematics**

Belik, Pavel, Computational methods for martensitic thin films.

Dunlop, Anthony, Degrees of unsolvability in relative computability of real numbers.

Foursov, Mikhail, On integrable evolution equations in commutative and noncommutative variables.

Haile, Haile, Homomorphisms of polynomial rings and the semigroups and minimal resolutions associated with them.

Kogan, Irina, A theory of magnetostRICTive thin films with applications.

Martínez, Salome, Diffusion and cross-diffusion in the multi-species Lotka-Volterra competitive system.

Mirzaa, Irina, Spectral properties of elliptic layer potentials on nonsmooth domains.

Ouyang, Yi, Group cohomology of the universal ordinary distribution and its application.

Rudnay, Svetlana, Analysis and optimal design of diffractive optical elements.

**MISSISSIPPI Mississippi State University (4)**

**Mathematics and Statistics**

Al-Mahmoud, Ahmad M., Prediction intervals and regions for some measures of location.

Cao, Lilun, An efficient numerical algorithm for solving nonlinear reaction-diffusion equation.

Chhetri, Maya, Solvability of classes of semipositone problems.

**University of Mississippi (1)**

**Mathematics**

Hunt, Daniel, Threshold dose-response models in teratology.

**MISSOURI St. Louis University (1)**

**Mathematics and Computer Science**

Jeevanjee, Theresa, The mapping class group and isometries of orbifolds which are double-covered by lens spaces and which contain DNA knots.

**University of Missouri, Columbia (8)**

**Mathematics**

Choi, Jaedong, Warped product spaces with non-smooth warping functions.

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**University of Minnesota, Minneapolis (24)**

**Biostatistics**

Brown, Brandon Scott, A noninformative Bayes approach to nonparametric binary estimation.

Kim, Donghoh, Likelihood inference for spatial lattice processes.

Musser, Bret, Extensions to recursive partitioning.

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Al-Mahmoud, Ahmad M., Prediction intervals and regions for some measures of location.

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Singh, Pradeep, Multivariate regression model with random intercepts.

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Smith, Derek, On finitely-generated quantum logic.

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Lenci, Marco, Classical billiards and quantum large deviations.
Smith, Derek, On finitely-generated quantum logic.
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Ju, Wen-Hua, Statistical modeling of UNIX users and processes with application to computer intrusion detection.

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Wang, Ting Chuan, Dynamic graphics methodology for response surface analysis.

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**Mathematics and Computer Science**

Cao, Wei, Algebraic studies of averaging operators.

Chengwen, Wang, On the periodic solutions for asymptotically nonlinear Hamiltonian systems.

Ju, Wen-Hua, Complexity of the Fuchsian group discreteness algorithm.

#### New York State University (1)

**Mathematical Sciences**

Larmour, Douglas, A Springer theorem for Hermitian forms and involutions.

#### University of New Mexico (3)

**Mathematics and Statistics**

Anderson, Amber, Estimation of cluster parameters for spatial point processes with applications in cell biology.


Snyder, John, A mathematical analysis of induced defenses in a plant-herbivore environment.

#### New York City University of New York, Graduate Center (12)

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Abu Tahanjek, Mohammad, Efficient Cauchy-like computations.

Baba, Srinath, Diophantine properties of Arkin-Lehner quotients of Shimura curves.

Bellaïhid, Abdellatif, A general Pollard type result for restricted sums.

Bulatovic, Aleksandar, Forgetful mappings between Teichmüller spaces.

Chen, Zhao Qin, On some numerical and algebraic computations with matrices and polynomials.

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Crandall, Gordon, Isoperimetry and lattices on groups of Heisenberg type.

Han, Shu-Ping ("Sandie"), Studies in the structure of sumssets.

Raff, Sidney, Some Diophantine properties of ordered polynomial rings.

Rami, Younes, Structured matrices and Newton’s iteration: Unified approach.

Siegel, Ivan, Ruling Euclidean 3-space.

Zabolow, Joel, Loops, waves, and algebra for Heegaard splittings.

#### Columbia University (19)

**Biostatistics**

Chen, Xin, Estimation methods for semi-parametric models in risk-based allocation trials.

Lin, I-Feng, Case-control studies data analyses with selection bias.

**Mathematics**

Ajoyadian, Mehrzad, Morse theory and taut foliations.

Bertin, Marie-Amélie, On the regularity of varieties having an extremal secant line.

Blumenstein, Jay, Minimizing risk in discrete models: Theory and computation.

Carr, Richard, Using boxes to kill squares and other results on negative partition relations.

Chen, Niu, Positivity of central values of twisted L-functions.

Chinta, Gautam, On the analytic rank of elliptic curves over cyclotomic fields.

Dehaye, Anton, Real-normalized Whitham hierarchies and the WDVV equations.

Paúl, Andrés, Drinfeld modular curves, Heegner points and interpolation of special values.

Fried, fedor, Convergence of wave maps on R^3 and applications to the ferromagnetic equation.

Garcia Cervera, Carlos, Magnetic diagnostics of interfaces in non-Newtonian Hele-Shaw flow.

Starr, Michael, Covariates from a geometric approach.

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Baik, Jinho, Riemann-Hilbert problems and random permutations.

Blank, Ivan, Sharp results for the regularity and stability of the free boundary in the obstacle problem.

Chung, Nai-Heng, Schrödinger maps with applications to the ferromagnetic equation.

Chechkin, Aleksei, Convergence of wave maps and regularity of Yang-Mills solutions.

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Wang, Hui, Topics in stochastic control with discretionary stopping.

Yang, Qiong, Several topics in statistical genetics.

#### Cornell University (16)

**Applied Mathematics**


Ritchman, Michael, Time frequency and multicomponent signal analysis.

Han, Shu-Ping ("Sandie"), Studies in the structure of sumssets.

Raff, Sidney, Some Diophantine properties of ordered polynomial rings.

Rami, Younes, Structured matrices and Newton’s iteration: Unified approach.

Siegel, Ivan, Ruling Euclidean 3-space.

Zabolow, Joel, Loops, waves, and algebra for Heegaard splittings.

Van Den Berg, Eric, Heavy tail modeling in time series and telecommunications.

Kircos, Stephen, Asymptotic behavior of sample correlation function of stable processes.

Xue, Fang, Asymptotic behavior of sample correlation function of stable processes.

**Mathematics**

Ballock, Stephen, Warped cohomology.

Caldararu, Andrei, Derived categories of twisted sheaves on Calabi-Yau manifolds.

Fang, Maria G., Twisted torsion on compact hyperbolic spaces: A representation-theoretic approach.

Hirschfeldi, Denis, Degree spectra of relations on computable structures.

Jarai, Antal, Incipient infinite clusters in 2D percolation.

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O'Shea, Luis, Abelian sesquisymplectic convexity for orbifolds.

Stephenson, David M., Asymptotic density in an \( r \)-threshold randomly coalescing and annihilating random walk on the \( d \)-dimensional integer lattice.

**Statistical Sciences**

Newton, Elizabeth, The epidemic threshold and contact number with implica-
tions for optimal vaccination strategies.
Jung, Eunok, 2-D simulations of valueless pumping using the immersed boundary method.
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Smith, Gregory, Properties of the hyperbolic dynamics in glomerular filtration rate.

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Farley, Daniel, Finiteness and CAT(0) properties of diagram groups.
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**Keller, Robert**, Generic transitions of relative critical sets in parametrized families with applications to image analysis.

**Mazzucato, Anna**, Analysis of the Navier-Stokes and other non-linear evolution equations with initial data in Besov-type spaces.

**Derr, Robert**, Statistical modeling of microstructure with applications to effective property computation in materials science.

**Skoulakis, Georgios**, Superprocesses over a stochastic flow.

**Zhang, Chunming**, Generalized likelihood ratio test with applications to financial models.

**Zhao, Jin-Ting**, Smoothed functional data analysis.

**University of North Carolina, Chapel Hill** (15)

**Silva, Carlos**, A proposed framework for establishing optimal genetic designs for estimating narrow-sense heritability.

**Szumiloski, John**, A family of response surface models for assessing drug interaction utilizing an interaction-standardizing transformation.

**Tebbs, Joshua**, A group-testing approach to making inferences about small proportions that are isotone.

**Yang, Li**, Efficiency study of estimators for treatment effects in a pretest-posttest trial with missing data.

**Yang, Qinq**, Dimension reduction of large data with template modeling.

**Zaykin, Dmitri**, Statistical analysis of genetic associations.

**University of North Carolina, Charlotte** (1)

**Sun, Yingjian**, High order methods for evaluating convertible bonds.

**NORTH DAKOTA**

**North Dakota State University** (2)

**Dib, Khaled**, Oscillations and asymptotic behavior of solutions of neutral delay differential equations.

**Utrinov, Semyon**, Weighted ergodic theorems in von Neumann algebras.

**Preston, Norman**, Bayesian model selection and criticism in generalized linear models.

**Steele, John**, Reliable systems from unreliable components.

**Case Western Reserve University** (1)

**Huang, Rongpei**, Affine and subaffine elastic curves in $E^2$ and $E^3$.

**Kent State University** (2)

**Stitz, Carl**, Linking numbers and Jones polynomials for lens spaces and other 3-manifolds.

**Ohio State University** (16)

**Bowman, Fredrick**, A strategy for obtaining inferences about projected completors in longitudinal studies with nonignorable dropout.

**Coffey, Chris**, Internal pilot study design and analysis for linear models with Gaussian errors and fixed predictors.

**Cox, Terry**, Regression analysis of binary data with misclassified responses.

**Heims, Laura**, Multiple imputation in clinical trials.

**Keys, Lynette**, Small-sample approximate test for fixed effects in the general linear mixed model.

**MacDougall, James**, Nonparametric rank-based analysis of longitudinal data.

**Sanhueza, Antonio**, General multivariate response models with applications to goodness-of-fit tests.

**Wilkens, Lynn**, Behavior of measurement error correction models: An application to nutritional epidemiology.

**Zhong, Ming**, Measurement error in the Cox regression model.

**Keller, Robert**, Generic transitions of relative critical sets in parametrized families with applications to image analysis.

**Mazzucato, Anna**, Analysis of the Navier-Stokes and other non-linear evolution equations with initial data in Besov-type spaces.

**Derr, Robert**, Statistical modeling of microstructure with applications to effective property computation in materials science.

**Skoulakis, Georgios**, Superprocesses over a stochastic flow.

**Zhang, Chunming**, Generalized likelihood ratio test with applications to financial models.

**Zhao, Jin-Ting**, Smoothed functional data analysis.

**University of North Carolina, Chapel Hill** (1)

**Silva, Carlos**, A proposed framework for establishing optimal genetic designs for estimating narrow-sense heritability.

**Szumiloski, John**, A family of response surface models for assessing drug interaction utilizing an interaction-standardizing transformation.

**Tebbs, Joshua**, A group-testing approach to making inferences about small proportions that are isotone.

**Yang, Li**, Efficiency study of estimators for treatment effects in a pretest-posttest trial with missing data.

**Yang, Qinq**, Dimension reduction of large data with template modeling.

**Zaykin, Dmitri**, Statistical analysis of genetic associations.

**University of North Carolina, Charlotte** (1)

**Sun, Yingjian**, High order methods for evaluating convertible bonds.

**NORTH DAKOTA**

**North Dakota State University** (2)

**Dib, Khaled**, Oscillations and asymptotic behavior of solutions of neutral delay differential equations.

**Utrinov, Semyon**, Weighted ergodic theorems in von Neumann algebras.

**Preston, Norman**, Bayesian model selection and criticism in generalized linear models.

**Steele, John**, Reliable systems from unreliable components.

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**Huang, Rongpei**, Affine and subaffine elastic curves in $E^2$ and $E^3$.

**Kent State University** (2)

**Stitz, Carl**, Linking numbers and Jones polynomials for lens spaces and other 3-manifolds.

**Ohio State University** (16)

**Bowman, Fredrick**, A strategy for obtaining inferences about projected completors in longitudinal studies with nonignorable dropout.

**Coffey, Chris**, Internal pilot study design and analysis for linear models with Gaussian errors and fixed predictors.

**Cox, Terry**, Regression analysis of binary data with misclassified responses.

**Heims, Laura**, Multiple imputation in clinical trials.

**Keys, Lynette**, Small-sample approximate test for fixed effects in the general linear mixed model.

**MacDougall, James**, Nonparametric rank-based analysis of longitudinal data.
Swift, Dionne Pratt, WISE: Weighted imputation for standard errors. An alternative imputation method.
Tsal, Hsing-Chuan, Optimal designs for drug combination experiments.

Ohio University (1)

University of Cincinnati (1)

Ohio University
Virga, Roberto, Disjoint-paths in random digraphs.
Zhao, Lei, Some new multigrid methods for convection diffusion problems.

University of Cincinnati
Chen, Yuquing, Higher-order rewriting function.

University of Oklahoma
Laszlo, Geza, Peak functions on pseudoconvex domains of finite type in $\mathbb{C}^n$.

University of Oklahoma, Health Science Center

University of Oregon
(5)

Mathematics
Fredericks, Julia, Local indicability and relative presentations of groups.
Kaul, Anton, Rigidity for a class of Coxeter groups.
Le, Huong, Maximal operators along surfaces of revolution.

Statistics
Coulbois, Jean-Yves, Tools for environmental statistics: Creative visualization and estimating variance from complex surveys.
Munoz, Broda, The design-based empirical orthogonal functions model. An alternative for the analysis of spatio-temporal data.
Smith, Ruben, Statistical estimation for initiative petitions and performance of the decision rule for Oregon state petitions.
Usner, Dale, Persistence and heterogeneity in habitat association.

University of Oregon (6)

Mathematics
Brazfield, Christopher, Artin-Schelter regular algebras of global dimension four with two degree one generators.
Furks, Jennifer, Generalized quivers and representations of locally Artinian serial rings.
Lackey, Joshua, Properties of ideals in the exterior algebra.
Pearson, Kelly, Cohomology of the Orlik-Solomon algebras.
Schirmer, Sonia, Theory of control of quantum systems.
Zhang, Tan, Manifolds with indefinite metrics whose skew-symmetric curvature operator has constant eigenvalues.

Statistics
Gitelman, Alis, Treatment integrity concerns comparative education studies.
Selten, Howard, Hidden stochastic models for biological rhythm data.

Lehigh University (3)

Mathematics
Daray, Darren, The reversing number of a digraph.
Phy, Lyn, Applications of weak* basic sequences and biorthogonal systems to questions in Banach space theory.
Rose, Daniel, Asymptotic behaviour of combinatorial optimization and proximity graphs on random point sets.

Pennsylvania State University (19)

Mathematics
Hall, Rachel, Hecke $C^*$-algebras.
Jonic, Kresimir, Synchronization of chaotic systems.
Kim, Hwan-Ho, Some new multigrind methods for convection diffusion problems.
Lu, Jianqun, On the stability of numerical solution for water-wave equations.
Madureira, Alexandre, Asymptotics and hierarchical modeling of thin domains.
Mataraj, Hiren, Algebraic function fields with asymptotically many rational places and improvements of the Gilbert-Varshamov bound.
Mezhirov, Alexander, Expanding periodic points of one-dimensional maps and boundary behavior of arbitrary mappings.
Sysorva, Inna, On the irreducible representations of Braid groups.
Tamarkin, Dmitry, Operadic proof of M. Kontsevich's formality theorem.
Yaskolko, Sergey, Rigidity of lattice actions on boundaries. Coincidence of various dimensions associated with metrics and measures.

Statistics
Bang, Senin, A risk analysis of benchmark dose for continuous response and sensitivity to model specification.
Chao, Chang-Tai, Adaptive sampling designs and associated estimators.
Du, Yanling, A fully nonparametric analysis of covariance method for censored data.
McGrath, Richard, Dispersion effects in unreplicated factorial experiments.
Madar, Mustafa, Multivariate sign and rank methods based on the Oja criterion function.
Olsen, Maren, A two-part random-effects model for semicontinuous longitudinal data.
Doctoral Degrees Conferred

Pittman, Jennifer, Adaptive splines and genetic algorithms for optimal statistical modeling.

Yucel, Recai, Computational tools for missing values in multivariate longitudinal and clustered data.

Temple University (7)

MATHEMATICS

Johnston, Hans, Efficient computation of viscous incompressible flow.

Statistics

Delucca, Paul, Effect of investigator/patient bias on the properties of statistical tests when measuring subjective responses.

Joshi, Alaknanda, Stochastic models for medical screening and associated optimal screening designs.

Liu, Qi, Randomization tests for clustered binary data.

Peng, Chang-Yang, Directions or arrival estimation and association detection in unknown noise fields.

Kuijke, Radha, Alternative strategies for analyzing stratified comparative binomial trials.

Wang, Wubao, A class of general linear mixed models with application to the assessment of individual bioequivalence.

University of Pennsylvania (8)

MATHEMATICS

Dergachev, Vladimir, Index of Lie algebras and associative algebras.

Dickinson, William, Curvature properties of the positively curved Eschenburg spaces.

Fang, Weimin, Left invariant metrics on simple compact Lie groups and metrics on spheres.

Liu, Xiong, Separating projections and contractivity in von Neumann algebras.

Masenets, Robert, Generalized exponents of $s_{0}(C)$.

Prie, Rachel, Formal patching and deformation of wildly ramified covers of curves.

Zharkov, Ilya, Torus fibrations of Calabi-Yau hypersurfaces in toric varieties.}

Statistics

Li, Yunfei, Optimal balanced matching.

University of Pittsburgh (13)

BIOSTATISTICS

Chen, Wei, Utilization of non-compliance information in clinical trial.

Lang, Wei, Application of copula to repeated measures data.

Yu, Kai, Statistical methods for analyzing tetrad crossover probabilities.

Mathematics

Ai, Shangbing, Multipulse orbits for a singularly perturbed nearly integrable system.

Bennett, Therese L., Best approximation in quotient spaces with application to the finishing of optical surfaces.

Biesca, Traian, Large eddy simulation for turbulent flows.

Kirat, Ibrahim, Integral self-affine tiles and expanding matrices.

Liakos, Anastasios, Weak imposition of boundary conditions in the Stokes and Navier-Stokes equations.

Shahmohammadi, Hossein, On nowhere-zero flows, chromatic equivalence and flow equivalence of graphs.

Wu, Xiaojun, Enumeration over $q$-semirings of formal power series.

University of Rhode Island (3)

MATHEMATICS

Borden, William, On some nonautonomous difference equations of the max type.

Prokop, Norman, Boundedness, global stability and periodicity of some difference equations.

Teixeira, Christopher, Existence, stability and periodicity of some difference equations.

SOUTH CAROLINA

Clemson University

MATHEMATICAL SCIENCES

Chen, Xinbin, Method of feasible directions for non-linear programming.

Clark, Steven, Stochastic control of a research and development project.

Hadavas, Paul, Exploiting network substructures and persisting in solving 0-1 and general non-convex optimization problems.

Lawson, Linda, Multigrid dynamic programming.

Mills, Donald, Root-based polynomial compositions over finite fields.

Medical University of South Carolina

BIOMETRY AND EPIDEMIOLOGY

Daehler-Wilking, Richard, Numeric modeling of subsurface groundwater flow to examine pesticide transport from agricultural fields toward estuaries and tidal marshes on Wadmalaw Island of South Carolina.

Richardson, William Harrington Jr., Development of an optimization process for dose treatment planning for multiple arc stereotactic radiosurgery.

Schubauer-Berigan, Mary Katherine, Dose variability and risk-benefit analysis of mammography screening.

Schwacke, Lorelei Hoffman, A framework for the assessment of health risks for bottlenose dolphins (Tursiops truncatus) associated with exposure to polychlorinated biphenyls (PCBs).

Shaban, Sami Faad, A knowledge-based approach to the design and automated generation of clinical trial management systems.

Thompson, Richard Eugene, A probabilistic model for predicting polycyclic aromatic hydrocarbon (PAH) bioavailability to American oysters (Crassostrea virginica) inhabiting South Carolina estuarine environments.
University of South Carolina, Columbia (7)

Epidemiology and Biostatistics
Brandon, Dennis L., Data analysis methods for ecological risk assessment bioassays.

Mathematics
Andrianov, Alexander, Nonlinear Haar approximation of some multivariate classes of functions.
Petrova, Guergana, Transport, equations and velocity averages.
Popov, Bojan, Linear transport equations.

Statistics
Sohorazano, Ekeanne, Simultaneous comparisons with more than one control.


TENNESSEE

University of Memphis (7)

Mathematical Sciences
Bogner, Myles, Realizing 'consciousness' in software agents.

Cascaval, Radu, Global well-posedness for a class of dispersive equations.

Hernandez, German, Asymptotic behavior of eigenvalues.

Nino, Luis, Random iterated neural networks: Properties, evolutionary design and applications.

Seshadri, Roopa, Bayesian analysis of clustered binary data: Applications to ophthalmology and otorhinolaryngology clinical trials.

Vu, David Dung, Performance modeling of IPv6 protocol.

Weinreich, David, Simple questions about properties of graphs and knots.

University of Tennessee (7)

Mathematics
Chatham, R. Douglas, Going down pairs of commutative rings.

Deng, Qingping, Modeling a fish population with diffusion and advection movement in a spatial environment.

Gaff, Holly, Spatial heterogeneity in ecological models: Two case studies.

Halverson, Denise, Detecting codimension one manifold factors with the disjoint homotopies property.

Kühne, Patricia, Factorization and ring-theoretic properties in subrings of K[[X]] and K[[X]][].

Knott-Zides, Charlotte, Extremal properties of eigenvalues.

Prajitura, Gabriel, Permanence of invariant subspaces under functional calculus and related topics.

Vanderbilt University (5)

Mathematics
Blount, Kevin, On the structure of residuated lattices.

Dossenbacher, Thomas, Multivariate non-homogeneous refinement: Existence, uniqueness, regularity and application to image compression.

Howard, Keith, Size and maturity structured models of cell population dynamics exhibiting chaotic behavior.

Martin, Tanya, Error bounds for solving pseudodifferential equations on spheres by collocation with zonal kernels.

Timur, Cary, Spanning walls in infinite planar graphs.

Texas

Rice University (7)

Computational and Applied Mathematics
Hicks, Ilya, Branch decompositions and their applications.

Ji, Lin, The inverse problem of neuron identification.

Qian, Jianliang, Geometrical optics for quasi-P waves: Theories and numerical methods.

Velaquez, Leticia, A global optimization technique for zero-residual nonlinear least-square problems.

Villalobos, Cristina, The behavior of Newton’s method on two equivalent systems from linear and nonlinear programming.

Mathematics
Ganzel, Sanford, Complexity of exotic R³s.

Wang, Yuan, Mathematical modeling of seismic data: Multiscale noise removal and recognition algorithm.

Southern Methodist University (3)

Statistical Science
Etzel, Carol L., Meta-analysis for genetic linkage studies.

Kuo, Jo-Kang, Mapping quantitative trait loci: Sampling considerations using bi- variate data.

Pitblado, Jeffrey, Estimating partially vari able bandwidths in local linear regression using an information criterion.

Texas A&M University (15)

Mathematics
Diener, Andrew, Distributive elements in centralizer near-rings.

Farag, Mark, On the structure of polynomial near-rings.

Gopalakrishnan, Jayadeep, On the mortar finite element method.

Harris, Roy Joseph, Quadratic convexity.

Huang, Hong, Mixed finite element approximations for obstacle problems with applications to American options.

Sopasakis, Alexandros, Theory of the Prigogine-Herman kinetic equation of vehicular traffic.

Turner, Christian, The mechanics of ecosystems.

Wilmarth, Steven, A probabilistic method for rigid body motion planning using sampling from the medial axis of the free space.

Statistics
Al-Khouli, Abbev, Robust estimation and bootstrap testing for the delta distribution with applications in marine sciences.

Hravnéstorsson, Birgir, Principal component time series and autoregressive estimates.

Fukle, Karen, Error variance estimation and testing for homoscedasticity in partially linear models.

Lee, Cheng-Luen (Alan), Robustness properties of time series cross-validation.

Molmed, Ann Vlads, Algorithms using chi-squared and other goodness of fit tests to identify a high-expectation subset of independent Poisson random variables, or a subset of multinomial cells having relatively high probabilities, with application in chromosomal fragile site identification.


Reese, Shane, Statistical methodology for environmental applications.

University of Houston (2)

Mathematics
Qawasmus, Ahmad, Regularity of the Hodge-Weyl decomposition.

Tecarro, Edwin, Qualitative analysis of a model of the mammalian cell cycle’s G1 phase.

University of North Texas (3)

Mathematics
Huff, Cheryl, Countable additivity, exhaustivity, and the structure of certain Banach lattices.

Sawyer, Cameron, On the cohomology of the complement of a toral arrangement.

Smith, John Carl (Trey), Computing ultrapowers by supercompactness measures.

University of Texas, Arlington (5)

Mathematics
Doctoral Degrees Conferred

UTAH

Brigham Young University (2)

MATHEMATICS

Chen, Fengqin, On the nonlocal phase field models.

Wang, Junping, Bifurcation from simple eigenvalues of some elliptic equations and topics in nonlinear phase field systems.

University of Utah (3)

MATHEMATICS

Brinkmann, Peter, Mapping tori of automorphisms of hyperbolic groups.

Grabovsky, Irina, Asymptotic analysis in change point problems.

Sather-Wagstaff, Sean, A dimension inequality for excellent Cohen-Macaulay rings related to the positivity of Serre’s intersection multiplicity.

Utah State University (1)

MATHEMATICS AND STATISTICS

Hilliard, Cinnamon, Construction and analysis of a family of numerical methods for hyperbolic conservation laws with stiff source terms.

VERMONT

University of Vermont (2)

MATHEMATICS AND STATISTICS

LaVarnway, Gerard, Almost-periodic functions in a half-plane.

Stevens, Scott, Supraclavicular, lumped-parameter models for dynamic intracranial pressures.

VIRGINIA

George Mason University (2)

INFORMATION TECHNOLOGY AND ENGINEERING

Flanagan, Brian, Self-calibration of antenna arrays with application to direction of arrival estimation.

Zarnich, Robert, A unified method for the measurement and tracking of narrowband contacts from an array of sensors.

Old Dominion University (2)

MATHEMATICS AND STATISTICS

Arnold, Julia, Diffusion problems in wound healing and a scattering approach to immune system interactions.

Hannon, Patrick, Estimation of parameters for the truncated exponential distribution.

University of Virginia (8)

MATHEMATICS

Boner, Christopher, Characterization of absolute summands of categories of divisible codes.

Hodge, Terrell, Some structures utilizing involutions on algebraic groups in characteristic p.

Richman, Alexander, Subnormality and composition operators on weighted Bergman spaces.

Siemens, Troy, Some Krein space realizations of generalized Schur functions.

Theoret, Julie, Geometry of a cubic Jordan algebra.

STATISTICS

Danbar, Stephanie Allison, Order restricted inference with an application to phase I studies in oncology.

Gregory, Krag R., General linear processes induced by orthogonal polynomial expansions.

Prescott, Katherine E., Some tests for ordered alternatives in generalized linear models.

Virginia Polytechnic Institute and State University (15)

MATHEMATICS

Atwell, Jeanne, Proper orthogonal decomposition for reduced order control of partial differential equations.

Choudhary, Lerawan, Robust control for hybrid nonlinear system.

Galinautis, William, Two methods for modeling scalar hysteresis and their use in controlling actuators with hysteresis.

Hulsing, Kevin, Methods for computing functional gains for LQR control of partial differential equations.

Jilcott, Steven, Time-dependent perturbation and the Born-Oppenheimer approximation.

Moss, George, Mathematical models of the alpha-beta phase transition of quartz.

Schenck, David, Some formation problems for linear elastic materials.

Song, Deyong, On spectrum of neutron transport equations with reflecting boundary conditions.

Stanley, Lisa, Computational methods for sensitivity analysis with applications to elliptic boundary value problems.

STATISTICS

Bart, David, Bandwidth selection concerns for jump point discontinuity preservation in the regression setting using M-smoothers and the extension to hypothesis testing.

Darken, Patrick, Testing for changes in trend in water quality data.

Kathman, Steven, Discrete small sample asymptotics.

Lin, Hefang, One-stage and Bayesian two-stage optimal designs for mixture models.
Starnes, Alden, Asymptotic results for model robust regression.
Steeno, Gregory, Robust and nonparametric methods for topology error identification and voltage calibration in power systems engineering.

WASHINGTON
University of Washington (17)
APPLIED MATHEMATICS
Kim, Arnold, Optical pulse propagation, diffusion and depolarization in discrete random media.
Martin, Mark, The influence of seasonal and climatic environmental changes on plankton in the marine mixed layer.
Yang, Darryl, Solving boundary-value problems for systems of hyperbolic conservation.

BIOSTATISTICS
Alonzo, Todd, Assessing accuracy of a continuous medical diagnostic or screening test in the presence of verification bias.
Braun, Thomas, Optimal analysis of group randomized trials with permutation tests.
McClelland, Robyn, Regression-based variable clustering for data reduction.
Wilson, Julia, Non-uniqueness of boundaries of CAT(0) groups.

MATHEMATICS
Johnson, Mark W., Enriched sheaf theory as a framework for stable homotopy theory.
Krymskij, Michael, A closed form for the Kazhdan-Lusztig polynomials for real reductive Lie groups with the Cayley singleton property.
Pennanen, Teemu, Dualization of monotone generalized equations.
Tanner, Stephen, Non-tangential and conditioned Brownian convergence of pluriharmonic functions.

STATISTICS
Bello, Enrica, Nonhomogeneous hidden Markov models for downsampling synoptic atmospheric patterns to precipitation amounts.
Brown, Sharon, Monte Carlo likelihood calculation for identity by descent data.
Poole, David, Bayesian inference for noninvertible deterministic simulation models, with application to bowhead whale assessment.
Ridgeway, Gregory, Generalization of boosting algorithms and applications of Bayesian inference for massive datasets.
Stanford, Derek, Fast automatic unsupervised image segmentation and curve detection in spatial point processes.

Washington State University (4)
PURE AND APPLIED MATHEMATICS
Blitz, Brian, Topics concerning regular maps.
Gomez-Wulchiner, Claudia, Completeness of inductive limits.
Raghavan, Jayathi, Iterative techniques for convection dominated flow problems.
Wig, Jennifer, p-Regular and p-topological Cauchy completions.

WEST VIRGINIA
West Virginia University (2)
MATHEMATICS
Qian, Sixin, A hydrodynamic model of semiconductors.
Szyszkowski, Marcin, Symmetrically continuous functions.

WISCONSIN
Marquette University (1)
MATHEMATICS, STATISTICS AND COMPUTER SCIENCE
Pustejovsky, Susan F., Beginning calculus students’ understanding of the derivative: Three case studies.

University of Wisconsin, Madison (17)
MATHEMATICS
Behr, Antonio F., Group rings whose principal ideals are projective and groups with bounded representation degree.
Egge, Eric S., A generalization of the Tverriller algebra.
Franklin, Bradbury, The limit of the normalized error in SDEs and SPDEs.
Jeon, Woo, Generalized Cartan type algebras and their derivations.
Park, Jong Yune, The weight hierarchies of product codes and outer product codes.
Ponomarenko, Vadim, Some results on jump systems and Rota’s conjecture.
Teixeira, João, Elliptic differential equations and their discretizations.
Wang, Dejia, Saturation properties in the computably enumerable degrees.
Ziebarth, Jennifer J., On the mod p cohomology of the symplectic group Sp(2p) and the general linear group GL_{2p}(F_p).

STATISTICS
Cheung, Wai Kwong, Issues on estimation of time series regression model with autocorrelated noise.
Chiang, Alan (Yuch-Hung), Partial spline models and their applications to climate change detection and attribution.
Gao, Fangyu, Penalized multivariate logistic regression with a large data set.
Hoff, Peter, Constrained nonparametric estimation via mixtures.
Jalaluddin, Muhammad, Robust inference for the Cox’s proportional hazards model with frailties.
Li, Shue-Hwa, Stationary distributions of Markov processes as statistical models: Baddeley’s time-invariance method of estimation.
Zeng, Yong, A class of partially-observed models with discrete, clustering and non-clustering noises: Application to micro-movement of stock prices.

University of Wisconsin, Milwaukee (3)
MATHEMATICAL SCIENCES
Dubas, Saeed, High order schemes for the Navier-Stokes equations.
Siriwardana, Nihal, High order numerical methods for the Navier-Stokes equations.
Wilson, Julia, Non-uniqueness of boundaries of CAT(0) groups.

WYOMING
University of Wyoming (2)
MATHEMATICS
Parashkevov, Rossen, Iterative methods in the divergence-free subspace for mixed finite elements.

STATISTICS
Stoerovska-Kojouharov, Daniela, Simulation models-optimal resource allocation via uncertainty analysis.

Doctoral Degrees Conferred 1998–1999
Supplementary List
The following list supplements the list of thesis titles published in the 2000 Notices, pages 253-271.

ALABAMA
University of Alabama, Tuscaloosa (1)
MATHEMATICS
Libis, Carl, Sums of powers and generalizations of Bernoulli and related polynomials.
Doctoral Degrees Conferred

COLORADO
University of Northern Colorado (1)
MATHEMATICAL SCIENCES
Su, Robert, The effects of enhanced web-based instruction on preservice teachers’ mathematics achievement and attitude changes toward mathematics and toward computers in Taiwan.

FLORIDA
Florida Institute of Technology (2)
MATHEMATICAL SCIENCES
Rizzo, Rebecca, Variational comparison method and stability theory of hybrid systems.
Stephens, Desmond, ELMRES: An oblique projection method to solve sparse nonsymmetric linear systems.

MICHIGAN
Wayne State University (2)
MATHEMATICS
Jankunas, András, Estimation of parameters and difference equations.
Lababidi, Samir, Nonparametric estimation with small noise diffusion processes.

NEW JERSEY
New Jersey Institute of Technology (1)
MATHEMATICAL SCIENCES
Samulyak, Roman, Dynamical systems associated with particle flow models: Theory and numerical methods.

NORTH CAROLINA
Duke University (1)
STATISTICS AND DECISION SCIENCES
Stroud, Jonathan, Bayesian analysis of nonlinear time series models.
Doctoral Degrees
Conferred 1999–2000

Supplementary List

The following list supplements the list of thesis titles published in the February 2001 Notices, pages 219–37.

CALIFORNIA

University of California, Los Angeles (6)

STATISTICS

Bentow, Stanley, A Markov chain Monte Carlo method for approximating 2-way contingency tables with applications in the stability analysis of ecological ordination.

Brauerman, Amy, A rate-disorientation approach to massive data set analysis.

Bond, Jason, A robust approach to SIR estimation.

Hu, Ming-Yi, Model checking for incomplete high dimensional categorical data.

Piersol, Laura, Fitting nonlinear mixed effect models by Laplace approximation.

Xie, Jun, Entropy filtering method and insertion/deletion robust algorithm for multiple local sequence alignment.

NEW HAMPSHIRE

University of New Hampshire (2)

MATHEMATICS

Parker, Andy, Topics in chaotic secure communication.

Pendharkar, Hemant, Central sequences and C*-algebras.