
Doctoral Degrees Conferred

2003–2004

ALABAMA

University of Alabama, Birmingham (4)

BIOSTATISTICS

Li, Yufeng, Parameter estimation for a proposed joint distribution of multivariate Bernoulli trials.

Zhang, Yuting, A pattern mixture model for censored binary longitudinal data.

MATHEMATICS

Malaugh, James M., Rotational sets of the circle under Z^d .

Yan, Aimin, An inverse groundwater model.

University of Alabama, Tuscaloosa (4)

INFORMATION SYSTEMS, STATISTICS, AND
MANAGEMENT SCIENCE

Flynn, Timothy, Sequencing mixed-model assembly lines in a lean environment.

MATHEMATICS

Bunnag, Dhiranuch, Stochastic algorithms for global optimization.

Cheng, Kang-Ping, Three numerical schemes for solving nonlinear partial differential equations.

Sukantamala, Nattakorn, Area operator on Hardy spaces.

ARIZONA

Arizona State University (12)

MATHEMATICS AND STATISTICS

Boerner, Rochus, Wavelets with integer dilation factors larger than two.

Burke, John, Mathematical models of metabolic cascades and gene regulation.

Chidambaram, Rama, Modeling and decision making in a semiconductor supply chain.

Do, Younghae, Chaotic transient behavior of dynamical systems under random perturbations.

Ephrem, Menassie, Characterizing liminal and type I graph C^* -algebras and C^* -algebra of the Z^2 -tree.

Hirman, Joseph, The role of variance: an extension of small area estimation.

Kim, Bong-Sik, Alpha models for rotating Navier-Stokes equations in geophysics with nonlinear dispersive regularization.

Larsem, Sean, Supporting the guided reinvention of the concepts of group and isomorphism: a developmental research project.

Negoita, Cristina, Global kinetic imaging using dynamic positron emission tomography data.

Smith, Shelly, A discrete homotopy theory for graphs, with application to order complexes of lattices.

Yang, Daqing, Extension of the game coloring number and some results on the choosability of complete multipartite graphs.

Ybarra, Lynn, Small area estimation using data from multiple surveys.

University of Arizona (11)

APPLIED MATHEMATICS

Hoppin, John, Ranking estimation methods in medical imaging without the use of a gold standard.

Kuecken, Michael, On the formation of fingerprints.

Lane, Emily, Cristina, Wave-current interactions in coastal waters and their application to shore-connected bars.

Lo, Arthur, Theoretical simulation of metabolic mechanisms for regulating capillary perfusion in working skeletal muscle.

Parra, Mario, Filter-bank transforms with exact inverses.

MATHEMATICS

Hoffman, Thomas, Constructing basic algebras for the principal block of sporadic simple groups.

Piatek-Jimenez, Katrina, Undergraduate mathematics students' understanding of mathematical statements and proofs.

Pierce, Virgil, The asymptotic expansion of the partition function of random matrices.

Rasmussen, Christopher, Jacobians of étale covers of the projective line minus three points.

Selden, Jeffrey, The density of states in a quasi-gap.

Wootton, Aaron, Defining algebraic polynomials for cyclic prime covers of the Riemann sphere.

ARKANSAS

University of Arkansas (3)

MATHEMATICAL SCIENCES

Hughes, Kimberly, Variations on generalized logit models: alternative links and stepwise selection.

Reed, Michael, Symbolic blow-ups and generation in degree four.

Wu, Hsing-Yen, Tight congruences on semigroups.

CALIFORNIA

California Institute of Technology (15)

APPLIED MATHEMATICS

Camp, Charles David, Temporal and spatial patterns of the interannual variability of stratospheric ozone and dynamics.

Chaubell, Mario Julian, Low-coherence interferometric imaging: solution of the one-dimensional inverse scattering problem.

CONTROL AND DYNAMICAL SYSTEMS

Dunbar, William, Distributed receding horizon control of multiagent systems.

Leok, Melvin, Foundations of computational geometric mechanics.

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2003, to June 30, 2004) reported in the 2004 Annual Survey of the Mathematical Sciences by 221 departments in 152 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 2005 issue of the *Notices*.

Ross, *Shane*, Cylindrical manifolds and tube dynamics in the restricted three-body problem.

West, *Matthew*, Variational integrators.

MATHEMATICS

Bartroff, *Jay*, Asymptotically optimal multistage hypothesis tests.

Colwell, *Jason*, The conjecture of Birch and Swinnerton-Dyer elliptic curves with complex multiplication by a non-maximal order.

Daftuar, *Sumit*, Eigenvalue inequalities in quantum information processing.

Gupta, *Vineet*, Conformal laminations.

Lin, *Qiang*, Bloch-Kato conjecture for the adjoint of $H^1(X_0(N))$ with integral Hecke algebra.

Martin, *Kimball*, Four-dimensional Galois representations of solvable type and automorphic forms.

Vasylykevych, *Sergiy*, Poisson structures for PDEs associated with diffeomorphism groups.

Vessenes, *Rebecca*, Generalized Foulkes' conjecture and tableaux construction.

Zhan, *Dapeng*, Random Loewner chains in Riemann surfaces.

Claremont Graduate University (3)

MATHEMATICS

Bhan, *Ashish*, Topological structure of networks derived from microarray time-series data.

Eyadat, *Mohammad*, Comparative performance evaluation of practical digital watermarking embedded schemes.

Orrala, *Carlos*, Numerical and experimental investigations of two side-by-side turbulent jets in a cross flow.

University of California, Berkeley (28)

BIOSTATISTICS

Bolstad, *Benjamin*, Low-level analysis of high-density oligonucleotide array data: background, normalization and summarization.

Molinaro, *Annette*, Novel approaches to prediction to survival in cancer research: focus on genomics.

MATHEMATICS

Alexandrova, *Ivana*, Structure of the semi-classical amplitude for general scattering.

Dasgupta, *Samit*, Gross-Stark units, Stark-Heegner points, and class fields of real quadratic fields.

Datta, *Ruchira S.*, Algebraic methods in game theory.

Gaiimo, *Daniel*, On the Castelnuovo-Mumford regularity of curves and reduced schemes.

Graf, *Peter*, Optimization of model reduction for linear ordinary differential equations.

Harvey, *Nathaniel*, Finitary codes on Bernoulli shifts.

Horowitz, *Jason*, Linearizing countably infinite partial orders.

Jung, *Kenley*, Fractal entropies and dimensions for microstate spaces.

Kalman, *Tamas*, Contact homology and one parameter families of Legendrian knots.

Karaali, *Gizem*, r -matrices on Lie superalgebras.

Latremoliere, *Frederic*, Finite dimensional approximations of quantum tori for the quantum Gromov-Hausdorff distance.

Miller, *Benjamin*, Full groups, classification, and equivalence relations.

Myers, *Robert*, Global transverse disks and suspendibility criteria.

Nemyrovska, *Nina*, On atypical representations of classical Lie superalgebras of defect one.

Proudfoot, *Nicholas*, Hyper-Kähler analogues of Kähler quotients.

Purbhoo, *Kevin*, Vanishing and non-vanishing criteria for branching Schubert calculus.

Sandman, *Nirit*, Tamari lattices and a geometric problem in antitrust.

Tang, *Xiang*, Quantization of noncommutative Poisson manifolds.

Viswanath, *Sankaran*, Stabilization of tensor products in Kac-Moody algebras.

Zambon, *Marco*, Submanifold averaging in Riemannian, symplectic and contact geometry.

Zhu, *Chenchang*, Integrating Lie algebroids via stacks and applications to Jacobi manifolds.

STATISTICS

Ge, *Yongchao*, Multiple testing in microarrays.

Kechris, *Katherina*, Statistical methods for discovering features in molecular sequences.

Nacu, *Serban*, On the simulation of certain random systems.

Popovic, *Lea*, Asymptotic genealogy of a branching process and a model of macroevolutions.

Schafer, *Chad*, Constructing confidence regions of optimal expected size: theory and application to cosmic microwave inference.

University of California, Davis (12)

MATHEMATICS

Ahmed, *Maya*, Algebraic combinatorics of magic squares.

Ballinger, *Brad*, Length-preserving transformations in polygons.

Beaver, *Scott*, Banach algebras of integral operators, off-diagonal decay, and applications in wireless communications.

Edens, *Thaddeus*, A new large total variation stability result for the quadratic nonlinear system associated with the compressible Euler equations by eigenvalue methods.

Grishin, *Denis*, Fast and efficient methods for multi-dimensional scattered data approximation.

Ishkhanov, *Tigran*, Legendrian knots: equivalence of normal rulings and augmentations of Chekanov-Eliashberg algebra.

Peirce, *James*, Well-posedness of the three dimensional Lagrangian averaged Navier-Stokes equations.

Wolowski, *Lech*, Noise induced dissipation in discrete-time classical and quantum dynamical systems.

Yoshida, *Ruriko*, Barvinok's rational functions: algorithms and applications to optimization, statistics, and algebra.

STATISTICS

Leng, *Xiaoyan*, Functional linear discrimination analysis.

Senturk, *Damla*, Covariate adjusted regression and correlation.

Yao, *Fang*, Functional data analysis for longitudinal data.

University of California, Los Angeles (17)

MATHEMATICS

Balbas, *Jorge*, Non-oscillatory central schemes for the equations of ideal magnetohydrodynamics in one- and two-space dimensions.

Cecil, *Thomas*, Numerical methods for partial differential equations involving discontinuities.

Chaudhary, *Suneal*, Acceleration of Monte Carlo methods using low discrepancy sequences.

Choi, *Yohann*, Computation of ordinal-invariant trajectory solutions to multi-person bargaining problems.

Daileda, *Ryan*, Extremal class numbers of non-Abelian number fields.

Davey, *Owen*, On the existence of algebraic oriented equivariant cohomology theories.

Forbes, *Brian*, Open string mirror maps from Picard-Fuchs equations on relative cohomology.

Gutars, *Borislava*, The inverse boundary value problem in anisotropic media.

Kao, *Chiu-Yen*, Fast sweeping methods for static Hamilton-Jacobi equation.

Lee, *Arthur*, Symplectic integration of nonlinear Hamiltonian dynamics.

Min, *Cho-Hong*, A computational framework tracking a moving interface in arbitrary dimension and codimension.

Moelich, *Mark*, Logic models in segmentation and tracking.

Nicoara, *Remus*, Some finiteness results for commuting squares of finite dimensional von Neumann algebras.

Soderlund, Christina, Characterizing fixed point sets.

Tan, Chong Hui, Equivariant K -theories, equivariant cycle theories and equivariant motivic homotopy theory.

Zhu, Wei, Illusory contours and shape based segmentation.

STATISTICS

Yuan, Shin-Sheg, Some contributions in computational biology.

University of California, Riverside (5)

MATHEMATICS

Lindborg, Suzanne, Representations of affine Lie algebras of level zero.

MacLaughlin, Colin, Integrable and abelian deformations of abelian complex structures on 2-step nilmanifolds.

Pae, Chanwoo, Groebner bases of Veronese embeddings and N - P problems.

Tian, Jianjun, Evolution algebra theory.

STATISTICS

Miller, Diane, Can we ask better questions? An examination of the respondent generated interval protocol.

University of California, Santa Barbara (9)

MATHEMATICS

Barnard, Joshua, Ends of word-hyperbolic three-manifolds.

Brown, Darin, Lifting properties of prime geodesics on hyperbolic surfaces.

Crow, Katherine, Von Neumann regular skew group rings.

Ennis, John, On the universal cover of the Gromov-Hausdorff limit of manifolds with Ricci curvature bounded below.

He, Zhen, Interpolation by bounded analytic functions in domains of C^n .

Proskin, Heath, Flat faces in punctured torus groups.

STATISTICS AND APPLIED PROBABILITY

Hernandez, Jorge, A general framework for term structure and credit risk models driven by Levy processes.

Liu, Anna, Hypothesis testing in smoothing spline models and modeling of hormone generating mechanisms.

Sklar, Jeffrey, Some contributions to spatially adaptive non-parametric regression.

University of Southern California (2)

MATHEMATICS

Kim, Dong-Jin, Efficient methods for nonlinear parabolic PDEs.

Mao, Wei-Cheng, Quadratic variation estimators for diffusion models in finance.

COLORADO

Colorado School of Mines (1)

MATHEMATICAL AND COMPUTER SCIENCES

Yang, Yongjun, A new discontinuous finite element method based on a least-squares stabilization for elliptic and convection-diffusion problems.

Colorado State University (4)

STATISTICS

Andrews, Margaret, Parameter estimation for all-pass time series.

Johnson, Devin, Models for the analysis of discrete compositional data: An application of random effects graphical models.

Mahabir, Sean, Evaluation of the method R procedure for one way random effects models.

Rodriguez-Yam, Gabriel, Estimation for state-space models and Bayesian regression analysis with parameter constraints.

University of Colorado, Boulder (8)

APPLIED MATHEMATICS

Baker, Allison Hoat, On improving the performance of the linear solver restarted GMRES.

McNamara, Richard, Applications of spanning trees to continuous-time Markov processes, with emphasis on loss systems.

Olson, Luke Nathan, Multilevel least-squares finite element methods for hyperbolic PDEs.

Sandberg, Kristian Hans, Forward and inverse wave propagation using bandlimited functions and a fast reconstruction algorithm for electron microscopy.

Schneider, Ulrike, Advances and application in perfect sampling.

MATHEMATICS

Gomez, Andriana, Conservative maps: Reversibility, invariants and approximation.

Kirwin, William, Coherent states and geometric quantization.

Seaton, Christopher, Two Gauss-Bonnet and Poincaré-Hopf theorems for orbifolds with boundary.

University of Colorado, Denver (3)

MATHEMATICS

Argentati, Merico, Principal angles between subspaces as related to Rayleigh quotient and Raleigh Ritz inequalities with applications to eigenvalue accuracy and an eigenvalue solver.

Brown, David, Variations on interval graphs.

Uyyasathian, Chariya, Maximal-clique partitions.

CONNECTICUT

University of Connecticut (8)

MATHEMATICS

Balancea, Gabriela, Sequence algebras of continuous functions.

Jones, Molli, Group gradings of incidence algebras.

Keiter, Jonathan, One-vertex triangulations and Heegaard splittings.

Nurkhaidarov, Ermek, On automorphisms of models of Peano arithmetic.

Xu, Jianhong, Parallel computation for Markov chains via Perron complementation.

STATISTICS

Bhaumik, Amitabha, Dynamical hierarchical models with applications.

Fu, Rongwei, Probabilistic structure and statistical inference for nonexplicit population models of allele frequency.

Liu, Junfeng, On skew-elliptical distributions with applications.

Yale University (12)

MATHEMATICS

Akhmedov, Azer, Quasi-isometric rigidity in group varieties.

Breuillard, Emmanuel Francois, Equidistribution of random walks on nilpotent Lie groups and homogeneous spaces.

Huang, HuaJun, Borel orbits of classical symmetric subgroups on multiplicity-free flag manifolds.

Kang, Nam-Gyu, Boundary behavior of SLE.

Ostrovsky, Dmitry, Stochastic modeling: Underlying stochastic processes and model dynamics.

Rogers, Luke G., A degree-independent Sobolev extension operator.

Uriarte-Tuero, Ignacio, On Marcinkiewicz integrals and harmonic measure.

STATISTICS

Cojocar, Daniela, A strategy for parameter estimation in the nonlinear errors in variables model.

Doroş, Gheorghe, A class of one-step estimators in interval censoring.

Leung, Gilbert, Improving regression through model mixing.

Panayides, Marios, The market making system of the NYSE and other markets: Implementation in emerging markets.

Radchenko, Peter, Asymptotics under nonstandard conditions.

DELAWARE

University of Delaware (5)

MATHEMATICAL SCIENCES

Chandler, David, The Smith normal forms of design with classical parameters.

Dmytrenko, Vasyl, Classes of polynomial graphs.

Fiedler, Frank, Maximal arcs in $PG(2, 2, m)$.

Muniz, Wagner, A modified linear sampling method valid for all frequencies.

Williford, Jason, Constructions in finite geometry with application to graphs.

DISTRICT OF COLUMBIA

American University (3)

MATHEMATICS AND STATISTICS

Dickens, James, An analysis of the impact and focus of preparation efforts to improve performance on the Stanford nine mathematics test.

Dweik, Bashir, Mixtures of Erlang distributions and renewal processes based on them.

Hill, Vicki, Constantin Caratheodory: 1873–1950.

George Washington University (4)

MATHEMATICS

Dabkowski, Mieczyslaw, Cubic skein modules and Burnside groups.

STATISTICS

Christophi, Costas, Distances in random tries via analytic probability: The oscillatory distribution.

El-Baz, Abeer, Some contributions to statistical prediction theory.

Fan, Jiaquan, Short-term cancer incidence prediction.

Howard University (1)

MATHEMATICS

Diatta, Bassirou, Quivers, representation theory, non-commutative symplectic geometry, stratification and singular symplectic quotients.

FLORIDA

Florida Institute of Technology (2)

MATHEMATICAL SCIENCES

Dontha, Satyanarayana, Variational Lypunov method for differential equations.

Martinez-Garza, Cesar, Impulsive hybrid differential systems with invisible solutions.

Florida State University (8)

MATHEMATICS

Jones, Deborah, Intersection numbers of divisors in graph varieties.

Lengfield, Marc, Envelopes, duality, and multipliers for certain non-locally convex Hardy-Lorentz spaces.

Montin, Benoit, A stock market agent-based model using evolutionary game theory and quantum mechanical formalism.

Vogeler, Roger, On the geometry of Hurwitz surfaces.

STATISTICS

Kitsanta, Panagiota, Assessing adverse birth outcomes via classification trees.

Liu, Dacheng, Mixed-effects state space models for longitudinal data analysis.

Pu, Wenji, Selecting mixed-effects models based on a generalized information criterion.

Smith, Michael, A framework for using multi-modal sensors to estimate target locations and identities in a battlefield scene.

University of Central Florida (5)

MATHEMATICS

Boncek, John, Studies in tight frames and polar derivatives.

Korotkova, Olga, A model for a partially coherent Gaussian beam in atmospheric turbulence with applications for Lasercom and Lidar systems.

Muise, Robert, Quadratic filters for automatic pattern recognition.

VanDeCar, Ida (Sidra), Inequalities involving complex rational functions.

Zamyatin, Alexander, Mathematics of cone-beam transform in computer tomography.

University of Florida (1)

MATHEMATICS

Griffiths, William, On integer solutions to systems of linear equations.

University of Miami (2)

MATHEMATICS

Cañas, Carlos, Multiserver cyclic queueing networks with discrete time: Exact results and approximations.

Kolacinski, Joseph Franké, Mathematics anxiety and learned helplessness.

University of South Florida (2)

MATHEMATICS

Abdallah, Ahmed, Global dynamics of damped Boussinesq equations.

Al-Najjar, Hasan, Tridiagonal pairs in representation theory.

GEORGIA

Emory University (7)

BIOSTATISTICS

Davis, Xiaohong, Estimating vaccine efficacy from household data.

MATHEMATICS AND COMPUTER SCIENCE

Glimm, Tilmann, Supersymplectic reduction.

Palmer, Katrina, Regularization of quasi-Newton methods: Applied to image restoration.

Perrone, Lisa, Kronecker products in image restoration.

Schacht, Mathias, On the regularity method for hypergraphs.

Sissokho, Papa, Light spanners and sparse pseudorandom graphs.

Whalen, Thor, Degree conditions and relations to distance, extendability, and levels of connectivity in graphs.

Georgia Institute of Technology (7)

MATHEMATICS

Curran, Sean, Independent trees in 4-connected graphs.

Day, Sarah, A rigorous numerical method in infinite dimensions.

Figueroa-Lopez, José Enrique, Nonparametric estimation of Levy processes with a view towards mathematical finance.

Kreslavskiy, Dmitry, Lorentz lattice gases on graphs.

Ohoudjou, Kasso, Characterization of function spaces and boundedness of bilinear operators through Gabor frames.

Rasmussen, Bryan, Numerical methods for the continuation of invariant tori.

Sheppardson, Laura, Disjoint paths in planar graphs.

University of Georgia (9)

MATHEMATICS

Awanou, Gerard, Energy methods in 3D spline approximations of the Navier Stokes equations.

Beck, Michael, Square dependence in random integers.

Donnelly, Steve, Finding elements of given order in Tate-Shafarevich groups of elliptic curves.

Pine, Eric, Sums of integer cubes.

Vologodsky, Vitali, The extended Torelli and Prym maps.

STATISTICS

Lee, Jaechoul, Linear trends, periodicities, and extremes.

Wang, Lihua, Parameter estimation for mixtures of generalized linear mixed-effects model.

Xiao, YuanHui, Shot noise processes.

Zhou, Jin, Non-Gaussian bifurcating models.

HAWAII

University of Hawaii (1)

MATHEMATICS

Wills, Luis, Finite group graded Lie algebraic extensions and trefoil symmetric relativity, standard model, Yang Mills and gravity theories.

IDAHO

Idaho State University (1)

MATHEMATICS

Potter, Russell, Further results on the Siler cones and related cone theory.

University of Idaho (1)

MATHEMATICS

Zhang, Danhong, Disjoint cycles in graphs and directed graphs.

ILLINOIS

Illinois Institute of Technology (1)

APPLIED MATHEMATICS

Miranda, Jesus, Incorporating R -functions into the theory of positive definite functions to solve elliptic partial differential equations.

Illinois State University (7)

MATHEMATICS

Bower, Michelle (Wallace), Characterization of high school mathematics and physics language genres.

Foster, Halcyon, Already left behind: What can be done for low achieving high school mathematics students.

Johnson, Yolanda, Come home, then: An exploration of the past and present experiences of two 8th grade black females in one mathematics classroom.

Nugent, Patricia, Using a webboard as an asynchronous community to facilitate first year secondary mathematics teachers as they move from apprenticeship status to effective teacher status.

Olson, Jo, Teachers' acceptance of new leadership roles and changes in classroom practices.

Pennisi, Sarah-Jean, Making improving practice part of teachers' practice in the context of teaching geometry.

Yimer, Asmamaw, Metacognitive and cognitive functioning of college students during mathematical problem solving.

Northwestern University (14)

ENGINEERING SCIENCE AND APPLIED MATHEMATICS

Cui, Changrong, Hydrodynamic and differential-diffusion effects on premixed flame propagation.

Devadoss, Divya E., Mathematical modeling of polymerization waves.

Montgomery, Kimberley, Feedback control of traveling wave solutions to the complex Ginzburg Landau equation and a nonlinear analysis of the amplification properties of auditory hair cells.

Moroz, Vadim, Rotating non-Boussinesq Rayleigh-Benard convection.

Perry, Michael F., Mathematical analysis of two monomer systems of frontal polymerization.

Ritter, Laura R., On initiation of polymerization waves in thermal free-radical frontal polymerization.

Roxin, Alexander C., Five projects in pattern formation, fluid dynamics and computational neuroscience.

Wahle, Christopher W., Gas-solid nonequilibrium in filtration combustion.

MATHEMATICS

Fisher, Todd, On the structure of hyperbolic sets.

Perpelitsa, Mikhail, Global existence of solutions with large, discontinuous initial data for the Navier-Stokes equations for compressible fluid flows.

Phelps, Kathleen, A study on the relationship between the cohomology of 2-groups and certain subalgebras of the mod-2 Steenrod algebra.

Pribble, Ethan, Algebraic stacks for stable homotopy theory and the algebraic chromatic convergence theorem.

Renze, John, Perverse sheaves on affine Grassmannians of type A_1 .

Schemmerhorn, Kristen, Unstable operations and the Bousfield-Kuhn functor.

Southern Illinois University, Carbondale (5)

MATHEMATICS

Aimanassra, Mahmoud, Estimation of survival and cumulative hazard functions of restricted quality adjusted lifetime.

Hjouj, Fawaz, Identification of reflected, dilated, translated and rotated objects from their Radon projections.

Ibrahim, Haslinda, A family of designs for triads and related factorizations.

McCreight, Jeff, Generalized Fourier transforms.

Staples, George, Clifford algebras, combinatorics, and stochastic processes.

University of Chicago (26)

MATHEMATICS

Barnhill, Angela, Fixed point theorems for actions of Coxeter groups on non-positively curved singular spaces.

Belkin, Mikhail, Problems of learning on manifolds.

Calta, Kariane, Veech surfaces and complete periodicity in genus two.

Crisman, Karl-Dieter, Chow groups of zero-cycles relative to hyperplane arrangements.

Guay, Nicolas, Representation theory of rational Cherednik algebras.

Holmer, Justin, Uniform estimates for the Zakharov system and the initial-boundary value problem for the Korteweg de Vries and nonlinear Schrödinger equations.

Johnson, Brian, Factoring Cartan matrices of group algebras.

Lucarelli, Catherine, A converse to Mazur's inequality for split classical groups.

Lucarelli, Vincent, Affine pavings for affine Springer fibers for split elements in $PGL(3)$.

Maher, Joshua, The geometry of dilatation and distortion.

Mehta, Mridul, Birational equivalence of Higgs moduli.

Rodriguez, Andres, Prequantization of moduli of G -bundles.

Rogale Plazonic, Kristina, Limits of invariants of algebraic cycles in a geometric degeneration.

Shapiro, Ilya, BRST reduction of the chiral Hecke algebra.

Sigurdsson, Johann, The homotopy theory of ex-spaces.

Spallone, Steven, Arthur's trace formula for $SO(5)$ and individual discrete series matrix coefficients.

Vandervelde, Samuel, The Mahler measure of parametrizable polynomials.

Yan, Chao-Ping, A new angle on the tilt illusion.

Yeap, Lay May, Reversible normal forms and nonlinear development of elliptical instability.

STATISTICS

Bouman, Peter, Statistical and computational methods for complex multicenter data analysis.

Dolgoarshinnykh, Regina, Epidemic modelling: SIRS models.

Kordzakhia, George, The problem of coexistence in multi-type competition models.

Romero, Martin, On two topics with no bridge: Bridge sampling with dependent draws and bias of the multiple imputation variance estimator.

Song, Jongwoo, A sequential clustering algorithm with applications to gene expression data.

Tan, Zhiqiang, Likelihood approach for Monte Carlo integration.

Welty, Leah, Spatial statistics for modeling phytoplankton.

University of Illinois, Chicago (9)

EPIDEMIOLOGY AND BIostatistics

Liu, Li, A mixed effects model for longitudinal multivariate ordinal data.

MATHEMATICS, STATISTICS AND
COMPUTER SCIENCE

- Budur, Nero*, Multiplier ideals and Hodge theory.
- Dominici, Diego*, Asymptotic analysis of a data handling system and its generalization.
- Egorin, Vladimir*, Characteristic varieties of algebraic curves.
- Florek, Wojciech*, Foliations: A probabilistic potential theory approach.
- Goncharov, Yevgeny*, Mathematical theory of mortgage and modeling.
- Klaff, Benjamin*, Boundary slopes of knots in closed 3 manifolds with cyclic fundamental groups.
- Nguyen, Nghiem*, Higher order stability theory of solitary waves.
- Ping, Zhihong*, Measures of importance with applications to inspection policies.

**University of Illinois,
Urbana-Champaign (20)**

MATHEMATICS

- Al-Fadhel, Tariq*, Rates of convergence of continued fractions and an approximation theorem.
- Avramidou, Parthena*, Ergodic theory and harmonic analysis.
- Bush, Michael*, p -Class towers of imaginary quadratic fields.
- Denne, Elizabeth*, Alternating quadrise-cants of knots.
- Gagelman, Jerry*, Stability in geometric theories.
- Kim, Seog-Jin*, Problems in graph coloring and graph structure.
- Kongsiriwong, Sarachai*, Theta functions and related infinite series.
- Li, Hui*, Semi-free Hamiltonian circle actions on 6-dimensional symplectic manifolds.
- Li, Xiaosheng*, Quasi conformal groups.
- Martin-Pizarro, Amador*, Algebraic curves over supersimple fields.
- Minasian, Vahagn*, On THH and TAQ of commutative S -algebras.
- Musa, Mona*, On dihedral codes and the double circulant conjecture for extended quadratic residue codes.
- Petracovici, Lia*, Cremer fixed points and critical points in complex dynamics.
- Rohwer, Thomas*, Modules over valued fields with an endomorphism.
- Spiroff, Sandra*, Limiting behavior on restriction of divisor classes to hypersurfaces.
- Yeap, Boon Pin*, Contributions to trigonometric sums and mock theta functions.

STATISTICS

- Georgescu, Constantin*, Quantile estimators for finite populations.
- Lin, Nan*, Three statistical problems with imprecisely or incompletely observed data.

- Wei, Ying*, Longitudinal growth charts based on semiparametric quantile regression.
- Xu, Xueli*, Computerized adaptive testing and equating methods with nonparametric IRT models.

INDIANA

**Indiana University,
Bloomington (4)**

MATHEMATICS

- Chung, Min*, Local sine and cosine bases of Coifman and Meyer type and the construction of smooth wavelets.
- Kim, Kyounghee*, Integrals of exponential Brownian motion and derivative pricing in the log-normal bond model.
- Shiu, Ji-Liang*, The H^1 -closure of the Haar system and its dual space.
- Tsyganov, Eugene*, Global existence for systems of mixed hyperbolic-parabolic type, with discontinuous initial data.

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

MATHEMATICAL SCIENCES

- Di, Xiaojun*, Real zeros of random polynomials: Scaling and universality.

Purdue University (12)

MATHEMATICS

- Di, Xiaojun*, Real zeros of random polynomials: Scaling and universality.
- Hosseini, Majid*, Ratio inequalities for heat kernels.
- Janakiraman, Prabhu*, Weak-type estimates for singular integral and maximal operators.
- Joo, Sookyung*, The phase transition between chiral nematic and smectic C^* liquid crystals.
- Merenkov, Sergiy*, Determining biholomorphic type of a manifold using combinatorial and algebraic structures.
- Yu, Xiaoxiang*, Finiteness of orbits and poles of intertwining operators.
- Zhang, Ning*, Holomorphic line bundles on the loop space of the Riemann sphere.

STATISTICS

- Annis, David H.*, A new statistical model combining strength and binary choice with applications to paired comparison problems.
- Cao, Dachuang*, Quantitative trait locus analysis in polyploids.
- Grevstad, Nels*, Statistical analysis of medical images.
- Lin, Xiaodong*, Finite mixture for clustering, dimension reduction and privacy preserving data mining.
- Ma, Ping*, Nonparametric mixed-effect models.

**University of Notre
Dame (9)**

MATHEMATICS

- Arana, Andrew*, Arithmetical investigations: A study of models of arithmetic and purity of methods.
- Chernysh, Vladislav*, On the homotopy type of the space of positive scalar curvature metrics.
- Dekker, Michael*, A new proof of the bordism invariance of the index.
- Gorla, Elisa*, Lifting properties from the general hyperplane section of a projective scheme.
- Gorsky, Jennifer*, On the Cauchy problem for a KdV type equation on the circle.
- Han, Guangyue*, Space time coding with multiple antenna systems.
- Harrington, Phillip*, Compactness and subellipticity for the $\bar{\partial}$ Neumann problem on domains with minimal smoothness.
- Kiskowski, Maria*, Discrete stochastic models of morphological pattern formation in biology.
- Weber, Rebecca*, A definable relation between c. e. sets and ideals.

IOWA

Iowa State University (13)

MATHEMATICS

- Calhoun-Lopez, Marcus*, Numerical solutions of hyperbolic conservation laws: Incorporating multi-resolution viscosity methods into the finite element framework.
- Kwon, Hee-Dae*, Analysis and approximation of terminal-state tracking optimal control problems and controllability problems constrained by linear and nonlinear parabolic partial differential equations.
- Tuncay, Candan*, Oscillatory behavior of higher order functional differential equations with distributed deviating argument.
- Yang, Sung-Dae*, Shooting methods for numerical solutions of control problems constrained by linear and nonlinear hyperbolic partial differential equations.

STATISTICS

- De Cock, Dean*, Kriging as an alternative to polynomial regression in response surface analysis.
- Drignei, Dorin*, Statistical analysis of multivariate computer output.
- Fridley, Brooke*, Data augmentation for the handling of censored spatial data.
- Ilk, Ozlem*, Exploratory multivariate longitudinal data analysis and models for multivariate longitudinal binary data.
- Kim, Ji-Yeon*, Nonparametric regression estimation under complex sampling designs.

Lee, Eun-Kyung, Projection pursuit methods for exploratory supervised classification.

Silva, Damiao Nobrega Da, Adjustments for survey unit nonresponse under nonparametric response mechanisms.

Wang, Jing, Interval mapping of QTL with selective DNA pooling data.

Zhang, Hongmei, Probability models for design and analysis of genetic data.

University of Iowa (18)

APPLIED MATHEMATICAL AND COMPUTATIONAL SCIENCES

Jiang, Hong, Exploring algorithms for network capacity dimensioning and traffic modeling.

Kim, Changki, Modeling surrender/lapse rates and valuing surrender options in Korean interest indexed annuities.

Leem, Koung-Hee, Solving linear systems for meshfree discretizations.

BIOSTATISTICS

Wang, Deli, Robust estimation of a two-way semilinear model with applications to microdata normalization and analysis.

Wang, Wenquan, Estimating and testing treatment effects on two binary endpoints and association between endpoints in clinical trials.

MATHEMATICS

Ahn, Jeongho, Dynamic frictionless contact problems with linearly elastic bodies.

Ahn, Myung-sook, Weekly clean rings and almost clean rings.

Clarke, Sharon, Star-operations induced by overrings.

Hidayat, Dylmoon, Continuously translated framelets and wavelets.

Oshima, Chihiro, Characterization theorems in infinitary languages.

Robeson, John, Irredundant generating sets for modalities.

Svidersky, Ilona, Lifting schemes for wavelets.

Ugalde, William, Conformal invariants and the Wodzicki residue.

Waters, Gavin, $W^{2,p}$ estimates for parabolic equations.

Yoon, Jasang, Structure and spectral theory of multivariable weighted shifts of hyponormal operators.

Youn, Eun-Jung, Essential laminations and Dehn surgery on Montesinos knots.

STATISTICS AND ACTUARIAL SCIENCE

Christ, Aaron, An animal movement model incorporating resource selection and home range.

Lin, Yu-Jau, The Bayesian analysis of threshold autoregressive models.

KANSAS

Kansas State University (5)

MATHEMATICS

Onofrei, Silvia, A characterization of two classes of locally truncated diagram geometries.

STATISTICS

Lee, Eun-Joo, Statistical analysis software for multiplicative interaction models.

Shanga, Gilbert, Analysis of crossover designs when treatments have unequal variances.

Su, Zhaohui, Inference on some linear mixed-effect models and testing for lack-of-fit for experiments without replication.

Taylor, Veronica, Use of three partial areas for establishing bioequivalence and estimation of sample size for equivalence studies.

University of Kansas (3)

MATHEMATICS

Arana, Luis, The C^* -algebra of Lie semidirect products of the form $R^n \rtimes_a R$.

Bach, Kelly, A cancellation problem for quantum spheres.

Mir, Ellen, Relative topological properties of Hausdorff spaces.

Wichita State University (1)

MATHEMATICS AND STATISTICS

Benchama, Noureddine, A simplified Fornberg-like method for the conformal mapping of multiply connected regions.

KENTUCKY

University of Kentucky (7)

MATHEMATICS

Bendall, Gareth, Domination analysis beyond the traveling salesman problem.

Goodloe, Mary, Hadamard products of convex harmonic mappings.

Ishizuka, Wataru, The weak compactness and regularity of weakly harmonic maps on Riemannian manifolds with bounded measurable metrics.

Kovacs, Steve, Invertibility preserving maps of C^* -algebras.

Menzel, Matthew, Generalized sewing constructions for polytopes.

Mueller, Stacey, Harmonic mappings and solutions of a differential equation related to the de la Vallée Poussin means.

Riehemann, Robert, Subset takeaway on graphs.

LOUISIANA

Louisiana State University, Baton Rouge (5)

MATHEMATICS

Blankenship, Robin, Book embeddings of graphs.

Harris, John, The Kauffman bracket skein module of the quaternionic manifold.

Holcomb, Michael, On the geometry and topology of moduli spaces of multipolygonal linkages.

Kanno, Jinko, Splitter theorems for 3- and 4-regular graphs.

Wang, Hao-Hao, Equations of parametric surfaces with base points via syzygies.

Louisiana Technical University (4)

MATHEMATICS AND STATISTICS PROGRAM

Hu, Jing, Mathematical and empirical modeling of chemical reactions in a microreactor.

Kaba, Ibrahima, A numerical method to solve the two-step parabolic heat transfer equations in a microsphere subjected to an ultrafast laser pulse.

Shen, Lixin, A three-level finite difference scheme for solving a dual-phase-lagging heat transport equation in spherical coordinates.

Zhen, Peng, Modeling of the inverse heat-conduction problem with application to laser chemical vapor deposition and bioheat transfer.

University of Louisiana at Lafayette (3)

MATHEMATICS

Guo, Huizhen, Inference on quantiles of some parametric models.

Lu, Yong, Inferences on the common mean of normal populations: The correlated and uncorrelated cases.

Sonnier, William Joshua, Mathematical modeling of coupled nonlinear Schrödinger systems using conservation schemes.

MARYLAND

Johns Hopkins University (9)

APPLIED MATHEMATICS AND STATISTICS

Cope, Leslie, Some asymptotic properties of smooth quantile ratio estimation.

Yuan, Weishi, Asymptotic properties and inferences for varying coefficient regression with longitudinal variables.

BIostatistics

- Chen, Weimin*, Robust quantitative trait linkage analysis in extended human pedigrees.
Eddings, Wesley, Topics in the philosophy of statistics: Methods, data, and theory.
Gupte, Nikhil, Statistical models and methods for mother to infant HIV transmission studies.

Mathematics

- Dean, Brian*, Some results on stable compact embedded minimal surfaces in 3-manifolds.
Lee, Seok-Min, On certain cohomological invariants of quadratic number field.
Xu, Xiangjin, Eigenfunction estimates on compact manifolds with boundary and Hörmander multiplier theorem.
Zhang, Sirong, Curvature estimates for constant mean curvature surfaces in three manifolds.

University of Maryland, Baltimore (2)

Mathematics and Statistics

- Webster, Samuel*, Stability and convergence of a spectral Galerkin method for the linear Boltzmann equation.
Zhao, Qing, Correlation machines and their applications.

University of Maryland, College Park (13)

Mathematics

- Calcut, Jack*, Torelli actions and smooth structures on 4-manifolds.
Eikenberg, Edward, Rational points on some families of elliptic curves.
Jones, Catherine, Pyramids of properness: Proving the properness conjecture.
Kolesar, Joseph, Sigma delta modulation and correlation criteria for the construction of finite frames arising in communication theory.
Kollar, Richard, Existence and stability of vortex solutions of certain nonlinear Schrödinger equations.
Ott, William, Infinite-dimensional dynamical systems and projections.
Perlitz, Michael, Explaining the emergence of cooperation: An axiomatic theory of accumulation.
Ridley, Ahmad, Performance analysis of multiclass preemptive-resume priority call center with time-varying arrivals.
Snitz, Kobi, Theta correspondence of automorphic characters.
Tang, Zhihui, Fast transforms based on structured matrices with applications to the fast multiple method.
Wu, Chin-Tien, On implementation of an accurate and efficient solver for convection-diffusion equations.
Zheng, Shijun, Besov spaces for the Schrödinger operator with barrier potential.

Measurement, Statistics and Evaluation

- Koenig, Judith*, Comparison of characteristic curve methods for linking parameters estimated with the generalized graded unfolding model.

MASSACHUSETTS

Boston University (7)

BIostatistics

- Govindarajulu, Usha*, The selection of frailty models and the development of a frailty model for unexplained heterogeneity in the Framingham heart study.
Guo, Chao-Yu, Extensions of family-based genetic tests of linkage and/or association for a dichotomous trait.

Mathematics and Statistics

- Andonova Jaeger, Savina*, Theoretical and experimental analysis of the generalization ability of some statistical learning algorithms.
Chazaro, Irmarie, A comparison of family-based association test for quantitative traits.
Macabea, Joyce, Dynamics of Shepherd moon ring systems.
Vierling, Angela, Linear systems on ruled surfaces and moduli of vector bundles over curves.
Zompatori, Marina, Curves of high genus in projective space.

Brandeis University (5)

Mathematics

- Bone, Eric*, A generalization of Pohlig-Hellman simplification in elliptic curve cryptography.
Bourgoin, Mario, Immersed curves and links in oriented thickenings.
Kim, Hee-Jung, Modifying surfaces in 4-manifolds by twist spinning.
Varvak, Anna, Encoding properties of lattice paths.
Xin, Gouce, The ring of Malcev-Neumann series and the residue theorem.

Harvard University (28)

BIostatistics

- Arroyo, Cassandra*, High dimensional data analysis with applications to diabetes prevention and physical activity data.
Ding, Beiying, Analysis of high dimensional data: Classification, measurement error model and graph based association measures, with application to microarray data.
O'Brien, Liam, Methods for the analysis longitudinal multiple source data and multiple predictor data.
Park, Yuhyun, Semiparametric statistical inference in survival analysis.

- Retina Rabbee, Nusrat*, Power studies: I. Power and sample size for ordered categorical data. II. Power calculations for familial aggregation studies. III. Power calculations for selective genotyping in QTL mapping in backcrosses.

- Roberts, Kevin*, Latent predictor models with applications to asthma.

- Scholtens, Denise*, Studies in multidimensional data: Estimation of the bivariate survival curve, analysis of factorial designed microarray experiments, identification of protein complex membership.

- Wilkins, Kenneth*, Marginally-specified conditional models for longitudinal outcomes with possibly non-ignorable non-response.

- Zhao, Yihua (Mary)*, General design Bayesian generalized linear mixed models with applications to spatial statistics.

Engineering and Applied Sciences

- Ashmore, Jacqueline*, Free-surface and coating flows.
Cettei, Kim, Code cache management in dynamic optimization systems.
Ellard, Daniel, Trace-based analyses and optimizations for network storage servers.
Fischer, Robert, Web applications with client-side storage.
Mansouri, Abdol, Sub-elliptic diffusions, geometry, and control.
Rauenbusch, Timothy, Measuring information transmission for team decision making.
Schechter, Stuart, Computer security strength and risk: A quantitative approach.
Sullivan, David, Using probabilistic reasoning to automatic software tuning.
Valente, Andre, Symmetries and geometrical ansätze in dynamical systems: Hybrid dynamics, control with moving averages, microflows, and network robustness problem.

Mathematics

- Coskun, Izzet*, Degenerations of scrolls and Del Pezzo surfaces and applications to enumerative geometry.
Dumas, David, Complex projective structures, grafting, and Teichmüller theory.
Manolescu, Ciprian, A spectrum valued TQFT from the Seiberg-Witten equations.
Marian, Alina, Intersection theory on the moduli space of stable bundles via morphism spaces.
Mirzakhani, Maryam, Simple geodesics on hyperbolic surfaces and volume of the moduli space of curves.
Plamenevskaya, Olga, Contact structures and Floer homology.
Ramsey, Nicholas, Geometric and p -adic modular forms of half-integral weight.
Rauch, Daniel, Perturbations of the d -bar operator.

Rogers, Nicholas, Elliptic curves $x^3 + y^3 = k$ with high rank.

Yang, Stephanie, Special linear series in p^2 .

Massachusetts Institute of Technology (24)

MATHEMATICS

Blanchette, François, Sedimentation in a stratified ambient.

Bozin, Vladimir, Geometry of Ricci flat Kähler manifolds and some counterexamples.

Clifford, Peter, Algebraic and combinatorial properties of minimal border strip tableaux.

Costeanu, Viorel, On the 2-typical deRham-Witt complex.

Early, Edward, Chain and antichain enumeration in posets, and b -ary partitions.

Elizalde, Sergi, Statistics on pattern-avoiding permutations.

Ganter, Nora, Orbifold genera, product formulas and power operations.

Hou, Zuoliang, Local complex singularity exponents for isolated singularities.

Korn, Michael, Geometric and algebraic properties of polyomino tilings.

Latour, Frédéric, Representations of Chernick algebras in positive characteristic.

Lieblich, Max, Moduli of twisted sheaves and generalized Azumaya algebras.

Luo, Wei, On contact homology of the unit cotangent bundle of a Riemann surface with genus greater than one.

Lurie, Jacob, Derived algebraic geometry.

Mahdian, Mohammad, Facility location and analysis of algorithms through factor-revealing programs.

Osserman, Brian, Limit linear series in positive characteristic and Frobenius-unstable vector bundles on curves.

Popescu, Ionel, Morse inequalities, a probabilistic approach.

Radoičić, Rados, Extremal problems in combinatorial geometry and Ramsey theory.

Ragharsson, Kári, Frobenius transfers and p -local finite groups.

Rassart, Etienne, Geometric approaches to computing Kostka numbers and Littlewood-Richardson coefficients.

Sankar, Arvind, Smoothed analysis of Gaussian elimination.

Šešum, Nataša, Limiting behaviour of Ricci flows.

Usher, Michael, Relative Hilbert scheme methods in pseudoholomorphic geometry.

Wang, Lijing, Bergman kernel and stability of holomorphic vector bundles with sections.

Yee, Wai Ling, On the signature of the Shapovalov form.

Northeastern University (6)

MATHEMATICS

Dubrovskiy, Stanislav, Differential invariants of geometric structures.

Keng, Shengli, The geometry of G_2 manifolds.

Kreiman, Victor, Monomial bases and applications for Richardson and Schubert varieties in ordinary and affine Grassmannians.

Scott, Joshua, Grassmannians and cluster algebras.

Silantyev, Valentin, Kirchhoff and Riabouchinsky models with semipermeable obstacles.

Wang, Erxiao, Submanifold geometries and integrable systems.

Tufts University (2)

MATHEMATICS

Cowan, John David, A billiard model of a gas of rigid particles.

Pedroza, Andres, Cohomology and localisation formulas.

University of Massachusetts, Amherst (2)

MATHEMATICS AND STATISTICS

Garibotti, Gilda, Estimation of the stationary distribution of Markov chains.

Otto, Peter, Study of equilibrium macrostates for two models in statistical mechanics.

MICHIGAN

Central Michigan University (2)

MATHEMATICS

Maynard, Jacinth, A class of beta-exponential distributions: Properties, estimation and applications.

Sadir, Dawn, Circular symmetry of spectra of composition operators.

Michigan State University (10)

MATHEMATICS

Cheng, Szu-En, Generating function proofs of identities and congruences.

Cheng, Wen-Chiao, Relations among conditional entropy, topological entropy and pointwise preimage entropy.

Furaidan, Monther Rashed, Imprimitivity distance-transitive graphs.

Kwon, Seongchun, Real aspects of the moduli space of stable maps of genus zero curves.

Morgan, Charles, Decay of correlations for piecewise smooth mappings with unbounded distortion.

Redett, David, Invariant vector subspaces of L^p with applications.

Saldivia, Luis, Topological transitivity of bounded linear operators.

Sword, Sarah, Intermediate domains between a local ring and its completion: Conditions for normality and factoriality.

STATISTICS AND PROBABILITY

Li, Fang, Testing for the equality of two autoregressive and regression functions.

Stepanov, Alexey G., Optimal control of dynamical systems with jump Markov perturbations.

Michigan Technological University (2)

MATHEMATICAL SCIENCES

Nickolov, Radoslav, Association tests for candidate genes based on Gibbs random field models.

Sarami, Chekad, Topics in coding theory and combinatorial structures.

Oakland University (2)

MATHEMATICS AND STATISTICS

Ghosh, Pulak, A Bayesian approach to bioequivalence trials.

Kikas, Lazaros, Interconnection networks and the k -disjoint paths problem.

University of Michigan, Ann Arbor (31)

BIOSTATISTICS

Carlson, Nichole, A bivariate model of two pulsatile hormones: A Bayesian approach.

Feng, Shibao, Relative risk model analysis of multivariate survival data.

Hayasaka, Satoru, Validating and improving cluster size influence in brain image analysis.

Hsu, Chiu-Hsieh, Survival analysis via nonparametric multiple imputation.

Huang, Chiang-Ching, Markov model for defining genomic changes using gene expression profiling.

Isaman, Deanna, Use of indirect transition estimates in discrete-state multiple-stage models.

Li, Yisheng, Bayesian inference in generalized additive mixed models.

Liu, Fang, Bayesian methods for statistical disclosure control in microdata.

Patil, Sujata, Latent trajectory models for longitudinal data: A Bayesian approach.

Wang, Yue, Statistical methods utilizing biomarkers in clinical trials and screening studies.

Yu, Jian, Prosper function analysis for organ allocation, a counting process and Martingale approach.

Yu, Menggang, Joint longitudinal-survival-cure model with application in prostate cancer studies.

MATHEMATICS

Aubrey, Jason, Pseudo-dominating families of functions.

Elitzur, Haggai, Tight closure in Artinian modules.

Hitchman, Theron J., Rigidity theorems for large dynamical systems with hyperbolic behavior.

Johnson, Amanda, Multiplier ideals of detrimental ideals.

Jupiter, Daniel, Envelopes of holomorphy and approximation theorems.

Klodginski, Elizabeth, Essential surfaces in fibered 3-manifolds.

Kravitz, Scott, The homology of a filtered Boolean algebra.

Lawes, Elliot, Motivic integration and the regular Shalika germ.

Papikian, Mihran, Optimal elliptic curves, discriminants, and the degree conjecture over function fields.

Slapar, Marko, Real surfaces in complex surfaces.

Storm, Peter, The barycenter method on singular spaces.

Walker, Ronald, Concerning characterizations of boundaries of holomorphic i -chains within complex surfaces.

Westerland, Craig, Stable splittings of configuration spaces of surfaces and related mapping spaces.

Yong, Alexander, On combinatorics of degeneracy loci and $H(G/B)$.

STATISTICS

Choe, Jee-Weon, Bayesian optimality criteria for supersaturated designs.

Gopikrishnan, Ajita, Reliability inference based on time-to-failure and degradation data: Some models, methods and efficiency comparisons.

Kim, Dong-Yun, Sequential test and change point problems with staggered entry.

Mease, David, Contributions to engineering statistics: X -testing for reliability and optimal partitioning strategies.

Shin, Yong-Yun, Inference and applications in hierarchical linear models with missing data.

Wayne State University (4)

MATHEMATICS

Crachiola, Anthony, On the AK invariant of certain domains.

Naga, Ahmed, On recovery type a posteriori error estimators in adaptive C^0 Galerkin finite element methods.

Shvartsman, Ilya, Discrete approximations and minimax synthesis in dynamic optimization.

Wang, Lianwen, Optimal control of hereditary differential inclusions.

Western Michigan University (1)

MATHEMATICS

Weinhold, Marcia, How secondary school mathematics teachers construct an understanding of "appropriate use" of graphing calculators in the context of collegial inquiry.

MINNESOTA

University of Minnesota, Twin Cities (10)

BIostatISTICS

Guo, Xu, On Kay and Little's approach to logistic regression model and some new results.

Short, Margaret, Topics in hierarchical spatial models: Covariate-adjusted spatial and spatio-temporal CDF modelling.

Zhao, Yanli, Interim monitoring of randomized clinical trials with multiple endpoints.

MATHEMATICS

Kim, Kyeong-Hun, On stochastic partial differential equations with variable coefficients in C^1 domains.

Lee, Jae-Hyouk, Geometrics motivated from normed algebras.

Lee, Kijung, L_p theory of stochastic partial differential systems.

Rademacher, Jens, A mechanism for periodic secondary wave bifurcation of pulses in reaction-diffusion systems.

STATISTICS

Barnes, Katherine, Bayesian inference in spatial clustering models of crime data.

Sung, Yun Ju, Likelihood inference for mutation accumulation experiments.

Zamba, Kokou (Gideon), Some issues in SPC: Change-point problems.

MISSISSIPPI

Mississippi State University (1)

MATHEMATICS AND STATISTICS

Liao, Wenyuan, Efficient higher order algorithms for solving reaction-diffusion equations.

University of Mississippi (1)

MATHEMATICS

Welch, Amy, Tychonoff's theorem and the metric topology of path spaces.

MISSOURI

University of Missouri, Columbia (4)

MATHEMATICS

Duda, Jakub, Aspects of delta-convexity.

Portal, Pierre, Harmonic analysis of Banach space valued functions in the study of parabolic evolution equations.

STATISTICS

Lee, Suhwon, Nonparametric Bayesian density estimation and smoothing splines.

Xu, Ke (Bill), Efficient parameterization and estimation of spatio-temporal dynamic models.

University of Missouri, Rolla (1)

MATHEMATICS AND STATISTICS

Lathrom, Grant, Automorphism groups of resolvable incidence structures.

Washington University (9)

MATHEMATICS

Apfel, Lynn, Localization properties and boundary behavior of the Bergman kernel.

Draghici, Cristina, Polarization and rearrangement inequalities for multiple integrals.

Liu, Ningping, Statistical properties of maximum likelihood estimators for complete and censored data from mixed exponential and Weibull distributions.

Zhang, Jing, Threefolds with vanishing Hodge cohomology.

SYSTEMS SCIENCE AND MATHEMATICS

Albright, Brian, An embedded optimization-simulation approach to dynamic pickup and delivery problems.

Celani, Fabio, Omega-limit sets of nonlinear systems that are semiglobally practically stabilizable.

Lan, Chun Hua, Controllability of time dependent quantum control systems.

Liu, Ping, Appearance methods of solving recognition and estimation problems in robotics.

Polpitiya, Ashoka, Geometry and control of human eye movements.

MONTANA

Montana State University (1)

MATHEMATICAL SCIENCES

Griffiths, Roger, Return map characterization of singular solutions for a model of bursting with two slow variables.

University of Montana (2)

MATHEMATICAL SCIENCES

Bedros, Varoujan, An exploratory study of students' understanding of indirect proof.

Clouse, Chris, Greedoid invariant theory and the greedoid Tutte polynomial.

NEBRASKA

University of Nebraska, Lincoln (2)

MATHEMATICS

Hinrichs, Paul, Consumer expenditure estimation incorporating generalized variance functions in hierarchical Bayes models.

Lindblad, Steven, Inverse monoids presented by a single sparse relator.

NEW HAMPSHIRE

Dartmouth College (2)

MATHEMATICS

Clark, Lisa, Classifying the type of group-oid C^* -algebras.

Dryden, Emily, Geometric and spectral properties of compact Riemann orbisurfaces.

NEW JERSEY

New Jersey Institute of Technology (3)

MATHEMATICAL SCIENCES

Goulet, Arnaud, Mixing enhancement by dual speed rotating stirrer.

Picarelli, Michele, A Gibbs sampling approach to maximum a posteriori time delay and amplitude estimation.

Segin, Tetyana, Nonlinear long-wave interfacial stability of two-layer gas-liquid flow.

Princeton University (15)

APPLIED AND COMPUTATIONAL MATHEMATICS

Brown, Eric, Neural oscillators and integrators in the dynamics of decision tasks.

Liu, Di, Topics in the analysis and computation of stochastic differential equations.

Rickard, Scott, Time-frequency and time-scale representations of doubly spread channels.

Rudin, Cynthia, Boosting, margin and dynamics.

Worden, Lee, Evolution, constraint, cooperation, and community structure in simple models.

MATHEMATICS

Araujo, Carolina, The variety of tangents to rational curves.

Berger, Eli, Topological methods in matching theory.

Coskunuzer, Baris, Minimal surfaces and genuine lamination.

Eftekhary, Eaman, Holomorphic curves in topology and geometry.

Gonzalez, Maria Del Mar, Singular sets of a class of fully nonlinear equations in conformal geometry.

Keevash, Peter, The rôle of approximate structure in extremal combinatorics.

Ng, Ting Fai, Geometry of algebraic varieties.

Prasanna, Kartik, On a certain ratio of Petersson norms and level-lowering congruences.

Rodrigo, Jose Luis, On the evolution of sharp fronts for the surface quasi-geostrophic equation.

Rojas-Leon, Antonio, General estimates for exponential sums.

Rutgers University, New Brunswick (12)

MATHEMATICS

Biezuner, Rodney Josue, Best constants, optimal Sobolev inequalities on Riemannian manifolds and applications.

James, Taylor, Connections with Bohmian mechanics.

Kruczek, Klay, Tic-tac-toe and tumbleweeds.

Li, Aobing, On some conformally invariant fully nonlinear equations.

Li, Xiaoyong, Pinned constrained Brownian motion with application to bond pricing.

Mazza, Carlo, Schur functors and motives.

Radnell, David, Schiffer variation in Teichmüller space, determinant line bundles and modular functors.

Rosenthal, Malka, Extremal hypergraphs for certain forbidden traces.

Schutzer, Waldeck, On some combinatorial aspects of representation theory.

Taylor, Yuka, Quantum $6j$ symbols and a semiclassical invariant of three-manifolds.

Young, Matthew, Random matrix theory and families of elliptic curves.

Zhang, Lin, Vertex operator algebras and Kazhdan-Lusztig's tensor category.

NEW MEXICO

New Mexico State University (3)

MATHEMATICAL SCIENCES

Feng, Ding, Choquet weak convergence of capacity functionals and statistical inference with random sets.

Mehta, Parag, Actions of the complex additive group on affine spaces.

Oh, Hyunju, The universal Vassiliev invariant for the Lie superalgebra $\text{osp}(1|2)$.

University of New Mexico (5)

MATHEMATICS AND STATISTICS

Brock, Guy, Analysis of gene regulatory networks using fuzzy logic and probabilistic models.

Kehowski, Walter, Hypernormal manifolds.

Liang, Hwa Ching, Diagnostic methods for accelerated failure time models.

Malloy, Elizabeth, Diagnostics for the scale of functional predictors.

Martinez, Derek, Greenberg transforms of singular varieties and maps.

NEW YORK

City University of New York, Graduate Center (9)

MATHEMATICS

Abbaspour, Hossein, On string topology of 3-manifold.

Brock, Martin, Conjugate reducibility of families of block-diagonal matrices over an extension field of a perfect field, and applications to matrix subalgebras and subgroups.

Khan, Bilal, The structure of automorphic conjugacy in the free group of rank two.

Kvaschuk, Alexei, One-variable equations in torsion-free hyperbolic groups.

Majewicz, Stephen, Nilpotent $\mathbb{Q}[x]$ -powered groups and $\mathbb{Z}[x]$ -groups.

Prado, Lucio, p -potential theory on graphs p -parabolicity and p -hyperbolicity.

Serbin, Denis, Infinite words and length functions.

Suzuki, Cristina, Rough isometries between non-compact Riemannian manifolds.

Wan, Aaron, The local theory of root numbers.

Clarkson University (1)

MATHEMATICS AND COMPUTER SCIENCE

Morawska, Barbara, Goal-directed E -unification-completeness, decidability and complexity.

Columbia University (13)

BIOSTATISTICS

Xie, Hui, An index of sensitivity to nonignorability: Extensions and applications.

Zawadzki, Rosita, A study of the performance of the truncated Levin Robbins sequential elimination procedure for choosing the best of three binomial populations.

MATHEMATICS

Cadman, Charles, Quantum cohomology of stacks and enumerative applications.

Casalaina-Martin, Sebastian, Singularities of the Prym theta divisor.

Sadykov, Marat, Two results in the arithmetic of Shimura curves.

Sampsa, Samila, Models of decision making in a social context.

Song, Jian, The Szegő kernel of an orbifold circle bundle and its application.

Thillainatesan, Meera, A kernel for automorphic L -functions on $GL(n, R)$.

Weinkove, Benjamin, The J -flow, the Mabuchi energy, the Yang-Mills flow and multiplier ideal sheaves.

STATISTICS

Feng, Xin, Functioning in computerized adaptive testing.

Huang, Zaiying, Bayesian computation for multilevel models: Some new methods with applications.

Liu, Mongling, Semiparametric analysis on longitudinal data in the presence of information censoring.

Pasarica, Cristian, Topics in statistics and probability.

Cornell University (18)

APPLIED MATHEMATICS

Casey, Richard, Periodic orbits in neural models: Sensitivity analysis and algorithms for parameter estimates.

Cetin, Umut, Default risk and liquidity risk modeling.

Diaz, Aaron, Topics in hybrid systems.

Mehta, Prashant, Nonbifurcating solutions for parallel flows.

Patron, Maria-Cristina, Risk measures and optimal strategies for discrete hedging.

Tomita, Tiberiu, Applications of stochastic calculus and partial differential equations in financial economics.

BIOMETRICS

Briggs, William Matthew, Assessing the value of yes/no forecasts.

Crainiceanu, Ciprian, Nonparametric likelihood testing.

El Sheneity, Sahar, Alternative methods to the maximum likelihood in the logistic discrimination model.

Joo, Yongsung, Evaluation of model selection criteria in log spline models.

Madsen, Lisa, Regression with spatially misaligned data.

Zhang, Dabao, Bayesian inference for differential gene expression data.

MATHEMATICS

Best, Janet, The mathematics of ecological competition.

Horak, Matthew, Mapping class subgroups of outer automorphism groups.

Hsiao, Samuel, Quasisymmetric functions and combinatorial enumerations in spheres.

Marques, Fernando, Existence and compactness theorems on conformal deformation of metrics.

Schuller, Rebecca, A theory of multitask learning for learning from disparate data sources.

Walker, Shawn, Shift techniques and multicover inequalities on colored complexes.

Courant Institute, New York University (22)

MATHEMATICAL SCIENCES

Atzberger, Paul, Stochastic modeling of the kinesin motor protein.

Cherepinsky, Vera, On mathematical aspects of genomic analysis.

de Aranjó, Thelmo, Effects of upward propagating gravity waves on the mean state of the atmosphere.

Demers, Mark, Markov extensions and natural conditionally invariant measures for dynamical systems with holes.

Forger, Daniel, Deterministic and stochastic mathematical modeling and computer simulation of the mammalian intracellular circadian clock.

Friz, Peter, Rough path theory and applications to stochastic analysis.

Goldfeld, Paulo, Balancing Neumann-Neumann preconditions for the mixed formulation of almost-incompressible linear elasticity.

Herbert, Robert, Codimension two piecewise linear immersion of complex projection space.

Iwasawa, Kazuhiro, Fast relevant simulation in finance.

Jiang, Huiqiang, Free boundary problems with volume constraints: Zero set of Sobolev functions.

Judice, Pedro, Dynamic asset pricing via conic duality.

Kim, Yongsam, The penalty immersed boundary method and its application to aerodynamics.

Lim, Ju Young, Pricing and hedging index options.

Loubet, Enrique, Genesis and extinction of solitons arising from individual flows of the Camassa-Holm hierarchy: The rise of a novel Darboux-like transform.

Miller, Laura, A computational study of flight in the smallest insects.

Mogultay, Itir, Modeling the atmospheric mixed layer.

Perez, Josi Antonio, Convergence of numerical schemes in the total variation sense.

Pignol, Ricardo, Energy transfer in systems with random forcing and nonlinear dissipation.

Plaza-Villegas, Ramon, On the stability of shock profiles.

Podesta, John, Some results concerning the MHD boundary conditions on the base of the solar corona.

Reznikoff, Maria, Rare events in finite and infinite dimensions.

Slastikov, Valeriy, Topics in micromagnetics.

Rensselaer Polytechnic Institute (5)

MATHEMATICAL SCIENCES

Basescu, Vasile, An analytic center cutting plane method in conic programming.

Bi, Jinbo, Support vector regression with applications in automated drug recovery.

Frank, Scott, Modeling nonlinear internal wave effects on broadband shallow water acoustics.

Outing, Donald, Parabolic equation methods for range dependent layered elastic media.

Renzi, Daniel, Interior elastodynamics inverse problems: Shear wave speed recovery in transient elastography using level set based inversion of arrival time.

State University of New York, Albany (3)

MATHEMATICS AND STATISTICS

Featherstonhaugh, Stephen, Abelian Hopf Galois structures on Galois field extensions of prime power order.

Kelley, Amy, Blaschke products, inner functions with finite spectrum and operators similar to a contraction.

Olsen, Darlene, The spectrum of Zd -actions in ergodic theory.

State University of New York, Binghamton (4)

MATHEMATICAL SCIENCES

Brown, Marlo, Detection of change-points in categorical data.

Donnelly, John, Properties of Richard Thompson's group F related to amenability.

Koban, Nicholas, Controlled topology invariants of translation actions.

Wang, Xueqin, The properties of the Theil-Sen estimator.

State University of New York, Buffalo (4)

MATHEMATICS

Chae, Hyungjik, Some results concerning polarized partition relations.

Chen, Qi, Integral TQFTs and periodic 3-manifolds.

Chen, Shr-jing, On nonlinear stability of spherically symmetric model of stellar dynamics under spherically symmetric perturbations.

Lo, Min-lin, Bargmann transform and windowed Fourier localization.

State University of New York, Stony Brook (15)

APPLIED MATHEMATICS AND STATISTICS

Baek, Songjoon, Variable selection for heteroscedastic data.

George, Erwin, A numerical study of Rayleigh-Taylor instability.

Greenwald, Lorraine, Performance of simulating annealing with generalized move generation.

Hsiang, Tien-Ruey, Geometric algorithms for controlling and analyzing swarms of robots and groups of aircraft.

- Ji, Fei*, Linkage analysis of a disease related trait using a pleiotropic analysis.
- Kang, Sun Jung*, Effects of errors in specification of genotypes of single nucleotide polymorphisms.
- Oh, Cheongeun*, Robust Bayesian variable selection.
- Panini, Radha*, Option pricing with Merlin transforms.
- Sztainberg, Marcello*, Algorithms for swarm robotics.
- Wang, Xuena*, Pattern detection and discrimination in MS based proteomic analysis.
- Weaver, Christina*, Effects of errors in specification of genotypes of single nucleotide polymorphism on the 2×3 test of independence.
- Yoo, Yun Joo*, Power study of likelihood based linkage statistics.

MATHEMATICS

- Behrstock, Jason*, Asymptotic geometry of the mapping class group and Teichmüller space.
- Craig, Gordon*, Dehn filling and asymptotically hyperbolic Einstein manifolds.
- Panafidin, Sergei*, Nevanlinna theory and Plucker identities.

Syracuse University (4)

MATHEMATICS

- John, Thomas*, Selection procedures for lognormal populations.
- Lee, Travis*, An extension of the Thom-Porteous formula to a certain class of coherent sheaves.
- Subramanian, Uma*, Biting convergence of null-Lagrangians.
- Zangor, Roxana*, Numerical methods for smooth, detectable image perturbations.

University of Rochester (4)

MATHEMATICS

- Felea, Raluca*, Composition of Fourier integral operators with fold and blow down singularities.
- Mustafaev, Zokhrab*, Some geometric inequalities in Minkowski spaces.
- Voloshina, Maria*, On the holomorph of a discrete group.
- Zhang, Yilian*, The one dimensional inverse problem and new integrable dynamical systems.

NORTH CAROLINA

Duke University (8)

MATHEMATICS

- Barnes, Andrew*, Electromagnetic scattering by three-dimensional periodic structures.
- Benes, Christian*, On some problems concerning planar random walks.
- Greer, John*, Fourth order diffusions for image processing.

- Hale, Christopher*, On calculations of leaky modes in photonic crystals.
- Karp, Robert*, D-branes on Calabi-Yau manifolds and II-stability in the derived category.
- Kesseler, Kevin*, Analysis of feedback-mediated dynamics in two coupled nephrons.
- Kozdron, Michael*, Simple random walk excursion measure in the plane.

STATISTICS AND DECISION SCIENCES

- Molina, German*, Bayesian stochastic computation, with application to model selection and inverse problems.

North Carolina State University, Raleigh (31)

MATHEMATICS

- Al-Ashhab, Samer*, The role of sh-Lie algebras in Lagrangian field theory.
- Attiogbe, Cyril*, On characterizing nilpotent Lie algebras by their multipliers.
- Chen, Guo*, Immersed interface method for the biharmonic equation on irregular domain and its applications.
- Daily, Marilyn*, L -structures on spaces of low dimension.
- Dometrius, Christopher*, Relationship between symmetric and skew-symmetric bilinear forms and involutions on $SL(N, K)$ and $SO(N, K, b)$.
- Drake, Kimberly*, Analysis of numerical methods for fault detection and model identification in linear systems with delays.
- Fowler, Kathleen*, Nonsmooth nonlinearities in applications from hydrology.
- Han, Chuan-Hsiang*, Singular perturbations on non-smooth boundary problems in finance.

- Hicks, Gregory*, Modeling and control of a snake-like serial-link structure.

- Kharebaua, Zviad*, Singular cochains and rational homotopy type.

- Lewis, Brian*, Optimal control and shape design: Theory and applications.

- Massad, Jordan*, Macroscopic models for shape memory alloy characterization and design.

- Nealis, James*, Model-based robust control designs for high performance magnetostrictive transducers.

- Seaton, Gerald*, The lattice of equivalence classes of closed sets and the Stone-Čech compactification.

- Weiman, Robert*, Granular flow models: Analysis and numerical simulations.

- Williams, Ellison Anne*, A formula for n -row Macdonald polynomials.

- Williams, Michael*, Nilpotent n -Lie algebras.

- Williams, Vicky*, Root multiplicities of the indefinite Kac-Moody algebras $HC_n(1)$.

- Zager, Michael*, Modeling the distribution and metabolism of the phytoestrogen genistein in rats.

STATISTICS

- Doi, Jimmy*, Comparison of exact unconditional methods for the difference of two binomial proportions.

- Gauvin, Jennifer*, Stepwise hypothesis testing with applications in pharmaceutical responses.

- Leon, Selene*, Semiparametric efficient estimation of treatment effect in a pretest-posttest study with missing data.

- McIntyre, Julie*, Density deconvolution with replicate measurements and auxiliary data.

- Morris, Richard*, Likelihood ratio tests for association with multiple disease susceptibility alleles genotyping errors or missing parental data.

- Mukhopadhyay, Pralay*, Exact test and exact confidence intervals for the ratio of two binomial proportions.

- Scholl, Elizabeth*, Molecular evolution and horizontal gene transfer in meloidogyne spp.

- Tang, Yongqiang*, Dirichlet process mixture models for Markov processes.

- Thompson, Denis*, Finding homologous genes with primers designed using evolutionary models.

- Wahed, Abdus*, Efficient estimation of the survival distribution and related quantities of treatment policies in two-stage randomization designs in clinical trials.

- Wang, Dazhe*, Frequentist and Bayesian analysis of random coefficient autoregressive models.

- Wu, Weiwei*, Estimating value at risk and the expected shortfall for heteroscedastic financial log returns: A two-stage method.

University of North Carolina, Chapel Hill (13)

BIostatistics

- Condon, Sean*, Spatial analysis of birth-weight and infant mortality.

- Hu, Jianhua*, Identifying differentially expressed genes, computing gene expression indexes and sample size in microarray experiments.

- Lee, Ji-Hyun*, Practical issues arising in clustered data: Modified GEE and goodness-of-fit test.

- Leu, Szu-Yun*, Non-homogeneous Poisson process models for genetic crossover interference.

- Pan, William*, Multilevel spatial and statistical analyses to examine the relationship between population and environment: A case study of Ecuadorian Amazon.

- Wang, Kai*, Designs for two-dimensional phase I trials in oncology.

- Wang, Xiaofei*, Semiparametric methods for biased sampling schemes in epidemiologic studies with auxiliary covariates.

Young, Mary, Generalized estimating equations (GEE) with design-based correlation structures for cluster-unit trials.

Zink, Richard, Correlated binary regression using orthogonalized residuals.

MATHEMATICS

DeCoste, Rachelle, Density of closed geodesics in a compact nilmanifold with Chevalley rational structure.

Lau, Stephen, Rapid evaluation of radiation boundary kernels for time-domain wave propagation on blackholes.

Stevens, Laura, KZ type equations, elliptic hypergeometric functions and elliptic Selberg integrals.

Vembar, Navin, Oriented matroid integer chains.

NORTH DAKOTA

North Dakota State University (1)

MATHEMATICS

Maney, Jack, On the boundary map and integral morphisms.

OHIO

Bowling Green State University (1)

MATHEMATICS AND STATISTICS

Sanqui, Jose (Joel), Characterization and statistical inference for the skew-normal distribution.

Case Western Reserve University (3)

STATISTICS

Charnigo, Richard, Testing homogeneity in finite mixtures and semi-local paradigm for wavelet denoising.

Ganocy, Steve, Estimation of problems from data with change points.

Wang, Bin, Estimation problems from biased sampling.

Kent State University (4)

MATHEMATICAL SCIENCES

Ghaim, Berhane, On the geometry of Banach space operators.

Kim, Sun-mi, Orthogonal polynomials, quadrature rules and linear algebra.

Shuibi, Abdallah, Numerical methods for large-scale ill-posed problems.

Sprague, Emily, Uniform integrability and related topics.

Ohio State University (16)

MATHEMATICS

Argesanu, George, Risk analysis and hedging in incomplete markets.

Boros, Dan, On L (squared)-homology of low dimensional buildings.

Han, Zhongxian, Actuarial modeling of extremal events using transformed generalized extreme value distribution and generalized Pareto distribution.

Iancu, Aniela Karina, Numerical methods for pricing basket options.

Lladser, Manuel, Asymptotic enumeration via singularity analysis.

Malyushitsky, Sergey, On Sylow 2-subgroups of finite simple groups of order up to 210.

Mendris, Robert, The link of suspension singularities and Zariski's conjecture.

Ott, Michael, Symplectic convexity theorems and applications to the structure theory of semisimple Lie groups.

Wang, Chian-Jen, On the existence of cuspidal distinguished representations of metaplectic groups.

Zhou, Xiangqian, Some excluded minor theorems of binary matroids.

STATISTICS

Biswas, Swati, On incorporating heterogeneity in linkage analysis.

Guha, Subharup, Benchmark estimation for Markov chain Monte Carlo samples.

Kelbick, Nicole, Detecting underlying emotional sensitivity in bereaved children via a multivariate normal mixture distribution.

Liu, Yufeng, Multicategory psi-learning and support vector machine.

Tang, Yuxiao, Inference on cross correlation with repeated measures data.

Wang, Qiang, Maximum likelihood estimation of phylogenetic trees with evolutionary parameters.

Ohio University (3)

MATHEMATICS

Dinh, Hai, On the structure and equivalence of codes over finite rings.

Er, Noyan, Rings characterized by direct sums of CS modules.

Voisei, Mircea, First-order necessary optimality conditions for nonlinear optimal control.

University of Cincinnati (2)

MATHEMATICAL SCIENCES

Wang, Guojun, Some Bayesian methods in the estimation of parameters in the measurement error models and crossover trial.

Yu, Weiming, Identification of coefficients in reaction-diffusion equations.

OKLAHOMA

Oklahoma State University (1)

MATHEMATICS

Cox, Jonathan, A presentation for the Chow ring $A^*(\overline{M}_{0,2}(p^1, 2))$.

University of Oklahoma (1)

MATHEMATICS

White, Jonathan, Using technology to facilitate visualization in multivariable calculus.

OREGON

Oregon State University (4)

MATHEMATICS

Bell, Andrea, Hilbert modular surfaces and uniformizing groups of Klein invariants.

Black, Wendy, Pseudo orbit shadowing.

Lin, Fusen, Numerical inversion of Laplace transforms by the trapezoidal type methods.

STATISTICS

Amer, Safaa, Neural network imputation: A new fashion or a good tool.

Portland State University (1)

MATHEMATICS AND STATISTICS

Blair, Steve, Describing undergraduates' reasoning within and across Euclidean, taxicab, and spherical geometries.

University of Oregon (1)

MATHEMATICS

Geer, Nathan, Link invariants, quantized superalgebras and the Kontsevich integral.

PENNSYLVANIA

Carnegie Mellon University (16)

MATHEMATICAL SCIENCES

Bocea, Marian, A Young measure approach to nonlinear membrane theory.

Kolesnikov, Alexei, Generalized amalgamation in simple theories and characterization of dependence in non-elementary classes.

Komarek, Paul, Logistic regression for data mining and high-dimensional classification.

Radu, Petronela, On semilinear wave equations.

Simic, Ksenija, Aspects of ergodic theory in subsystems of second-order arithmetic.

Sirbu, Mihai, A two-person game for pricing convertible bonds.

Trapp, Kathryn, A class of compatible discretizations with applications to div-curl systems.

Xu, Mingxin, Minimizing shortfall risk using duality approach—an application to partial hedging in incomplete markets.

STATISTICS

- Behseta, Sam*, Bayesian multiple curve fitting in the analysis of neuronal data.
Chen, Fang, A two-stage method for approximate spatial inferences by combining independent site-specific analysis.
Haviland, Amelia, Understanding gender and racial wage gaps among the highly educated.
Jang, Woncheol, Nonparametric density estimation and clustering with application to cosmology.
Lee, Pak Kuen Philip, The generalized lambda distribution applied to spot exchange rates.
Trottini, Mario, Decision models for data disclosure limitation.

- Tzeng, Jung-Ying*, Identification of mutations affecting liability to complex diseases by the analysis of haplotypes.
Zhang, Yangang, Hierarchical spatial models and Monte Carlo analysis of mine locations in robotic land-mine search.

Drexel University (1)

MATHEMATICS

- Kheyfets, Boris*, Some stochastic properties of random classical and Carlitz compositions.

Lehigh University (2)

MATHEMATICS

- Potocka, Katarzyna*, The number of summands in ν_1 -periodic homotopy groups of $SU(n)$.
Shimkus, Beth, Limit theory for functionals on random bipartite sets.

Pennsylvania State University (13)

MATHEMATICS

- Binns, Stephen*, The Medvedev and Muchnik lattices of Π_1^0 classes.
Chacon, Ben, Undecidability of the problem of distinguishing k -theory classes of the reduced group C^* -algebra for a finitely presented group.
Dogru, Filiz, Polygonal outer billiards in the hyperbolic plane.
Talitskaya, Anna, Partially hyperbolic phenomena in dynamical systems with discrete and continuous time.

STATISTICS

- Demirtas, Hakan*, Multiple imputation for nonignorable dropout using Bayesian pattern-mixture models.
Elmore, Ryan, Semiparametric analysis of finite mixture models with repeated measures.
Harel, Ofer, Strategies for data analysis with two types of missing values.
Liu, Jiawei, Robust fitting of multinomial models based on assessment of model building errors.

- McDermott, James*, Low-storage sequential methods for datamining and the analysis of massive datasets.
Ray, Surajit, Distance-based model-selection with application to the analysis of gene expression data.
Tan, Hensiong, Variance estimation with astronomical measurement errors.
Wang, Jiping, NPMLE in estimating the number of expressed genes using EST data while accounting for measurement error.
Wang, Lan, Testing in heteroscedastic ANOVA with large number of levels and in nonparametric ANCOVA.

Temple University (2)

MATHEMATICS

- Sun, Xinyu*, Computer-assisted and computer-generated research on combinatorial games and pattern-avoidance.
Yayenie, Omer, Hyperbolic convexity of a standard fundamental domain of a subgroup of the Hecke discrete groups.

University of Pennsylvania (14)

MATHEMATICS

- Aker, Kursat*, Higgs bundles on Del Pezzo fibrations.
Butler, Frederick, Cycle-counting q -rook theory and other generalizations of classical rook theory.
Chadha, Rohit, A formal analysis of exchange of digital signatures.
Gheorghiciuc, Irina, The subword complexity of finite and infinite binary words.
Khalid, Madeeha, $K3$ correspondences.
Magland, Jeremy, Discrete inverse scattering theory for NMR pulse design.
Parsley, R. Jason, The Biot-Savart operator and electrodynamics on bounded subdomains of the 3-sphere.
Shen, Junhao, Free probability, free entropy and generator problems for von Neumann algebras.
Song, Chunwei, Combinatorial theory of q, t -Schroder polynomials, parking functions and trees.

STATISTICS

- Levins, Mihails*, Variance estimation for nonparametric regression and its applications.
Li, Xuefeng, Infinitely divisible time series models.
Liu, Linxu, Semi-parametric and non-parametric models for survival data.
Shen, Haipeng, Nonparametric regression for problems involving lognormal distributions.
Venkataramani, Chandramouliswar, Random walk hypotheses and profitability of momentum based trading rules.

University of Pittsburgh (10)

MATHEMATICS

- Curtu, Rodica*, Waves and oscillations in model neuronal networks.
Guo, Yixin, Existence and stability of standing pulses in neural networks.
Heitmann, Noel, Subgrid stabilization of evolutionary diffusive transport problems.
Marsh, Andrew, Topology of function spaces.
Sahin, Niyazi, Derivation, analysis and testing of new near wall models for large eddy simulation.
Wisloski, Gregory, Some characterizations of generalized metric spaces using the diagonal.

STATISTICS

- Auh, Sungyoung*, Isotonic logistic discrimination.
Koyama, Tatsuki, A framework for design of two-state adaptive procedure.
Li, Yulin, Aging properties of mixture distributions.
Yothers, Gregory, Methodologies for identifying subsets of the population where two treatments differ.

RHODE ISLAND

Brown University (13)

APPLIED MATHEMATICS

- Amarasingham, Asohan*, Statistical methods for the assessment of temporal structure in the activity of the nervous system.
Chen, Qianying, Topics in spectral methods.
Li, Fengyan, On locally divergence-free discontinuous Galerkin methods.
Liu, Dong, Spectral element/force coupling method: Application to colloidal devices and self-assembled structures in 3D domains.
Lucor, Didier, Generalized polynomial chaos: Applications to random oscillators and flow-structure interactions.
Pai, Hui-Ming, A robust formulation of a multi-class queueing network control problem.
Wu, Wei, Statistical models of neural coding in motor cortex.
Xiu, Dongbin, Generalized (Wiener-Askey) polynomial chaos.

MATHEMATICS

- Christoforou, Cleopatra*, Hyperbolic systems of balance laws via vanishing viscosity.
Horozov, Ivan, Euler characteristics of arithmetic groups.
Karageorgis, Paschalis, Nonlinear waves with sign-changing potentials.

Leonard, Kathryn, Measuring shape space: ε -entropy, adaptive coding and two-dimensional shape.

Wang, Qingxue, Multiple polylogarithm motives and moduli spaces $\overline{M}_{0,n}$.

University of Rhode Island (2)

MATHEMATICS

Clark, Cathy Ann, Global behavior of nonlinear difference equations and systems.

Travers, Brian, Generalized whist tournaments and generalized whist frames.

SOUTH CAROLINA

Clemson University (5)

MATHEMATICAL SCIENCES

Farr, Jeffrey, Computing Gröbner bases, with applications to Padé approximation and algebraic coding theory.

Gorka, Artur, The random multi-directional method of feasible directions.

Ntasin, Louis, A posteriori error estimation and adaptive computation of viscoelastic fluid flow.

Rodrigues, Virginia, Multivariate polynomials: Irreducibility and Gröbner bases.

Waters, Lawrence, A parallel implementation of the Glowinski-Pironneau algorithm for the modified Stokes problem.

Medical University of South Carolina (2)

BIOMETRY AND EPIDEMIOLOGY

Khedouri, Christopher, Use of global tests for multiple outcomes with applications in psychiatry.

Sadler, Zara, An approach to estimating relative goodness of fit with application to the diagnostic interview schedule for selected ethnic groups in the US.

University of South Carolina, Columbia (5)

MATHEMATICS

Park, Kyungwon, Bivariate rational approximation and anisotropic Franklin bases.

Ryan, Pamela, Hardy-Sobolev spaces and Banach algebras on the unit ball of $C^{(n)}$.

STATISTICS

Bhargava, Parul, Confidence bound comparing two regression lines with control regression line.

Nitcheva, Daniela, Multiple comparisons in low-dose risk assessment with quantal response data.

Tomlinson, Meredith, Inference for accelerated test models based on failures or degradation data from cumulative damage processes.

TENNESSEE

University of Memphis (4)

MATHEMATICAL SCIENCES

Cutler, Jonathan, Extremal and algebraic graph theory.

Hubenko, Alice, Cliques, strong packing and cycle covers.

Kombe, Ismail, Linear and nonlinear parabolic partial differential equations with singular lower order term.

Liang, Yulan, Gene expression temporal patterns classification with hierarchical Bayesian neural networks and time lagged recurrent neural networks.

University of Tennessee (4)

MATHEMATICS

Battle, Laurie, Eigenvalue dependence on problem: Parameters for Stieltjes Sturm-Liouville problems.

Khanal, Harihar, Computational models of diffusion of second messengers in visual transduction.

Salinas, René, Modeling the effects of alternative harvesting strategies on the black bear population of the southern Appalachians.

Smith, Neal, Graph-theoretic properties of the zero-divisor graph of a ring.

Vanderbilt University (3)

MATHEMATICS

Alewine, John Alan, An inductive unit topology on the Denjoy space.

Jennings, Dana Lynn Gaston, Separating cycles in triangulations of the double torus.

Stephens, David Christopher, The nonorientable genus of the complete tripartite graph.

TEXAS

Baylor University (6)

MATHEMATICS

Singh, Parmjeet, Existence of positive solutions to singular boundary value problems.

STATISTICAL SCIENCE

Boese, Doyle, Likelihood-based confidence intervals for proportion parameters with binary data subject to misclassification.

Elsalloukh, Hassan, The epsilon-skew-exponential power distribution.

Guardiola, Jose, The semicircular normal distribution.

Maddox, Amy, Regression effect models.

Young, Marsha, Contributions to the theory of quadratic forms and generalized quadratic forms in normal random matrices.

Rice University (11)

COMPUTATIONAL AND APPLIED MATHEMATICS

Husband, Christopher, Stochastic optimization applications in molecular electronics.

Li, Ming, New algorithms of pathwidth computation.

Redl, Timothy, A study of university timetabling that blends graph coloring with the satisfaction of various essential and preferential conditions.

Wang, Zhen, A generalized trust region SQP algorithm for equality constrained optimization.

MATHEMATICS

Gwosdz-Gee, Carol, Strong S -equivalence of ordered links.

Heap, Aaron, Bordism invariants of the mapping class group.

Huang, Zheng, Harmonic maps and the geometry of Teichmüller space.

Leidy, Constance, Higher-order linking forms.

STATISTICS

Ghebremichael, Musie, Nonparametric estimation of bivariate mean residual life function.

Sung, Hsi-Guang, Gaussian mixture regression and classification.

Swartz, Michael, Stochastic search gene suggestion: Hierarchical Bayesian model selection meets gene mapping.

Southern Methodist University (5)

MATHEMATICS

Li, Baoyan, A control volume function approximation method and reservoir simulation with flexible grids.

STATISTICAL SCIENCE

Cohlma, Krista, Filtering M -stationary processes.

Jiang, Huiping, Time-frequency analysis $Q(\lambda)$ stationary process.

Shen, Shuyi, Minimum L_2 estimation for Poisson mixtures.

Spence, Jeffrey, A spatial analysis of SPECT brain imaging data: Optimal predictions in regions of interest.

Texas A&M University (15)

MATHEMATICS

Choi, Woonjung, The existence of metrics of nonpositive curvature on the Brady-Krammer complexes for finite-type Artin groups.

Coskun, Hasan, The BC_n Bailey lemma and generalizations of Rogers-Ramanujan identities.

Ginting, Victor, Upscaled modeling in porous media flow utilizing finite volume method.

Husain, Ali-Amir, On the cohomology of operator algebras.

Khalmanova, Dinara, Productivity index as an integral characteristic of diffusion processes.

Kim, Mijoung, The D -Neumann operator and the Kobayashi metric.

Le Gia, Quoc, Approximation of linear partial differential equations on spheres.

STATISTICS

Boucher, Thomas, V -uniform ergodicity of threshold autoregressive nonlinear time series.

Guan, Yongtao, Nonparametric methods of assessing spatial isotropy.

Holan, Scott, Time series exponential models: Theory and methods.

Lee, Kyeong Eun, Bayesian models for DNA microarray data analysis.

Lee, Sang-Joon, Asymptotics and computations for approximation of method of regularization estimators.

Park, Chun Gun, MCMC methods for wavelet representations in single index models.

Yu, Jihnhee, Approaches to the multivariate random variables associated with stochastic processes.

Zhao, Caixia, One-sided cross-validation for a model motivated by variable star data.

Texas Tech University (6)

MATHEMATICS AND STATISTICS

Emmert, Keith, Deterministic and stochastic discrete-time epidemic models with applications to amphibians.

Lee, Eun-Joo, Estimating linear functionals of indirectly observed input functions.

Lee, Seung-Hwan, Checking the censored two-sample accelerated life model using integrated cumulative hazard difference.

Navaratna, Channa, Estimation of the origin of contaminant particles using point measurements in a fluid flow.

Omolo, Bernard, Aligned rank test for repeated observation models with orthonormal design.

Perera, Pantaleon, Asymptotic feedback controllability and topological structure of controllable linear switched systems.

University of Houston (4)

MATHEMATICS

Ahmed-Zaid, Abdelnour, Boundary stabilization of wave equation type models: A numerical approach.

Holmes, Roderick, Optimal frames.

Kaneda, Masayoshi, Multipliers and algebraizations of operator spaces.

Yi, Eunjeong, Nevanlinna theory and iteration of rational maps.

University of North Texas (4)

MATHEMATICS

Bahreini, Manneh, Complemented subspaces of bounded linear operators.

Boykin, Charles, The study of translation equivalence on integer lattices.

Ghenciu, Ioana, Spaces of compact operators.

Muller, Kimberly, Polish spaces and analytic sets.

University of Texas, Arlington (4)

MATHEMATICS

Kadjo, Hilaire, Age structured population model: Interaction between nutrients and phytoplankton.

Luo, Sheng, A multigrid method for 2-D MGD flow control analysis.

Nguyen, Vinh, Regression model with explanatory variable subject to asymmetric measurement errors.

Sohaee, Nassim, Upward embedding of digraphs on the surfaces.

University of Texas, Austin (7)

COMPUTATIONAL AND APPLIED MATHEMATICS

Aizinger, Vadym, A discontinuous Galerkin method for two and three-dimensional shallow-water equations.

Carnes, Brian Ross, Adaptive finite elements for nonlinear transport equations.

Pardo, David, Integration of hp -adaptivity with a two grid solver: Applications to electromagnetics.

Sun, Shuyu, Discontinuous Galerkin method for reactive transport in porous media.

MATHEMATICS

Goodman, Noah, Contact structures and open books.

Pacetti, Ariel, A formula for the central value of certain Hecke L -functions.

Petsche, Clayton, The distribution of Galois orbits of low heights.

University of Texas, Dallas (3)

MATHEMATICAL SCIENCES

Schmegner, Claudia, Decision theoretic results for sequentially planned procedures.

Seida, David Lee, Estimation of attitude parameters from variation in image overlap.

Wang, Jin, On nonparametric multivariate scale, kurtosis, and tailweight measures.

UTAH

University of Utah (5)

MATHEMATICS

Guy, Robert, A continuum model of platelet aggregation: Closure, computational methods and simulation.

Kohler, Brynja, T-lymphocyte population dynamics in health and auto immunity.

Lukic, Denis, Twisted Harish-Chandra sheaves and Whittaker modules.

Piepmeyer, Gregory, Constructing perfect complexes with given intersection properties.

Robbins, Thomas, Seed dispersal and biological invasion: A mathematical analysis.

Utah State University (2)

MATHEMATICS AND STATISTICS

Biesecker, Matthew, Geometric studies in hyperbolic systems in the plane.

Zhu, Zewen, Optimal experimental designs with correlated observations.

VIRGINIA

College of William and Mary (1)

MATHEMATICS, APPLIED SCIENCE

Milligan, Thomas, On certain sets of matrices: Euclidean squared distance matrices, ray-nonsingular matrices, and matrices generated by reflections.

Old Dominion University (4)

MATHEMATICS AND STATISTICS

Feldman, Gary, A forward-backward fluence model for the low-energy neutron Boltzmann equation.

Novapruteep, Boriboon, Superconvergence of iterated solutions for linear and nonlinear integral equations: Wavelet applications.

Plungpongpun, Kusaya, Analysis of multivariate data using Kotz type distribution.

Shi, Genming, Estimation of parameters in replicated time series regression models.

University of Virginia (7)

MATHEMATICS

Bhattacharya, Chirashree, Free groups and their automorphisms.

Carley, Holly, The strong-coupling limit for the ground state of a particle harmonic oscillator interaction.

Guadagni, Gianluca, Renormalization group for a lattice system.

Meehan, Melissa, Detection of symplectic commutator subgroups.

STATISTICS

Betcher, Joshua, Statistical inference under order restrictions with applications.

Buot, Max Louis, Applications of genetic algorithms in maximum likelihood estimation.

Tomita, Yuji, On properties of multivariate mixture vector autoregressive models.

Virginia Commonwealth University (5)

BIostatISTICS

Campbell, Leanne, Futility analysis with covariables.

Eckel, Jeanette, Statistical analyses of time-course and dose-response microarray experiments.

Hamm, Adam, Analysis of an interaction threshold in drug/chemical mixtures.

Massie, Tammy, Testing genetic hypothesis on bivariate dichotomous twin data using repeated measures logistic regression.

Rutledge, Brandy, A comparison of twin methods when the liability is non-normal.

Virginia Polytechnic Institute and State University (10)

MATHEMATICS

Buterakos, Lewis, The exit time distribution for small random perturbations of dynamical systems with a repulsive type stationary point.

Camp, Brian, A class of immersed finite element spaces and their application to forward and inverse interface problems.

Evans, Katie, Reduced order controllers for distributed parameter systems.

Forcey, Stefan, Loop spaces and iterated higher dimensional enrichment.

Garcia-Puente, Luis, Algebraic geometry of Bayesian networks.

Gillespie, Jason, A combinatorial proof of the positivity of Lusztig's q -analogue of weight multiplicity for rank 1 Lie algebras.

Nguyen, Hoan, Volterra systems with realizable kernels.

Rai, Tapan, Infinite Gröbner bases and non-commutative polly cracker cryptosystems.

Vugrin, Eric, On approximation and optimal control of non-normal distributed parameter systems.

STATISTICS

Kim, Keun Pyo, Process monitoring with multivariate data: Varying sample sizes and linear profiles.

WASHINGTON

University of Washington (13)

APPLIED MATHEMATICS

Hsu, Viktoria R.T., Ion transport through biological cell membranes: From electrodiffusion to Hodgkin-Huxley via a quasi steady-state approach.

MATHEMATICS

Chen, Jein-Shan, Merit functions and nonsmooth functions for the second-order cone complementarity problem.

Hahn, Rebekah, $K(1)$ -local Iwasawa theory.

Hladky, Robert, Boundary regularity of the Neumann problem for the Kohn Laplacian on the Heisenberg group.

Kim, Panki, Potential theory for stable processes.

Maxwell, David, Initial data for black holes and rough spacetimes.

Ramaseshan, Karthik, Microlocal analysis of the Doppler transform on R^3 .

van Opstall, Michael, Some stable degenerations and applications to moduli.

STATISTICS

Anderson, Amy Dawn, The genetic structure of related recombinant lines.

Balabdaoui, Fadoua, Nonparametric estimation of a k -monotone density: A new asymptotic distribution theory.

Drton, Mathias, Maximum likelihood estimation in Gaussian AMP chain graph models and Gaussian ancestral graph models.

Sieberts, Solveig Kara, Joint relationship inference from three or more individuals in the presence of genotyping error.

Sugar, Elizabeth Ann, Personal characteristics and covariate measurement error in disease risk estimation.

Washington State University (3)

MATHEMATICS

Edmeade, Dean Emmanuel, Nonlinear stability analysis of hexagonal optical pattern formation in an atomic sodium vapor ring cavity.

Mapes, Eric, Analytic and numerical solutions of framework models.

Rajapakse, Indika, A mathematical model for neuronal groups.

WEST VIRGINIA

West Virginia University (3)

MATHEMATICS

Wang, Yi, Fast wavelet collocation methods for second kind integral equations on polygons.

Xu, Rui, On flows of graphs.

Zhan, Mingquan, Eulerian subgraphs and Hamiltonicity of claw-free graphs.

WISCONSIN

Marquette University (1)

MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Oliveira, Luis, Varieties of pseudosemi-lattices.

Medical College of Wisconsin (1)

BIostatISTICS

Bajorunaite, Ruta, Comparison of failure probabilities in the presence of competing risks.

University of Wisconsin, Madison (25)

MATHEMATICS

Chakrabarti, Manish, Representations of modular and quantum Weyl algebras and of generalized Heisenberg algebras.

Cho, Cheol-Hyun, Holomorphic discs, spin structures and Floer cohomology of the Clifford torus.

de Sousa Dias Lopes, Samuel, On the structure and representation theory of the quantized enveloping algebra $U_q(\mathfrak{g})^+$, for \mathfrak{g} semisimple.

Lau, Michael, Fock representations and central extensions.

Lee, Youngsuk, Anisotropic energy transfer in beta-plane and rotating flows.

Ondrus, Matthew, Whittaker modules, central characters, and tensor products for quantum enveloping algebras.

Thiem, F. Nathaniel, Unipotent Hecke algebras: The structure, representations, and combinatorics.

Unlu, Ozgun, Constructions of free group actions on products of spheres.

Velikina, Julia, Twisting transform and replicable functions.

STATISTICS

Ahn, Hongyup, Restricted likelihood ratio tests for fixed effects in mixed effects models.

Cheng, Bin, Some hypothesis testing results for two-way linear models in clinical trials.

Dahl, David, Conjugate Dirichlet process mixture models: Efficient sampling, gene expression and clustering.

Debroy, Saikat, Computational methods for mixed-effects models.

Gross, Kevin, The aphid, the wasp, and the matrix: Aspects of modeling host-parasitoid and single-species dynamics.

Hong, Quan, A pseudo empirical likelihood approach to nonignorable nonresponse.

Doctoral Degrees Conferred

Ji, Yuan, On Bayesian modeling and design for microarray gene expression data.

Jin, Chunfang, Contributions to the design and analysis of quantitative trait loci experiments.

Lee, Yoonjung, Two essays on modeling financial markets as complex and interactive systems.

Leng, Chenlei, Some problems in model selection.

Li, Liang, Modeling the measurement error of apnea-hypopnea index.

Li, Ruoqia, Some new multivariate quality monitoring procedures.

Ma, Shuangge, Penalized M -estimation for partly linear transformation models with current status data.

Todem, David, Latent-structured regression modeling for longitudinal multivariate ordinal 1 count data.

Yan, Jun, Functional regression models and temporal processes.

Yuan, Ming, Automatic smoothing and variable selection via regularization.