Doctoral Degrees Conferrred

2014–2015

ALABAMA

Auburn University (13)

Department of Mathematics and Statistics

Bao, Feng, Efficient numerical algorithms for solving nonlinear filtering problems

Bragan, Kelly, Topics in edge-regular graphs

Brauss, Daniel, Implementation of a finite element method for the velocity-current magnetohydrodynamics equations

Brice, Daniel, On derivations of parabolic subalgebras of reductive Lie algebras

Chaffee, Joseph, 3-cycle systems and structure within graph decompositions

Chase, Timothy, Applications of limited information strategies for topological games

Erzurumluoglu, Araz, Fair factorizations and fair holey factorizations with two associate classes and prescribed regularity

Hammer, James, Factor pair Latin squares

Nguelifack, Brice, Generalized signed-rank estimator for nonlinear models with multidimensional indices and two-phase linear models

Rawal, Nar, Principal eigenvalue theory for time periodic nonlocal dispersal operations and applications

Tadesse, Dawit, High-dimensional classification methods for sparse data and their applications in text and data mining

Xie, Xiaoxia, Nonlocal dispersal equations and convergence to random dispersal equations

University of Alabama (6)

Department of Mathematics

Banjade, Debendra, Wolff’s ideal problem in the multiplier algebra on Dirichlet space

Duong, Nguyen, Twisting bordered Khovanov homology

Shahmarov, Rishad, Linear and nonlinear Rayleigh-Bénard convection in absence of horizontal boundaries

Song, Yuanyuan, Stability analysis of a bilayer coating a cylindrical tube

Tian, Wufeng, Fast alternating direction implicit schemes for geometric flow equations and nonlinear Poisson equations in biomeolecular solvation analysis

Ying, Mengyi, Interval method for special constrained global optimization problems

University of Alabama at Birmingham (10)

Department of Biostatistics

George, Brandon, A spatiotemporal model for repeated imaging data

Li, Peng, The small sample inferences of cluster-randomized trials

Loop, Matthew, Spatial analysis of hypertension prevalence using a large US cohort

Merrill, Peter, Non-compliance in clinical trials: The perils of statistical methods

Ranjian, Ashutosh, Power issues and internal pilot design in cluster-randomized trials with unequal cluster sizes

Salter, Amber, Practical extensions of the continual reassessment method

Tripathi, Arvind, Count models with multiple inflations

Wang, Guoqiao, An evaluation of sample size re-estimation adaptive designs and delayed-start designs for Alzheimer’s disease

Department of Mathematics

Fadl, Allah, Alzaki, Elliptic equations and systems with nonlinear boundary conditions

Muthoka, Terrence, American options and semilinear parabolic partial differential equations in weighted Sobolev spaces

University of Alabama–Huntsville (1)

Department of Mathematical Sciences

Albashaireh, Reem, Traveling wave solutions of a chemotaxis model: Existence and stability

ARIZONA

Arizona State University (11)

Mathematics, Computational and Modeling Sciences

Bliss, Nadya, Statistical signal processing for graphs

School of Mathematical and Statistical Sciences

Alvarez, Roberto, A two-strain spatiotemporal mathematical model of cancer with free boundary condition

Everett, Rebecca, Applications of the Droop cell quota model to data based cancer growth and treatment models

Holeva, Thomas, A kinetic approach to anomalous diffusion in biological trapping regions

Packer, Aaron, Cell quota based population models and their applications

Peace, Angela, Stoichiometric producer-grazer models incorporating the effects of excess food-nutrient content on grazer dynamics

Robinson, Benjamin, Operator-valued frames associated with measure spaces

Tenkit, M’hamed, Experimental designs for generalized linear models and functional magnetic resonance imaging

Wang, Ran, On choosability and paintability of graphs

Zhou, Yuqin, Mathematical and statistical insights in evaluating state dependent effectiveness of HIV prevention interventions

Zinzer, Scott, One- and two-variable p-adic measures in Iwasawa theory

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2014, to June 30, 2015) reported in the 2016 Annual Survey of the Mathematical Sciences by 197 departments in 143 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.
University of Arizona (15)

DEPARTMENT OF MATHEMATICS

Blackburn, Chantel, Mathematics according to whom? Two elementary teachers and their encounters with the mathematical horizon

Hinkel, Dustin, Constructing simultaneous Diophantine approximations of certain cubic numbers

Jiang, Jiaping, Random walks and their scaling limits

Lafferty, Matthew, Eichler-Shimura cohomology groups and the Iwasawa main conjecture

Malenschein, Thomas, Desingularizing the boundary of the moduli space of genus one stable quotients

Powell, Kevin, Modular symbols modulo Eisenstein ideals for Bianchi spaces

Prasad, Priya, Connection, motivation, and alignment: Exploring the effects of content-based mathematics professional development

Todd, George, Linear relations between multizeta values

Waters, Patrick, Combinatorics of the Hermitian 1-matrix model

PROGRAM IN APPLIED MATHEMATICS

Birell, Jeremiah, Non-equilibrium aspects of relic neutrinos: From freeze-out to the present day

McDaniel, Austin, The effects of time delay on noisy systems

Rosenthal, William Steven, Data assimilation in systems with strong signal features

Whalen, Patrick, Full field propagation models and methods for extreme nonlinear optics

STATISTICS GIDP

Kim, Hyeonju, Probabilities of ruin in economics and insurance under light- and heavy-tailed distributions

Sohn, Michael, Novel computational and statistical approaches in metagenomic studies

ARKANSAS

University of Arkansas at Fayetteville (1)

DEPARTMENT OF MATHEMATICAL SCIENCES

Wanjohi, Richard, Online detection of outliers and structural breaks using sequential Monte Carlo Methods

CALIFORNIA

California Institute of Technology (9)

DEPARTMENT OF COMPUTING AND MATHEMATICAL SCIENCES

Cubillos, Max, General-domain compressible Navier-Stokes solvers exhibiting quasi-unconditional stability and high-order accuracy in space and time

Mason, Gemma, Full and model-reduced structure-preserving simulation of incompressible fluids

DEPARTMENT OF MATHEMATICS

Chiriac, Liaibominir, Special Frobenius traces in Galois representations

Dawra, Nakul, On the link Floer homology of L-space links

Elliot, Ross, Topological strings, double affine Hecke algebras, and exceptional knot homology

Fan, Sin Tsun Edward, On the construction of higher etale regulators

Kasatkin, Victor, Some constructions related to noncommutative tori, Fredholm modules and the Bellinson-Bloch regulator

Linghu, Daiqi, Chains of non-regular de Branges spaces

Skinner, Brian, Logarithmic potential theory on Riemann surfaces

Claremont Graduate University (10)

INSTITUTE OF MATHEMATICAL SCIENCES

Hallett, Melodie, Novel random forest and variable importance methods for correlated survival data, with applications to tooth prognosis

Heckman, David, Variations on Markov chain Monte Carlo Methods: Continuous and discrete optimization of scheduling problems

Liu, Zheng, A bond option pricing formula in the extended CIR model

Lyons, Daniel, Dynamics and bifurcations in coupled bistable systems with applications to engineering devices

Najera Chesler, Aisha, Non-linear analysis and modeling of FHR and ECOG: Predicting fetal distress in labor

Sanchez, Eduardo, Mimetic finite differences and parallel computing to simulate carbon dioxide subsurface mass transport

Suarez Solano, Jean, Regularization of singular sources for PStC computations of particle-laden flows with shocks

Sun, Xun, On the geometry of cyclic and permutation invariant lattices

Wang, Wei, Boosting performance and endurance of flash-based storage systems: From embedded systems to enterprise servers

Xu, Shujing, Effects of history and lift force on particle trajectories in oscillatory rotating fluids

Naval Postgraduate School (1)

DEPARTMENT OF APPLIED MATHEMATICS

Boucher, Randy, Galerkin optimal control

Stanford University (10)

DEPARTMENT OF MATHEMATICS

Bernstein, Megan Maria, Random walks on the symmetric group, likelihood orders, and involutions

Henderson, Christopher Kling, Propagation phenomena in reaction advection diffusion equations

Katzelson, Vitaly, Diffraction of elastic waves by edges

Kim, Seung Ki, On the shape of a high dimensional random lattice

Lin, Yuncheng, On higher q, t Catalan numbers

Pang, Chung Yin Amy, Hopf algebras and Markov chains

Pardon, John Vincent, A new construction of virtual fundamental cycles in symplectic geometry

Sapir, Jenya Markovna, Non-simple geodesics on surfaces

Shao, Xuancheng, Dichotomy between structure and randomness in combinatorial number theory

Yang, Haizhao, Oscillatory data analysis and fast algorithms for integral operators

University of California, Berkeley (38)

DEPARTMENT OF MATHEMATICS

Achinger, Piotr, K(π,1) spaces in algebraic geometry

Beal, Khalliah, Viscosity solution methods in risk analysis

Berger, Emily, Probabilistic methods for single individual haplotype reconstruction

Chih, Ellen, Indivisible characteristics of recursively enumerable sets

Galkowski, Jeffrey, Distribution of resonances in scattering by thin barriers

Haberman, Boaz, Inverse problems with rough data

Harris, Kelley, Inference of population history and mutation biology from human genetic variation

Harrop Griffiths, Benjamin, Quasilinear dynamics of KdV-type equations

Hilaire, Christian, The Ricci flow on Riemannian groupoids

Honigs, Katrina, Derived equivalent varieties and their zeta functions

Jin, Long, Scattering resources for convex obstacles

Jin, Xin, Symplectic approaches in geometric representation theory

Kalman, Adam, Newton polytopes of cluster variables

Lanoue, Daniel, The metric coalescent

Lee, Heather, Homological mirror symmetry for open Riemann surfaces from pair-of-pants decompositions

Merberg, Adam, Noncommutative generalized Brownian motions with multiple processes

Morrison, Ralph, Tropical and non-Archimedean curves

Pejic, Michael, Quantum Bayesian networks with application to problems displaying Parrondo’s paradox

Peterson, Eric, Cotangent spectra and the determinantal sphere

August 2016

NOTICES OF THE AMS 791
Preskill, Benjamin, The jump splice method for elliptic interface problems and the incompressible Navier-Stokes equations
Rosen, Zvi, Algebraic matroids in applications
Sylvan, Zachary, On partially warped Fukaya categories
Tsou, Benjamin, Eigenvalue distributions of symmetric group representations
Vu, Thanh, Combinatorial patterns in syzygies
Wang, Luming, Discontinuous Galerkin methods on moving domains with large deformations
Wayman, Eric, A skew-product decomposition on a manifold equipped with a group action, a Lorentz model with variable density in a conservative force field, and reconstruction of a manifold from the intrinsic metric of an associated Markov chain
Zhang, Te, Weak convergence and rapidly oscillating pendula

Department of Statistics
Broderick, Tamara, Clusters and features from combinatorial stochastic processes
Li, Hongwei, Theoretical analysis and efficient algorithms for crowdsourcing
Lopes, Miles, Some inference problems in high-dimensional linear models
Racz, Miklos, Influences in voting and growing networks
Ruddy, Sean, Shrinkage of dispersion parameters in the double exponential family of distributions, with applications to genomic sequencing

Department of Biostatistics
Balzer, Laura, Design and analysis of cluster randomized trials with application to HIV prevention and treatment
Boley, Nathan, Methods for the analysis of high throughput sequencing data
LeDell, Erin, Scalable ensemble learning and computationally efficient variance estimation
Lendle, Samuel, Targeted minimum loss based estimation: Applications and extensions in causal inference and big data
Sylvan, Zachary, On partially warped Fukaya categories
Tsou, Benjamin, Eigenvalue distributions of symmetric group representations
Vu, Thanh, Combinatorial patterns in syzygies
Wayman, Eric, A skew-product decomposition on a manifold equipped with a group action, a Lorentz model with variable density in a conservative force field, and reconstruction of a manifold from the intrinsic metric of an associated Markov chain
Zhang, Te, Weak convergence and rapidly oscillating pendula

University of California, Los Angeles (33)

Department of Biostatistics, Fielding School of Public Health
Boren, David, Agent-based modeling for HIV prevention
Fischer, HeidiJean, Statistical methods for ultrafine particle distributions
Harrell, Lauren, Analysis strategies for planned missing data in health sciences and education research
Konikoff, Jacob, Cross-sectional HIV incidence estimation: Techniques and challenges
Qiu, Jiaheng, Finding optimal experimental designs for models in biomedical studies via particle swarm
Rizzo Varela, Shenra, Uncertainty in meta-analysis: Bridging the divide between ideal and available extracted data

Department of Mathematics
Benatar, Jacques, The existence of small prime gaps in subsets of the integers
Blaskar, Siddharth, Recursion versus tail recursion over abstract structures
Burungale, Ashay, On the non-triviality of arithmetic invariants modulo \( p \)
Davis, Damek, On the design and analysis of operator-splitting schemes
Denomme, Robert, Character formulas for 2-Lie algebras
Feldman, William, Asymptotic behavior of nonlinear PDE: Dynamic stability of a droplet model and boundary data homogenization
Gan, Wenying, Several problems in extremal combinatorics
Guan, Feng, Affine structure on the Teichmüller spaces and period maps for Calabi-Yau manifolds
Hachtman, Sherwood, Calibrating determinacy strength in Borel hierarchies
Hu, Huiyi, Graph based models for unsupervised high dimensional data clustering and network analysis
Kim, Sunajin, Average of the first invariable factor of the reductions of the Abelian varieties of CM type
Krause, Benjamin, Some results in pointwise ergodic theory
Leary, Brian, On maximal amenable subalgebras of amalgamated free product von Neumann algebras
Liu, Yajing, Applications of the link surgery formula in Heegaard Floer homology
Mackey, Alan, Part I: Steady states in two-species particle aggregation; Part II: Sparse representations for multiscale PDE
Malyshhev, Anton, Combinatorics of finitely generated groups
Merkurjev, Ekaterina, Variational and PDE-based methods for big data analysis, classification and image processing using graphs
Miner, Samuel, Limit shapes of restricted permutations
Nelson, Brent, Non-tracial free transport and applications
O’Connor, Daniel, Primal-dual decomposition by operator splitting and applications to image deblurring
Radke, Eric, Net weighting methods and other novel approaches in variation-aware placement and sizing
Rajagopalan, Anand, Outlier eigenvalue fluctuations of perturbed iid matrices
Scaduto, Christopher, Instantons and odd Khovanov homology
Walsberg, Erik, Metric geometry in a tame setting
Wang, Yuting, Virtual node algorithms for simulating and cutting deformable solids
Xu, Samantha, Hamiltonian systems and Gibbs measures
Zipkin, Joseph, Mathematical models and methods for behavior in social networks: Urban crime, self-exciting interactions, and information spread

University of California, Riverside (9)

Department of Mathematics
Lunde, Mathew, Self-extensions and prime factorizations of representations of quantum affine algebras
Park, Jason, Random measure algebras under convolution
Safii, Sohell, Equivariant and isovariant function spaces
Thistlethwaite, Oliver, Seiberg-Witten invariants, Alexander polynomials, and fibred classes
Wand, Jeffrey, Demazure flags of local Weyl modules
West, Jacob, Higher Auslander-Reiten theory

Department of Statistics
Crackel, Roberto, Likelihood free inference for a flexible class of bivariate beta distributions
Xiao, Zhen, Parameter estimation in differential equation based models
Zheng, Zongpeng (Patrick), Projection, search, and optimality in factorial experiments

University of California, San Diego (15)

Department of Mathematics
Cheng, Shi, Analysis and numerical treatment of elliptic equations with stochastic data
Compeau, Phillip, Scalable online algorithmic biology education and DCJ-Indel sorting
Deotte, Chris, Domain partitioning methods for elliptic partial differential equations
Hennig, Johanna, Locally finite dimensional Lie algebras
Kasa, Michael, Toward Gromov-Witten invariants relatively coherent logarithmic schemes
Kempton, Mark, High dimensional spectral graph theory and non-backtracking random walks on graphs
Loube Tiefenbruck, Janine, Combinatorial properties of quasi-symmetric Schur functions and generalized Demazure atoms
Louie, Janelle, Classification of convex ancient solutions to curve shortening flow on the sphere
Meng, Wang, On the detection of sparse mixtures
Parks, Helen, Structural approaches to large-scale systems: Variational integrators for interconnected Lagrange-Dirac systems and structured model reduction on Lie groups
Shustrova, Anna, Primal-dual interior methods for quadratic programming
Tiee, Christopher, Computation and visualization of geometric partial differential equations
Wen, Jiayi, Mathematical modeling and computational methods for electrostatic interactions with applications to biological molecules
Wilson, Andrew, Generalized shuffle conjectures for the Garsia-Haiman delta operator
Zimmermann, David, Logarithmic Sobolev inequalities for Gaussian convolutions of compactly supported measures

University of California, Santa Barbara (14)

Department of Mathematics
Ackermann, Robert, On pseudo-Anosov maps, symplectic, Perron-Frobenius matrices, and compression bodies
Chapman, Kyle, An ergodic algorithm for sampling equilateral knots with thickness
Jonov, Boyan, Longtime behavior of small solutions to viscous perturbations of nonlinear hyperbolic systems in 3-D
Leyton, Arielle, Limits under conjugacy of the diagonal Cartan group in $SL_n(\mathbb{R})$
Leyton Chisholm, Elizabeth, Braid groups and Euclidean simplices
Ream, Robert, Index estimates and existence of minimal surfaces in manifolds with controlled curvature
Salazar, Daniel, Modeling and computation of immersed, flexible boundaries in complex fluids

Department of Statistics and Applied Probability
Chiu, Chi-Yang, Nonparametric mixed-effects density regression
Fahham Saporito, Yuri, Topics on functional Itô calculus and multiscale stochastic volatility modeling

Hancock, David, Investigating optimal investment problems for portfolios of cointegrated assets, with transaction costs
Lin, Junjing, Some contributions to non-parametric Bayesian methods
Lu, Chunsiang, Stochastic filtering problem with financial application to high frequency trading
Sheinson, Michael, Sequential Monte Carlo methods: Applications to disease surveillance and fMRI data
Swenson, Julianne, Contributions to Bayesian statistics vector autoregressive time series, instrumental variables, recommendation systems

University of California, Santa Cruz (10)

Applied Mathematics and Statistics
Chesi, Simone, Attitude control of nanosatellite using shifting masses
DeYoreo, Maria, A Bayesian framework for fully nonparametric ordinal regression
Phelps, Christopher, Computational optimal control of nonlinear systems with parameter uncertainty
Richardson, Robert, Flexible integrodifferential equations for Bayesian modeling of spatio-temporal data
Walton, Claire, The design and implementation of motion planning problems given parameter uncertainty
Xiao, Sai, Bayesian non-parametric modeling for some classes of temporal point processes

Department of Mathematics
Goren, Yusuf, Counting periodic orbits: Conley conjecture for Lagrangian correspondences and resonance relations for closed Reeb orbits
Owen, Mitchell, Families of half-integer weight Eisenstein series
Tabing, Felicia, String homology and Lie algebra structures
Yuan, Wei, The geometry of vacuum static space and deformations of scalar curvature

University of Southern California (12)

Department of Mathematics
Bessam, Diogo, Large deviations rates in a Gaussian setting and related topics
Daley, Timothy, Non-parametric models for large capture-recapture experiments with applications to DNA sequencing
Ekren, Ibrahim, Path-dependent partial differential equations and related topics
Iskak, Umit, Concentration inequalities with couplings from Stein’s method
Newman, Burton, Growth of torsion in quadratic extensions of quadratic cyclotomic fields
Pei, Yuan, Certain regularity problems in fluid dynamics
Sokolov, Grigory, Multi-population optimal change-point detection
Tian, Yin, Categorification of $\text{st}(1,1)$ via contact topology
Timmer, Joseph, Frobenius-Schur indicators of Hopf algebras arising from factorizations of the symmetric group
Warner, Harry Jared, Springer isomorphisms and the variety of elementary subalgebras
Zheng, Zemin, Feature selection and interaction screening in high-dimensional modeling
Zhao, Jia, Probabilistic numerical methods for fully nonlinear PDEs and related topics

COLORADO

Colorado School of Mines (2)

Department of Applied Mathematics and Statistics
Nealy, Jennifer, A study of normal mode solutions for seismo-acoustic propagation scenarios
Zahariatos, Brian, Statistical modeling of photovoltaic device performance

Colorado State University (13)

Department of Mathematics
Adkins, Melissa, Modeling local pattern formation on membrane surfaces using non-local interactions
Freese, Hilary, Abelian surfaces with real multiplication over finite fields
Hughes, Justin, Group action on neighborhood complexes of Cayley graphs
Lane-Harvard, Elizabeth, Strongly regular graphs from large arcs
Miles, Eric, Bridgeland stability of line bundles on surfaces
Motta, Francis, Optimally topologically transitive orbits, complex Hadamard matrices and an ion bombardment
Osnaga, Silvia, Low rank representations of matrices using nuclear norm heuristics
Previte, Corrine, The $D$-neighborhood complex of graphs
Schmidt, Eric, Number-theoretic properties of the binomial distribution with applications in arithmetic geometry
Schwickerath, Anthony, Linear models, signal detection, and the Grassmann manifold
Zhao, Mingfeng, Traveling wave solutions to the Allen-Cahn equations with fractional Laplacians
Zheng, Wenyuan, Portfolio choice with life annuities under probability distortion

Department of Statistics
Banerjee, Swarnali, Sequential fixed-accuracy confidence interval estimation methodologies in statistical ecology and related topics
Harrington, Patrick, Classification and multiple hypothesis testing in microarray and RNA-seq experiments
Zhang, Danjie, Model assessment in joint modeling of longitudinal and survival data with applications to cancer clinical trials

University of California, Boulder (13)

Department of Applied Mathematics
Appelhans, David, Trading computation for communication: A low communication algorithm for the parallel solution of PDEs using range decomposition, nested iteration, and adaptive mesh refinement
Brutz, Michael, Mathematical modelling and analysis of several diffusive processes
Chen, Yuanting, Bayesian semi-parametric modeling of time-to-event data
Hao, Silja, Numerical methods for solving linear elliptic PDEs: Direct solvers and high order accurate discretizations
Keck, Dustin, Aggregation dynamics: Numerical approximations, inverse problems, and generalized sensitivity
Leibs, Christopher, First order systems least-squares finite element methods and nested iteration for electromagnetic two-fluid kinetic-based plasma models
Monnig, Nathan, From nonlinear embedding to graph distances: A spectral perspective
Romero, Henry, Fundamental limits of network communication with general message sets: A combinatorial approach
Sirisubtawee, Seksorn, Stability and bifurcations of a piecewise-smooth elastoplastic inverted pendulum model: Towards an understanding of dynamics of buildings under earthquake-type forcing

Department of Mathematics
Davison, Trubee, Generalizing the Kanorovitch metric to projection-valued measures: With an application to iterated function systems
Hower, John, A global symbol for the $b$-calculus on manifolds with boundary
Migler, Joseph, Determinants in K-theory and operator algebras
Zhang, Liang, Problems concerning spatial branching particle systems with interaction

University of California, Denver (3)

Department of Mathematical and Statistical Sciences
DeOri, Philip, Hyperovals and cyclotomic sets in $AG(2,q)$
Dienstreich, Jennifer, Three problems in structural and extremal graph theory
Kondratenkov, Volodymyr, Efficient algorithms for wildland fire simulation

University of Denver (2)

Department of Mathematics
Aboras, Mouna, Dihedral-like constructions of automorphic loops
Cardona, Riquelmi, The finite embeddability property for some noncommutative knotted varieties of RL and DRL

CONNECTICUT

University of Connecticut, Storrs (11)

Department of Mathematics
Hewa Katuwandyage, Priyantha, Multivariate longitudinal data analysis or actuarial applications
Huan, Tingting, Traveling fronts to reaction diffusion equations with fractional Laplacians
Huynh, Shujuan, Risk assessment and pricing for group health claims
K.M.G. Dias, Usahani, Longitudinal analysis of mortality risk factors for actuarial valuation
Martin, Caleb, Computability theory and ordered groups
Sugis, Jacob, On lowness for isomorphism as restricted to classes of structures
Zhao, Mingfeng, Traveling wave solutions to the Allen-Cahn equations with fractional Laplacians
Zheng, Wenyuan, Portfolio choice with life annuities under probability distortion

Department of Statistics
Banerjee, Swarnali, Sequential fixed-accuracy confidence interval estimation methodologies in statistical ecology and related topics
Harrington, Patrick, Classification and multiple hypothesis testing in microarray and RNA-seq experiments
Zhang, Danjie, Model assessment in joint modeling of longitudinal and survival data with applications to cancer clinical trials

Wesleyan University (2)

Department of Mathematics and Computer Science
Smith, Brett, On minimality of planar graphs with respect to treewidth
Valenzuela, Gabriel, Homological algebra of complete and torsion modules

Yale University (11)

Biostatistics Division
Gili, Owais, Spatiotemporal calibration and resolution refinement of output from deterministic models

Doctoral Degrees Conferred

974 Notices of the AMS Volume 63, Number 7
DEPARTMENT OF MATHEMATICS

Constantin, Sarah, Diffusion harmonics and dual geometry on Carnot manifolds
Huang, Shinyih, An improvement to Zaremba’s conjecture
Kim, Susanna, Quantum modular forms, mock modular forms, and partial theta functions
Leeb, William, Topics in metric approximation
Len, Yoav, Tropical Brill-Noether theory
Munoz, Francisco, The classification of associated varieties of some generalized Harish-Chandra modules
Tarik, Aougab, Effectivizing the geometry of the curve complex

DEPARTMENT OF STATISTICS

Ren, Zhao, Structured covariance and precision matrices estimation: Toeplitz covariance and Gaussian graphical model
Yang, Xia, Compression and predictive distributions for large alphabets
Ye, Saier, Multivariate regression with block-structured predictors

DELAWARE

Delaware State University (4)

Department of Mathematical Sciences

Ajayi, Adonis, Local mesh refinement techniques for ground penetrating radar
Liu, Yuhong, UWB radar signal detection and imaging
Sanchez, Polina, Dynamics of shallow water waves with spatio-temporal dispersion on Rosenau-KDV-RLW equation with power law nonlinearity
Savescu, Michelle, Optical soliton perturbation with dual dispersion

University of Delaware (12)

Department of Mathematical Sciences

Emerick, Brooks, Modeling molecular and tissue dynamics in the human colonic crypt: An investigation into colon cancer development
Fang, Rui, Stochastic analysis of ant-based routing and probabilistic modeling of medium access control in wireless local area networks
He, Zhenyu, High order smoothed particle hydrodynamic methods for slightly compressible bounded flow
Jin, Shi, Gaussian processes: KL expansion, small ball probability and applications in time series models
Kodess, Aleksandr, Properties of some algebraically defined digraphs
Li, Longfei, Mathematical models and numerical methods for human tear film dynamics
Shoushani, Michael, Parameter recovery and transmission problems in poroelastic media
Song, Yan, Numerical schemes for coarse-graining of stochastic lattice dynamics
Sun, Yu, Modeling and analyzing large swarms with covert leaders
Tang, Jiahua, Determining the twist of an optical fiber
Vermette, Jason, Spectral and combinatorial properties of friendship graphs, simplicial rook graphs, and extremal expanders
Zeng, Yun, Stochastic modeling of soft materials

DISTRICT OF COLUMBIA

George Washington University (5)

Department of Mathematics

Hammarsten, Carl, Decorated Heegaard diagrams and combinatorial Heegaard Floer homology
Marshall, Leah, Computability-theoretic properties of partial injections, trees, and nested equivalences
Savitsky, Thomas, Some problems on matroids and integer polynmatroids
Shoup, David, Half disc stationary sets on the boundary of a binary inhibitory system
Wang, Jing, Homology of small categories and its applications

Howard University (1)

Department of Mathematics

Erebholo, Francis, Application of the disposition model to the analysis of longitudinal binary outcomes in the presence of incomplete data

FLORIDA

Florida Atlantic University (5)

Department of Mathematical Sciences

Adams, Ronald, Curve shortening in second-order Lagrangian systems
Budhathoki, Parshuram, Elliptic curves: Identity-based signing and quantum arithmetic
Gottipati, Chenchu, Graph labeling and non-separating trees
Grigor’ev, Stepan, General monotonicity, interpolation of operators and applications
Yang, Yang, Stability analysis for singularly perturbed systems with time-delays

Florida Institute of Technology (1)

Department of Mathematical Sciences

White, Ryan, Random walks on random lattices and their applications

Florida State University (22)

Department of Mathematics

Donahue, Matthew, Modeling the role of biofilm formation in the development of plant diseases
Emanuello, John, Analysis of functions of split-complex, multicomplex, and split-Quaternionic variables and their associated conformal geometries
Jemison, Matthew, An asymptotically preserving method for multiphase flow
Karabiylk, Tugba, A game-theoretic analysis of competition over indivisible resources
Kunwar, Vijay, Hypergeometric solutions of second order differential equations with rational function coefficients
Li, Xin, Myrberg’s numerical uniformization
Nguyen, Nguyen Thi, Probabilistic methods in estimation and prediction of financial models
Sengul, Sevgi, Unveiling mechanisms for electrical activity patterns in neurons and pituitary cells using mathematical modeling and analysis
Shen, Yingyun, Mathematical models of dengue fever and measures to control it
Waller, Russell, Periodic pieces of pseudo-Anosov flows in graph manifolds
Wills, Anthony, Analysis of regularity and convergence of discretization methods for the stochastic heat equation forced by space-time white noise
Xu, Qiuping, Keeping pace with the times: Quantifying variations of newly emerging biological shape data
Zhu, Ming, Radically elementary stochastic summation with applications to finance

Department of Statistics

Galvis, Oliver, Sparse factor auto-regression methodology for forecasting time series in high dimensions with very many predictors
Griffin, Felicia, An examination of the concept of frailty in the elderly
Jiang, He, The studies of joint sparsity pursuit of hierarchical variable selection and fused lasso
Martinez, Elvis, Practical methods for equivalence and non-inferiority studies with survival response
Rosenthal, Michael, Parametric and non-parametric spherical regression with diffeomorphisms
University of Florida

College of Public Health (2)

DEPARTMENT OF BIOSTATISTICS
Cai, Zhuangyu, Conditional pseudo-likelihood and generalized linear mixed model methods to adjust for confounding due to cluster

He, Ying, On statistical inference of two adaptive clinical trial designs

University of Miami (5)

DEPARTMENT OF MATHEMATICS
Chen, Jing, Nonlinear dynamics of some ecological and epidemiological models
Evans Lee, Kyle, On the configuration spaces of lens spaces
Poulal, Prayat, Link homology and equivariant gauge theory
Zhang, Fan, A nonlocal spatial model on continuous time and space
Zhang, Zhe, Scaling limit of a generalized Polya urn model

University of South Florida (7)

DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS
Lu, Xiaosun, Statistical modeling and prediction of HIV/AIDS prognosis: Bayesian analysis of nonlinear dynamic mixtures

DEPARTMENT OF MATHEMATICS AND STATISTICS
Burns, Jonathan, Recursive methods in number theory, combinatorial graph theory, and probability
Choi, Bong-Jun, Statistical analysis, modeling, and algorithms for pharmaceutical and cancer systems
Kafle, Ram, Trend analysis and modeling of health and environmental data joinpoint and functional approach
Karpenko, Daria, Active tile self-assembly and simulations of computational systems
Otunuga, Olusegun, Stochastic modeling and analysis of energy commodity spot price processes
Sharaf, Tayseer, Statistical learning with artificial neural networks applied to health and environmental data

Emory University (12)

DEPARTMENT OF BIOSTATISTICS AND BIOINFORMATICS
An, Qian, Models for statistical analysis of infectious disease data
Mehta, Christina, Centralization in small graphs
Mishra-Kalyani, Pallavi, Statistical methods for causal inference in observational studies
Sun, Xiaoyan, Flexible semiparametric regression methods for observational follow-up studies
Zhao, Yize, Bayesian feature selection methods for complex biomedical data

MATHEMATICS AND COMPUTER SCIENCE DEPARTMENT
Bermudez, Hernando, Linear preserver problems and cohomological invariants
Bertagna, Luca, Reliable direct and inverse methods in computational hemo-dynamics
Cream, Megan, On chorded cycles
Griffin, Michael, Applications of harmonic Maass forms
Larsen, Victor, An ε improvement in the asymptotic density of k-critical graphs
Philipp, Pascal, Resonance asymptotics for asymptotically hyperbolic manifolds with warped-product ends
Svishcheva, Anastasia, Analysis and simulation of Bingham fluid problems with Papanastasiou-like regularizations: Primal and dual formulations

Georgia Institute of Technology (13)

SCHOOL OF MATHEMATICS
He, Yunlong, Accelerated algorithms for composite saddle point problems and applications
Hoffmeyer, Allen, Small-time asymptotics of call prices and implied volatilities for exponential Lévy models
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Xiong, Lu, Statistical computing schemes for proteomics data processing and insurance solvency modeling

University of Memphis (5)

Department of Mathematical Sciences

Johnson, Richard, Searching and sorting algorithms
Juskevicius, Tomas, Probabilistic inequalities and bootstrap percolation
Kittipassorn, Teeradej, Problems in extremal and Ramsey graph theory
Vu, Dominik, Separating families and combinatorial games
Zhou, Jee, $D^*$ sets and $AIP^*$ sets in $\mathbb{Z}$ and countable fields

University of Tennessee, Knoxville (6)

Department of Mathematics

Clark, Holly, Multistep kinetic Monte Carlo
Diegel, Amanda, Numerical analysis of convex splittings schemes for Cahn-Hilliard and coupled Cahn-Hilliard-fluid flow equations
Kelly, Michael, Spatial dynamic models for fishery management and waterborne disease control
Lorton, Cody, Numerical methods and algorithms for high frequency wave scattering problems in homogeneous and random media
Luo, Shuaibing, Some aspects of function theory for Dirichlet-type spaces
Numfor, Eric, Models linking epidemiology with immunology and ecology

Vanderbilt University (5)

Department of Mathematics

Chong, Fan Fei, $E$-theory for $L^p$ algebras and the dual Novikov conjecture
Davis, Jacqueline, Spatio-temporal trade-off for quasi-uniform sampling of signals in evolutionary systems
Huo, Xi, A disease age structured model of epidemic population dynamics with public health interventions
Liao, Naian, Topics on a logarithmic diffusion equation
Liu, Zhengweig, Skew theory for subfactor planar algebras

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Baylor University (4)

Department of Mathematics

Brennan, Brian, Numerical analysis of a multi-physics model for trace gas sensors
Kelly, James, Inverse limits with reducible set-valued functions
Poulsen, Dylan, Stability and control on stochastic time scales

Department of Statistical Sciences

Buros, Amy, Semiparametric AUC regression for ordered treatment effects

Rice University (16)

Computational and Applied Mathematics Department

Arellano, John, Algorithms to find the girth and cogirth of a linear matroid
Atcheson, Reid, Accelerated plane-wave discontinuous Galerkin methods for heterogeneous scattering problems
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Alrashed, Fahad, Massively parallel Navier Stokes equation solver

Ayyuru, Mustafa, Compactness of the \( C^0 \) Neumann operator on the intersection domains in \( \mathbb{C}^N \)

Causey, Ryan, Szelk index, upper estimates and embedding in Banach spaces

Eser, Zekiye, Primary components of binomial ideals

Lee, Sanghyun, Numerical simulations of bouncing jets

Li, Guanglian, Multiscale model reduction for high-contrast flow problems

Ma, Na T., On strong ellipticity and monotonicity for implicit and strain-limiting theories of elasticity

Mao, Youli, Geometric multigrid methods for flow problems in highly heterogeneous porous media

Nguyen, Van, Tate cohomology of finite dimensional Hopf algebras

Ortega Castillo, Sofia, Cluster value problems in infinite-dimensional spaces

Phillipson, Mitchell, Monotone sequences in combinatorial structures

Rowe, Stephen, Meshfree methods using localized kernel bases

Samart, Detchat, Mahler measures of hypergeometric families of Calabi-Yau varieties

Wang, Fang, Regularizing inverse problems

Weyand, Tracy, Zeros of eigenfunctions of the Schrödinger operator on graphs and their relation to the spectrum of the magnetic Schrödinger operator

Zhang, Yue, Applications of potential theory to the analysis of Property (P\(_Q\))

**Department of Statistics**

Chen, Shuai, Statistical inference for medical costs and incremental cost-effectiveness ratios with censored data

Chowntown, Justin, New approaches in testing common assumptions for regressions with missing data

Feng, Shuo, A likelihood based framework for data integration with application to eQTL mapping

Godillard, Scott, Restricted most powerful Bayesian tests

Gregory, Karl, Two-sample testing in high dimension and a smooth block bootstrap for time series

Kim, Jinsu, A bootstrap Metropolis-Hastings algorithm for Bayesian analysis of big data

Lin, Fang-Yu, Combining strategies for parallel stochastic approximation Monte Carlo algorithm of big data

Lu, Ming, Investigation of simple linear measurement error models (SLMEMS) with correlated data

McGuffey, Elizabeth, Statistical methods for integrating genomics data

Miao, Jingtang, New advances in logistic regression for handling missing and mismeasured data with applications in biostatistics

Qu, Yuan, Estimation of large spectral function and its application

Roh, Soojin, Robust ensemble Kalman filters and localization for multiple state variables

Sarkar, Abhra, Bayesian semiparametric density deconvolution and regression in the presence of measurement errors

Song, Qifan, Variable selection for ultra-high dimensional data

Wang, Yangting, Relative risks analysis in nutritional epidemiology

**Texas State University** (2)

**Department of Mathematics**

Hammons, Jake Lowman, The effects of smartpen narrated solutions sets on student study routines and their perceptions of the solution sets as a help resource

Schrauth, Michelle, Fostering mathematical creativity in the middle grades: Pedagogical and mathematical practices

**University of Houston** (11)

**Department of Mathematics**

Cho, Manki, Steklov eigenproblems and approximations of harmonic functions

Guo, Wei, High order schemes for transport problems: Semi-Lagrangian schemes with applications to plasma physics and atmospheric sciences, and superconvergence

Haas, John, Frame potentials and geometry of frames

Li, Zhuo, Mixed finite element methods with piece-wise constant fluxes
Nguyen, Trung, A primal-dual active set method and algorithm for chemical equilibrium problems related to modeling of atmospheric inorganic aerosols
Niu, Xiting, The dynamics of red blood cell under the effect of shape memory
Upadhyay, Sanat, Extraction and normalization of directional characteristics of images and textures using multiscale transforms
Whalen, Tristan, Classification of Leavitt path algebras using algebraic K-theory
Zhang, Lan, Numerical simulation of two phase flow using the level set approach
Zhang, Licheng, Some statistical properties of chaotic dynamical systems: Non-stationary central limit theorems and extreme value theory
Zhao, Shihai, Numerical simulation of red blood cells in capillaries

University of North Texas (2)
DEPARTMENT OF MATHEMATICS
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Senadheera, Jayantha, Hermitian Jacobi, Representation theory
Rangel, Denise, Applications of cubical

University of Texas at Arlington (9)
DEPARTMENT OF MATHEMATICS
Alkhezi, Yousuf, Properties of the pinched tensor product
Aman, Kelly, Applications of cubical arrays in the study of finite semifields
Ferguson, Thomas, Weight modules of orthosymplectic Lie superalgebras
Lacy, Scott, Property D cyclic nefields
Machuca, Alicia, A method for exact solutions to integrable evolution equations in 2 + 1 dimensions
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Ray, Allie, Nilpotent Lie algebras and nilmanifolds constructed from graphs
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Wang, Zhengjie, Construction of weighted upwind compact scheme

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Long, Ligiang, Slice ribbon conjecture, pretzel knots and mutation
Mark, Alice, The classification of rank 3 reflection hyperbolic lattices over \( \mathbb{Z}(\sqrt{2}) \)
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Starkston, Laura, Classifications and applications of symplectic fillings of Seifert fibered spaces over \( S^2 \)
Taliaferro, Kenneth, The dynamics of Bose gases
Valledian, Sarah, Quantitative PAT with unknown ultrasound speed: Uncertainty characterization and reconstruction methods
Xie, Zhihui, From quantum many body systems to nonlinear Schrödinger equations
Zhu, Yuceleng, Compactification of moduli spaces and mirror symmetry
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INSTITUTE FOR COMPUTATIONAL ENGINEERING AND SCIENCES
Bryant, Corey, On goal-oriented error estimation and adaptivity for nonlinear systems with uncertain data and application to flow problems
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Ulerich, Rhys, Reducing turbulence- and transition-driven uncertainty in aerothermodynamic heating predictions for blunt-bodied reentry vehicles
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Zhang, Chenglong, On the study of deterministic conservative solvers for the nonlinear Boltzmann and Landau transport equations

University of Texas at Dallas (6)
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Jafesh, Farzan, Congruence principle for Brouwer degree of equivariant maps between solvable group representation spheres
Lv, Yanli, New equivariant methods and applications to symmetric differential equations
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Smirnova, Ekaterina, Large cross-covariance matrix estimation with applications to fMRI data
Zhao, Tian, Multiple comparisons in truncated group sequential experiments with applications in clinical trials

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Chen, Geng, Bayesian inference for multivariate longitudinal data analysis using robust distributions
Du, Yining, Response adaptive randomization and biomarker-based trial designs for addressing patient heterogeneity in personalized medicine
Jimenez, Sara, Evaluating the effects of treatment switching with randomization as an instrumental variable in a randomized controlled trial
Kim, Taebom, Statistical methods for incorporating biological knowledge into association tests of sequencing data
Lee, Dung-Yang, Functional linear models with functional response and predictors for temporal quantitative traits in sleep apnea
Li, Lerong, Dynamic model and its applications to molecular and physiological analysis
Lin, E., Joint modeling of short-term and long-term outcomes for interim decision making in oncology phase II clinical trials
Ma, Long, General statistical framework for disease risk prediction by genetic variants, gene expression and image
Qiao, Wei, Bayesian adaptive randomization with covariate-adjustment signature design
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Seay, Roann, Using a joint continuous time Markov chain to represent the trauma patient’s ICU and ventilator experience
Wang, Yaping, Variable selection, response adaptive randomization and covariate-adapted response-adaptive randomization for personalized medicine
Wei, Caimiao, Bayesian modeling of combined endpoints for sequentially adaptive design and confirmatory trial planning
Yu, Xiaoying, A transitional model of the longitudinal data analysis for the bivariate binary outcome with application on mother’s stress and child’s illness

Zhou, Renke, Semiparametric joint models for semi-competing risks data with missing cause of informative terminal event

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**Brigham Young University** (1)

**Department of Mathematics**

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**University of Utah** (13)

**Department of Mathematics**

Das, Omprokash, Adjunction and inversion of adjunction in positive characteristic

Jeffries, Kenneth, Rings of invariants, $F$-regularity, and local cohomology

Kurdy, Michal, Efficient computational methods for electromagnetic imaging with applications to 3D magnetotellurics

Leibman, Sonya, Stability under powers of mindset of hyperbolic irreducible automorphism

Magi, Ross, Dynamic behavior of biological membranes

Mann, Brian, Some hyperbolic Out($F_N$)-graphs and nonunique ergodicity of very small $F_N$-trees

Martinez, Christian, Some birational geometric aspects of moduli spaces of sheaves on surfaces via Bridgeland wall-crossing

Moore, James, Mathematical modeling of autoimmune disease

Rice, Greg, Roles for ubiquitin and dimensional dependence in protein regulation

Thaler, Andrew, Bounds on the volume of an inclusion in a body and cloaking due to anomalous localized resonance

Wang, Jia, Change point analysis of panel data

Watanobe, Yohsuke, Weak tight geodesics in the curve complex

Zwick, Patrick, Variations on a theme of symmetric tropical matrices

**VERMONT**

**University of Vermont** (3)

**Department of Mathematics and Statistics**

Allgaier, Nicholas, Reverse engineering the human brain. An evolutionary computation approach to the analysis of fMRI

Pechenick, Eitan, Exploring the Google books corpus: An information-theoretic approach to linguistic evolution

Williams, Jake, Lexical mechanics: Partitions, mixtures, and context

**VIRGINIA**

**George Mason University** (6)

**Department of Mathematical Sciences**

Crone, Michael, Dynamics of harvested resources, with emphasis on commercially exploited fisheries

Schmidt, Amy, Properties of rings and of ring extensions invariant under group action

**Department of Statistics**

Cao, Xin, Inference for age-dependent branching process and their applications

Heim, Krista, Visualization and modeling for crime data indexed by road segments

Miao, Zhuang, Within-cluster resampling methods for clustered receiver operating characteristic (ROC) data

Weko, Charles, Network inference from grouped data

**Old Dominion University** (3)

**Department of Mathematics and Statistics**

Harris, Charles, Uniform $L^1$ behavior of a time discretization method for a Volterra integrodifferential equation with convex kernel; duality of the weak parallelogram laws on Banach spaces

Sengupta, Pooja, Bivariate doubly inflated Poisson and related regression models for skewed and related regression models

Viswakula, Sameera, Zero-inflated models to identify transcription factor binding sites in ChIP-seq experiments

**University of Virginia** (8)

**Department of Mathematics**

Banerjee, Arindam, Castelnuovo-Mumford regularity and edge ideals

Bao, Huanchen, Canonical bases arising from quantum symmetric pairs and Kazhdan-Lusztig theory

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Remine, Daniel, Analysis and computational fluid dynamics for the stabilization and control of 3-dimensional Navier-Stokes fluid channel flows by a wall-normal boundary controller

Smirnov, Ilya, Uniform convergence methods in Hilbert-Kunz theory

Spencer, Julia, Min-max game theory for the linearized Navier-Stokes equations with internal localized control and distributed disturbance

**Department of Statistics**

Tait, Christopher, Early-phase dose-finding designs for bivariate outcomes

Wu, Jingwei, High-dimensional ordinary differential equation models for connectivity studies

**Virginia Commonwealth University, School of Medicine** (4)

**Department of Biostatistics**

Galadima, Hadiza Issaka, Controlling for confounding when association is quantified by area under the ROC curve

Haynes, Mary, Incorporating dependence boundaries in simulating associated discrete data

Manser, Paul, Methods for integrative analysis of genomic data

Ren, Chunfeng, Latent variable models given incompletely observed surrogate outcomes and covariates

**Virginia Polytechnic Institute and State University** (17)

**Department of Mathematics**

Boyce, Steven, Modeling students’ units coordinating activity

Chaabane, Nabil, Immersed and discontinuous finite element methods

Kadelka, Claus, Robustness analysis of gene regulatory networks

Schmidt, Daniel, Eigenvalue statistics for random block operators

Wells, David, Stabilization of POD-ROMs

**Department of Statistics**

Bedair, Khaled, Statistical methods for multi-type recurrent event data based on Monte Carlo EM algorithms and copula frailties

Chen, Tianlei, Cure rate models with nonparametric form of covariate effects

Fang, Youjia, Modeling driving risk using naturalistic driving study data

Hu, Xinran, On grouped observation level interaction and a big data Monte Carlo sampling algorithm

King, Caleb, Bridging the gap: Selected problems in model specification, estimation, and optimal design from reliability and lifetime data analysis

Li, Han, Statistical modeling and analysis of bivariate spatial-temporal data with the application to stream temperature study

Mahmoud, Hamdy, Some advanced semiparametric single-index modeling for spatially-temporally correlated data

Peng, Yiming, GLR control charts for process monitoring with sequential sampling

Roberts, Lucas, Variable selection and decision trees: The DiVaS and ALoVaS methods
Xu, Yangyi, Frequentist-Bayesian hybrid tests in semiparametric and nonparametric models
Zhao, Wei, Statistical modeling and predictions based on field data and dynamic covariates
Zhang, Dengfeng, Latent class model in transportation study

WASHINGTON

University of Washington (41)

DEPARTMENT OF APPLIED MATHEMATICS
Cayco Gajic, Natasha, Coordinated neural activity; Mechanistic origins and impact on stimulus coding
Chen, Meng-Huo, Analysis of an aggregation-based algebraic multigrid method and its parallelization
Fu, Xing, Integrating data-driven methods in nonlinear dynamical systems: Control, sparsity and machine learning
Johnson, Mikala, Self-optimizing metamaterial antennas
Maia, Pedro, Mathematical modeling of focal axonal swellings arising in traumatic brain injuries and neurodegenerative diseases
Trichtchenko, Olya, On the instability of water waves with surface tension

DEPARTMENT OF BIOSTATISTICS
Bergen, Silas, Spatial measurement error methods in air pollution epidemiology
Coley, Rebecca Yates, Bayesian hierarchical frailty models for heterogeneity in risk
Conomos, Matthew, Inferring, estimating, and accounting for population and pedigree structure in genetic analyses
Fu, Rong, Joint modeling of survival and longitudinal data measured with error, with application to assessing immune correlates of protection in vaccine efficacy trials
Hanscom, Brett, Biostatistical methods for HIV monitoring and prevention
Hu, jie, A Z-estimation system for two-phase sampling with applications to additive hazards models and epidemiologic studies
Skrivanova, Veronika, Methods for estimation and evaluation of marker-guided treatment rules based on multivariate marker panels
Smith, Megan, Methods for the prediction of endpoint-occurrence times in clinical trials
Yee, Laura, Survival analysis methods for recurrent medical cost data
Zhao, Rui, Marginalizable mixed effects models for clustered binary, categorical and survival data
Zhao, Wei, On estimation of time-varying population attributable fraction for population-based case-control studies

DEPARTMENT OF MATHEMATICS
An, Yajun, Finite-difference methods for second-order wave equations with reduced dispersion errors
Aiponte Roman, Camil, Graded group schemes
Barnes, Joel, Conformal welding of uniform random trees
Caday, Peter, On numerics and inverse problems
Chieccio, Alberto, Towards a non-Gorenstein minimal model program
Erickson, Lindsay, Deformation invariance of rational pairs
Jordan-Squire, Christopher, Convex optimization over probability measures
Lai, Ru-Yu, Inverse problems for scalar elliptic equations systems
Lewis, Stephen, Local set approximation: Infinitesimal to local theorems and applications
Marinov, Kaloyan, Inverse boundary-value problems on an infinite slab
Pawlowksi, Brendan, Permutation diagrams in symmetric function theory and Schubert calculus
Robinson, Richard, The positive semidefinite rank of matrices and polytopes
Sarantsev, Andrey, Competing Brownian particles
Spicer, Simon, The zeros of elliptic curve L-functions: Analytic algorithms with explicit time complexity
Tadic, Tvrto, Time-like graphical models
Wang, Xingting, Classification of connected Hopf algebras up to prime-cube dimension
Yang, Yang, Three elliptic inverse problems
Zsamboki, Pal, Toward the compactification of the stack of Lie(G)-forms using perfect complexes

DEPARTMENT OF STATISTICS
Gerard, David, Theory and methods for tensor data
Kappadal, Ryan, Gravimetric anomaly detection using compressed sensing
Koepke, Amanda, Predictive modeling of cholera outbreaks in Bangladesh
Li, Ke (Kirk), Degeneracy, duration, and co-evolution; Extending exponential random graph models (ERGM) for social network analysis
Sharkansky, Stefan, Discrete-time threshold regression for survival data with time-dependent covariates
Xu, Lei, R-squared inference under non-normal error

Washington State University (5)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Balmer, Elizabeth, Applications of generalized Laplacian matrices in graph tiling
Ibrahim, Sharif, Data-inspired advances in geometric measure theory: Generalized surface and shape metrics
Lougheed, Thomas, First mathematics grade and persistence to graduation in STEM
Small, Benjamin, On α-critical graphs and their construction
Wang, Wen, Numerical methods for American option pricing with nonlinear volatility

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Marquette University (5)

DEPARTMENT OF MATHEMATICS, STATISTICS AND COMPUTER SCIENCE
Adibuzzaman, Mohammad, Computational approaches for monitoring of health parameters and their evaluation in clinical setting
Jain, Niharika, Affective computing in the area of autism
Karaman, Meryem, Incorporating MR relaxivities for fMRI activation, for more accurate MR image reconstruction, and for correlation effect examination
Pradeep, Prachi, Hybrid computational toxicology models for regulatory risk assessment
Tanviruzzaman, Mohammad, Towards usable end-user authentication

Medical College of Wisconsin (1)

DIVISION OF BIOSTATISTICS
Li, Jianing, Treatment effect adjustment and model diagnosis for competing risks data

University of Wisconsin, Madison (30)

DEPARTMENT OF MATHEMATICS
Alladi, Sriman, A multiplier theorem for ultraspHERical polynomials
Brady, Andrew, The Artin-Mazur zeta function of a rational map in positive characteristics
Chen, Xianghong, Restriction of the Fourier transform to Salem sets
Cheng, Yongtao, A mixed fluid-kinetic solver for the Vlasov-Poission equations
Dummit, Evan, Counting number field extensions of given degree, bounded discriminant, and specified Galois group
Dyneman, David, Describing geometry and symmetry of cryo-EM datasets using algebra
Holzer, Jesse, Methods for numerical solution of structured variational inequalities
Johnson, Silas, Weighted discriminants and mass formulas for number fields
Khan, Mushfeq, Some results on algorithmic randomness and computability-theoretic strength

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Lynch, Alison, Algebraic characterizations of Cauchy pairs and $U_q(su_2)$-modules
Nagpal, Rohit, FI-modules and the cohomology of modular representations of symmetric groups
Nan, Ting-Ting, Entropy regions and the four-atom conjecture
Peterson, Aaron, On uniformly finite-type domains
Pretel, Gabriel, Tridiagonal pairs of Krawtchouk type and their compatible elements
You, Qian, Ancient solutions of curve shortening problem

DEPARTMENT OF STATISTICS
Chan, Vincent, Topics in regularized single index model
Chen, Jiajie, Space-filling designs for numerical integration and stochastic programming
Geng, Zhigeng, Variable selection via penalized likelihood
Ho, Lam, Asymptotics of Ornstein-Uhlenbeck tree models: Theory and computation
Korthauer, Keegan, Bayesian hierarchical modeling of high-throughput genomic data with applications to cancer bioinformatics and stem cell differentiation
Kwak, Il Youp, Regression-based methods to map quantitative trait loci underlying function-valued phenotypes
Leng, Ning, Statistical methods for reliable inference in RNA-seq experiments to facilitate regenerative medicine
McDaniel, Lee, Additive hazards models in non-inferiority trials
Qin, Tai, Statistical justifications for computationally tractable network data analysis
Schwefel, Brittany, Estimating the time to a composite outcome when event ascertainment is delayed and nonmonotone and event adjudication is incomplete
Xu, Jiale, Stagewise and stepwise methods for space and space-time cluster detection
Xu, Xia, Topics on the design of experiments
Xu, Yaoyao, Regularized outcome weighted subgroup identification
Zeng, Xin, Statistical methods and software for ChIP-seq data analysis
Zhang, Wenwen, PLUTO: Penalized unbiased logistic regression trees

University of Wisconsin, Milwaukee (9)

DEPARTMENT OF MATHEMATICAL SCIENCES
Jeffrey, Rolland, Some results on pseudo-collar structures on high-dimensional manifolds
La Corte, Jason, The Markov-Dubins problem with free terminal direction in a nonpositively curved cube complex
Mogilski, Wiktor, The fattened Davis complex and the weighted $L^2$-(co)homology of Coxeter groups
Moran, Molly, On the dimension of group boundaries
Osborne, Jeremy, Statistical hyperbolicity of relatively hyperbolic groups
Schleben, Brad, Infinite dimensional Clifford algebras and wedge representations of $gl_{\infty/\infty}$
Schreve, Kevin, The $L^2$ cohomology of discrete groups
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Yang, Wen, Shape-invariant models for non-independent functional data

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Allison, Mary, Minimizing the average mean-first passage time for Markov chains associated with a graph
Hassani Monfared, Keivan, The Jacobian method: The art of finding more needles in nearby haystacks
Jan, Ahmad, A Bayesian framework for the validation of porous media flow models at the laboratory scale
Kazemi Foroushani, Ehsan, The direct and large eddy simulation of the turbulent Ekman layer
Kuo, Yi-Hung, Analysis and development of compact finite difference schemes and optimized numerical dispersion relation
Mallik, Sudipta, New probabilistic, combinatorial, and algebraic methods for minimum rank problems

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