Doctoral Degrees Conferred

2016–2017

ALABAMA

Auburn University (13)

Department of Mathematics and Statistics

Barnett, Johnathan, The fractional chromatic number and the Hall ratio

Costa Lima, Italo Raony, Robust simultaneous inference for functional data analysis

Denu, Davit, Analysis of stochastic vector host epidemic model with direct transmission

Ghimire, Prakash, Derivations of the techniques for text classification

Jarrett, Michael, Convergence analysis and numerical simulation of particle swarm optimization

Liphan, David, Compacifications of indecomposable topological spaces

Perry, Katherine, Rainbow trees in edge-colored complete graphs and block decompositions of almost complete graphs

Watley, Laura Erin, Structural validity and reliability of two observation protocols in college mathematics

University of Alabama at Birmingham (7)

Department of Biostatistics

Venturi, Yogasudha, Methods for the analysis of genetic differences in ethnocity and sex for complex human traits

University of Alabama (13)

Department of Mathematics

Al-Jahdaly, Noufe, Linear and nonlinear convection in an infinitely high cavity in the presence of rotation

Cui, Wei, Fractional Brownian motion and managing risk with short-term futures contracts

Hollis, Daniel, Disjoint G-designs and the intersection for some seven edge graphs

Kermausuor, Seth, Atomic characterization of $L_1$ and the Lorentz–Bochner space $L^q(p,1)$ for $1 \leq p < \infty$ with some applications

Krizan, Christopher, Euclidean Szlam numbers

Liphan, David, Compacifications of indecomposable topological spaces

Perry, Katherine, Rainbow trees in edge-colored complete graphs and block decompositions of almost complete graphs

Watley, Laura Erin, Structural validity and reliability of two observation protocols in college mathematics

University of Alabama at Birmingham (7)

Department of Mathematics

Abdul-Rahman, Houssam, Entanglement in disordered quantum XY chains

Juda, Daniel, A novel approach to study task organization in animal groups

Li, Yang, Discrete-time structured models and their dynamics for interactive wild and sterile mosquitoes malaria transmission

University of Alabama (1)

Department of Information Systems, Statistics and Management Science

Zhu, Xuwen, The development of diagnostic tools for mixture modeling and model-based clustering

ARKANSAS

University of Arkansas at Fayetteville (3)

Department of Mathematical Sciences

Ding, Chao, Construction of conformally invariant operators in higher spin spaces

Juda, Daniel, On rings of invariants for cyclic $p$-groups

ARIZONA

Arizona State University (16)

Mathematics, Computational and Modeling Sciences Center

Chowell, Diego, Mathematical and computational models of cancer and the immune system

Mamada, Robert, Potential games and competition in the supply of natural resources

Udani, Oyita, A novel approach to study task organization in animal groups

SCHOOL OF MATHEMATICAL AND STATISTICAL SCIENCES

Al-Suleiman, Sultan, Toward enumerating the chains of maximum length of Cambrian and m-eralized Cambrian lattices

Byerley, Cameron, Secondary teachers’ and calculus students’ meanings for fraction, measure, and rate of change

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2016, to June 30, 2017) reported in the 2018 Annual Survey of the Mathematical Sciences by 275 departments in 202 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.
Farrell, Alex, Prey-predator-parasite: An ecosystem model with fragile persistence
Gutierrez Cortez, Paloma, Rotating split-cylinder flows
Korytowski, Daniel, Persistence for kill the winner nested infection Lotka-Volterra models
Lanfear, Nathan, The Pauli-Lubański vector in a group-theoretical approach to relativistic wave equations
Liu, Ruowen, Numerical issues arising in the simulations of transient water flow in layered unsaturated soils
Mitranu, Arthur, Properties of divergence-free methods for approximation and solution of partial differential equations
Nelson, Luke, Toward the enumeration of maximal chains in the Tamari lattices
Pell, Bruce, Dynamics and implications of data-based disease models in public health and agriculture
Rutter, Erica, A mathematical journey of cancer growth
Treat, Kevin, On chains in the Tamari lattice
Zhu, Junfei, A power study of GFit Statistics as components of Pearson Chi-Square

University of Arizona (17)

Department of Mathematics
Berard, Whitney, Explicit Serre weight conjectures in dimension four
Brown, Tova, Asymptotics and dynamics of map enumeration problems
Davis, Erik, Consistency of modularity clustering on random geometric graphs
Lee, Hyereem, Triples in finite groups and a conjecture of Guralnick and Tiep
Trefethen, Stephen, Non-abelian composition factors of m-rational groups
Williams, Ronnie, Level compatibility in the passage from modular symbols to cup products
Zheludev, Gleb, Coalescing particle systems. Applications to nonlinear Fokker-Planck equations

Program in Applied Mathematics
Borghese, Michael, A proof of the soliton resolution conjecture for the focusing nonlinear Schrödinger equation
Burton, Jackson, Theoretical models for drug delivery to solid tumors
Leach, Andrew, Monte Carlo methods for stochastic differential equations and their applications
Rapsdale, Aaron, Multi-allele population genomics for inference of demography and natural selection
Veprauskas, Amy, On the dynamic dichotomy between positive equilibria and synchronous 2-cycles in matrix population models
Young, Alex, Three essays on complex systems

Graduate Interdisciplinary Program in Statistics
Bear, John, A logistic normal mixture model for compositions with essential zeros
Fang, Fang, Modern econometric techniques applied to three essays in spatial economics
Schissler, Alfred, Contributions to gene set analysis of correlated, paired-sample transcriptome data to enable precision medicine
Zeng, Yue, Variable screening in multi-category classification for ultra-high dimensional data

California Institute of Technology (4)

Department of Computing and Mathematical Sciences
Brauer, John, Recovering structured low-rank operators using nuclear norms
Chen, Yuhua, Concentration inequalities of random matrices and solving ptychography with a convex relaxation
Perez Arancibia, Carlos, Windowed integral equation methods for problems of scattering by defects and obstacles in layered media
Zhang, Pengchuan, Compressing positive semidefinite operators with sparse/localized bases

Claremont Graduate University (15)

Institute of Mathematical Sciences
Babakhani, Behrouz, Novel microstrip patch antennas with frequency agility, polarization reconfigurability, dual null steering capability and phased array antenna with beam steering performance
Berardi, Vincent, Analytic framework for the design, implementation, and analysis of dynamic, and real-time health interventions
Campbell, Karen, SEIRScape, an agent-based mosquito-human virus basis of Dengue risk across Peru and Thailand
Denaro, Kameyn, Quantifying disease severity of cystic fibrosis using linear quantile mixed models
Flenner, Jennifer, Deep non-negative matrix factorization
Jin, Sixian, Martingale representation theorems based on Malliavin calculus
Leung, Kimberly, Stochastic models for precipitable water in convection
Palari, Seetal, Cross-layer schemes for enhancing H.264/AVC video quality over wireless channels
Raman, Saravana, Simulation of plethysmographic environment in pulmonary function studies

Rossi, Julia, Non-conservative variational approximation for nonlinear Schrödinger equations and its applications
Shiva, Genivaldo, Who is there and what are they doing? An agile and computationally efficient framework for genome discovery and annotation from metagenomic big data
Woolf, Tina, Practical compressed sensing
Xu, Qian, Generalized varying-coefficient mixed models with missing data and surrogate information
Zablocki, Rong, Large-scale inference incorporating covariates and network dependence with application to genome-wide association studies
Zhou, Deng, V/O stage optimization for non-volatile memory based storage systems

Stanford University (20)

Department of Mathematics
Booher, Jeremy, Geometric deformations of orthogonal and symplectic Galois representations
Brady, Zarathustra, Sieves and iteration rules
Buciumas, Valentin, Quantum groups and the Yang Baxter equation
Diao, Peter, Differential calculus on graphon space and statistical applications of graph limit theory
Florea, Alexandra, Moments and zeros of L functions over function fields
Gao, Jun, The front asymptotics for the non local KPP equation
Greer, Francois, Modular forms in enumerative geometry
Jafarov, Jafar, Loop equations and string dualities in lattice gauge theories
Lawrence, Brian, Two results on period maps
Makisumi, Shotaro, Modular Koszul duality for Soergel bimodules
Mantoulidis, Christos, Geometric variational problems in mathematical physics
Montague, David, Covariance estimation and graphical models for infinite collections of random variables
Ren, Weibo, Two models on limit order trading
Ronchetti, Nicolo, On the mod p derived Hecke algebra of a p adic group
Shabani, Beniada, Propagation in multi-dimensional Fisher KPP equations
Siegel, Kyler, New constructions and computations on rigid and flexible symplectic geometry and applications to several complex variables
Siu, Ho Chung, Valve distribution of automorphic forms in a family
Thorvaldsson, Sverrir, Boundary fibration structures and quasi homogeneous geometries
Tripathy, Arnav, The symmetric power and etale realization functors commute
White, Graham, Combinatorial methods in Markov chain mixing
University of California, Berkeley (31)

DEPARTMENT OF MATHEMATICS
Anderson, David, Reliable and efficient algorithms for spectrum-revealing low-rank data analysis
Appel, Daniel, Theory of real bundles on the projective line
Chavez, Anastasia, Posets, polytopes, and positroids
Drouot, Alexis, Stability of resonances under singular perturbations
Dudzik, Andrew, Quantales and hyperstructures
Fortunato, Meire, Curved and anisotropic unstructured mesh generation and adaptivity using the Winslow equations
Harrison-Trainor, Matthew, The complexity of countable structures
Kileel, Joseph, Algebraic geometry for computer vision
Kim, Eugenia, Numerical methods for the Landau-Lifshitz equation in micromagnetics: The mimetic finite difference method and the mass-lumped finite element method
Liu, Weihua, Noncommutative distributivity symmetries and their related de Finetti type theorems
Park, Doosung, Triangulated categories of motives over F_2 log schemes
Policastro, Christopher, Integral estimates for approximations by incompressible deformations
Rosu, Eugenia, Integers that can be written as the sum of two rational cubes
Schrader, Gus, Quantum groups, character varieties and integrable systems
Tsukerman, Emmanuel, Combinatorial analysis of continuous problems
Vasquez, Markus, Essays in mathematical economics
Voelmler, Andreas, A partial characterization of \( \mathbb{D}_n \) for plus-one prime
Wan, Michael, Towards a model theory of almost complex manifolds
Wells, Christopher, Methods for optimal stochastic control and optimal stopping problems featuring time-inconsistency

DEPARTMENT OF STATISTICS
Heron, Jonathan, Maximal inequalities and mixing times
Ho, Christina, Statistical modeling and analysis for biomedical applications
Li, Xiang, Inference on graphs: From probability methods to deep neural networks
Regier, Jeffrey, Topics in large-scale statistical inference
Tang, Wenpin, Continuous paths in Brownian motion and related problems
Terhorst, Jonathan, Demographic inference from large samples: Theory and methods
Zhang, Yumeng, Phase transitions of random constraints satisfaction problem

GROUP IN BIOSTATISTICS
Gerlovina, Inna, Small sample inference
Moore, Sara, Yet another local learner (YALL): A localized machine learning algorithm with appliances in precision medicine
Petito, Lucia, Topics in survival analysis
Sarvar, Varada, Targeted maximum likelihood estimation for evaluation of the health impacts of air pollution
Toth, Boriska, Targeted learning of individual effects and individualized treatments using an instrumental variable

University of California, Davis (19)

DEPARTMENT OF MATHEMATICS
Castillo Castillo, Federico, Local Ehrhart positivity
Deride Silva, Julio, Essays on variational approximation techniques for stochastic optimization problems
Jana, Indrajit, Spectrum of random band matrices
Koenig, Dale, Trisections in three and four dimensions
Kringe, Henry, A categorification of the crystal isomorphism
Lang, Alexander, On the classification of supercharacter theories
Ling, Shuyang, Bilinear inverse problems: Theory, algorithms, and applications
Rogers, Carson, Fibered links in the 3-sphere
Weaver, Chelsea, Analysis and extensions of sparse representations in signal classification
Young, Amanda, Spectral properties of multi-dimensional quantum spin systems
Zhou, Yuan, Infinite-dimensional relaxations of mixed-integer optimization problems

DEPARTMENT OF STATISTICS
Chan, Stephanie, A maximum entropy approach to joint modeling multiple primate social networks and a new audio classification scheme
Cheung, Rex Che Yeung, Statistical machine learning applications in time series, network, and partition-wise models
Fan, Minjie, Modeling vectorial and non-Gaussian random fields on a sphere
Fuji, Kevin, Ranking, clustering, and data visualization methods for revealing network structure
Ji, Hao, Optimal designs for longitudinal/functional data, extensions and applications
Meng, Hangying, Spatio-temporal modeling and predictions of house prices in San Jose
Qi, Gao, Some contributions to statistical signal processing and machine learning
Yan, Hao, Statistical learning of non-Euclidean objects and applications

University of California, Irvine (14)

DEPARTMENT OF MATHEMATICS
Boling, Jess, Two geometric flows, which are well adapted for non-Kahler geometry
Franco De Leon, Mariano, Numerical methods for curve evolution under dispersive geometric dynamics
Galgon, Geoff, Trees, refining, and combinatorial characteristics
Garrett, Ervin, The cube problem for linear orders
Han, Rui, Discrete ergodic Jacobi matrices: Spectral properties and quantum dynamical bounds
Lopez, Christopher, Compactness and rigidity for the ambient obstruction flow
Peng, Tao, Data-driven models for dynamics of gene expression and single cells
Ren, Rafei, Generic Newton polygon for exponential sums in two variables with triangular base
Ta, Catherine, Militskale modeling of the epithelial-mesenchymal transition
Takahashi, Yuki, Sums and products of Cantor sets and separable two-dimensional quasicrystal models
Thomas, Andrew, A general mixture for nonlinear heterogeneous tumor growth
Yang, Jienian, Stochastic modeling of stem cells
Zhang, Cheng, Scalable Hamiltonian Monte Carlo via surrogate methods
Zhang, Shuai, Transformed \( L_1 \) function, sparse optimization algorithms and applications

University of California, Los Angeles (29)

DEPARTMENT OF BIOSTATISTICS
Aralis, Hilary, Modeling multistate models with back transitions: Statistical challenges and applications
Malazarte Antonio, Anna Liza, The good, the bad and the fitting: A Bayesian hierarchical model for patient preferences elicited through discrete choice experiments

DEPARTMENT OF MATHEMATICS
Bobkov, Anton, Computations of Vapnik-Chervonenkis density in various model-theoretic structures
Charlesworth, Ian, On bi-free probability and free entropy
Charlie, Marshak, Applications of network science to criminal networks, university education, and ecology
Chongchitmate, Wutichai, New models for multi-party computation
Cook, Nicholas, Spectral properties of non-Hermitian random matrices
Flapan, Laure, Hodge structures with Hodge numbers \( (n, 0, \ldots, 0, n) \) and their geometric realizations
Doctoral Degrees Conferred

Gast, Theodore, Numerical simulation of elastic, viscoelastic, and granular materials

Ge, Stephen, The eigenvalue spacing of i.i.d. random matrices and related least singular value results

Gold, Julian, Isoperimetric shapes in supercritical bond percolation

Greenblatt, Jordan, Dimensional asymptotics for norms of maximal averaging operators on Cartesian powers of finite graphs

Hood, Kaitlyn, Theory of particle focusing in inertial microfluidic devices

Kalyanswamy, Sudesh, Automorphy lifting theorems

Lin, Jeffrey, Understanding probabilistic models through limit theorems

Mullath Mohammed Sherief, Mohammed, Weak capacity in Ahlfors regular metric spaces

Pradhana, Andre, Multiphase simulation using material point method

Sella, Yehonatan, The mixed Tate property of reducible algebraic groups

Stroppiani, Matthew, Phi(2)-equivariant Seiberg-Witten Floer homology

Tekin, Omer Faruk, Application of sparsity promoting techniques in numerical solutions of partial differential equations

Travis, Meyer, Energy models for signal processing and matrix factorization

Vivian, Bailey, Cohomological invariants of finite groups

Wong, Jeffrey, Particle-laden viscous flow on an incline

Wu, Tianyu, Coordinate update algorithms: Theory and applications

Xie, Fei, Toric surfaces over arbitrary fields

Zemke, Ian, TQFT structures in Heegaard Floer homology

Zhu, Wei, Nonlocal variational methods in image and data processing

University of California, Riverside (9)

Blanton, Donna, On tensor products of demazure modules for sl(2[t]

Castro, Kyle, Multiplicative character sums and the applications to problems in analytic number theory

Choi, Hyun, Semistatic operations in integral domains and multiplicative lattices

O’Dell, Matthew, Integrable representations of equivariant map algebras associated with Borel-de Siebenthal pairs

Rajan, Priyanka, Geometry and topology of some fake projective spaces

Roby, Scott, Alpha-scaling zeta functions for self-similar multifractals

Walker, Andrew, Non-Noetherian Cohen-Macaulay rings

Watson, Sean, Fractal zeta functions: To Ahlfors spaces and beyond

Williams, Parker, Information gathering on bounded degree trees and properties of random matrices

University of California, San Diego (8)

Department of Mathematics

Aksoy, Sinan, Random walks on directed graphs and orientation of graphs

Grogan, Francesca, Computational techniques in molecular dynamics and detection shock dynamics

Li, Xiaolong, Moduli of continuity, Gauss curvature flow and Ricci solitons

Pu, Xia, Topics in clustering: Feature selection and semiparametric modeling

Smith, Daniel, A Kodaira vanishing theorem for formal schemes

Spicer, Calum, Higher dimensional foliated Mori theory

Strahl, Perry, The Picard group of the moduli space of genus zero stable quotients to flag varieties

Tobin, Robin, Extremal spectral invariants of graphs

University of California, Santa Barbara (2)

Department of Mathematics

Cattan, David, On the numerics, generation, and scaling of fluvial landscapes

Lo Kim Lin, Jon, Micro-macro modeling and computation of ferrofluids

University of California, Santa Cruz (4)

Department of Applied Mathematics and Statistics

Cadonna, Annalisa, Bayesian mixture models for spectral density estimation

Moll, Ryan, The dynamics of layered and non-layered oscillatory double-diffusive convection

University of Southern California (6)

Department of Mathematics

Carman, William Rob, Unit groups of representations rings and their ghost rings as biset functions

Zhang, Linyi, On S-matrix and fusion rules for irreducible V^G modules

University of Southern California (6)

Department of Mathematics

Acu, Bahar, On fillings of contact manifolds by J-holomorphic curves

Ejder, Ozlem, The torsion subgroups of elliptic curves in elementary Abelian 2-extensions and the monodromy of Fermat surfaces

Lamberto-Egan, Lafitte, A braid group action of categorified quantum groups

Tsiliis, Panagiotis, Design, dimensionality reduction, and variational methods in uncertainty quantification

Weisheng, Xie, Stochastic differential equations driven by fractional Brownian motion and Poisson jumps

Xiaoqing, Xing, Optimal dividend and investment problems under Sparre Andersen model

COLORADO

Colorado School of Mines (1)

Department of Applied Mathematics and Statistics

Shutt, Deborah, Modeling, analysis and simulation of complex disease dynamics for HIV, Ebola, and Zika virus

Colorado State University (4)

Department of Mathematics

Arn, Robert, On the formulation and uses of SVD-based generalized curvatures

Dauphin, Stephen, General model-based decomposition framework for Polari metric synthetic aperture images

Hodges, Timothy, Avoiding singularities during homotopy continuation

Marrinan, Timothy, Grassmann, Flag, and Schubert varieties in applications

University of Colorado, Boulder (10)

Department of Applied Mathematics

Jennings, Dale, Advances in MCMC methods with applications to particle filtering, DSMC and Bayesian networks

Martin, Bradley, Application of RBF-FD to wave and heat transport problems in domains with interfaces

Mirzae, Inomzohn, Analytical and numerical investigation of long term behavior of microbial flocculation equations

Sturdevant, Benjamin, Fully kinetic ion models for magnetized plasma simulations

University of California, Los Angeles (5)

Department of Mathematics

Chhay, Boramey, Euler-Arnold equations on the group of contactomorphisms and Teichmüller theory

Krupa, Matthew, Differential geometry of projective limits of manifolds

Moorhead, Andrew, Higher commutator theory for congruence modular varieties

Rajker, Keli, Semistable modular compactifications of moduli spaces of genus one curves

Smith, Kathleen, On minimum variance unbiased estimation of a power of an unknown scalar or matrix

University of California, Santa Barbara (2)

Department of Mathematics

Chen, Yin, On the numerics, generation, and scaling of fluvial landscapes

Lo Kim Lin, Jon, Micro-macro modeling and computation of ferrofluids

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Strahl, Perry, The Picard group of the moduli space of genus zero stable quotients to flag varieties

Tobin, Robin, Extremal spectral invariants of graphs

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Moll, Ryan, The dynamics of layered and non-layered oscillatory double-diffusive convection

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Carman, William Rob, Unit groups of representations rings and their ghost rings as biset functions

Zhang, Linyi, On S-matrix and fusion rules for irreducible V^G modules

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Department of Mathematics

Acu, Bahar, On fillings of contact manifolds by J-holomorphic curves

Ejder, Ozlem, The torsion subgroups of elliptic curves in elementary Abelian 2-extensions and the monodromy of Fermat surfaces

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COLORADO

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Department of Mathematics

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University of Colorado, Boulder (10)

Department of Applied Mathematics

Jennings, Dale, Advances in MCMC methods with applications to particle filtering, DSMC and Bayesian networks

Martin, Bradley, Application of RBF-FD to wave and heat transport problems in domains with interfaces

Mirzae, Inomzohn, Analytical and numerical investigation of long term behavior of microbial flocculation equations

Sturdevant, Benjamin, Fully kinetic ion models for magnetized plasma simulations

University of California, Los Angeles (5)

Department of Mathematics

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Krupa, Matthew, Differential geometry of projective limits of manifolds

Moorhead, Andrew, Higher commutator theory for congruence modular varieties

Rajker, Keli, Semistable modular compactifications of moduli spaces of genus one curves

Smith, Kathleen, On minimum variance unbiased estimation of a power of an unknown scalar or matrix
Washabaugh, Pearce, The diffeomorphism group approach to vorticity model equations

University of Colorado
Anschutz Medical Campus (1)
Department of Biostatistics and Informatics
DeWitt, Peter, Parsimonious B-Spline regression models via control polygon and control net reduction for identifying factors explaining variation in daily hormone profile during the menopausal transition

University of Denver (3)
Department of Mathematics
Aguilar, Konrad, Quantum metrics on approximately finite-dimensional algebras
Al-Ali, Masoumah, Z2-orbifolds of affine vertex algebras and W-algebras
Girón Garnica, Gabriel, Banach spaces from barriers in high dimensional El-lentuck spaces

University of Northern Colorado (1)
School of Mathematical Sciences
King, Jeffrey, Students social adaptation to mathematical tasks

CONNECTICUT
University of Connecticut, Storrs (20)
Department of Mathematics
Andrews, Ulysse, Existence of diffusions of 4N carpets
Arthur, Frank, Liouville-type theorems for higher order elliptic systems
Broska, Antone, Spectral properties of the Hata tree
Chou, Michael, Torsion of rational elliptic curves over Abelian extensions of Q
Corelki, Cagnur, Finite element methods of Dirichlet boundary optimal control problems with weakly imposed boundary conditions
Joseph, Michael, Toggling involutions and homomesies for maps on finite sets, noncrossing partitions, and independent sets of path graphs
Miller, David J, Fast algorithms for structured matrices and Laurent polynomials
Ni, Gao, Actuarial application of agent based modeling
Ou, Tze-Chun, Irreducible modules over KLR algebras of twisted affine type
Ramli, Rozita, Generalized linear model approach to adjusting expected assumptions of long-term care incidence rates
Shum, Fan Ny, Stabilization by noise of systems of complex-valued ODEs
Stahl, Rachel, Computability theoretic results for the game of cops and robbers on infinite graphs
Xhumari, Sandi, Generalized p-adic Gauss sums
Zito, Stephen, Modules from tilted to cluster-tilted algebras

Department of Statistics
Bader, Brian, Automatic, efficient, and practical extreme value analysis with environmental applications
Fu, Wei, Predicting ultimate targets with time-dependent predictors
Saha, Abhishek, Bayesian analysis of item response theory and its applications to longitudinal education data
Wang, Chun, On statistical methods for big data
Wang, Yu-Bo, Adaptive partition weighted MCMC estimation
Wu, Qianzhu, Robust scan statistics for detecting a local change in population mean

Wesleyan University (3)
Department of Mathematics and Computer Science
Krainbihl, James, A Fox-Milnor theorem for knots in a thickened surface
Marino, Alicia, Finiteness of strictly n-regular quadratic forms
Vigliotta, Sarah, Fractional chromatic numbers of incidence graphs

Yale University (11)
Department of Biostatistics
Fu, Zhixuan, Penalized variable selection in competing risks regression
Liu, Tiangi, Some statistical methods for brain gene expression data: Dimension reduction, feature screening and causal inference
Lu, Qionghui, Integrative functional annotation of the human genome and its applications in post GWAS analysis
Shabarova, Veronika, Multivariate approach to modeling of time to event data with non-susceptible fraction and informative censoring
Sun, Jiehuan, Statistical methods for translational medicine in longitudinal genomic studies

Department of Mathematics
Dimitrov, Vesselin, Diophantine approximations by special points and applications to dynamics and geometry
Ehrman, Max, Almost primes in thin orbits of pythagorean triangles
Kopelowitz, Shaked, Random graphs, sandpile groups, and surjectivity of random matrices
Luh, Kyle, Universality of random graphs and random matrices
Nguyen, Oanh, Random polynomials

Zhang, Liyang, Quantum unique ergodicity of degenerate eisenstein series on GL(n)

DELWARE
Delaware State University (1)
Department of Mathematical Sciences
Zheng, Peng, Automatic image registration by using multi-variate spline functions

University of Delaware (7)
Department of Mathematical Science
Hassell, Matthew, Some applications of integral equations to the solution of transient partial differential equations
Jin, Ke, On the length of the longest common subsequence of two independent mallow permutations
Kapita, Shevain, Plane wave discontinuous Galerkin methods for acoustic scattering
Plaza, Rafael, Representation theory methods in extremal combinatorics
Sánchez-Vizuet, Tonatiuh, Integral and coupled integral-volume methods for evolutionary wave structure interaction
Sun, Shuying, On some families of algebraically defined graphs
Xu, Peng, Some topics in random walks on graphs, harmonic analysis and rogozin type inequalities for locally compact groups

DISTRICT OF COLUMBIA
George Washington University (3)
Department of Mathematics
Aganezov, Sergey, Phylogenomics meets genome assembly: From evolutionary analysis to scaffolding
Walker, Hakim, Computable isomorphisms of directed graphs
Yang, Seung Yeop, Khovanov homology, distributive structure homology and applications to knot theory

FLORIDA
Florida Atlantic University (4)
Department of Mathematical Sciences
Amento, Brittanney, Quantum circuits for cryptanalysis
Hurley, Michael, New geometric large sets
Kasti, Dinesh, An algorithmic approach to the lattice structures of attractors and Lyapunuv functions

SEPTEMBER 2018
NOTICES OF THE AMS
Khadka, Bal, Techniques in lattice basis reduction

Florida Institute of Technology (5)

DEPARTMENT OF MATHEMATICAL SCIENCES
Ben-Rabha, Raja, Initial boundary value problems for higher order nonlinear hyperbolic equations with two independent variables
Binnahfoudh, Ahmed, New bounds for K-out-of-n type probabilities and their applications
Iqbal, Naveed, On the classification of the second minimal orbits of the continuous endomorphisms on the real line and universality in chaos
Iwezulu, Kenneth, Discrete and continuous operational calculus in stochastic games
Mandelkern, Jeremy, Sturm–Liouville equations with singular endpoints of Poincaré rank zero and one

Florida State University (27)

DEPARTMENT OF MATHEMATICS
Aktas, Mehmet, Topology of N-gonal curves
Billett, Robert, Flow equivalence classes and Pseudo-Anosov
Chen, Yuanda, Modeling limit order book dynamics using Hawkes processes
Chiu, Chun-Yuan, Modeling credit risk in the default threshold framework
Dai, Yao, Game-theoretic models of animal behavior observed in some recent experiments
Ellertsen, Justin, Local and global bifurcations in finite-dimensional center manifold equations of double-diffusive convection
Gu, Fangyi, Exponential convergence for random method and its application to option pricing with Levy processes
Harris, Corey, Effective methods in intersection theory and combinatorial algebraic geometry
Mandel, David, Random Sobol’ sensitivity analysis and model robustness
Mayhook, Dane, Conformal tilings and type
Mckenna, Joseph, Insulin secretion rhythms: Calcium regulation of beta-cell metabolism and rescue of islet oscillations
Tai, Liang-Hsuan, Trend and variable-phase seasonality estimation from functional data
Weingard, Daniel, Scroll waves: And how they interact with non-reactive knots, tori, and spheres
Wyse, John, The impact of competition on temporal musth strategies: A game-theoretic approach
Yao, Kovadio, Statistical analysis on object spaces with applications to 3D face analysis and exchange rates data

Yildirim, Vehpi, Mathematical modeling and analysis of gene knockout compensation in pancreatic beta-cells

DEPARTMENT OF STATISTICS
Alzahrani, Hissah, Multivariate binary longitudinal data analysis
Anaya, Josue, First steps towards image denoising in low-light conditions
Cleveland, Jason, Robust function registration using depth on the phase variability
Geng, Junxian, Bayesian models for capturing heterogeneity in discrete data
Gordon, Glenn, Intensity estimation in Poisson processes with phase variability
Gupta, Ajay, Modeling multivariate data with parameter-sensitive subspaces
Gupta, Cherry, Bayesian inference and novel models for survival data with cured fraction
Huang, Xue, Sparse feature and element selection in high-dimensional vector autoregressive models
Lee, Ji Won, Small area estimation with automatic random effects selection
Lester, David, High level image analysis on manifolds via projective shapes and 3D reflection shapes
Orndorff, Mark, Nonparametric detection of arbitrary changes to distributions in process control

University of Central Florida (2)

DEPARTMENT OF MATHEMATICS
Dutta, Aritra, Weighted low-rank approximation of matrices; Some analytical and numerical aspects
Rolek, Martin, Coloring graphs with forbidden minors

University of Florida (18)

DEPARTMENT OF MATHEMATICS
Adams, Francis, Anticliques in Borel graphs on polish spaces and computable ultrahomogeneous structures
Borcherding, Rebecca, Population thresholds and disease ecology
Cyr, Christopher, On S-semipermutable subgroups of simple groups
Milloken, Evan, Metapopulation models of infectious salmon anemia
Mohar, Todd, Local distribution of the number of small prime factors
Saeuced, Omar, Mathematical modeling of avian influenza
Ward, Larie, Shift operators on Hilbert spaces arising from trees
Zhang, Hao, Modeling and algorithm of information sharing in inverse problem

DEPARTMENT OF STATISTICS
Abrahamsen, Tavis, Convergence analysis of MCMC samplers for Bayesian linear mixed models with $P > N$
Feng, Wei, Models for the analysis of repeated attempt designs
Hao, Trung, Convergence analysis of birth-death Markov chains and Gibbs samplers
Parker, Robert, Some strong and weak limit theorems for double sums of random elements in branch spaces
Saha, Abhishek, Bayesian inference in Gaussian graphical models when the underlying graph is non-decomposable
Wang, Chuan, Contributions to Bayesian statistical methods for agricultural and biological engineering
Xiang, Ruoxuan, Consistency of high dimensional Bayesian models
Xu, Dandan, Bayesian nonparametric methods for analysis of electronic health records
Zhong, Xiaolong, Essays on empirical likelihood
Zhu, Guangyu, Likelihood based partial least squares

University of Florida College of Public Health (4)

DEPARTMENT OF BIOSTATISTICS
An, Qi, Optimal group sequential designs
Jingnan, Zhang, An early warning system for modeling and monitoring spatio-temporal pattern of infectious disease
Li, Yang, Population-based unified cure rate model and population-based Gompertz cure rate model
Xinrui, Zhang, Internal pilots with the univariate approach to repeated measures

University of Miami (2)

DEPARTMENT OF MATHEMATICS
Cardona Caviria, Jorge, On statistical solutions of evolution equations
Langdon, Christopher, Symmetric 1-twisted differentials and the quadric algebra

University of South Florida (11)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Assonken Tonfack, Patrick, Modeling in finance and insurance with Levy-Ito driven dynamic processes under semi Markov-type switching regimes and time domains
Enriquez-Savery, Sherlene, Statistical analysis of a risk factor in finance and environmental models for Belize
Flemman, Matthew, Putnam’s inequality and analytic content in the Bergman space
Hilton, Kristina, Dynamics of multicultural social networks
Kim, Doo Young, Statistical modeling of carbon dioxide and cluster analysis of time dependent information
Lappano, Stephen, Some results concerning permutation polynomials over finite fields
Manukure, Solomon, Hamiltonian formulations and symmetry constraints of Soliton hierarchies of (1+1)-dimensional nonlinear evolution equations
Tharu, Bhikari, Statistical analysis and modeling health data: A longitudinal study
Tu, Junyi, Global attractors and random attractors of reaction diffusion systems
Wang, Xing, Time dependent kernel density estimation: A new parameter estimation algorithm, applications in time series classification and clustering
Zoalroshd, Seyed, On spectral properties of single layer potentials

GEORGIA

Augusta University (3)
DEPARTMENT OF BIOSTATISTICS AND EPIDEMIOLOGY
Chen, Chen-Chun, Classification methods for circular-linear data using periodic functions
Hu, Fengjiao, A new method for analyzing harmonic measure, re-estimation using N-1 matched case control studies with incomplete data

Emory University (11)
DEPARTMENT OF BIOSTATISTICS AND BIOINFORMATICS
Alhant, Brooke, Methods for estimating the effects of air pollution on asthma under a changing climate
Jiang, Yunxuan, Statistical methods for rare-variant sequencing studies in pedigrees
Kemmer, Phebe, Statistical approaches for exploring brain connectivity with multimodal neuroimaging data
Wang, Lijia, Composite conditional likelihood
Watson, Domingu, Robust statistical methods for handling missing data
Yang, Jing, Flexible association methods for bivariate survival data

Mathematics and Computer Science Department
Chen, Isabel, Centrality measures and contagion and temporal networks
Fuller, Jessica, On saturation spectrum
Gordon-Sarney, Reed, Zero-cycles on Torse under linear algebraic groups
Kay, William, Extremal problems for graphs and hypergraphs
Shi, Huaqiang, Harmonic measure, reduced extremal length and quasi circles

Georgia Institute of Technology (5)
SCHOOL OF MATHEMATICS
Cohen, Emma, Problems in Catalan mixing and matchings in regular hypergraphs
Conway, James, Transverse surgery on knots in contact three-manifolds
He, Dawei, Special TK5 in graphs containing K4+
Mou, Chenchen, Uniqueness, existence, and regularity of solutions of integro-PDEs in domains of R^d
Xia, Dong, Statistical inference for large matrices

Georgia State University (11)
DEPARTMENT OF MATHEMATICS AND STATISTICS
An, Yueheng, Novel nonparametric methods for ROC curves
Gao, Wei, Minimum ranks and refined inertias of sign pattern matrices
Hora, Israel, Estimation of county level diabetes prevalence using Bayesian hierarchical model
Jayarajah, Jenny, Constructing empirical likelihood confidence intervals for medical cost data with censored observations
Li, Chenxue, Some novel statistical inferences
Mallins, Paula, A mathematical model for betal-adrenergic regulation of the mouse ventricular myocyte contraction
Rozier, Kelvin, A mathematical model of the combined ß1- and ß2- adrenergic signaling system in the mouse ventricular myocyte
Wang, Jing, Functional principal component analysis for discretely observed functional data and Sparse Fisher’s discriminant analysis with thresholded linear constraints
Xia, Jun, Statistical models and analysis of growth processes in biological tissue
Yates, Amy, Intersection of longest paths in graph theory and predicting performance in facial recognition
Zhang, Jiehuan, Analysis of traveling wave propagation in one-dimensional integrate-and-fire neural networks

HAWAII

University of Hawaii at Manoa (3)
DEPARTMENT OF MATHEMATICS
Brown, Jonathan, The maximum number of covers in a lattice and in other related posets
Mukai, Jared, The log-periodic power law model: An exploration
Verrette, Jean, Results on algebraic realization of equivariant bundles over the 2-sphere

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Iowa State University (29)
DEPARTMENT OF MATHEMATICS
Berikkyzy, Zhanar, The edit distance function: Forbidding induced powers of cycles and other questions
Dagotos, Kubilay, Large deviation results for random walks in a sparse random environment
Huyse, Kristin, Construction for cospectral graphs for the normalized Laplacian matrix and distance matrix
Li, Jiali, Congruence n-permutable varieties
Lin, Jephian C.-H., Variants of zero forcing and their applications to the minimum rank problem
Martinez Rivera, Xavier, The principal rank characteristic sequence and the enhanced principal rank sequence
Moss, Kevin, Coloring problems in graph theory
Raspberries, Darrin, On minimal support solutions of underdetermined systems of linear equations
Sanyal, Preechaya, Isomorphisms of uniform algebras on the 2-torus
Wang, Feifei, Computational modeling of impact and deformation
Doctoral Degrees Conferred

Wang, Stefanie, On free quasigroups and quasigroup representations

Department of Statistics

Almodovar Rivera, Israel, Some contributions to K-means clustering problems
Basulto Elias, Guillermo, Kernel deconvolution density estimation
Cao, Fan, Local polynomial kernel smoothing with correlated error
Foster, Robert Christian, Topics in empirical Bayesian analysis
Hadler, Jeremy, Forensic tool mark comparisons: Tests for the null hypothesis of different sources
Hare, Eric, Statistical methods for bullet matching
Howard, Reka, Evaluation of parametric and nonparametric statistical methods in genomic prediction
King, Emily Anne, Bayesian inference of virus evolutionary models from next-generation sequencing data
Landau, William, High-dimensional hierarchical models and massively parallel computing
Li, Qi, Decision making under uncertainties for renewable energy and precision agriculture
Lock, Dennis, Statistical methods in sports with a focus on win probability and performance
Michaud, Nicholas, Bayesian models and inferential methods for forecasting disease outbreak severity
Sievert, Carson Paul, Interfacing R with web technologies for interactive statistical graphics and computing with data
Trujillo Rivera, Eduardo, Non parametric regression models with and without measurement error in the covariates, for univariate and vector responses: A Bayesian approach
Xu, Yuhang, Selected topics in measurement error and functional data analysis
Yang, Yueran, To deny or confess: An interrogation decision-making model
Yin, Xin, Pobabilistic Methods for quality improvement in high through put sequencing data
Zhang, Wei, Numerical simulation of Dill, Benjamin, Applied Mathematical and

University of Iowa (33)

Applied Mathematical and Computational Sciences

Ambrose, Joseph, Dynamic field theory applied to fMRI signal analysis
Barela, Mario, A complimentarity approach to modeling dynamic electric circuits
Dill, Benjamin, Numerical simulation of the impact of a steel ball with a rigid foundation
Hu, Nan, A unified discrepancy-based approach for balancing efficiency and robustness in state-space modeling estimation, selection, and diagnosis
Landgren, Jeffrey, An acoustic eigenvalue problem and its application to electrochemistry
Michlin, Tracie, Using wavelet bases to separate scales in quantum field theory
Ongie, Gregory, Off-the-grid compressive imaging
Richmond, Nathaniel, On stochastic network design: Modeling approaches and solution techniques
Valeva, Silviya, Workforce and inventory management under uncertain demand
Walk, Julia, A mathematical model of the effects of multiple myeloma on renal function
Yang, Kai, Dynamics of energy critical nonlinear Schrödinger equation with inverse square potential
Zhao, Ze, Stochastic volatility models with applications in finance

Department of Biostatistics

Deonovic, Benjamin E, MCMC sampling methods for binary variables with application to Haplotyping phaseing allele specific expression
Fuqan-Rivera, keyla, A Bayesian correction for measurement error in pooled studies of residential radon and lung cancer
Wu, Hongqian, Proportional likelihood ratio model for longitudinal discrete interval data
Yu, Lin, Regularized efficient score estimation and testing (RESET) approach in low-dimensional and high-dimensional GLM

Department of Mathematics

Abdulwahid, Adnan, Cofree objects in the categories of comonoids in certain Abelian monoidal categories
Abmodovar Velazquez, Leyda, Studying brain networks via topological data analysis and hierarchical clustering
Bates, Dana, On a free boundary problem for ideal viscos and heat conducting gas flow
Draienga, Nathan, Quantum topology and me
Gerstle, Kevin, On the green rings of pointed, coeserial Hopf algebras
Griesenauer, Erin, Algebras of cross sections
Hino, Richard, Conformal transformations, curvature, and energy
Howard, Reka, Penalized methods and algorithms for high-dimensional regression
Ligoi, Richard, Pick interpolation, displacement equation, and W*-correspondences
Qin, Huan, Averages of fractional exponential sums weighted by Maas forms
Ramirez, Camila, P-bigon right-veeringness and over twisted contact structures
Rodman, Daniel, An infinite family of links with critical bridge spheres
Tipton, James, Reproducing kernel Hilbert spaces and complex dynamics
Yu, Lu, Wavelets on hierarchical trees

University of Idaho (2)

Department of Mathematics

Ikeda, Masaki, Enumeration of permutations indexing local complete intersection Schubert varieties
Rupert, Malcolm, An explicit Theta lift from Hilbert to Siegel paramodular forms

University of Wisconsin (3)

Actuarial Science

Somal, Harsimran, Heterogeneous computing for the Bayesian HINICAR model with incomplete data
Yu, Congrui, Penalized methods and algorithms for high-dimensional regression in the presence of heterogeneity
Zhou, Zhenhao, From valuing equity linked death benefits to pricing American options
Zhou, Ziqian, Statistical inference of distributed delay differential equations

IDaho

Idaho State University (1)

Department of Mathematics and Statistics

Klimas, Caitlin, Picard and Taylor kernels for self-adjoint second order differential equations

University of Idaho (2)

Department of Mathematics

Ikeda, Masaki, enumeration of permutations indexing local complete intersection Schubert varieties
Rupert, Malcolm, An explicit Theta lift from Hilbert to Siegel paramodular forms

IINNOIS

Illinois Institute of Technology (4)

Department of Applied Mathematics

Ha, Hansen, Numerical methods for two dimensional nonlocal equations arising from non-Gaussian stochastic dynamics
Hernandez, Francisco, A boundary integral method for computing the forces of moving beads in a 3-dimensional linear viscoelastic flow
Jimenez Rugama, Lluís Antoni, Adaptive quasi-Monte Carlo cubature
Zhao, Meng, An efficient adaptive rescaling scheme for computing Hele-Shaw problems

Illinois State University (2)

Department of Mathematics

Kanbir, Sinan, An intervention study aimed at enhancing seventh-grade students’ development of the concept of a variable
Rupnow, Theodore, Secondary mathematicians’ teachers’ learning through practice: The case of Rudy
Northern Illinois University (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Luuvsandash, Khulan, Change point detection for dependent spatio-temporal data
Paul, Erina, Approximate Bayesian computation in nonparametric Bayesian models
Wang, Andrew, Constrained and coxeter table algebras

Northwestern University (15)

DEPARTMENT OF MATHEMATICS

Couch, Michael, A study of the equivariant Gromov-Witten theory of the projective line and Eynard-Orantin recursion
Gao, Honghao, Augmentations and sheaves for knot conormals
Legg, Robert, An obstruction theory for comodules suited for producing elements of the exotic Picard group
Liang, Weiping Spencer, The Brown-Moy, Richard, An obstruction theory for Legg, Robert Gao, Honghao University, Approximate Bayesian computation in nonparametric Bayesian models
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University of Chicago (20)

DEPARTMENT OF MATHEMATICS

Akin, Victoria, An algebraic characterization of the point-pushing subgroup
Balibanu, Ana, The wonderful compactification and the universal centralizer
Chen, Gong, Dispersive equations with multiple potentials
Chen, Weiyan, Analytic number theory for o-cycles
Fan, Tiang, D-infinity modules on smooth rigid analytic varieties and locally analytic representations
Ho, Quoc, Free factorization algebra and homology of configuration spaces in algebraic geometry
Howe, Sean, Overconvergent modular forms and the p-adic Jacquet-Langlands correspondence
Johnstone, Daniel, A Gelfond-Graev formula and stable transfer factors for SLn
Lim, Chang Mou, A geometric height on genus one curves
Rodriguez, Casey, Stable soliton resolution for wave maps on a curved spacetime
Sakellaris, Georgios, Boundary value problems in Lipschitz domains for equations with drifts
Salter, Nicholas, The topology of surface bundle: Cohomology and enumeration of fibrations
Wang, Jonathan, On an invariant bilinear form on the space of automorphic forms via asymptotics
Wilmes, John, Structure, automorphisms, and isomorphisms of regular combinatorial objects
Xu, Zhaohui, In and around stable homotopy groups of spheres

University of Illinois at Chicago (17)

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Adali, Riza Seckin, Sinular loci of restriction varieties
Austin, Alexander, Logarithmic potentials and quasiconformal flows on the Heisenberg group
Bu, Xianwei, D-optimal designs for multinomial logistic models
Contrell, Michael, Ergodic theory and geometry of nilpotent groups
Cheng, Ling, Optimal biomarker-stratified design and adaptive design in mixture distributions
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Jonatho, Yaggie, Topics in knowledge representation belief revision and conditional knowledge bases
Lelkes, Adam Daniel, Algorithms and complexity results for learning and big data
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Zaya, Karen, Problems of regularity in models arising from fluid dynamics
Zheng, Xudong, The Hilbert schemes of points on singular varieties and Kodaira non-vanishing in characteristic p
Zieleni, Joseph, Compact structures in descriptive classification theory

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DEPARTMENT OF MATHEMATICS

Andersen, Nickolas, Arithmetic of maass forms of half-integral weight
Aramyan, Nerses, A construction of topological field theories
Compaan, Erin, Smoothing properties of certain dispersive nonlinear partial differential equations
Cong, Lin, Stability thresholds for signed Laplacians on locally-connected networks
Delcourt, Michelle, Viewing extremal and structural problems through a probablistic lens
Duarte Gelvez, Eliana, Syzygies and implicitization of tensor product surfaces

Northern Illinois University (3)

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Duarte Gelvez, Eliana, Syzygies and implicitization of tensor product surfaces

Soutthern Illinois University Carbondale (4)

DEPARTMENT OF MATHEMATICS

Adhikari, Kamal Mani, Realizations of simple smale flows on three-manifolds
Al-Hashmi, Ghazwan Mohammed, A zeta function for flows with L(-1,-1) template
Alsulaimani, Hamdan, Strict regularity of positive definite ternary quadratic forms
Pathak, Nimishaben Shailesh, Lyapunov-type inequality and eigenvalue estimates for fractional problems

University of Illinois at Urbana-Champaign (32)

DEPARTMENT OF MATHEMATICS

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Duarte Gelvez, Eliana, Syzygies and implicitization of tensor product surfaces

Southern Illinois University Carbondale (4)

DEPARTMENT OF MATHEMATICS

Adhikari, Kamal Mani, Realizations of simple smale flows on three-manifolds
Al-Hashmi, Ghazwan Mohammed, A zeta function for flows with L(-1,-1) template
Alsulaimani, Hamdan, Strict regularity of positive definite ternary quadratic forms
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University of Illinois at Chicago (17)

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Cheng, Ling, Optimal biomarker-stratified design and adaptive design in mixture distributions
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Zaya, Karen, Problems of regularity in models arising from fluid dynamics
Zheng, Xudong, The Hilbert schemes of points on singular varieties and Kodaira non-vanishing in characteristic p
Zieleni, Joseph, Compact structures in descriptive classification theory

University of Illinois, Urbana-Champaign (32)

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Duarte Gelvez, Eliana, Syzygies and implicitization of tensor product surfaces
Fieldsteel, Nathan, Some problems in polynomial interpolation and topological complexity
Gupta, Neha, Certain free group functions and untangling closed curves on surfaces
Heersink, Byron, Applications of dynamical systems to Farey sequences and continued fractions
Huan, Zhen, Quasi-elliptic cohomology
Huo, Zhenghui, A new computation of the Bergman kernel and related techniques
Klamkasal, Natawat, A look at T1 and Tb theorems on non-homogeneous spaces through time-frequency analysis
Lu, Qu, Intrinsic contractivity for some non-symmetric Lévy processes with non-local operators
McConvey, Andrew, Sufficient conditions for the existence of specified subgraphs in graphs
Nawaz, Tayyab, Applications of Stein’s method and large deviations principle’s in random field O(1/n) models
Nelson, Peter, A small presentation for Morava E-Theory power operations
Pechenik, Oliver, K-Theoretic Schubert calculus and applications
Petrickova, Sarka, Extremal problems on counting combinatorial structures
Rezvani, Sepideh, Approximating rotation algebras and inclusions of \( C^* \)-algebras
Santana, Michael, Extremal problems on cycle structure and colorings of graphs
Sharifzadeh, Maryam, Embedding problems and Ramsey-Turan variation in extremal graph theory
Spinoza, Hannah, On some problems in reconstruction
Vichitkunakom, Panupong, Cluster algebras and discrete integrable systems
Wise, Jennifer, Games on graphs, visibility representations, and graph colorings
Witsarut, Pho-On, Gromov boundaries of complexes associated to surfaces

DEPARTMENT OF STATISTICS
Bi, Xuan, Dimension reduction and efficient recommender system for large-scale complex data
Eisner, Robert David, Sampling for conditional inference on contingency tables, multigraphs, and high dimensional tables
Hu, Jianjun, Statistical methods for learning sparse features
Sengupta, Srijan, Statistical analysis of networks with community structure and bootstrap methods for big data
Shand, Lyndsay, Methods and applications for space-time data
Wang, Jin, Scalable algorithms for Bayesian variable selection
Ye, Sangbeak, Sequential mastery detection and Bayesian learning promotion under cognitive diagnostic models

INDIANA

Indian University–Purdue University Indianapolis (5)

DEPARTMENT OF MATHEMATICAL SCIENCES
Carichino, Lucia, Multiscale mathematical modeling of ocular blood flow and oxygenation and their relevance to glaucoma
Cassani, Simone, Compliant and collapsible tubes: Modeling, analysis and applications in medicine
Li, Lingnan, Maximum empirical likelihood estimation in \( U \)-statistics-based generalized estimating equations
Prada, Daniele, A hybridizable discontinuous Galerkin method for nonlinear porous media viscoelasticity with applications in ophthalmology
Yoo, Yeon Joo, Strategies to tackle ill-posed problems in biological systems

Indiana University, Bloomington (13)

DEPARTMENT OF MATHEMATICS
Chen, Yu-Yuan, Generalized Boole transformations with infinitely many singularities
Gupta, Nikhil, Spectral properties of the non-Euclidean Laplacian
Guo, Metin, Hypersurfaces with central convex cross sections
Hu, Hailiang, \( Z/3 \)-actions on \( S^8 \times S^8 \times S^8 \)
Huo, Wenru, The global attractor, finite dimensionality, determining modes and data assimilation of 2D Boussinesq system
Kim, Jiwon, Fixed points on \( p \)-adic period domains and rational conjugacy classes: An example for \( \text{GSp}(4) \)
Li, Yingwei, Pointwise stability estimates for shock and reaction diffusion waves
Lightfoot, Ashley, Invariants of link homotopy in dimension four
Nguyen, Phuong, Deterministic and stochastic partial differential equations in fluid and solid mechanics
Ong, Kiah Wah, On some dynamic transition problems
Timko, Edward, Polynomial tuples of commuting isometries constrained by 1-dimensional varieties
Tune, William, A lambda calculus for monotonicity reasoning
Zhang, Le, Very weak solutions of the Stokes problem in a convex polygon and its numerical simulation

Purdue University (18)

DEPARTMENT OF MATHEMATICS
Ahn, Sang Won, Oscillation of quenched slowdown asymptotic of RWRE in \( \mathbb{Z} \)
Chen, Yi, Local polynomial chaos expansion method for high dimensional stochastic differential equations
Lucas, Jason, Connecting models of configuration spaces: From double loops to strings
Mukundan, Vivek, Rees algebras and iterated Jacobian duals
Park, Eun Young, The error estimation in finite element method for the linear elasticity problems
Perlmutter, Michael, Martingales, singular integrals, and fourier multipliers
Yee, Zhao, Inverse surface scattering problems for elastic waves
Zhang, Xin, Extreme-strike and small-time asymptotics for Gaussian stochastic volatility model
Zheng, Yiqiang, Mathematical models of Ebola virus disease and vaccine preventable diseases

DEPARTMENT OF STATISTICS
Bermis, Kylee, A framework for the statistical analysis of mass spectrometry imaging experiments
Chakraborty, Piyas, Some constructive suggestions on false models
Huang, Qiming, Model-free variable screening, sparse regression analysis and other applications with optimal transformations
Ness, Robert, Bayesian methods for causal inference of cell signal transduction
Pan, Chao, Group transformation and identification with kernel methods and big data mixed logistic regression
Qu, Simeng, Some functional regression models in the frame work of reproducing kernel Hilbert space
Tong, Xiaosu, Divide and recombined for large complex data: Nonparametric-regression modeling of spatial and seasonal-temporal time series
Yu, Zhuqing, High dimensional inference for semiparametric models
Zheng, Faye, The design and statistical analysis of single-cell sequencing experiments

University of Notre Dame (9)

APPLIED AND COMPUTATIONAL MATHEMATICS AND STATISTICS
Kupaev, Timur, Multiscale simulation study of the effects of fiber alignment, bending and stress strain relations on fibrin networks
Machen, Michael, Krylov implicit integration factor methods for solving fourth order equations
Mahserejian, Shamt, Modeling study of the connection between microlevel TIP structures with macro-level phases for characterizing microtubule mechanism of dynamic instability
Specht, Alicja, Robust inference and network analysis for non-Gaussian gene-expression data
Hamdan, Mustafa Mahmoud Naji, Unbiasedness of homogeneity test of normal mean vectors under multivariate order restrictions
Mitchell, Colm Patrick, A capillary surface with no radial limits

University of Kentucky (26)
Department of Biostatistics
Appiah, Frank, Mixture modeling with applications in Alzheimer’s disease
Ding, Xiaohua, Modeling dementia risk, cognitive change, predictive rules in longitudinal studies
Morris, Sarah, Methods for determining time to return to play after recreational injury in field and court sport athletes
Smith, Rachel, Exploration of the misuse, abuse, and diversion of Gabapentin
Starnes, Catherine, Evaluating a bystander intervention program on reproductive coercion: Using quasi-experimental design strategies to address methodologic issues in randomized community prevention trials
Timinsa, Lava, Examining the activities, effectiveness, and contribution of local public health departments using a national longitudinal survey of public health systems

Department of Mathematics
Barnard, Kristen, Some take-away games on discrete structures
Croyle, Laura, Solutions to the $L^p$ mixed boundary value problem in $C^{1,1}$ domains
Gu, Shu, Homogenization of Stokes systems with periodic coefficients
Harney, Isaiah, Colorings of Hamming-distance graphs
Hedmark, Dustin, The partition lattice in many guises
Hough, Wesley, On independence, matching, and homomorphism complexes
Lindgren, Joseph, Orbital stability results for soliton solutions to non-linear Schrödinger equations with external potentials
Mosley, John, In search of a class of representatives for $SU$-cobordism using the Witten genus
Music, Michael, Inverse scattering for the zero-energy Novikov-Veselov equation
Schreffler, Morgan, Approximation of solutions to the mixed Dirichlet-Neumann boundary value problem on Lipschitz domains
Sordo Vieira, Luis, On $p$-adic fields and $p$-groups
Wolf, Robert, Compactness of isoresonant potentials
Yaouei, Zhang, The Bourgain spaces and recovery of magnetic and electric potentials of Schrödinger operators

Louisiana State University (2)
Department of Mathematics
Abeynanda, Gayan, Dynamic resonant scattering of near-monochromatic fields
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Liang, Xiao, Efficient numerical methods for nonlinear Schrödinger equations
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Yang, Xin, Machine learning techniques for high-dimensional neuroimaging data analysis

University of Memphis (5)

Department of Mathematical Sciences

Abayie Boateng, Nana Akwasi, On some exact nonparametric conditional test for clustered binary data
Binski, Scott, Games on grids and graphs
Sahasrabudhe, Julian, Extremal and Ramsey problems on graphs and the integers
Tag, Hyung-Joon, Some geometrical properties of Orlicz–Lorentz spaces and their Kantorovich spaces
Taylor, Aaron, Classes of operators on block spaces

University of Tennessee, Knoxville (7)

Department of Mathematics

Kang, Kai, Advanced sequential Monte Carlo methods and their applications to sparse sensor network for detection and estimation
Krumwiede, Tim, Surface energy in bond-counting models on Bravais and non-Bravais lattices
Loga, Christopher, Extension theorems on matrix weighted Sobolev spaces
Massaro, Tyler, Variable selection via penalized regression and the genetic algorithm using information complexity, with applications for high-dimensionalomics data
Pantha, Buddhi, Anthrax models involving immunology, epidemiology and controls
Pollesch, Nathan, Mathematical approaches to sustainability assessment and protocol development for the bioenergy sustainability target assessment resources (Bio-STAR)
Wang, Liguo, Numerical solutions of stochastic differential equations

Texas A&M University (29)
Department of Mathematics
Alotibi, Manal, Global-local nonlinear model reduction for flows in heterogeneous porous media
Barquero-Sanchez, Adrian, The Chowla-Selberg formula for CM fields and the Colmez conjecture
Carroll, David, Periodic points in shifts of finite type overgroups with connections to growth
Do, Ngoc, Some spectral problems in mathematical physics
Ergur, Alperen, Sparsity, randomness and convexity in applied algebraic geometry
Farnsworth, Cameron, Representation theory in the study of matrix rigidity
Guan, Yonghui, Equations for chow varieties, their secant varieties and other varieties arising in complexity theory
Kocak, Dilber, Growth of algebras and codes
Lee, Chak Shing, Generalization of mixed multiscale finite element methods with applications
Liu, Wen, Degeneracies in the eigenvalue spectrum of quantum graphs
Phillipson, Kaitlyn, Quantitative aspects of sums of squares and sparse polynomial systems

Rice University (20)
Computational and Applied Mathematics Department
Becker, Timothy, Bilevel clique interdict and related problems
Bencomo, Mario, Representation and estimation of seismic sources via multipoles
Deng, Xiaodi, A parallel-in-time gradient-type method for optimal control problems
Fast, Caleb, Novel techniques for the zero-forcing and p-median graph location problems
Magruder, Caleb, Projection-based model reduction in the context of optimization with implicit PDE constraints
Puelz, Charles, Numerical methods and applications for reduced models of blood flow
Vargas, Arturo, Hermite methods for the simulation of work propagation
Wang, Zheng, GPU-accelerated discontinuous Galerkin methods on hybrid meshes: Application in seismic imaging
Zhou, Muhong, Energy-conserving composite staggered-grid finite difference time domain scheme for order wave equation system

Statistics Department
Averbeck, Nathan, Contributions to the theory of homogeneous spaces and general compact metric spaces
Becker, Timothy, Mathematical approaches to sustainability assessment and protocol development for the bioenergy sustainability target assessment resources (Bio-STAR)
Wang, Liguo, Numerical solutions of stochastic differential equations

Vanderbilt University (2)
Department of Mathematics
Tang, Sui, Dynamical Sampling
Wen, Chenxu, Amenable extensions in II_1 factors

Vanderbilt University, School of Medicine (3)
Department of Biostatistics
Liu, Qi, Covariate-adjusted Spearman’s Rank correlation with probability-scale residuals
Samuels, Lauren, Aspects of causal inference within the evenly matchable population: The average treatment effect on the evenly matchable units, visually guided cohort selection, and bagged one-to-one matching
Smith, Derek, Empirical Bayes methods for modern statistical problems

Texas A&M University (29)
Department of Mathematics
Alotibi, Manal, Global-local nonlinear model reduction for flows in heterogeneous porous media
Barquero-Sanchez, Adrian, The Chowla-Selberg formula for CM fields and the Colmez conjecture
Carroll, David, Periodic points in shifts of finite type overgroups with connections to growth
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Guan, Yonghui, Equations for chow varieties, their secant varieties and other varieties arising in complexity theory
Kocak, Dilber, Growth of algebras and codes
Lee, Chak Shing, Generalization of mixed multiscale finite element methods with applications
Liu, Wen, Degeneracies in the eigenvalue spectrum of quantum graphs
Phillipson, Kaitlyn, Quantitative aspects of sums of squares and sparse polynomial systems

Southern Methodist University (11)
Department of Mathematics
Castro-Castro, Claudia, Nonlinearity, PT symmetry twist and disorder in the discrete nonlinear Schroedinger equation
Schoenfeld, Jessica, The existence of spontaneous parity-time symmetry breaking, assymmetric transport and defect modes in nonlinearity coupled Van Der Pol oscillations
Lagrone, John, Application and optimization of complete radiation boundary conditions
Liu, Yang, The immersed interface method for flow around non-smooth boundaries and its parallelization
Sheffield, Thomas, Collapses and ensemble dynamics in one and two dimensional weak wave turbulence

Statistics Department
Allen, Chelsea, Modeling of heaped cigarette count data
Fernando, Mahesh, Confidence intervals for the variance ratios in any unbalanced linear mixed model
Li, Lie (Nathan), Development of meta-analysis methods in biomedical studies
Liu, Bingchen, Ranked set sampling estimators of discrete distributions parameters and estimation of total from a population of unknown size
Lu, Wentao, Meta-analysis approaches to combine multiple gene set environment studies
Wang, Mumu, Using ranked set sampling with binary outcomes in cluster randomized designs

Baylor University (9)
Department of Mathematics
Averbeck, Nathan, Chaos in dendritic and Julia sets
Hunter, Rose, The specification property and chaos in multidimensional shift spaces and general compact metric spaces

Department of Statistical Sciences
Blair, Somer, Contributions to the theory and practice of prior elicitation in a biopharmaceutical research
Faya, Paul, Bayesian methods in nonclinical pharmaceutical statistics
Sims, Justin, Modeling nonlinear, nonstationary vector time series: Methods and applications
Vallejo, Jonathon, Some new applications of Bayesian longitudinal models
Van Zyl, Johanna, Evaluating treatment efficacy using AUC modeling
Waken, Robert, Flexible spatial interpolation and uncertainty quantification: With applications in radar rainfall estimation
Wu, Wenqi, Network meta-analysis with rare events and misclassified response
Texas Tech University (11)

Department of Mathematics and Statistics

Celik, Emine, Generalized Forchheimer flows of compressible fluids in heterogeneous porous media

Cherry, Ashley, Piecewise linear approximation for nonlinear programming problems

Dissanayake, Chandani, Finite element simulation of space/time behavior in a two species ecological stoichiometric model

Fan, Wenzhen, Control systems splines on the manifold of lines in \( \mathbb{R}^2 \)

Jeganathan, Pratheepa, Multivariate extensions of saddlepoint-based bootstrap and an empirical saddlepoint approximation method for smoothing survival functions under right-censoring

Li, Bo, Simultaneous inference based on rank regression in biomedical data analysis

Meek, Ashley, Block preconditioned implicit Runge-Kutta methods for the incompressible Navier-Stokes equations

Niu, Xu, Mathematics prerequisites for doctoral level studies in finance

Oki, Takafumi, Tracking orientation control satisfying Donders' constraint on SO(3)

Paragoda, Thanuja, Willmore and generalized Willmore energies in space forms

Prematilake, Chalani, Prediction of lower bounds of the number of sampling points for approximating shapes of planar contours

University of North Texas (7)

Mathematics Department

Caravana, Christopher, An extension of the Baire property and uniqueness of topologies on holomorphic functions

Dance, Cody, Contributions to descriptive set theory

Dave, Ojas, Irreducible modules for Yokonuma-type Hecke algebras

Holshouser, Jared, Partition properties for non-ordinal sets under the axiom of determinacy

Martin, James, Rankin-Cohen brackets for Hermitian Jacobi forms and Hermitian modular forms

Tomlin, Drew, A decomposition of the group algebra of a hyperoctahedral group

Uhl, Christine, Quantum Drinfeld Hecke algebras

University of North Texas Health Science Center (1)

Department of Biostatistics and Epidemiology

Atienza, Philamer, Adaptation of the genetic risk prediction model BRCAPRO for primary care settings

University of Texas at Arlington (9)

Department of Mathematics

Al-Dujaly, Hassan Abd Salman, Weighted upwinding compact scheme for shock capturing

Au, Melinda, Three-dimensional image reconstruction (3 direct) of sparse signals with MRI application

Boodhwani, Afshan, Nonparametric adaptive distribution-free procedure for crossover design with repeated measures

Chen, Xi, Numerical construction of diffeomorphism and its application to grid generation and image registration

Mitchell, Christopher, Calculating reproductive numbers for periodic epidemic systems

Poudyal, Basanti Sharma, Existence of exact zero divisors and totally reflexive modules in Artinian rings

Steele, Nathan, Support and rank varieties of totally acyclic complex

Texas State University (4)

Department of Mathematics

Miller, Geoffrey, Exploring mathematical flow: A case study of pre-service secondary teachers collaborating on model-eliciting activities

Namakshi, Nama, Creating a pathway to STEM: Role of an informal mathematics program

Rasche, Alexander, Is tutoring teaching? Exploring tutoring's potential to improve mathematics teacher education

Wilkerson, Joshua, Cultivating mathematical affections: Developing a productive disposition through engagement in service-learning

Park, Jungim, Unicity results for Gauss maps of minimal surfaces immersed in \( \mathbb{R}^m \)

Poll, Daniel, Stochastic dynamics in bump attractor models of spatial working memory

Suri, Nishant, Naimark’s problem for graph \( C^* \)-algebras

Ugar, Gul, Uniqueness results of algebraic curves and related topics

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Cohn, Lee, Rectifying stable infinity-categories and relative Koszul duality
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Morales Delgado, Javier Alejandro, Least action principles with applications to gradient flows and kinetic equations
Singh, Sukhpreet, Entropy theory for locally compact sofic groups
Villar Lozano, Maria Soledad, Relax, descend, and certify: Optimization techniques for typically tractable data problems
Yu, Hui, Some regularity results for nonlocal elliptic equations
Zhang, Rongting, Hybrid inverse problems in molecular imaging

University of Texas at Dallas (9)

Department of Mathematical Sciences

Acosta-Mejia, Cesar, Pseudolikelihood methods in multichannel change-point detection
Cao, Yuqing, Graphical modeling of biological pathways in genomics studies
Chen, Yaping, Deterministic computation of the low probability tail of the velocity distribution due to particle collisions in spatially homogeneous plasmas
Datta, Ananda, Detecting rare haplotype association: Comparison of existing population-based methods and a new family-based quantitative lasso method
Herzog, Emily, Spin groups and exponenation
Rathnayake, Lasitha, Stability of planar detonations
Saka, Takeshi, Connections among multivariate rank functions, depth functions, and sign and signed-rank statistics
Wang, Yuan, Detecting rare haplotype-environment interaction under uncertainty of gene-environment independence assumption with an extension to complex sampling data

UTAH

Brigham Young University (2)

Department of Mathematics

Jiang, Ana, American spread option pricing with stochastic interest rates
Lytle, Joshua, Stability of planar detonations in the reactive Navier-Stokes equations

University of Utah (15)

Department of Mathematics

Albright, Eric Jason, Numerical methods based on difference potentials for models with material interfaces
Barsky, Patrick, Intensity-only imaging with waves, restarted inverse Born series, and the analysis of coarsening in polycrystalline materials
Basinski, Andrew, Area-restricted search strategies in groups of foraging ants
Bezdek, Pavel, Approximation and blow-up problems in stochastic differential equations
Childs, Parker, Analysis of stochastic chemical reactions through state space reduction
Choi, Sung Chan, Analysis of spatial Parrondo games with modified game A
Eason, Joseph, Modeling the effects of worker rules on territorial conflicts in ants
Fan, Honglu, Gromov-Witten theory of projective bundles
Johnson, Jared, Two enumerative problems in algebraic geometry
Karamched, Bhargav, Mathematical models of motor-based intracellular transport
Lam, Tony, Central limit theorem for random polymers in weak disorder
Li, Shuh-Tang, Comparisons for parabolic stochastic partial differential equations
Lindo, Haydee, Trace ideals and centers of endomorphism rings
Wang, Yuan, Birational geometry of irregular varieties in zero and positive characteristic
Xu, Bin, Mathematical models of cell polarization

Utah State University (5)

Department of Mathematics and Statistics

Bailey, Sean, To dot product graphs and beyond
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Lewis, Matthew, Laboratory experiences in mathematical biology for post-secondary mathematics students
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Yi, Ju, Definition and construction of entropy satisfying multiresolution analysis (MRA)

VIRGINIA

College of William and Mary (1)

Department of Applied Science

Pelejo, Diane Christine, Matrix results and techniques in quantum information science and related topics

George Mason University (8)

Department of Mathematical Sciences

Badrighaish, Manal, Modeling, analysis, and computation of non-linear soft tissue interaction with flow dynamics with application to aneurysms
de Silva, Hasitha, Large deviations and rare event simulations for portfolio credit risk
O'Neill, Patrick, Analyzing and extending the distance-to-measure gradient flow using higher order Voronoi diagrams

DEPARTMENT OF MATHEMATICS
Alhatjar, Elie, A new valuation on lattice polytopes
Hmioouch, Nacir, Weighted composition operators acting on some classes of Banach spaces of analytic functions
Mendelson, Samuel, Matrix algebras: Equivalent ring relations and special presentations
Whelan, George, Generalized depth and associated primes in the perfect closure $\mathbb{F}^n$

DEPARTMENT OF STATISTICS
Zhang, Zijing, Rendered 3D graphical exploration of multivariate data based on truncated octahedron binning, gray-level image processing and cognistics

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DEPARTMENT OF MATHEMATICS AND STATISTICS
Poddar, Arjun, Analysis of dependent discrete choices using Gaussian copula

UNIVERSITY OF VIRGINIA (7)
DEPARTMENT OF STATISTICS
Diver, Paul, A methodology for two-level product partition model estimation of normal means
Lu, Miao, Single-index models with varying co-efficients

DEPARTMENT OF MATHEMATICS
Bonventre, Peter, Comparison of models for equiangular operands
Ko, Hankyung, Representations of quantum groups at roots of unity and their reductions mod $p$ to algebraic group representations
Kochalski, Katelynn, Fluid limits and the batched processor sharing model
Leitmann, Keith, Turbulence, regularity, and geometry in solutions to the Navier-Stokes and magnetohydrodynamic equations
Wang, Bo, A generalization of Martingale theory to self-averaging processes

VIRGINIA COMMONWEALTH UNIVERSITY (1)
DEPARTMENT OF STATISTICAL SCIENCES AND OPERATIONS
Moradi Rekabdarkolaee, Hossein, Dimension reduction and variable selection

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY (15)
DEPARTMENT OF MATHEMATICS
Chen, Xiaofeng, Plane permutations and their applications to graph embeddings and genome rearrangements
Cui, Jing, Boundary controllability and stabilization of nonlinear Schrodinger equations in a finite interval
Eastridge, Samuel, First cohomology of some infinitely generated groups
Erwin, Samantha, Mathematical models of immune responses to infectious diseases
Kuster, George, On the role of student understanding of function and rate of change in learning differential equations
Letona-Bolivar, Cristina, On a class of parameterized domain optimization problems with mixed boundary condition types
Shifer, Ryan, Equivariant quantum cohomology of the odd symplectic Grassmannian
Xie, Xaping, Large Eddy simulation reduced order models

DEPARTMENT OF STATISTICS
Carzollo, Marcos, On a selection of advanced Markov chain Monte Carlo algorithms for everyday use: Weighted particle, tempering practice reversible jump and extensions
Kang, Xiaoning, Contributions to large covariance and inverse covariance matrices estimation
Keefe, Matthew, Statistical monitoring and modeling for spatial processes
Rhodes, Austin, Accelerated life test modeling using median rank regression
Song, Yuhyun, Linkage based Dirichlet processes
Sun, Jinhui, Robust feature screening procedures for mixed type of data
Yuan, Miao, Corporate default predictions and methods for uncertainty quantifications

WASHINGTON UNIVERSITY (34)
APPLIED MATHEMATICS DEPARTMENT
Lansdell, Benjamin, On renewal encoding: Its estimation, application, and development
Ma, Yian, Irreversibility in stochastic dynamic models and efficient Bayesian inference
Massey, Susan, Multi-scale modeling of paracrine PDGF-driven glioma growth and invasion
Moe, Scott, High-order shock capturing methods with compact stencils for use with adaptive mesh refinement and mapped grids
Oleskiw, Timothy, On computing shape: A study of the neural processes concerning naturalistic boundary confirmation within the ventral visual pathway
Rim, Donsub, Uncertainty quantification problems in tsunami modeling and reduced order models for hyperbolic partial differential equations
Segal, Benjamin, The stability and instabilities of stationary solutions to the nonlinear Schroedinger and sine-Gordon equations
Shapero, Daniel, Data assimilation problems in glaciology
Thakkar, Niket, Energy and charge transfer in open plasmionic systems

DEPARTMENT OF BIOSTATISTICS
Brown, Lisa, Statistical methods in ad-mixture mapping: Mixed model based testing and genome-wide significance thresholds
Chen, Shizhe, Flexible modeling and estimation for high-dimensional graphs
Fisher, Leigh, Modeling of infectious disease surveillance data
Keller, Joshua, Methods for confounding adjustment and high-dimensional environmental exposures
Kirk, Jennifer, Statistical methods for inferring population structure with human genome sequence data
Koh, William Jen Hoe, Adaptive designs in the time to event setting: The potential for benefit and risk
Korpak, Anna, Methods for hypothesis testing in animal carcinogenicity experiments
Morrison, Jean, Flexible strategies for association analysis with genomic pheotypes
Peterson, Ashley, Data-adaptive modeling using convex regression
Prince, David, Searching for predictive subgroups
Sheng, Elisa, Methods for estimating causal effects of treatment in RCT’s with simultaneous provider and subject noncompliance
Spiker, Andrew, Recovering natural history: Modeling cardiovascular biomarkers in the presence of endogenous medication use

DEPARTMENT OF MATHEMATICS
Hoberg, Rebecca, Bin packing, number balancing, and rescaling linear programs
Nimer, Abdalla Dali, Geometry of n-uniform measures
Paquette, Courtney, Structure and complexity in non-convex and non-smooth optimization
Ramadas, Harishchandra, Algorithms in discrepancy theory and lattices
Doctoral Degrees Conferred

Wang, Lidan, Non-local operators, jump diffusions and Feynman-Kac transforms

Department of Statistics
Azose, Jonathan, Projection and estimation of international migration
Green, Christopher, Applications of robust statistical methods in quantitative finance
Greene, Evan, Finite sampling exponential bounds
Grimson, Fiona, Scalable methods for the inference of identity by descent
Loh, Wen Wei, Finite population inference for causal parameters
McQueen, James, Scalable manifold learning and related topics
Xu, Jason, Likelihood-based inference for partially observed multi-type Markov branching processes
Young, William Chad, Bayesian methods for inferring gene regulatory networks

Washington State University (5)

Department of Mathematics and Statistics
Cameron, Thomas, On the computation of eigenvalues, spectral bounds, and Hessenberg form for matrix polynomials
Han, Bo, Interior point algorithms for stochastic semidefinite programming
Landholm, Ian, Studying and supporting the teaching practice of calculus teaching assistants
Payton, Spencer, Student logical implications and connections between symbolic representations of a linear system within the context of an introductory linear algebra course
Streifel, Amy, Skew characteristic polynomials of cacti

WEST VIRGINIA

West Virginia University (6)

Department of Mathematics
Abd Al-Rahem, Mushtaq, A multidimensional technique for measuring consensus within groups via conditional probability
Amsaad, Mohamed, Well-defined Lagrangian flows for absolutely continuous curves of probabilities on the line
Anderson, Janet, A study of arc strong connectivity of digraphs
Elmagribi, Fairouz, Moment-type nonparametric estimation in some direct and indirect models
LaRue, Renee, An analysis of student approaches to solving optimization problems in first semester calculus

Vincent, Brittany, First semester calculus students’ concept definitions and concept images of the tangent line and how these relate to students’ understandings of the derivative

Wisconsin

Marquette University (5)

Department of Mathematics, Statistics and Computer Science
Addo, Ivor, Designing human-centered collective intelligence
Baur, Brittany, Inferring regulators from multiple types of biological data in cancer
Gani, Md Osman, A novel approach to complex human activity recognition
Kociuba, Mary, A Fourier description of covariance, and separation of simultaneously encoded slices with in-plane acceleration in fMRI
Stamm, Karl, Gene set enrichment and projection displays: A computational tool for knowledge discovery in transcriptomes

Medical College of Wisconsin (2)

Division of Biostatistics
Martens, Michael, Group sequential design and sample size calculations for covariate adjusted competing risks and survival analysis
Shi, Yushu, Weibull mixture models for regression in the context of time-to-event data

University of Wisconsin, Madison (30)

Department of Mathematics
Abbott, Carolyn, Acylindrical actions on hyperbolic spaces
Dimou, Evangelos, Maximal estimates for solutions to dispersive equations
Emrah, Elnar, Exactly solvable inhomogeneous corner growth models
Jain, Lalit, Big model monodromy for families of G-covers
Janjigian, Christopher, Large deviations for certain solvable directed polymer models
Kabakulak, Ahmet, A-infinity algebras and ribbon graphs
Li, Yu, Ricci flow on asymptotically Euclidean manifolds
Matei, Vlad, A geometric perspective on some arithmetic statistics questions over function fields over finite fields
Mueller, Peter, Unsteady homogenization and heat transfer in microchannels
Poskin, Jeff, Representability in mixed integer quadratic programming
Ross, Daniel, The Ulam sequence and related phenomena

Rush, Keith, Orthogonal polynomials on the unit circle: Steklov problems and weight perturbations
Tveite, Paul, Effectivizations of dimensional and cardinal characteristics
Wang, Jason, Phylogenetic reconstruction accuracy in the face of heterogeneity, recombination, and reticulate evolution
Wang, Kejia, A journey to low spherical discrepancy
Wen, Huanyu, Winding problems of planar Markov processes

Department of Statistics
Choi, Jeey, Pre-processing and statistical inference methods for high-throughput genomic data with application to biomarker detection and regenerative medicine
Davis, John, Size-biased sampling in disparity analysis
Kim, Donggyu, Statistical inferences on high-frequency financial data and quantum state tomography
Li, Yuanzhi, Contributions to classification and regression trees
Liu, Shixue, Regularized outcome weighted subgroup identification with smooth hinge loss
Nie, Xiao, Some methods for large-scale statistical computing and modeling computer simulations
Park, Gunwoong, Large-scale directed graphical model learning
Qi, Cuicui, Model-assisted regression estimator for longitudinal data with non-ignorable dropout
Sadeghi, Soheil, Sliced designs for multi-platform online experiments
Ta, Tram, Generalized regression estimators with high-dimensional covariates
Vieira Nunes Ludwig, Guilherme, Data fusion and spatial confounding in semiparametric methods for spatial and spatio-temporal data
Wendelberger, Barbara, Exploiting biology’s structure-function relationship to improve effective connectivity estimates in neuroimaging
Xie, Yaoguo, Topics on multivariate and high-dimensional data
Zhang, Grace (Xin), Statistical methods for high frequency financial data

University of Wisconsin, Milwaukee (10)

Department of Mathematical Sciences
Asante-Asamani, Emmanuel, A real distinct poles exponential time differencing scheme for advection-diffusion reaction equations
Berga, Joseph, Asymptotic expansion of the L^2-norm of a solution of the strongly damped wave equation
Harlass, Carsten, Density estimation for lifetime distributions under semiparametric random censorship models
Jiang, Yi, Nonlocal Debye–Hückel equations and nonlocal linearized Poisson-Boltzmann equations for electrostatics of electrolytes
Tidmore, Joseph, Cocompact cubulations of mixed 3-manifolds
Ying, Jinyong, Domain decomposition based hybrid methods of finite element and finite difference and applications in biomolecule simulations

DEPARTMENT OF MATHEMATICS
Bauer, Tyler, Estimating the selection gradient of a function-valued trait
Hoeppner, Matthew, On some one-complex dimensional slices of the boundedness locus of a multi-parameter rational family
Zhao, Qian, Robust and computationally efficient methods for fitting loss models and pricing insurance risks

DEPARTMENT OF MATHEMATICS AND ATMOSPHERIC SCIENCES
Haulmark, Matthew, Splittings of relatively hyperbolic groups and classifications of 1-dimensional boundaries

WYOMING
University of Wyoming (4)

DEPARTMENT OF MATHEMATICS
Jennings, Rachel, Modeling the transmission and maintenance of low pathogenic Avian influenza among wild birds with environmental heterogeneity and host conditions
Kuang, Dongyang, A particle method for Euler Poincare equation and its applications in analysis of landmark based image templates
Seo, Mookwon, Alternative models for water in filtration and oil reservoirs in ground
Torsu, Prosper, Uncertainty quantification and models of multiphase flow in porous media
Listings of the actual departments that comprise these groups are available on the AMS website at www.ams.org/annual-survey/groupings.

### A department is in Group...

<table>
<thead>
<tr>
<th>A department is in Group...</th>
<th>...when its subject area, highest degree offered, and PhD production rate p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Public Large</td>
<td>Math PhD, 7.0 ≤ p</td>
</tr>
<tr>
<td>Math Public Medium</td>
<td>Math PhD, 3.9 ≤ p &lt; 7.0</td>
</tr>
<tr>
<td>Math Public Small</td>
<td>Math PhD, p &lt; 3.9</td>
</tr>
<tr>
<td>Math Private Large</td>
<td>Math PhD, 3.9 ≤ p</td>
</tr>
<tr>
<td>Math Private Small</td>
<td>Math PhD, p &lt; 3.9</td>
</tr>
<tr>
<td>Applied Math</td>
<td>Applied mathematics, PhD</td>
</tr>
<tr>
<td>Statistics</td>
<td>Statistics, PhD</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>Biostatistics, PhD</td>
</tr>
<tr>
<td>Masters</td>
<td>Math, masters</td>
</tr>
<tr>
<td>Bachelors</td>
<td>Math, bachelors</td>
</tr>
<tr>
<td>Doctoral Math</td>
<td>Math Public, Math Private, &amp; Applied Math</td>
</tr>
<tr>
<td>Stat/Biostat or Stats</td>
<td>Statistics &amp; Biostatistics</td>
</tr>
<tr>
<td>Math</td>
<td>All groups except Statistics &amp; Biostatistics</td>
</tr>
</tbody>
</table>

### Department Response Rates by Grouping

<table>
<thead>
<tr>
<th>Group</th>
<th>Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math Public Large</td>
<td>26 of 26 including 0 with no degrees</td>
</tr>
<tr>
<td>Math Public Medium</td>
<td>40 of 40 including 0 with no degrees</td>
</tr>
<tr>
<td>Math Public Small</td>
<td>67 of 68 including 8 with no degrees</td>
</tr>
<tr>
<td>Math Private Large</td>
<td>23 of 24 including 0 with no degrees</td>
</tr>
<tr>
<td>Math Private Small</td>
<td>28 of 28 including 1 with no degrees</td>
</tr>
<tr>
<td>Applied Math</td>
<td>30 of 30 including 2 with no degrees</td>
</tr>
<tr>
<td>Statistics</td>
<td>58 of 59 including 4 with no degrees</td>
</tr>
<tr>
<td>Biostatistics</td>
<td>33 of 46 including 4 with no degrees</td>
</tr>
<tr>
<td>Total</td>
<td>315 of 321 including 4 with no degrees</td>
</tr>
</tbody>
</table>

As of press time for this issue of Notices, the following departments had not responded to the survey. Therefore, any PhDs which may have been awarded by these departments are not included in this report.

### Mathematics Departments
- California Institute of Technology
  University of Puerto Rico, Rio Piedras

### Statistics Departments
- University of Pennsylvania

### Biostatistics Departments
- Saint Louis University College for Public Health & Social Justice
  University of Illinois at Chicago
- University of Texas–School of Public Health

### Doctoral Degrees Conferred 2016–2017

#### Supplementary List

The following list supplements the list of thesis titles published in the September 2018 Notices, pages 969–999.

#### CALIFORNIA

**Stanford University (26)**

- **Statistics**
  - Choi, Yunjin, Selecting the dimension of a subspace in principal component analysis and canonical correlation analysis.
  - Dobriban, Edgar, Topics in high-dimensional asymptotics.
  - Erdoglu, Murat Anil, Stein’s Lemma and subsampling in large-scale optimization.
  - Fukuyama, Julia, Multivariate methods for the analysis of structured data.
  - Gormley, Jackson, Measuring sample quality with Stein’s method.
  - He, Hera, Efficient permutation P-value estimates for gene set tests.
  - Huang, Ruojun, Monotone interactions of random walks and graphs.
  - Janson, Lucas, A model-free approach to high-dimensional inference.
  - Jiang, Bai, Two parameter inference methods in likelihood-free models: approximate Bayesian computation and contrastive divergence.
  - Kou, Jiayao, Large-scale inference with block structure.
  - Lee, Minyong, Prediction and dimension reduction methods in computer experiments.
  - Liu, Linxi, Convergence rates of a class of multivariate density estimators based on adaptive partitioning.
  - Loftus, Joshua, Post-selection inference for models characterized by quadratic constraints.
  - Michael, Haben, Evaluating diagnostics under dependency.
  - Pekelis, Leonid, Flase discoveries with dependence, towards an objective inference.
  - Powers, Scott, Leveraging similarity in statistical learning.
  - Sen, Subhabrata, Optimization, random graphs, and spin glasses.
  - Sepehri, Amir, Non-parametric goodness-of-fit testing and applications.
  - Tian, Xiaoying, Topics in selective inference.
  - Wager, Stefan, Causal inference with random fields.
  - Wang, Jingju, Factor analysis for high dimensional inference.
  - Xiang Gao, Qingyuan, Scalable estimation and inference for massive linear mixed models with crossed random effects.
  - Zhao, Qingyuan, Topics in causal and high dimensional inference.
  - Zheng, Charles Yang, Supervised evaluation of representations.

**University of California, Los Angeles (10)**

- **Statistics**
  - Gordon, Joshua Seth, Nonparametric estimation forecasts, and model evaluation of spatial temporal point process models for California seismicity.
  - Ho, Hao, Integrative analysis of genomic and transcription data in Taiwanese lung and adenocarcinomas.
  - Lu, Yang, Coupling and learning hierarchical generative and descriptive models for image systems and analysis.
  - Mao, Junhua, Multimodal learning for vision and language.
  - Razae, Zahra, Community detection in networks with node covariates.

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Rosario, Ryan Robert, A data augmentation approach to short text classification.
Wang, Jianyu, Modeling objects and parts by compositional relations.
Wang, Peng (Jerry), Joint multiple visual task understanding from a single image via deep learning and conditional random field.
Xia, Fangting, Pose-guided human semantic part segmentation.
Yu, Chengcheng (Joyey), Single view 3D reconstruction and parsing using geometric commonsense for scene understanding.
University of California, Merced (5)
School of Natural Sciences
Adhikari, Lasith, Nonconvex sparse recovery methods.
Dark, Julie, A theoretical understanding of circular polarization memory.
Davis, Jason Karl, Mathematical models of prions in S. cerevisiae.
Sandowal, Christopher, Generalized Kubelka-Munk theory—A derivation and extension from radiative transfer.
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Statistics & Applied Probability
He, Jingyi, Fixed mixed effects models with big data.
Shi, Jian, Some contributions to smoothing spline density estimation and inference.
Zhu, Ling, Regularization and look-ahead procedures for selection of basic functions from multiple libraries.
COLORADO
Colorado State University (3)
Statistics
Liao, Xiyue, Change-point estimation using shape-restricted regression splines.
Wang, Lulu, Some topics on model-based clustering.
Weller, Zachary, Nonparametric tests of spatial isotropy and calibration-capture-recapture.
CONNECTICUT
Yale University (1)
Statistics and Data Science
DISTRICT OF COLUMBIA
George Washington University (8)
Statistics
Chen, Chen, Advances in urn models and applications to self-similar bipolar networks.
Cheung, Li, Mixture models for left- and interval-censored data and concordance indices for composite survival outcomes.
Feng, Yarong, On fast growth models for random structures.
Huang, Hailin, Semi-parametric and structured nonparametric modeling.
Wang, Cong, Analysis for familial aggregation using recurrence risk for complex survey data.
Yang, Aotian, Constrained maximum entropy models for selecting genotype interactions associated with interval-censored failure times and methods for power calculation in a three-arm four-step clinical bioequivalence study.
Yang, Biao, Particle and ensemble methods for state space models.
Zhao, Wanying, Adaptive designs utilizing covariates for precision medicine and their statistical inference.
Howard University (1)
Mathematics
Pleasant, Kendra, When Ramsey meets Stone-Cech: Some new results in Ramsey theory.
FLORIDA
University of South Florida (2)
Epidemiology & Biostatistics
Sebastião, Yuri Combo Vanda, Racial and ethnic differences in low-risk cesarean deliveries in Florida.
ILLINOIS
Northwestern University (4)
Statistics
Gao, Yi, On a generalization of the Gini correlation for statistical data mining.
Hu, Xiaofei, Volatility estimation for integer-valued financial time series.
Mei, Yuan, Small dispersion asymptotics in stratified models.
Seeskin, Zachary, Topics on official statistics and statistical policy.
KENTUCKY
University of Louisville (2)
Bioinformatics & Biostatistics
Dutta, Sandipan, Some contributions to nonparametric inference for clustered and multistate data.
Shah, Jasmit, Novel statistical approaches for missing values in truncated high-dimensional metabolomics data with a detection threshold.
MISSOURI
University of Missouri–Columbia (3)
Statistics
Cheng, Yuan, Bayesian analysis of fMRI data and RNA-Seq time course experiment data.
Wang, Henan, Bayesian partition models for DNA methylation analysis.
Yu, Guanglei, Regression analysis of panel count data with informative observations and drop-outs.
NEW YORK
Clarkson University (1)
Mathematics & Computer Science
Al Basheer, Aladene, A mathematical investigation of the effects of cannibalism in two and three species predator-prey systems.
Columbia University (4)
Applied Physics & Applied Mathematics
Dundapani, Aditi, Enlargement of filtration and the strict local Martingale property in stochastic differential equations.
Sheavit, Daniel, Extreme weather: Subtropical floods and tropical cyclones.
Tian, Xiaochuan, Nonlocal models with a finite range of nonlocal interactions.
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Chen, Yakuan, Methods for functional regression and nonlinear mixed-effects models with applications to PET data.
Cornell University (7)

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Dias, Jishnu, Using protein interactome networks to understand human disease and evolution.

Gao, Feng, Utilizing rare and X-linked variants for inference of population size history and association studies of complex diseases.

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Ramstetter, Monica, High resolution relative detection via inference of identical by descent sharing of sample ancestors.

Sinclair, David Giles, Model selection results for latent high-dimensional graphical models on binary and count data with applications of fMRI and genomics.

Zawack, Kelson, A comprehensive analysis of the United States' National Resistance Monitoring System.

**Mathematical Sciences**

Heath, Emily, Optimization approaches to problems in network mitigation and restoration.

Pickering, William, Solution of urn models by generating functions with applications to social, physical, biological, and network sciences.

Shen, Xin, Complimentary formulations for problems with sparsity objective.

**NORTH CAROLINA**

North Carolina State University (12)

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Alfaro Cordoba, Marcella, Variable selection methods with applications to atmospheric sciences.

Choi, Bong Seog, Testing and estimation under hidden activity.

Das, Priyam, Bayesian quantile regression.

Hager, Sarah Rebecca, Optimal dynamic treatment regimes from a classification perspective for two stage studies with survival data.

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Morris, Samuel Alan, Spatial methods for modeling extreme and rare events.

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Peng, Huimin, Selection and inference for high-dimensional regression with applications in biomedical research.

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**Pennsylvania**

Carnegie Mellon University (2)

**Statistics**

Asher, Jana, Methodological innovations in the collection and analysis of human rights violation data.

Chen, Yen-Chi, Statistical inference using geometric features.

Pennsylvania State University (6)

**Statistics**

Berstein, Jason, Inference of biophysical diffusion with transient binding using particle filters and stochastic EM.

Chu, Wanghuan, Feature screening for ultra-high dimensional longitudinal data.

Hao, Han, Modeling the genetic architecture of complex traits.

Russell, James, Stochastic models for individual and collective animal movement.

Tao, Rui, Functional data based inference for high frequency financial data.

Xu, Zhanxiang, Efficient parameter estimation methods using quantile regression in heteroscedastic methods.

University of Pittsburgh (2)

**Statistics**

Lee, Sung Won, Analysis of variation structure of high-dimensional multi-block data.

Zhang, Yun, Cluster analysis and network community detection with application to neuroscience.

**SOUTH CAROLINA**

University of South Carolina (1)

**Epidemiology & Biostatistics**

Xu, Xinling, Statistical methods for multivariate and correlated data.

**VERMONT**

University of Vermont (4)

**Mathematics & Statistics**

Cody, Emily, Mathematical modeling of public opinion using traditional and social media.

McAndrew, Thomas, Weighted networks: Applications from power grid construction to crowd control.

Regan, Andrew, Towards a science of human stories: Using sentiment analysis and emotional arcs to understand the building blocks of complex social systems.

Stephens, Thomas, Topological methods for evolution equations.

**Virginia**

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**Biostatistics**

Czarnota, Jenna, Modeling spatially varying effects of chemical mixtures.

Evani, Bhanu, Weighted quantile sum regression for analyzing correlated predictors acting through a mediation pathway on a biological outcome.

Ferber, Kyle, Methods for predicting an ordinal response with high-throughput genomic data.

Joshi, Kabita, Finding the cutoff point of a continuous covariate in a parametric survival analysis model.