Doctoral Degrees Conferred

2017–2018

ALABAMA

Auburn University (7)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Dempsey, Emily, Automorphisms of subspace designs

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

Ford, Jeffrey, Measure-preserving dynamical systems on $\mathbb{R}^3$ with all trajectories bounded

Liu, Jianzhen, Toepliz matrices are unitarily similar to symmetric matrices

McQuaig, Bradley, Morita-equivalence between strongly non-singular rings and the strutcher of the maximal ring of quotients

Ngoma Koumba, Bertran Sedar, Inverse source problem and inverse diffusion coefficient problem for parabolic equations with applications in geology

Sun, Wei, Rank-based methods for single-index varying coefficient models

University of Alabama (4)

DEPARTMENT OF MATHEMATICS

Dinh, Khanh, Inexact methods for the chemical master equation with constant or time-varying properties and applications to parameter inference

He, Xuan, Variational models with elastica energies: A comparison, a new model, and new algorithms

Liu, Sijie, Develop interval and non-interval methods for solving multi-objective optimization problems

Luo, Xin, Development of model interval algorithm for solving continuous minimax problems

University of Alabama at Birmingham (5)

DEPARTMENT OF BIOSTATISTICS

Hillegass, William, Comparative performance and clinical utility of indirect treatment comparison estimators

Li, Yan, Sample size re-estimation for confirmatory two-stage multi-arm trials with normal and binary outcomes

Lirette, Seth, A statistical approach to computed tomography perfusion

Liu, Yuliang, Univariate frailty model for competing risks data analysis

Turley, Falynn, Statistical tests of confounding

University of Alabama–Huntsville (1)

DEPARTMENT OF MATHEMATICAL SCIENCES

Sewell, Jonathan, Vortex based distinguishing collections

ARIZONA

Arizona State University (22)

MATHEMATICS, COMPUTATIONAL AND MODELING SCIENCES CENTER

Burkow, Daniel, Intramyocellular lipids and the progression of muscular insulin resistance

Espinoza, Baltazar, Consequences of short term mobility across heterogeneous risk environments: The 2014 West African Ebola outbreak

Manning, Miles, Patterns in knowledge production

Messan, Komi, Prey-predator "host-parasite" models with adaptive dispersal: application to social animals

Moreno, Victor, Understanding the impact of social factors on the transmission dynamics of infectious diseases across highly heterogeneous risk environments

Nazari, Fereshteh, Mathematical model for IL-6-mediated tumor growth, invasion and targeted treatment

SCHOOL OF MATHEMATICAL AND STATISTICAL SCIENCES

Baez, Javier, Mathematical models of androgen resistance in prostate cancer patients under intermintent androgen suppression therapy

Dassanayake, Mudiyanselage Maduranga, A study of components of Pearson's chi-square based on marginal distributions of cross-classified tables for binary variables

Frank, Kristin, Examining the development of students' covariational reasoning in the context of graphing

Gilg, Brady, Critical coupling and synchronized clusters in arbitrary networks of Kuramoto oscillators

Irimata, Katherine, Essays on the identification and modeling of variance

Irimata, Kyle, Three essays on correlated binary outcomes: Detection and appropriate model

Kayser, Kirk, The economics of need-based transfers

Kim, Soohyun, Optimal experimental designs for mixed categorical and continuous responses

Kim, Younghwan, On the uncrossing partial order on matchings

Kuper, Emily, Sparky the saguaro: Teaching experiments examining students' development of the idea of logarithm

Pampel, Krysten, Perturbing practices: A case study of the effects of virtual manipulatives as novel didactic objects on rational function instruction

Scarnati, Theresa, Recent techniques for regularization in partial differential equations and imaging

Walker, Philip, Effective-diffusion for general non-autonomous systems

Wang, Bei, Three essays on comparative simulation in three-level hierarchical data structure

Wang, Zhongshen, Locally D-optimal designs for generalized linear models

Zhou, Lin, Optimum experimental design issues in functional neuroimaging studies

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University of Arizona (13)

DEPARTMENT OF MATHEMATICS

Gunton, Cody, Crystalline representations and Néron component groups in the semi-stable case

Pounder, Kyle, Nearly singular Jacobi matrices and applications to the finite Toda lattice

Rossi, Daniel, Fields of values in finite groups: Characters and conjugacy classes

Shahar, Doron, Hydrodynamic limits for long range asymmetric processes and probabilistic opinion dynamics

Stone, Megan, Eigenvalue densities for the Hermitian two-matrix model and connections to monotone Hurwitz numbers

PROGRAM IN APPLIED MATHEMATICS GIDP

Henscheid, Nicholas, Quantifying uncertainties in imaging-based precision medicine

Kappler, Nicholas, Effects of parasites on the structure and dynamics of food webs

Kilen, Isak, Non-equilibrium many body influence on mode locked vertical external-cavity surface-emitting lasers

Lim, Soon Hoe, Effective dynamics of open systems in non-equilibrium statistical mechanics

McEvoy, Erica, A numerical method for the simulation of Skew Brownian motion and its application to diffusive shock acceleration of charged par

Meissen, Emily, Invading a structured population: A bifurcation approach

Nabelek, Patrik, Applications of complex variables to spectral theory and completely integrable partial differential equations

Shearman, Toby, Geometry and mechanics of leaves and the role of weakly-irregular isometric immersions

ARKANSAS

University of Arkansas at Fayetteville (2)

DEPARTMENT OF MATHEMATICAL SCIENCES

Cheng, Wanqing, Π-Operators in Clifford analysis and its applications

Mahdi, Ghadeer, Hierarchical Bayesian regression with application in spatial modeling and outlier detection

CALIFORNIA

California Institute of Technology (1)

DEPARTMENT OF MATHEMATICS

He, Siqi, The Kapustin–Witten equations with singular boundary conditions

Claremont Graduate University (10)

INSTITUTE OF MATHEMATICAL SCIENCES

Allan, Collins, Probabilistic microsimulation modeling of heterogenous traffic flow

Calhoun, Peter, Novel random forest and variable importance methods for clustered data

Cuevas, Daniel, Bridging the genomic gaps: genomescale metabolic network tools for bioinformatics analyses

Kang, Di, Modeling and analysis of thin viscous liquid films in spherical geometry

Koblick, Darin, Re-purposing the advanced solar photon thruster as a constellation of solar reflectors to track debris in geosynchronous earth orbit

Ma, Anna, Stochastic iterative algorithms for large-scale data

Pierret, Julien, Climate data computing: optimal interpolation, averaging, visualization and delivery

Spinella, William, A systematic investigation of exotic matter in neutron stars

Waynelovich, John, Synthesis of nervous systems in hybrid roots utilizing hierarchical Q-learning and temporal shifting

Wilcox, Bruce, A time series data mining and unobserved component modeling approach to credit risk correlation

Naval Postgraduate School (2)

DEPARTMENT OF APPLIED MATHEMATICS

Martinsen, Thor, Correlation immunity, avalanche features, and other cryptographic properties of generalized boolean functions

Roginski, Jonathan, The distance centrality: Measuring structural disruption in a network

Stanford University (21)

DEPARTMENT OF MATHEMATICS

Alvarez-Gavela, Daniel, The flexibility of caustics

Cheng, Da Rong, Geometric variational problems: Regular and singular behavior

Dozier, Benjamin, Saddle connections on translation surfaces

Klang, Inbar, Factorization theory of Thom spectra, twists, and duality

Lazaer, Oleg, Flexible Weinstein structures and applications to symplectic and contact topology

Li, Chao, Singularity and comparison theorems for metrics with positive scalar curvature

Madnick, Jesse, Nearly-Kähler 6-manifolds of cohomogeneity two: Local theory

Pan, Donghai, Pencils of Fermat hypersurfaces and Galois cyclic covers of the projective line

Rosengarten, Zev, Tate duality in positive dimension and applications

Savvas, Michail, Generalized Donaldson–Thomas invariants via Kirwan blowups

Szucs, Gergely, The equivariant cobordism category

Warner, Evan, Adic moduli spaces

Zhai, Lin, Asymptotics of Gaussian processes and Markov chains

Zhou, Yang, Higher-genus wall-crossing in Landau–Ginzburg theory

DEPARTMENT OF STATISTICS

Arthur, Joseph, Detection and validation of genomic structural variation from DNA sequencing data

DiCiccio, Cyrus, Hypothesis testing using multiple data splitting

Fan, Zhou, Eigenvalues in multivariate random effects models

Guu, Kelvin, Learning to generate text programs (and beyond) from weak supervision

Le, Ya (Elaine), Topics in statistical learning with a focus on large-scale data

Panigrahi, Snigdha, An approximation-based framework for post-selective inference

Sankaran, Kris, Discovery and visualization of Latent structure with applications to the microbiome

University of California, Berkeley (35)

DEPARTMENT OF MATHEMATICS

Agrawal, Shishir, Deformations of overconvergent isocrystals on the projective line

Au, Benson, Rigid structures in traffic probability: With a view toward random matrices

Bechor, Elan, Two models of coagulation with instantaneous gelation

Brereton, Justin, A method of constructing invariant measures at fixed mass

Chen, Justin, On Betti tables, monomial ideals, and unit groups

Fang, Kuan-Ying, Geometric constructions of mapping cones in the Fukaya category

Gavrus, Cristian Dan, Global well-posedness and parametrices for critical Maxwell–Dirac and massive Maxwell–Klein–Gordon equations with small Sobolev data

Gerig, Christopher, Seiberg–Witten and Gromov invariants for self-dual harmonic 2-forms

Karp, Steven, Total positivity for Grassmannians and amplituhedra

Kerber, Alvin, Quasi-Fuchsian surface subgroups of infinite covolume Kleinian groups

Ladd, Watson, Algebraic modular forms on $SO_5(\mathbb{Q})$ and the computation of paramodular forms

Lin, Bo, Combinatorics and computations in tropical mathematics

Lowengrub, Daniel, Applications of the intersection theory of singular varieties

Manber, Shelly, Asymptotics of the Tate–Shafarevich group

Melvin, George, Crystals and mirror constructions for quotients

Neuman, Anh Martina, Functions of nearly maximal Gowers–Host–Kra norms on Euclidean spaces

Qadeer, Saad, Simulating nonlinear Faraday waves on a cylinder

Ramsey, Samuel Nicholas, Independence, amalgamation, and trees

Schmaltz, Wolfgang, Gromov–Witten axioms for symplectic manifolds via polyfold theory

Spivak, Amelia, Multisymplectic geometry in general relativity and other classical field theories on manifolds with boundaries: A deobfuscating role

Van Andel, Ethan, Eulerian simulation of elastic membranes and shells

Vargas Pallete, Franco, On renormalized volume

Williams, Brandon, Computing modular forms for the Weil representation

Wilson, Patrick, Asymptotically conical metrics and expanding Ricci solitons

Zhou, Qiao, Applications of toric geometry to geometric representation theory

Zorn, Alexander, A combinatorial model of Lagrangian skeleta

Department of Statistics

Boyd, Nicholas, Sets as measures: Optimization and machine learning

Choi, Hye Soo, The Doob–Martin compactification of Markov chains of growing words

Kuang, Christine, Predictive and interpretable text machine learning models with applications in political science

Mukherjee, Soumendu, On some inference problems for networks

Saha, Sujayam, Information theory, dimension reduction and density estimation

Wei, Yuting, A geometric perspective on some topics in statistical learning

Wilson, Ashia, Lyapunov arguments in optimization

Group in Biostatistics

Ju, Cheng, Variable and model selection for propensity score estimators in causal inference

Perraudeau, Fanny Gabrielle Solange Marie, Statistical and computational methods for single-cell transcriptome sequencing and metagenomics

University of California, Davis (19)

Department of Mathematics

Bassett, Robert, Stochastic and convex optimization in statistical estimation

Berrian, Alexander, The chirped quilted synchrosqueezing transform and its application to bioacoustic signal analysis

Goh, Gabriel, Optimization with costly subgradients

Haddock, Jamie, Projection algorithms for convex and combinatorial optimization

Paramonov, Kirill, Essays in combinatorics: Crystals on shifted primed tableaux, bigraded Fibonacci numbers and data mining on social graphs

Samperton, Eric, Computational complexity of enumerative 3-manifold invariants

Smothers, Evan, Self-similar solutions and local wavefront analysis of a degenerate Schrödinger equation arising from nonlinear acoustics

Tam, Patrick, Nearly finitary matroids

Xu, Yuanyuan, On several problems in random matrix theory and statistical mechanics

Department of Statistics

Bandyopadhyay, Rohosen, Benchmarking the observed best predictor

Dai, Xiongtao, Principal component analysis for Riemannian functional data and Bayes classification

Dao, Cecilia Uyen, Goodness-of-fit tests for generalized linear mixed models

Lee, Olivia Yuh Ru, Data-driven computation for pattern information

Li, Shuyang, Joint models for partially observed longitudinal data

Namdari, Jamshid, Estimation of spectral distributions of a class of high-dimensional linear processes

Roy, Tania, Discovery and visualization of the information content in data through histograms and phylogenetic trees

Sonmez, Ozan, Structural breaks in functional time series data

Wang, Nana, Analysing dependence in stochastic networks via Gaussian graphical models

Zhang, Chunzhe, Uncertainty quantification and sensitivity analysis in statistical machine learning

University of California, Irvine (10)

Department of Mathematics

Chen, Taiji, Deformation quantization of vector bundles on Lagrangian subvarieties

Fang, Jun, Ray-based finite element method for high-frequency Helmholtz equations

Fider, Nicole, Color categorization: Quantitative methods and applications

Kassir, Ali, Absorbing Markov chains with random transition matrices and applications

Kelleher, Casey, On existence and regularity theory of Yang–Mills fields

Ma, Timmy, A nonlinear approach to learning from an inconsistent source (with some applications)

Porter, Michael, Graphs based on polynomials over finite fields

Rackauckas, Christopher, Simulation and control of biological stochasticity

Simonyan, Aghavni, Non-receptors, feedback, and robust signaling gradients in biological tissue patterning

Wood, Karen, Mathematical modeling of cooperation based diversification and speciation

University of California, Los Angeles (26)

Department of Biostatistics, Fielding Sch of Publ Hlth

Conn, Daniel, Utilization of low dimensional structure to improve the performance in high dimensions

Li, Qian, Hierarchical integration of heterogenous highly structure data: The case of functional brain imaging

Tolkoff, Max, Phylogenetic factor analysis and natural extensions

Wang, Lu, Bayesian curve registration and warped functional regression

Department of Mathematics

Azzam, Alexander, Doubly critical semilinear Schrödinger equations

Bellis, Ben, Resolvent estimates and semigroup expansions for non-self-adjoint Schrödinger operators

Cadegan-Schlieper, William, On the geometry and topology of hyperplane complements associated to complex and quaternionic reflection groups

Cheng, Peter, Spline deferred correction

Clyde, David, Numerical subdivision surfaces for simulation and data-driven modeling of woven cloth

Fu, Chuyuan, The material point method for simulating eastoplastic materials

Gim, Geunho, Stabilization of a tower of universal deformation rings

Hughes, Joseph, Modular forms associated to real cubic field

Laackman, Donald, Degree three cohomological invariants of reductive groups

Lagkas Nikolos, Ioannis, Localization and modules in derivators

Luo, Xiyang, Analysis and application of graph semi-supervised learning methods

Meng, Zhaoyi, High performance computing and real time software for high dimensional data classification

Menke, Michael, Some results on fillings in contact geometry

Nguyen Luu, Danh, The computational complexity of Presburger arithmetic

Norwood, Zach, Combinatorics and absoluteness of definable sets of reals

Ntalampekos, Dimitrios, Potential theory on Sierpinski carpets with applications to uniformization

Rooney, Jacob, On cobordism maps in embedded contact homology

Royston, Michael, A Hopf–Lax formulation of the eikonal equation for parallel redistancing and oblique projection

Siegel, Jonathan, Accelerated first-order optimization with orthogonality constraints

Yang, Yilong, Shapes of finite groups through cove properties and Cayley graphs

Zhang, Fangbo, A blob method for advection-diffusion-reaction systems with application to robotic swarm

Zhang, Yunfeng, Strichartz estimates for the Schrödinger flow on compact symmetric spaces

University of California, Riverside (9)

DEPARTMENT OF MATHEMATICS

Arauza, Andrea, Spectral triples and fractal geometry

Chun, Daniel, Asymptotic syzygies of normal crossing varieties

Coya, Brandon, Circuits, bond graphs, and signal-flow diagrams: A catergorical perspective

Murray, Kayla, Graded representations of current algebras

Ogaga, James, Function theory on open Kähler manifolds

Ruth, Lauren, Two new settings for examples of von Neumann dimension

Sherbetjian, Alex, Rigidification of algebras over algebraic theories in diagram categories

Simanyi, John, The Poisson cohomology of k-step Nilmanifolds

Tousignant, Jordan, Koszulity of directed graded k-linear categories and their quadratic dual

University of California, San Diego (9)

DEPARTMENT OF MATHEMATICS

Bodnar, Michelle, Rational Catalan combinatorics

Chen, Jie, Prediction in time series models and model-free inference with a specialization in financial return data

Drimbe, Daniel, Some rigidity results for coinduced actions and structural results for group von Neumann algebras

Liu, Yuchao, Detection and localization of a submatrix: Theory, methods and algorithms

Pornopparath, Donlapark, Well-posedness and modified scattering for derivative nonlinear Schrödinger equations

Prinyasart, Thanakorn, An effective equidistribution of diagonal translates of certain orbits in $\mathrm{ASL}(3,Z)\backslash \mathrm{ASL}(3,R)$

Sangha, Luvreet, Generating functions for descents and levels over words which avoid a consecutive pattern

Tang, Xiudi, Symplectic stability and new symplectic invariants of integrable systems

Zhu, Tingyi, Kernel methods in nonparametric functional time series

University of California, Santa Barbara (19)

DEPARTMENT OF MATHEMATICS

Blacker, Casey, The moduli space of flat connections over higher dimensional manifolds

Curtis, Amanda, On projectors for the sl3 spider

Dougherty, Michael, The geometry and topology of the dual braid complex

Hake, Kathleen, The geometry of the space of knotted polygons

Jin, Zhongmin, Homeomorphism finiteness theorem with integral curvature bound

Kaminsky, John, On the stochastic closure theory of homogeneous turbulence

Merkx, Peter, Global symmetries of six dimensional super conformal field theories

Pankau, Joshua, On stretch factors of pseudo-Anosov maps

Ricci, Joseph, Congruence subgroup and quantum representations of mapping class groups

Wen, David, On minimal models and canonical models of elliptical fourfold with section

DEPARTMENT OF STATISTICS AND APPLIED PROBABILITY

He, Jingyi, Fixing mixed effects models with big data

Hu, Ruimeng, Asymptotic methods for portfolio optimization in random environments

Mousavi, Seyyed Mostafa, Financial markets with delay

Ning, Patricia, Topics in financial math (uncertain volatility, ross recovery and mean field games on random graph)

Risk, James Kenneth, Three applications of Gaussian process modeling in evaluation of longevity risk management

Rodriguez Hernandez, Sergio, Generalized probabilistic bisection for stochastic root-finding

Shi, Jian, Some contributions to smoothing spline density estimation and inference

Xu, Danqing, Fitting smoothing splines to massive data

Yang, Xuwei, Games in energy markets

University of California, Santa Cruz (6)

DEPARTMENT OF MATHEMATICS

Barsotti, Jamison, The unit group of the Burnside ring for some solvable groups

Ferrara, Joseph, Stark's conjectures for p-adic L-functions

Gottesman, Richard, The algebra and arithmetic of vector-valued modular forms on $\Gamma_0(2)$

Jackman, Connor, Free homotopy classes in some n-body problems

Martins, Gabriel, The Hamiltonian dynamics of magnetic confinement and instances of quantum tunneling

Nguyen, Danquynh, Fusion rules for the lattice vortex operator algebra V_L

University of Southern California (9)

DEPARTMENT OF MATHEMATICS

Bhattacharjee, Chinmoy, Stein's methods and its application in strong embeddings and Dickman approximations

Gerhardt, Spencer, Topological generation of classical algebraic groups

Hankin, Michael, Control of false discovery rate and related metrics for sequential testing of multiple hypotheses under arbitrary dependence conditions

Kim, Gene B., Distribution of descents in matchings

Nguyen, Dinh Trung, Random walks on finite groups and their irreducible representations

Ozel, Enes, Cycle structures of permutations with restricted positions

Sun, Rentao, Conditional mean-fields SDEs and application

Wang, Fei, On regularity and stability in fluid dynamics

Wu, Cong, Controlled McKean–Vlasov equations and related topics

COLORADO

Colorado State University (8)

DEPARTMENT OF MATHEMATICS

Blumstein, Mark, A geometric formula for degree of equivariant cohomology rings

Davis, Brent, The numerical algebraic geometry approach to polynomial optimization

Emerson, Tegan, A geometric data analysis approach to dimension reduction in machine learning and data mining in medical and biological sensing

Hashmi, Bahaudin, Pattern formation in reaction diffusion systems and ion bombardment of surfaces

Maglione, Josh, On automorphism groups of p-groups

Neville, Rachel, Topological techniques for characterization of patterns in differential equations

DEPARTMENT OF STATISTICS

Fu, Ran, Improving survey estimators through weight smoothing

Scharf, Henry, Statistical models for dependent trajectories with application to animal movement

University of Colorado, Boulder (13)

DEPARTMENT OF APPLIED MATHEMATICS

Fairbanks, Hillary, Low-rank, multi-fidelity methods for uncertainty quantification of high dimensional systems

Kalchev, Delyan, Dual least squares finite element methods for hyperbolic problems

Nardini, John, Partial differential equation models of collective migration during wound healing

Southworth, Benjamin, Seeking space aliens and the strong approximation property: A disjoint study in dust plumes on planetary satelites and non-symmetric algebraic multigrid

Wills, Peter, Studies in the analysis of stochastic processes

DEPARTMENT OF MATHEMATICS

Burkett, Shawn, Subnormality and normal series in supercharacter theory

Coston, Natalie, Spectral properties of products of independent random matrices

Frinak, Joshua, Degeneration of Prym varieties: A computational approach to the indeterminacy of the Prym period map and degenerations of cubic threefolds

Lamar, Jonathan, Lattices of supercharacter theories

Ledbetter, Sion, Heisenberg codes and channels

Long, Ian, Spectral Hutchinson-3 measures and their associated operator fractals

Rosenbaum, Ryan, On the poles of Mellin transforms of principal series Whittaker functions

Shriner, Jeffrey, Hardness results for the subpower membership problem

University of Colorado, Denver (5)

DEPARTMENT OF BIOSTATISTICS AND INFORMATICS

Dalwani, Manish, Machine learning in neuroimaging based modalities using support vector machines with wavelet kernals

Vestal, Brian, A computationally efficient spatial point process framework for characterizing lung computed tomography scans

DEPARTMENT OF MATHEMATICAL AND STATISTICAL SCIENCES

Sigler, Devon, Multi-objective optimization under uncertainty

Walsh, Scott, Simulation-based optimal experimental design: Theories, algorithms and practical considerations

Yorgov, Daniel, Combined admixture and association mapping for complex traits

University of Northern Colorado (2)

SCHOOL OF MATHEMATICAL SCIENCES

Hancock, Brent, Undergraduates' collective argumentation regarding integration of complex functions within three worlds of mathematics

Hancock, Emilie, The sociocultural mediation of metacognition in undergraduate mathematics classroom communities of practice

CONNECTICUT

University of Connecticut, Storrs (18)

DEPARTMENT OF MATHEMATICS

Dong, Mengxia, Best constants, extremal functions and stability for geometric and functional inequalities

Evans, Kyle, Investigating the relationship between mathematics education and global citizenship education through K-12 mathematics teacher perspectives

Feng, Qi, Topics in stochastic analysis and Riemannian foliations

Lemay, Steven, Teachers' navigation of mathematical representations of argumentation

Martin, Daniel, Mass in general relativity

Moran, Rebecca, Traveling waves in a suspension bridge

Nicholson, Marie, Applications of computability theory to partial and linear orders

Rabideau, Michelle, Continued fractions in cluster algebras, lattice paths, and Markov numbers

Tang, Huili, National retirement sustainability index

DEPARTMENT OF STATISTICS

Bapat, Sudeep, Multistage sampling strategies and inference in health studies under appropriate Linex loss functions

Bishoyi, Abhishek, Application of Gaussian process priors on Bayesian regression

Deshpande, Ved, Statistical methods for analyzing bivariate mixed outcomes

Jiang, Yujing, Marginal score equations for spatial extremes modeling with latent signals and applications in fingerprinting changes in climate extremes

Luo, Chongliang, On integrative reduced-rank models and applications

Mishra, Aditya, On sequential estimation of multivariate associates

Shi, Daoyuan, Statistical methods for information assessment and data compatability with applications

Vaughan, Gregory, Stagewise estimating equations

Zhang, Yaohua, Structure learning and break detection in high-frequency data

Yale University (16)

BIOSTATISTICS DEPARTMENT

Cameron, Briana, Extensions to the two-stage randomized trial for testing treatment, self-selection, and treatment preference effects

DeVeaux, Michelle, Innovative statistical methods for early phase clinical trials

Hu, Yiming, Integrative analysis of multi-omics data improves genetic risk prediction and transcriptome-wide association analysis

Jung, Taehyun, A joint model for recurrent events and semi-competing risk in the presence of multi-level clustering: An application to HIV-infected US veterans from OPTIMA trial

Liu, Yiyi, Statistical methods for cell heterogeneity and cell drug-response study

DEPARTMENT OF MATHEMATICS

Abrikosov, Efim, Potentials for moduli spaces of A_m-local systems on surfaces

Corey, Daniel, Initial degenerations of Grassmannians

Montealegre, Daniel, Probabilistic methods in combinatorics

Pan, Wenyu, Dynamics of Kleinian groups

Shen, Jifeng, Break divisors and compactified Jacobians

Sheydvasser, Arseniy, Classifying integral crystallographic packings

Weng, Daping, Cluster Donaldson–Thomas transformations of Grassmannians and double Bruhat cells

DEPARTMENT OF STATISTICS AND DATA SCIENCE

Brinda, William D., Adaptive estimation with Gaussian radial basis mixtures

Klusowski, Jason, Density, function, and parameter estimation with high-dimensional data

Lu, Yu, Statistical and computational guarantees for learning latent variable models

Zhang, Anderson Ye, Community detection: Fundamental limits, methodology, and variational inference

DELAWARE

Delaware State University (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Sutton, Brielle, A qualitative simulation of blood flow through an elastic cerebral saccular aneurysm using an immersed boundary method

Xu, Penglong, Iteration based temporal subcycling finite-difference time-domain algorithm and through-the-wall radar detection analysis

Xu, Yanan, Optical soliton propagation in metamaterials; evolutionary pattern formation for competing populations under seasonal forcing

University of Delaware (7)

DEPARTMENT OF MATHEMATICAL SCIENCE

Bailey, Zachary, Some inverse problems for hyperbolic partial differential equations

DeTeresa Trueba, Irene, A symptotic methods in inverse scattering for inhomogeous media

McGinnis, Matthew, Combinatorial and spectral properties of graphs and association schemes

Qirko, Klajdi, A saddle point least squares method for systems of linear PDEs

Rezac, Jake, Direct methods for inverse scattering with time dependent and reduced data

Yuan, Tao, Radon transform spherical means and an inverse problem for the wave equation

Zhou, Yingxiang, Estimation and inference in problems from imaging and biophysics

DISTRICT OF COLUMBIA

George Washington University (2)

DEPARTMENT OF MATHEMATICS

Bedi, Harpreet, Cohomology of line bundles of rational degree over perfectoid space

Lu, Jiajun, Pattern formation in binary systems with inhibitory long-range interaction

FLORIDA

Florida Atlantic University (6)

DEPARTMENT OF MATHEMATICAL SCIENCES

Gallolu Kankanamalage, Hasala Senpathy, Output stability analysis for nonlinear systems with time delays

Joseph, Jean, A constructive theory of ordered sets and their completions

Kepley, Shane, The circular restricted four body problem is non-integrable: A computer assisted proof

Langenberg, Brandon, Quantum circuits for symmetric cryptanalysis

Robinson, Angela, Quantum-resistant key agreement and key encapsulation

Thomack, Andrew, Random harmonic polynomials

Florida Institute of Technology (5)

DEPARTMENT OF MATHEMATICAL SCIENCES

Aal Rkhais, Habeeb, On the qualitative theory of the nonlinear degenerate second order parabolic equations modeling reaction-diffusion-convection processes

Alharbi, Majed, On logconcavity of multivariate discrete distributions

Aljaber, Noha, Boundary value problems in a multidimensional box for higher order linear and quasi-linear hyperbolic equations

McDougall, Jeffrey, The capacitated transfer point covering problem (TPCP): Expanding delivery network coverage with minimal resources

Onyejekwe, Osita, Parametric and nonparametric regression models with applications to climate change

Florida State University (42)

DEPARTMENT OF MATHEMATICS

Almalki, Yahya, Sorvali dilatation and spin divisors on Riemann and Klein surfaces

Cellat, Serdar, Metric learning for shape classification: A fact and efficient approach with Monte Carlo methods

Dobreva, Atanaska, Using mathematical tools to investigate the autoimmune hair loss disease alopecia areata

Ebadi, Sepideh, Evolutionary dynamics of bacterial persistence under nutrient/antibiotic actions

Flores Diaz, Diana, An electrophysiological and mathematical modeling study of developmental and sex effects on neurons of the zebra finch song system

Galvis, Daniel, Distributed neural network models for birdsong production

Hancock, Matthew, Algorithmic lung module analysis in chest tomography images: Lung nodule malignancy likelihood prediction and a statistical extension of the level set image segmentation method

Imamoglu, Erdal, Algorithms for solving linear differential equations with rational function coefficients

Khanmohamadi, Omid, High-order, efficient, numerical algorithms for integration in manifolds

Li, Jian, Modeling of biofilms with implementations

Lin, Hua-Yi, Optimal portfolio execution under time-varying liquidity constraints

Marchand, Melissa Sue, Low-rank Riemannian optimization approach to the role extraction problem

Pei, Chaoxu, Space-time spectral element methods in fluid dynamics and materials science

Shen, Yunyi, Landscapes in non-commutative geometry

Sparaco, Leona, Character varieties of knots and links with symmetries

Tsai, Wan-Yu, Monte Carlo scheme for a singular control problem: Investment consumption under proportional transaction costs

Tzeng, Yu-Ying, Quasi-Monte Carlo and Markov chain quasi-Monte Carlo methods in estimation and prediction of time series models

Valdes, Yaineli, The 1-type of k-theory for Waldhausen category as a miltifunctor

Wang, Jian, Ensemble methods for capturing dynamics of limit order books

Wesolowski, Sergiusz Jan, Developing SRSF shape analysis techniques for applications in neuroscience and genomics

Williams, Ethan, Affine dimensions of smooth curves and surfaces

Xu, Wen, Third order A-hypergeometric functions

Zhang, Xiping, Characteristic classes and local invariants on determinantal varieties (temperate)

Zhou, Chenchen, On the multidimensional default threshold model for credit risk model

DEPARTMENT OF STATISTICS

Ahn, Kyungmin, Elastic functional regression model

Baker, Danisha, A Bayesian wavelet based analysis of longitudinally observed skewed heteroscedastic responses

Bhingare, Apurva, Semiparametric Bayesian regression models for skewed responses

Chen, Qiusheng, Tests and classifications with application in adaptive designs

Duncan, Adam, Statistical shape analysis of nueronal tree structures

Duncan, Megan, Elastic functional principal component analysis for modeling and testing of functional data

Geneus, Vladimir, Nonparametric change point detection methods for profile variability

Guo, Ruite, Testing for the equality of two distributions on high dimensional object space

Hu, Guanyu, Spatial statistics and its applications in biostatistics and environment statistics

Kucukemiroglu, Saryet, Examining the effect of treatment on the distribution of blood pressure in the population using observational studies

Li, Hanning, Bayesian modeling and variable selection for complex data

Liu, Shuyi, Generalized Mahalanobis depth in point process and its application in neural decoding and semi-supervised learning in bioinformatics

Mukherjee, Anwesha, Building a model performance measure for examing clinical relevance using net benefit curves

Sabnis, Gautum, Scalable and structured high dimensional covariance matrix estimation

Tran, Hoang, Non-parametric and semi-parametric estimation and inference with application to finance and bioinformatics

Varbanov, Roumen, Wavelet-based Bayesian approaches to sequential profile monitoring

Wang, Libo, Regression methods for skewed and heteroscedastic response with high-dimensional covariates

Yang, Liu, Semi-parametric generalized estimating equations with kernel smoother: A longitudinal study in financial data analysis

University of Central Florida (2)

DEPARTMENT OF MATHEMATICS

Cheng, Cheng, Sampling and reconstruction of spatial signals

Gomez, Tyler, Filtering problems in stochastic tomography

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Amarasinghe, Ashwini, On acyclicity properties of complements of subsets in the Hilbert cube

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Zhang, Wei, Accelerated bundle level type methods for large scale convex optimization

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Gao, Chao, Statistical analysis and modeling of stomach cancer data

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DEPARTMENT OF STATISTICS

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ENGINEERING SCIENCE AND APPLIED MATHEMATICS DEPT

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DEPARTMENT OF STATISTICS

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MATHEMATICS, STATISTICS, AND COMPUTER SCIENCE DEPARTMENT

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Pandey, Ashish, Modulational instability in some shallow water wave models

Qin, Wei, Information, insider trading and takeover announcements

Romney, Matthew, Metric geometry of the Grushin plane and generalizations

Skabelund, Dane, Covers and invariants of Deligne–Lusztig curves

Smith, Mychael, Equivariant E-infinity algebras

Sun, Hao, W-operators and generating functions of Hurwitz numbers

Tebbe, Amelia, Computing the Goodwillie–Taylor tower for discrete modules

Tian, Hongfei, On the center of the ring of invariant differential operators on semisimple groups over fields of positive characteristics

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Uyanik, Caglar, Dynamics of free group automorphisms and a subgroup alternative for Out(F_N)

Villeta-Garcia, Juan, Stabilizing spectral functors of exact categories

Wagner, Zsolt Adam, On some problems in extremal, probabilistic, and enumerative combinatorics

Wolbert, Seth, Symplectic toric stratified spaces with isolated singularities

Yi, Bingji, On intrinsic ultracontractivity of perturbed Lévy process and applications of Lévy process in actuarial mathematics

Department of Statistics

Chen, Yinghan, Sampling for network motif detection and estimation of Q-matrix and learning trajectories in DINA model

Huang, Weihong, Statistical algorithms using multisets and statistical inference of heterogeneous networks

Huang, Xichen, Fast algorithms for Bayesian variable selection

Kinson, Christopher, Longitudinal principal components analysis for binary and continuous data

Lee, Chung Eun, Statistical inference of multivariate time series and functional data using new dependence metrics

Ouyang, Yunbo, Scalable sparsity structure learning using Bayesian methods

Park, Yeon Joo, Effect size estimation and robust classification for irregularly sampled functional data

Paul, Subhadeep, Consistent community detection in uni-layer and multi-layer networks

Tang, Xiwei, Individualized learning and integration for multi-modality data

Yang, Fan, Statistical inference based on characteristic functions for intractable likelihood problems

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Zhu, Xiaolu, Heterogeneity modeling and longitudinal clustering

INDIANA

Indiana University-Purdue University Indianapolis (4)

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Lam, Wai Kit, Topics in critical and first passage percolation

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Wang, Xiaoyan, Numerical approximation of a variational inequality related to the humid atmosphere

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Yang, Ruiyu, Differential methods for phylogenetic reconstruction and their properties

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Shields, Jacob, Intrinsic random functions on spheres: Theory, methods, and application

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Barrios, Alexander, Minimal models of rational elliptic curves with non-trivial torsion

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Sammartano, Alessio, Infinite free resolutions and blowup algebras

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Henry, Courtney, The design and analysis of calcium-41 clinical trials to study treatments for bone loss

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Li, Cheng, Optimal interative threshold kernel estimation of jump-diffusion processes

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Oh, Ji Hwan, Graphical models for non-Gaussian continuous data with applications to genomics datasets

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Wichita State University (4)

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Kaderli, Jordan, An analytic solution to a coupled system of equations for modeling photoacoustic trace gas sensors and a full waveform inversion approach to microseismic source estimation

Kwame, Eyram, Dynamics of macroeconomics models with hysteresis operators

Perez-Nagera, Pedro, Numerical solutions for a class of singular neutral functional differential equations

Tian, Yahui, Nonparametric and robust methods for community detection in complex networks

Wang, Cheng, Extensions of semiparametric single index models

Wu, Hao-pin, Applications of degree theory to dynamical systems with symmetry (with special focus on computational aspects and algebraic challenges)

Wu, Jiayi, Wavelet analysis of big data contaminated by large noise in an FMRI study of neuroplasticity

UTAH

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DEPARTMENT OF MATHEMATICS

Zhao, Junyilang, Dynamics for a random differential equation: Invariant manifolds, foliations, and smooth conjugacy between center manifolds

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Brooks, Heather, Dynamics and structure: From microtubule networks to population networks

Bydlon, Andrew, Counterexamples of Bertini theorems for test ideals

Carapezza, Leonard, Minimal sequences in finite graphs and unique equilibrium states for some $\beta\alpha$ shifts

Carroll, Samuel, Spatiotemporal dynamics of orientation-selective neural populations in the visual cortex

Gupta, Radhika, Relative currents and loxodromic elements in the relative free factor complex

Lau, Chung Ching, On positive properties of algebraic subvarieties

Levien, Ethan, Noise propagation in biochemical reaction networks

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Miller, Anna, Mathematical modeling of epithelial cell division: Evaluating the effects of human papillomavirus infection

Romanov, Anna, A Kazhdan–Lusztig algorithm for Whittaker modules

Sampson, Christian, Multiscale models of sea ice phenomena

Wigglesworth, Derrick, CT's and the geometry of Out(F_n)

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DEPARTMENT OF MATHEMATICS AND STATISTICS

Dai, Xiaotian, Novel statistical models for quantitative shape-gene association selection

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Li, Chunyang, Extracting and visualizing data from mobile and static eye trackers in R and Matlab

Quach, Anna, Extensions and improvements to random forests for classification

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Scott, Marcus, A series of papers on detecting examinees who used a flawed answer key

VERMONT

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Morse, Ada, Networks, (K)nots, nucleotides, and nanostructures

VIRGINIA

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Jensen, Alathea, Self-polar polytopes and sequential importance sampling algorithms

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Yin, Lixuan, Semiparametric transformation models with applications to diagnostic biomarker data and clinical trials

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Timalsina, Asim, A partitioned approach for computing fluid-structure interactions with application to tumor modeling and simulation

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Berman, John, Categorified algebra and equivariant homotopy theory

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Mazicioglu, Dogucan, Adversarial decision making in counterterrorism applications

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Saleck Pay, Babek, Decomposition algorithms in stochastic integer programming: Applications and computations

Salmani-Jajaei, Ghasemali, Rotating supporting hyperplanes and snug circumscribing simplexes

Sorrell, Toni, Tuning optimization software parameters for mixed integer programming problems

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Kang, Jian, Estimating the respiratory lung motion model using tensor decomposition on displacement vector field

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Han, Miaomiao, Graph coloring problems and group connectivity

Li, Jiaao, Group connectivity and modulo orientations of graphs

Mohamed, Fatma, On some parabolic type problems from thin film theory and chemical reaction-diffusion networks

Short, Christopher, Reducing spatial stochastic models of membrane receptors to approximately equivalent chemical reaction networks through coarse graining

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Xu, Murong, A study on graph coloring and digraph connectivity

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DEPARTMENT OF MATHEMATICS, STATISTICS AND COMPUTER SCIENCE

Ahsan, Golam Mushih Tanimul, Motivational and intervention systems and monitoring with mHealth tools

Rizzo, Benjamin, Compressed sensing for few-view multi-pinhole SPECT with applications to preclinical imaging

Rutarindwa, Regis, Computational strategies in uncertainty quantification for hazard mapping

Saxena, Piyush, Feature space augmentation: Improving prediction accuracy of classical problems in cognitive science and computer vision

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Sahr, Natasha, Variable screening and selection for survival and competing risks data with grouped covariates

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McCarthy, Ethan, Some results and applications of computability theory

Mitchell, Will, Analysis and computation of sedimentation and erosion in viscous flow

Ramos, Eric, Homological invariants of FI-modules and FI$_G$-modules

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Yang, Yang, Some problems related to the equitable presentation for the quantum algebra

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Yu, Peng, CM values of Green functions associated to special cycles on Shimura varieties with applications to Siegel 3-fold case

DEPARTMENT OF STATISTICS

Li, Xiaomao, Optimal recommendation of individual dose intervals

Nguyen, Duy, Statistical methods for differential analysis of Hi-C and ChIP-Seq Data

Song, Xinyu, Volatility analysis with unified discrete and continuous time models by combining low-frequency, high-frequency and option data

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Zhang, Ying, Efficient treatment effect estimation with dimension reduction

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Poudyal, Chudamani, Robust estimation of parametric models for insurance loss data

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Vieten, Martin Gerhard, Numerical solution of stochastic control problems using the finite element method

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Huang, Bang, On solving large-scale Ill-conditioned linear systems

Johnson, Russell, Petrov–Galerkin FEM for solving second-order IVPs and its a posteriori analysis

King, Gavin, Uniformly balanced sets

McCaskill, Bradley, Numerical methods for porous media flow

DEPARTMENT OF STATISTICS

Jackson, Eugenie, Exploration and analysis of longitudinal vaginal micro biome data

Yin, Tianzhixi "Tim", Data mining application to power grid PMU data