Doctoral Degrees Conferred

2015–2016

ALABAMA

Auburn University (8)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Aust, Jennifer, Bounded complete embedding graphs
Bertl, Alan, Techniques for finding homeomorphisms between generalized inverse limits
Byaly, Alexander, Generalized matrix functions
Erzurumluoglu, Aras, Fair factorizations and fair holey factorizations of the complete multipartite graph and related edge-colorings
Lilly, Kristen, Robust group variable selection methods
Nwaeze, Eze, Location of zeros and growth of polynomials
Pannu, Jasdeep, Robust variable selection methods for functional regression models
Sarver, Zachary, Extensions of monotonicity results to semisimple Lie groups

University of Alabama (6)

DEPARTMENT OF MATHEMATICS

Acharyya, Soumyadip, A difference of composition operators on Bergman space
Alli, Toyin, Statistical networks with applications in economics and finance
Chataut, Laxmi, Groups with conditions on non-permutable subgroups
Duffee, Linden, On the harmonic and geometric maximal operators
Nguyen, Duc, High order FDTD methods for electromagnetic systems in dispersive inhomogeneous media
Perry, Kaitlyn, Polydegree properties of polynomial automorphisms

University of Alabama at Birmingham (7)

DEPARTMENT OF BIOSTATISTICS

Dawson, Erica L, Performance of ordinary least squares and heteroskedasticity consistent covariance matrix estimators in heteroskedastic analysis of covariance models
Jones, Lindsay, Statistical methodology to improve the understanding of DNA methylation data
Kim, Hwasoon, Evaluation of sample size re-estimation procedures for non-inferiority designs with time-to-event outcomes
Malick, Himel, Some contributions to Bayesian regularization methods with applications to genetics and clinical trials

DEPARTMENT OF MATHEMATICS

Alawam, Fatin, Subsurface parameter estimation in oilfield modeling
Barley, Brandon, On the simplest lamination of a given identity return triangle
Besing, Kyle, Spectral properties and localization of two random Laplacians on graphs

University of Alabama—Huntsville (2)

DEPARTMENT OF MATHEMATICAL SCIENCES

He, Yunzhu, Wavelet estimators in non-parametric regression model and simulation study
Marpley, Pamela, Graph sharing parameters

University of Alabama—Tuscaloosa (2)

INFORMATION SYSTEMS, STATISTICS, AND MANAGEMENT SCIENCE DEPARTMENT

Michael, Semhar, The development of diagnostic tools for mixture modeling and model-based clustering

Walker, Michael, Reduced-bias prediction regions and estimators of the original response when using data transformations

ARIZONA

Arizona State University (16)

SCHOOL OF HUMAN EVOLUTION AND SOCIAL CHANGE

Barley, Kamal, Parameter estimation and mathematical modeling of visceral Leishmaniasis
Evangelista, Arlene, Characterization of the Mathematical Theoretical Biology Institute as a Vygotskian-Holzman zone of proximal development
Gonzalez, Beverly, Quantitative modeling methods for analyzing clinical to public health problems
Morales, Romarie, Robustness of contact and age-aggregation in influenza models
Murillo, Anarina, Type 2 Diabetes and obesity: A biological, behavioral and environmental context
Smith, Adrian, Biophysical mechanism for correlated spiking: Relating neural synchrony and common excitatory drive
Summer, Ilyssa, Oncolytic viral and immunotherapy models combined with strategies to ameliorate cancer burden

SCHOOL OF MATHEMATICAL AND STATISTICAL SCIENCES

Denker, Dennis, High-order methods exploiting sparsity with applications in imaging and PDEs
Evilsizer, Stephen, Evolutionary games as interacting particle systems
Ilkturk, Utku, Observability methods in sensor scheduling
Marfat, Frank, Characterizing teacher change through the perturbation of pedagogical goals
Morgan, Adam, Cuntz-Pimsner algebras of twisted tensor products of correspondences and other constructions

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2015, to June 30, 2016) reported in the 2017 Annual Survey of the Mathematical Sciences by 266 departments in 195 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.
Thomas, Emily, The maximal Thurston-Bennequin number on grid number \( n \) diagrams

Thomas, Ryan, Effects of dynamic graphing utilities on student attitudes and conceptual understanding in college algebra

**CALIFORNIA**

**California Institute of Technology (6)**

**DEPARTMENT OF COMPUTING AND MATHEMATICAL SCIENCES**

Akhtemetgalyev, Eldar, Fast numerical methods for mixed, singular Helmholtz boundary value problems and Laplace eigenvalue problems

**DEPARTMENT OF MATHEMATICS**

Hwang, Brian, Constructing self-dual automorphic representations on general linear groups

Nastasescu, Mariu, Nonvanishing of L-functions for GL(n)

Ni, Xiang, Rota-Baxter algebras, renormalization on Kausz compactifications and replicating of binary operads

Simha, Gaurav, Black-box reconstruction of depth three circuits with top fan-in two

Yeo, Foo Yee, I-adic cohomology of the dual Lubin-Tate tower via the exterior power

**Claremont Graduate University (16)**

**INSTITUTE OF MATHEMATICAL SCIENCES**

Abdallah, Shaher, General stability analysis of composite sandwich plates under thermal load

Choi, Patrick, Optimization of principal eigenvalue of an elliptic operator with applications to heat conductivity problem

Garcia, Marriangel, Data assimilation unit for the general curvilinear environmental model

He, Lingjun, Semiparametric varying-coefficient mixed effects modeling approaches to longitudinal data

Herrlin, Daniel, Forecasting MLB performance utilizing a Bayesian approach in order to optimize a fantasy baseball draft

Kandes, Martin, Modeling the effects of inertial forces on Bose-Einstein condensates in rotating frames of reference

Ko, Gene, Computational approaches for descriptor optimization and model development for HIV-1 drug design

Ledahl, Jeffrey, Bayesian join modeling of longitudinal visual field data with correlated binary and survival outcomes

**ARKANSAS**

**University of Arkansas at Fayetteville (5)**

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Chung, Ming-Hua, Probabilistic graphical modeling on big data

Iwaki, Chizuko, Probabilistic graphical modeling on big data

Shabazz, Melissa, Isometries of Besov type spaces among composition operators

Liu, Chen, Monte Carlo algorithms for American option pricing: An analysis of convergence rates and the application of backward Taylor expansion on variance reduction techniques

Michel, Matthew, Analytic and numerical analysis of lubrication coating flow models

Schuster, Micah, Systematic investigation of operators in nuclear systems

Taherian, Shahab, Computational fluid dynamics analyses of ambient particle deposition in the human respiratory system and virus transport aboard a regional aircraft

Turtle, James, Synchronization in coupled spin-torque nano oscillators: Nonlinear dynamics analysis

Wilson, Mark, Structure and rheological properties of self-associating polymer networks

Zhao, Peng, Novel random forest methods applied to medical studies

Zubairi, Omair, An investigation of deformation of the stellar structure of neutron stars

**Stanford University (19)**

**DEPARTMENT OF MATHEMATICS**

Ahuja, Saran, Mean field games with common noise

Boreico, Iurie, Statistics of random integral matrices

Chodosh, Otis, The geometry of asymptotically hyperbolic manifolds

Edelen, Nicholas, On the free boundary mean curvature flow

Furmaniak, Ralph, On the structure and complex analysis of Dirichlet series

Goodman, Elizabath, Lagrangian tori in \( \mathbb{R}^4 \) and \( S^2 \times S^2 \)

Hintz, Peter, Global analysis of linear and nonlinear wave equations on cosmological spacetimes

Jerison, Daniel, The drift and minorization method for reversible Markov chains

Kalinsik Verovsek, Sara, Tropical coordinates on the space of persistence barcodes

Kupers, Alexander, Some finiteness results for groups of automorphisms of manifolds

Leach, Jeremy, The vacuum Einstein constraint equations on manifolds with ends of cylindrical type

Litt, Daniel, Non-abelian Lefschetz hyperplane theorems

Nariman, Sam, Stable moduli of flat manifold bundles

Nestoridi, Evrydiki-Xenia, Rates of convergence of Markov chains to stationarity: Strong stationary times, coupling, Gelfand pairs and comparison theory

Nguyen, Khoa, On symplectic homology of the complement of a positive normal crossing divisor in a projective variety

Nolen, Samuel, The string topology of holomorphic curves in \( BU(n) \)
Skrzyniai, Jacek, Numeric invariants from multidimensional persistence
Tsai, Li-Cheng, Weak universality of interacting particle systems
Zamorzaev Orleanschii, Alexandr, Gopakumar-Vafa conjecture for genus O real Grömow-Witten invariants

University of California, Berkeley (40)

DEPARTMENT OF MATHEMATICS
Bejraburin, Natth, A study on correlation between genes’ functions and evolutions
Chough, Chang-Yeon, Topological tropes of algebraic stacks
Cook, Woo-Hyun, Transformation of PDEs: Optimal transport and conservation laws
Duersch, Jed, High efficiency spectral analysis and BLAS-3 randomized QRCP with low-rank approximations
Fortunato, Meire, A study on correlation between genes’ functions and evolutions
Gannot, Oran, High efficiency spectral analysis and BLAS-3 randomized QRCP with low-rank approximations
Kroener, Christoph, A mathematical approach to the q,t-symmetry in Macdonald polynomials
Gillespie, Maria, A combinational approach to the q,t-symmetry in Macdonald polynomials
Greengard, Daniel, Complex boundary integral equation formulation and stability analysis of a Maxwell model of an elastic model of solid-solid phase transformations
Johnson, William, Fun with fields
Kominarczuk, Jakub, Acyclic Monte Carlo: Efficient multiscale sampling of undirected graphical models through fast marginalization
Kroener, Christoph, A mathematical exploration of a PDE system for lithium-ion batteries
Kruckman, Alex, Infinitary limits of finite structures
Laine, Kim, Security of genus 3 curves in cryptography
Lee, Minjae, Spectral analysis on point interactions
Li, Penghui, Unification of semistable bundles on elliptic curves
Lieb, Anna, Modeling and optimization of transients in water distribution networks
Liu, Weihua, Noncommutative distributive symmetries and their related de Finetti type theorems
Mandelstam, Olya, Combinatorics of the asymmetric simple exclusion process
Mazel-Gee, Aaron, Goerss-Hopkins obstruction theory via model -categories
McMillan, Benjamin, Geometry and conservation laws for a class of second-order parabolic equations
Melgaard, Christopher, Randomized pivoting and spectrum-revealing bounds in numerical linear algebra
Robeva, Elina, Decomposing matrices, tensors and images
Schweber, Noah, Interactions between computability theory and set theory
Scott, Jacob, An I/O-complexity lower bound for all recursive matrix multiplication algorithms by path-routing
Shapir, Alexander, Grothendieck resolution, affine Grassmannian, and Yangian
Tabrizian, Peyam, Asymptotic PDE models for chemical reactions and diffusions
Wong, Christopher, Bilinear quadratures and their applications

DEPARTMENT OF STATISTICS
Basu, Riddhipratim, Lipschitz embeddings of random objects and related topics
Bionaz, Adam, Leveraging latent structure in high-dimensional data: Causality, neuroscience, and nonparametrics
Kamm, John, One and two locus likelihoods under complex demography
Schiebinger, Geoffrey, Sparse inverse problems: The mathematics of precision measurement
Tran, Linda, Forecasting high-dimensional state-spaces in the presence of model error
Wu, Siqi, Dictionary learning: Analysis of spatial gene expression data and local identifiability theory

GROUP IN BIOSTATISTICS
Cotterman, Carolyn, Statistical methods for predicting dengue diagnosis using clinical and LC-MS data
Coyle, Jeremy, Towards a practical implementation of optimal treatment
Hansen, Curt, The LITSE algorithm: Theory and application
Luedtke, Alex, Evaluating the impact of individualized treatment strategies
Safro, Oleg, Semi-parametric estimation network data and tools for conducting complex simulation studies in causal inference
Tran, Linh, Comparative causal effect estimation and robust variance for longitudinal data structures with applications to observational HIV treatment studies

University of California, Davis (12)

DEPARTMENT OF MATHEMATICS
Dutra, Brandon, Decomposition methods for nonlinear optimization and data mining
Halabi, Ryan, Surface plasmon polaritons in nonlinear media
Irion, Jeffrey, Multiscale transforms for signals on graphs: Methods and applications
Kopel, Philip, Hermitian and non-Hermitian random matrix theory
La Haye, Reuben, Quantitative combinatorial geometry with applications to number theory and optimization
Lydon, Mark, On the chromatic symmetric function of graphs
Miller, Jacob, Transportation networks and matroids: Algorithms through circuits and polyhedrality
Mossessian, George, Stabilizing Heegaard splittings of high-distance knots
Navarro, Gustavo, Local well-posedness and global stability of the two-phase Stefan problem
Qin, Chuan, Card shuffles, genome rearrangements, and social networks
Tian, Ruoguang, Top to random shuffles and characterization of rigged configurations of b(∞) in type A
Westenberger, Christopher, Knots and links from random projections

University of California, Irvine (20)

DEPARTMENT OF MATHEMATICS
Anzaldo, Leesa, Degeneracy loci in grassmannians
Asatryan, Ani, ODEs in mathematical medicine: New virus dynamics in the presence of multiple infections; Evolution of genetic instability in heterogeneous tumors
Dellaca, Roger, Growth conditions on Hilbert functions of modules
Ferrenc, Adrian, An explicit construction for homotopy monoidal structure
Gao, Hongwei, Random homogenization of coercive Hamilton-Jacobi equations in 1d
Ho, Michael, Sparse optimization methods and statistical modeling with applications to finance
Lee, Mary, Mathematical modeling of tumor growth and metabolism
Northrup, Cynthia, Toward the consistency strength of stationary set reflection on small cardinals
Northrup, Scott, Arithmetic sums of nearly affine Cantor sets
Reale, Nicholas, Deformations of manifolds of Calabi-Yau type
Sanchez, Cynthia, Fastest time to cancer by loss of tumor suppressor genes or oncogene activation
Su, Heng, Selmer parity of quadratic twists of elliptic curves
Tsong, Chi Shing, Topics on Schrödinger operators
Xu, Hang, On the spectrum and self-adjoint extension of Laplace operator on Kähler manifolds
Yin, Penghang, Non-convex optimization methods for sparse and low-rank reconstruction
Yu, Myoungjun, Selmer ranks of twists of algebraic curves
Zhang, Lingxiao, Passive imaging of a spherically symmetric inclusion by elastic waves
Zhang, Shihwen, Arithmetic criterion of full spectral dimensionality for analytic quasi-periodic Schrödinger operators
Zhong, Lin, Fast solvers for numerical schemes based on finite element exterior calculus
Zu, Penghe, Global sparse basis method of solving residual KPP front speeds in time-periodic cellular flows in the small diffusion limit

University of California, Los Angeles (31)

DEPARTMENT OF BIOSTATISTICS, FIELDING SCHOOL OF PUBLIC HEALTH
Clark, Michelle, Statistical models for detecting transgenerational genetic effects
Estes, Jason, Time dynamic modeling and inference approaches for outcomes in patients on dialysis
Gill, Mande, Bayesian modeling of viral phylodynamics
Lu, Xiang, Handling incomplete high-dimensional multivariate longitudinal data with mixed data types by multiple imputation using a longitudinal factor analysis model
Shih, Wendy, Ensemble based estimators of a latent variable: Application in aging research
Wu, Sheng, Optimal design of cluster randomized trials with binary outcomes

DEPARTMENT OF MATHEMATICS
Aaserud, Andreas, Weak and approximate equivalence of group actions in the framework of ultrapower Cartan inclusions
Carolinio, Pietro, The structure of locally compact approximate groups
Chen, William, Mutal and tight stationarity
Chongchitmate, Wutichai, New models for practical secure computation
Dragomirescu, Konstantin, Variational methods in signal decomposition and image processing
Galatan, Alin, Smooth bimodules and cohomology of H1 factors
Garrabrant, Scott, P-recursive integer sequences and automata theory
Gast, Theodore, Numerical simulation of elastic, viscoelastic and granular materials
Greenblatt, Jordan, Asymptotic maximal operator norms for Cartesian powers of finite graphs
Hernandez, Joshua, Models and methods for sensor-based environment exploration
Jao, Casey, Energy-critical and mass-critical nonlinear Schrödinger equations with variable coefficients
Keranen, Jukka, Compact support cohomology of Picard modular surfaces
Lang, Jaclyn, Images of Galois representations associated to p-adic families of modular forms
Li, Zhiqiang, Ergodic theory of expanding Thurston maps
Lin, Jianfeng, The unfolding Seiberg-Witten-Floer spectrum: Definition, property and applications
Lynn, Melissa, Sums-of-squares formulas over arbitrary fields
Pauwels, Brejje, Quasigalois theory in tensor-triangulated categories
Peng, Zhihui, Asynchronous parallel algorithms for large scale problems
Ram, Daniel, A material point method for complex fluids
Rosenbaum, William, Distributed almost stable matchings
Soffer, Andrew, Combinatorics of conjugacy classes in U_n(F_q)
Tran, Giang, Sparsity-inducing methods in imaging sciences and partial differential equations
Wang, Ten, Population genetics in a single organism: Models of neurospora crassa nuclear dynamics
Woodworth, Joseph, Numerical optimization methods for image processing and machine learning
Yin, Changyong, Geometry of Calabi-Yau moduli

University of California, Merced (1)

DEPARTMENT OF APPLIED MATHEMATICS
Martin, David, Accounting for surface concentrations using a VOF front tracking method in multiphase flow

University of California, Riverside (5)

DEPARTMENT OF MATHEMATICS
Dusel, John, Combinatorics of crystal folding
Navas, Esteban, A Priori bound on the velocity in axially symmetric Navier-Stokes equations
Schneider, Lisa, Multiplicities associated to Demazure flags of sl2[t]-modules
Shereen, Peri, A Steinberg type decomposition theorem for higher level Demazure modules
Wand, Jeffery, Demazure flags of local Weyl modules

University of California, San Diego (18)

DEPARTMENT OF MATHEMATICS
Aisenberg, James, The proof and search complexity of three combinatorial principles
Behzadan, Ali, An analysis of the conformal formulation of the Einstein constraint equations on asymptotically flat manifolds
Cheung, Man Wai, Tropical techniques in cluster theory and enumerative geometry
Cummings, Jonathan, Flips and juggling
Das, Shaunak, Vector bundles on perfectoid spaces
Elle, Susan, A study of dimension sore extensions
Hoff, Daniel, Some structural results for measured equivalence relations and their associated von Neumann algebras
Longo, Brian, “Super-approximation” in absolutely almost simple groups over the field of rational functions with coefficients in a finite field
Moody, John Brogan, Discrete differential structures on simplicial complexes
Palmer, Joseph, Symplectic invariants and moduli spaces of integrable systems
Semko, Jeremy, Controlled rough paths on manifolds
Sergei, Emily, The combinatorics of nabl p_n and connections to the rational shuffle conjecture
Tait, Michael, Connections between graph theory, additive combinatorics, and finite incidence geometry
Tong, Pun Wai, Classical limit on quantum mechanics for unbounded observables
Tully-Doyle, Ryan K, On the representation and boundary behavior of certain classes of holomorphic functions in several variables
Wang, Liang, Topics in transformation-based statistical method
Wilkins, Gautam, An empirical chaos expansion method for uncertainty quantification
Won, Robert, The graded module category of a generalized Weyl algebra

University of California, Santa Barbara (9)

DEPARTMENT OF MATHEMATICS
Comelli, Silvia, Hartree-Fock theory with a self-generated magnetic field
Coté, Benjamin, A complex Euclidean reflection group and its braid
Cui, Xingshan, Higher categories and topological quantum field theories
Delgadillo, Ricardo, Semiclassical methods for high frequency wave propagation in periodic media
Karimi, Shahab, Stochastic 2D Navier-Stokes equation and applications to 2D turbulence
Smith, Derek, Propagation of regularity within solutions to Korteweg-de Vries type equations
Tsang, Sin Yi Cindy, On the Galois module structure of the square root of the inverse different in abelian extensions
Wang, Changliang, Linear stability of Einstein metrics and Perelman’s lambda-functional for manifolds with conical singularities
Wirts, Shawn, Poincare inequalities under gauge transformations
University of California, Santa Cruz (6)

Applied Mathematics and Statistics Department

Betancourt Canizales, Brenda, Modeling and prediction of time series of directed binary networks
Lopez Arriaza, Juan, Unraveling steelhead life history complexity through mathematical modeling
Pourmohamad, Tony, Combining multi-variate stochastic process models with filter methods for constrained optimization
Soper, Braden, Non-zero-sum, adversarial detection games in network security
White, Katelyn, Numerical investigations of spherical boundary-driven dynamos

Department of Mathematics

Beloi, Aleksander, Shinani’s method: Zeta values and stark units

University of Southern California (11)

Department of Mathematics

Abram, Michael, Symmetries of categorified quantum groups
Kang, Yongjiian, Large-scale inference in multiple Gaussian graphical models
Karnam, Chandrasekhar, Dynamic approaches for some time inconsistent problems
Keller, Christian, Pathwise stochastic analysis and related topics
Ren, Haining, The cycle convergence rate of cyclic permutations
Tucker, Henry, Frobenius-Schur indicators for near group and Haagerup-Izumi fusion
Ugurlu, Kerem, Some mathematical problems for the stochastic Navier-Stokes equations
Wang, Jian, On the torsion structure of elliptic curves over cubic number fields
Williams, Andrew, On the Giroux correspondence
Yang, Fan, Entry times statistics on metric spaces
Zheng, Tian, Optimal investment and reinsurance problems and related non-Markovian FBSDEs with constraints

COLORADO

Colorado School of Mines (2)

Department of Applied Mathematics and Statistics

Alyoubi, Ahmad, High performance computational algorithms for a class of integer and fractional evolutionary models
Mestas, Joseph, Long-range shock propagation in ocean waveguides

Colorado State University (19)

Department of Mathematics

Alsaker, Melody, Computational advances in the D-bar reconstruction method for 2-D electrical impedance tomography
Chepushtanova, Sofya, Algorithms for feature selection and pattern recognition on Grassmann manifolds
Cooper, Benjamin, Abstract hyperovals, partial geometries, and transitive hyperovals
Hanson, Eric, Algorithms in numerical algebraic geometry and applications
Ho, Anne, Counting Artin-Schreier curves over finite fields
Ihde, Steven, Preconditioning polynomial systems using Macaulay dual spaces
Mikucki, Michael, Electromechanical and curvature driven molecular flows for lipid membranes
Sadre-Marandi, Farrah, Mathematical modeling for HIV-1 viral capsid structure and assembly

Department of Statistics

Alsaker, Cody, Statistical innovations for estimating shape characteristics of biological macromolecules in solution using small-angle x-ray scattering data
Edmondson, Stacy, Adjusting for capture, recapture, and identity uncertainty when estimating detection probability from capture-recapture surveys
Hunter, Brett, Modeling the upper tail of the distribution of facial recognition non-match scores
Russell, Brock, Understanding extreme behavior by optimizing tail dependence with application to ground level ozone via data mining and spatial modeling
Sienkiewicz, Ela, Analysis of structured data on big data with application to neuroscience
Sun, Libo, Parameter inference and model selection for differential equation models
Tan, Hongyu, Modulated renewal process models with functional predictors for neural connectivities
Tipton, John, Improved estimation and prediction for computationally expensive ecological and paleoclimate models
Tu, Yan, A penalized estimation procedure for varying coefficient models
Wu, Jiwen, Penalized isotonic regression and an application in survey sampling
Young, Gabriel, Inference for functional time series with applications to yield curves and intraday cumulative returns

University of Colorado, Boulder (13)

Department of Applied Mathematics

Ali, Asfar Fawad, ULF waves and diffusive radial transport of charged particles

Bao, Lei, Efficient time-integration schemes for discontinuous Galerkin non-hydrostatic atmosphere models
Barnett, Gregory, A robust RBF-FD formulation based on polyharmonic splines and polynomials
Cheng, Ze, Qualitative analysis of some non-linear PDE
Nie, David J, Investigations of reduced equations for rotating, stratified and non-hydrostatic flows
Wong, Anthony, The impact of stable water isotopic information on parameter calibration in a land surface model

Department of Mathematics

Grimes, Matt, Compactifications of universal moduli spaces of vector bundles and the log-minimal model program on Mg
Havasi, Krisztian, Geometric realization of strata in the boundary of the intermediate Jacobian locus
Linman, Julie, Minimal functions on the random permutation
Nishikawa, Jared, Applications of cryptographic hash functions
Nita, Alexander, Self adjointness of the sympletic dirac operators
Scherer, Charles, Maximal comparable and incomparable sets in Boolean algebras
Shannon, Erica, Computing invariant forms for Lie algebras using heaps

University of Colorado, Denver (2)

Department of Mathematical and Statistical Sciences

Brandt, Axel, Computational approaches in graph theory
Thomas, Brent, Saturation spectrum for trees

University of Denver (2)

Department of Mathematics

Ash, Drew, Topological speedups
French, Thomas, Follower and extender sets in symbolic dynamics

University of Northern Colorado (3)

School of Mathematical Sciences

Roach, Catherine, A study of novice instructors’ questioning techniques and classroom discourse surrounding those questions
Troudt, Melissa, Mathematicians’ evolving personal arguments: Ideas that move proof constructions forward
Troup, Jonathan, “Students” development of geometric reasoning about the derivative of complex-valued functions
CONNECTICUT

University of Connecticut, Storrs (13)

DEPARTMENT OF MATHEMATICS
Asaad, Mahsa, Hypoelliptic heat kernel on nilpotent Lie groups
Judge, Jonathan, Modules over rank-two KLR algebras
Lorincz, Andras, Bernstein-Sato polynomials for quivers
Mackenzie, Michael, Unitary k-Hessenberg matrices
Pellico, Ryan, Multiple periodic solutions of a nonlinear suspension bridge system of partial differential equations
Serhiyenko, Khrystyna, Induced and coinduced modules over cluster-tilted algebras

DEPARTMENT OF STATISTICS
Goh, Gyuhyeong, Applications of Berman divergence measures in Bayesian modeling
Joeng, Hee-Koung, Theory and methods for modeling and fitting discrete time survival data
Larose, Chantal, Model based clustering of incomplete data
Ouyang, Gaang, Social network community detection
Serhiyenko, Volodymyr, Dynamic modeling of multivariate counts: Fitting, diagnostics and applications
Wang, Zhuo, Estimating equations for spatial extremes with applications to detection and attribution analysis of changes in climate extremes
Zhao, Bo, Scan statistics for detecting a local change in variance for normal data

Wesleyan University (2)

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
Karker, Mary Leah, Two applications of topology to the study of non-classical logics
Liu, Jingho, Representations of integral hermitian forms by sums of norms

Yale University (9)

BIOSTATISTICS DIVISION
Zhao, Qing, Integrative analysis of multi-dimensional cancer genomic data

DEPARTMENT OF MATHEMATICS
Allegretti, Dylan G, The geometry of cluster varieties from surfaces
Cheung, Rex, Integrability estimates on the space of S-arithmetic lattices
Faonte, Giovanni, Nerve construction, A-infinity functors and homotopy theory of differential graded categories
Pimenov, Syryatskov, Kostant's theorem for Lie superalgebra $gl(m,n)$
Ranganathan, Dhruv, Skeletons, degenerations, and Gromov-Witten theory
Rao, Anup, Algorithms for Lipschitz extensions on graphs
Gao, Chao, Frequentist justifications of Bayes procedures
Rush, Cynthia, Iterative algorithms for inference and optimization, with applications in communications and compressed sensing

DELAWARE

Delaware State University (2)

DEPARTMENT OF MATHEMATICAL SCIENCES
Hui, Pengrui, Moving window finite-difference time-domain method based on space-time coordinate transformation
Zhao, Yingxue, Finite-difference time-domain method for hydrodynamic electric fluid Maxwell equations

University of Delaware (8)

DEPARTMENT OF MATHEMATICAL SCIENCE
Alexander, James, Selected results in combinatorics and graph theory
Castillo, Christopher, A method for constructing groups of permutation polynomials and its applications to projective geometry
Evans, Ryan, A mathematical journey through optical biosensors
Li, Jiange, Some topics in probability theory, combinatorics and information theory
Li, Weiqiang, Algebraic methods in graph theory
Meng, Shixu, Inverse scattering for a penetrable cavity and the transmission eigenvalue problem
Qu, Tianyu, Time domain in boundary integral methods in acoustics, heat diffusion and electromagnetism
Yang, Fan, Scattering and inverse scattering in the presence of complex background media

DISTRICT OF COLUMBIA

George Washington University (3)

DEPARTMENT OF MATHEMATICS
El Sherif, Lara, Matchings, intersection graphs, and the maximum genus of graphs
Hu, Yeyao, Disc assemblies and spike assemblies in inhibitory systems
Marshall, Leah, Computability-theoretic properties of partial injections, trees and nested equivalences

Howard University (3)

DEPARTMENT OF MATHEMATICS
Alberto, Genesis, The division polynomials for the Holm curve and their properties
Arienmaghare, Martin, Three, four-wave HLLC Riemann solver for single and multiphase flow, and the classical and semi-relativistic CGL-MHD
Siewe, Nourridine, Granuloma formation and immune response to infection by Leishmania: Mathematical models

FLORIDA

Florida Atlantic University (5)

DEPARTMENT OF MATHEMATICAL SCIENCES
Fontaine, Marcus, Nonlinear phenomena from a re-injected horseshoe
Ippolito, Stephen, Kicks and maps: A different approach to modeling biological systems
Rutherford, Vermont, Negligible variation, change of variables, and a smooth analog of the Hobby-Rice theorem
Sharma, Madhav, Maximally Prüfer rings
Thapa Magar, Krishna, Low rank transitive representations, primitive extensions, and the collision problem in $PSL(2,q)$

Florida Institute of Technology (1)

DEPARTMENT OF MATHEMATICAL SCIENCES
Goldfarb, Jonathan, On the optimal control of the free boundary problems for the second order parabolic equations

Florida State University (26)

DEPARTMENT OF MATHEMATICS
Adams, Bill, Lagrangian specialization via log resolution and Schwartz-MacPherson-Chern classes
Ballenger-Fazzone, Brendon, An analysis of conjugate harmonic components of magnetic functions and lambda harmonic functions
Cole, Justin, Non-linear Schrödinger-type systems: Complex lattices and non-paraxiality
Diaz-Martinez, Diego, Multiscale summaries of probability measures with applications to plant and microbiome data
Ekrut, David, Symmetry solutions of the multiphase model with biological applications
Fletcher, Patrick, Theoretical, computational, and experimental topics in anterior pituitary cell signaling
Han, Daozhi, Diffuse interface method for two-phase incompressible flows
Jarrett, Angela, Investigating persistent infections using mathematical modeling and analyses
Jones, Dawnna, Asset pricing equilibria for heterogeneous limit-information agents
Kim, Sarah, A mathematical model of cerebral cortical folding development based on a biomechanical hypothesis
Li, Mao, Quantifying phenotype variation through local persistent homology and imaging
Sun, Dong, High order long-time accurate methods for Stokes-Darcy system and uncertainty quantification of containment transport
Woodruff, Celestine, Efficient and accurate numerical schemes for long time statistical properties of the infinite Prandtl number model for correction
Xu, Limin, Gnp computing in financial engineering
Yuan, Wei, Estimating sensitivities of exotic options using Monte Carlo methods
Zhou, Guifang, Rank-constrained optimization: A Riemannian manifold approach

DEPARTMENT OF STATISTICS
Arajhi, Shari’fat, Examining the relationship of dietary component intake to each other and to mortality
Fraser, Raphael, Median regression for complex survey data
Gramajo, Gary, Feature selection with annealing with application to big data
Qiu, Mingfei, The one- and two-sample problem for data on Hilbert manifolds with applications to shape analysis
Schleeter, Tiffany, Methods of block thresholding across multiple resolution levels in adaptive wavelet estimation
Scolnik, Ryan, Predictive accuracy measures for binary outcomes: Impact of incidence rate and optimization techniques
Shao, Jiang, Matched sample based cross normalization method on microarray gene dataset
Yu, Kaixian, Statistical methods for big data and their applications in biomedical research
Zhang, Qiaoyu, Sparse generalized PCA and dependency learning for large-scale applications
Zhang, Shuguang, Time-varying mixture models for financial risk management

University of Central Florida (1)

DEPARTMENT OF MATHEMATICS
Russo, Matthew, Building Lay integrable variable-coefficient generalizations to integrable PDEs and exact solutions to nonlinear PDEs

University of Florida (14)

DEPARTMENT OF MATHEMATICS
Gray, Daniel, Bounds on the lengths of restricted superpatterns

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University of Florida College of Public Health

A statistical analysis of hurricanes in the Atlantic Basin and sinkholes in Florida

Emory University

Department of Biostatistics and Bioinformatics

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Department of Mathematics and Computer Science

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Southern Illinois University Carbondale (3)

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University of Louisiana at Lafayette (4)

Department of Mathematics

Chellamuthu, Vinodh, Structure population models: Numerical methods and applications to dynamics of amphibians and chytridiomycosis

Li, Xinyu, Size-structured population model with distributed states in the recruitment: Approximation and parameter estimation

Miller, Robert Lloyd, Models for the interactions of size structured populations and the environment

Sambandham, Bhuvaneswari, Analysis of sequential Caputo fractional differential equations with applications

MARYLAND

Johns Hopkins University Bloomberg School of Public Health (13)

Department of Biostatistics

Abreu, Francis, Definition and estimation of intervention effects in complex systems: Gender equity in academia

Collado Torres, Leonardo, Annotation-agnostic differential expression analysis

Fisher, Aaron, Methods for high dimensional analysis, multiple testing, and visual exploration

Fortin, Jean-Philippe, Statistical methods for epigenetic data and structural magnetic resonance imaging

Huang, Lei, Statistical methods in high-dimensional structured data

Lu, Yi, Influence function based statistical inference under various sampling designs

Mejia, Amanda, Statistical methods for functional magnetic resonance imaging data

Muschelli, John, Computational methods for neuroimaging in R: Stroke hemorrhage in x-ray computed tomography scanning

Pal Choudhury, Parichoy, Statistical inference with multiple data sources

Patil, Prasad, Assessing reproducibility and value in genomic signatures

Qi, Huittong, Statistical methods and theory for analyzing high dimensional time series

Swanson, Elizabeth, Statistical methods for analysis of structural magnetic resonance imaging in patients with multiple sclerosis

Yue, Chen, Generalizations, extensions and applications for principal component analysis

Johns Hopkins University (7)

Department of Applied Mathematics and Statistics

Liu, Bo, Energy commodity price analysis and trading strategies

Yoder, Jordan, On model-based semi-supervised clustering

Department of Mathematics

Beardsley, Jonathan, Coalgebraic structure and intermediate Hopf-Galois extensions of Thom spectra in quasicategories

Lorman, Vitaly, Real Johnson-Wilson theories and computations

Mincheva, Kalina, Semiring congruences and tropical geometry

Xue, Min, Concerning the Klein-Gordon equation on asymptotically Euclidean manifolds

Zhu, Junyan, Hole probabilities of SU(m+1) Gaussian random polynomials

University of Maryland, Baltimore County (10)

Department of Mathematics and Statistics

Al-Naifar, Elias, Extensions of Cook’s principal fitted components for sufficient dimension reduction

Baro, Elande, Bayesian latent propensity score approach for average causal effect estimation allowing covariate measurement error

Coulibaly, Zana, Calcium dynamics from randomly releasing sparks in cardiac myocytes: Analyzing and simulating a probabilistic 3-dimensional mathematical model with point release sources

Fouri, Marilena, Tolerance limits and confidence limits for cost-effectiveness analysis
Karmakar, Moumita, Variable selection in high dimensional complex data and Bayesian estimation of reduction subspace

Khavis, Samuel, Porting and tuning numerical kernels in real-world applications to many-core Intel Xeon Phi accelerators

Plunkett, Amanda, Analysis and testing of sparse high dimensional discrete data

Potackal, Ginto, Some tests, confidence limits and tolerance limits for assessing biosimilarity

Wang, Ting, Parametric sensitivity analysis of stochastic reaction networks

Xi, Mingyu, Statistical modeling and hypothesis testing of chemical-chemical interaction: A non-parametric approach

University of Maryland, College Park (28)

Department of Mathematics

Begue, Matthew, Expedition in data and harmonic analysis on graphs

Brandon, Andrew, Capturing micro-emulsions and micro-foams with the arbitrary Langrangian Eulerian method

Civan, Gokhan, Identification of operators on locally compact abelian groups

Clapp, Geoffrey, Applying mathematical models to study the role of the immune system in chronic myelogenous leukemia

Clark, Chae, Spectral frame analysis and learning through graph structure

Cui, Ran, The real-quaternionic indicator of irreducible self-conjugate representations of real reductive groups

Daran, David, Statistical methods for analyzing time series data drawn from complex social systems

Das, Sudharsattwa, Chaos and quasiperiodicity

Delgadino, Matias, Analysis of self-organization

Doboszczak, Stefan, Existence and weak-strong uniqueness for the Navier-Stokes-Smoluchowski system over moving domains

Forstall, Virginia, Iterative solution methods for reduced-order models of parameterized partial-differential equations

Galagate, Douglas, Causal inference with a continuous treatment and outcome: Alternative estimators for parametric dose-response functions

Guay, Matthew, Sparse signal representation in digital and biological systems

Hafftka, Ariel, Tensor completion for multidimensional inverse problems with applications to magnetic resonance relaxometry

Harris, David, Algorithms and generalizations for the Lovász local lemma

Hsiao, Chiao-Wen, Multivariate methods for high-throughput biological data with application to comparative genomics

Kuz, Elif, Quantitative derivation of effective evolution equations for the dynamics of Bose-Einstein condensates

Laun, Gregory, Fundamental domains for proper affine actions of Coxeter groups in three dimensions

Mendelowitz, Lee, Algorithms for alignment and visualization of genome mapping data with applications to structural variant detection

Norwood, Adrienne, Bred vectors, singular vectors, and Lyapunov vectors in simple and complex models

Okrah, Kwame, Shape analysis of high-throughput genomics data

Paulson, Joseph, Normalization and differential abundance analysis of metagenomic biomarker-gene surveys

Rast, Richard, The complexity of isomorphisms for some first order theorems

Schmiedling, Scott, Strong shift equivalence, algebraic $K$-theory, and isolating zero-dimensional dynamics on manifolds

Stepanov, Alexey, Dynamical and steady-state solutions of nonlinear viscoelasticity

Weinberg, Daniel, Multiscale and directional representations of high-dimensional information content in remotely sensed data

Xue, Zhenyi, Bayesian estimation of the inbreeding coefficient for single nucleotide polymorphism collected using complex survey data

Zhong, Ming, Hierarchical reconstruction method for solving ill-posed linear inverse problems

MASSACHUSETTS

Boston College (4)

Department of Mathematics

Hubbard, Diana, Properties and applications of the annular filtration on Khovanov homology

Romano, Beth, On the local Langlands correspondence: New examples from the epipelagic zone

Salz, Adam, The spectral sequence from Khovanov homology to Heegaard-Floer homology and transverse links

Yarmola, Andrew, Convex hulls hyperbolic in 3-space and generalized orthospectral identities

Boston University (7)

Department of Mathematics and Statistics

Bai, Shuyang, Probabilistic and statistical problems related to long-range dependence

Curtis, Jessica, Class discovery via feature selection in unsupervised settings

Deng, Xinyi, Point process modeling and estimation: Advances in the analysis of dynamic neural spiking data

Fischer, Benjamin, Perturbed polyhedra and the construction of local Euler-Maclaurin formulas

Karnatak, Aditya, Two theorems on Galois representations and Shimura varieties

McCueley, Thomas, Chern-Weil techniques on loop spaces and the Maslov index in partial differential equations

Sanjari, Ali, Liquidation under dynamic price impact

Boston University School of Public Health (5)

Department of Biostatistics

Choi, Seung Hoan, Evaluation of statistical methods, modeling, and multiple testing in RNA-SEQ studies

Griffin, Paula Jean, Biological network models for inferring mechanism of action, characterizing cellular phenotypes, and predicting drug response

Hong, Jaeyoung, Meta-analysis strategies for heterogeneous studies in genome-wide association studies

Rybin, Denis, Placebo response characteristic in sequential parallel comparison design studies

Xue, Luting, Evaluation extension of a kernel-based method for gene-gene interaction tests of common variants

Brandeis University (4)

Department of Mathematics

Cordes, Matthew, Morse boundaries of proper geodesic spaces

Deo, Shanuck, Structure of Hecke algebras in two scenarios: Mod $p$ modular forms and eigenvarieties

Kelly, Tynan, Twisted linking numbers and Casson-Gordon invariants

Ly, Tue, Diophantine approximation in algebraic number fields and flows on homogeneous dynamics

Harvard T. H. Chan School of Public Health (9)

Biostatistics Department

Antonelli, Joseph, Statistical methods for analyzing complex spatial and missing data

Chakraborty, Abhishek, Robust semiparametric inference in semi-supervised settings

Gurmu, Yared, Modeling and estimation of patterns of relationship formation and dissolution

Hayeck, Tristan, Retrospective mixed model and propensity score methods for case control data

Miles, Caleb, Semiparametric methods for causal mediation analysis and measurement error
Doctoral Degrees Conferred

Ramchandani, Ritech, Rank-based methods for survival data with multiple outcomes
Staples, Patrick, On the statistical properties of epidemics on networks
Sun, Baoluo, Semi-parametric methods for missing data and causal inference
Yung, Godwin Yuen Han, Statistical methods for analyzing genetic sequencing association studies

Harvard University (22)

Department of Mathematics
Bland, Jason, On the arithmetic of hyperelliptic curves
Cavazzani, Francesco, Complete homogeneous varieties via representation theory
Fintzen, Jessica, On the Moy-Prasad filtration and stable vectors
Matveev, Konstantin, q-deformed interacting particle system RSKs and random polymers
Moon, Yong Suk, Galois deformation ring and Barsotti-Tate representation in the relative case
Perry, Alexander, Derived categories and birational geometry of Gushel-Makai varieties
Tynan, Philip, Information: Measuring the complexity reduction for analyzing structure in genomes
Zhao, Anqi, Complex rank-based methods for analyzing structure in genomes, self-assembly, and random matrices

Department of Statistics
Garcia-Horton, Viviana, Topics in Bayesian inference for causal effects
Jones, David, Information: Measuring the missing, using the observed, and approximating the complete
Li, Yang, Statistical methods for large-scale integrative genomics
Lu, Jianman, On causal inference for ordinal outcomes
Sosina, Sobambo, Analysis, modeling, and optimal experimental design under uncertainty: From carbon nanostructures to 3D printing
Tak, Hyungsuk, Topics in Bayesian hierarchical modeling and its Monte Carlo computations
Toulis, Panagiotis, Implicit methods for iterative estimation with large data sets
Zhao, Anqi, Time for a new angle! Unravel the mystery of split-plot designs via the potential outcomes prism

School of Engineering and Applied Science
Gupta, Manish, Complexity reduction for near-real-time high dimensional filtering and estimation applied to biological signals
Huntley, Miriam, Quantitative methods for analyzing structure in genomes, self-assembly, and random matrices
Overveld, Johannes, Embracing compliance and instabilities to achieve function mechanical metamaterials and devices
Wang, Pai, Phononic crystals and acoustic metamaterials

Massachusetts Institute of Technology (26)

Department of Mathematics
Alpert, Hannah, Special gradient trajectories counted by simplex straightening
Berchenko-Kogan, Yakov, Yang-Mills replacement
Binder, John, Fields of rationality of cuspidal automorphic representations
Bogner, Dorin, Parabolic Springer resolution
Bottman, Nathaniel, Pseudoholomorphic quilts with figure eight singularity
Chang, Jui-En, The 1-dimensional λ-self shrinkers in \( \mathbb{R}^2 \) and the nodal sets of biharmonic Steklov problems
Engel Shaposhnik, Efrat, Antichains of internal orders and semiorders, and Dilworth lattices of maximum size antichains
Entova Aizenbud, Inna, Schur-Weyl duality in complex rank
Fei, Teng, On the geometry of the Strominger system
Grinberg, Darij, Studies on quasisymmetric functions
Guang, Qiang, Self-shrinkers and translating solitons of mean curvature flow
Hortsch, Ruthi, Counting elliptic curves of bounded Faltings height
Lee, Yin Tat, Faster algorithms for convex and combinatorial optimization
Li, Jiayong, Lambda-infinity algebras for Lagrangians via polyfold theory for Morse trees with holomorphic disks
Lin, Francesco, Monopoloes and pin(2)-symmetry
Liu, Zihan, The Morse index of mean curvature flow self-shrinkers
Mangoubi, Oren, Integral geometry, Hamiltonian dynamics, and Markov chain Monte Carlo
Moll, Alexander, Random partitions and the quantum Benjamin-Ono hierarchy
Rippel, Oren, Sculpting representations for deep learning
Simmons, Soan, Preserving patient privacy in biomedical data analysis
Srinivasan, Padmanabha, Invariants linked to models of curves over discrete valuation rings
Sun, Yi, Quantum intertwiners and integrable systems
Vaintrob, Dmitry, Mirror symmetry and the K theory of a p-adic group
Viscardi, Michael, Equivariant quantum cohomology and the geometric Satake equivalence

Northeastern University (6)

Department of Mathematics
Bade, Nathaniel, Anomalies and holomorphy in supersymmetric Chern-Simons-matter theories
Bolognese, Barbara, Two results on divisors on moduli spaces of sheaves on algebraic surfaces: Generic strange duality on abelian surfaces and Nef cones of Hilbert schemes of points on surfaces with irregularity zero
Gamse, Elishava, Two explorations in symplectic geometry: I. Moduli spaces of parabolic vector bundles over curves II. Characteristics of quantisations of Hamiltonian actions of compact Lie groups on symplectic manifolds
Lin, Yinbang, Moduli spaces of stable pairs
Wang, He, Resonance varieties, Chen ranks and formality properties of finitely generated groups
Zhang, Rouran, Gauge theory and self-linking of Legendrian knots

Tufts University (5)

Department of Mathematics
Benson, Thomas, Multigrid-based preconditions for saddle-point problems
Bray, Sarah, Nonuniform hyperbolicity in Hilbert geometries
Buckles, Kevin, Survival numbers of groups and graphs with emphasis on z/2 and Diestel-Leader graphs
O’Connell, Meghan, Advanced techniques in the computation of reduced order models and Krylov recycling for diffuse optical tomography
Stark, Emily, Abstract commensurability and quasi-isometry classification of hyperbolic group amalgams

University of Massachusetts, Amherst (6)

Department of Mathematics and Statistics
Baskin, Nikolay, K3 surfaces
Duanmu, Mei, Modeling, analysis and numerical simulations in mathematical biology of traveling waves, Turing instability and tumor dynamics
Olof, Stephen, Equivariant intersection cohomology of Borel orbit closures in the wonderful compactification of a group
Ray, Evan, Hidden Markov models for physical activity classification and energy expenditure estimation
Wang, Peng, Variable selection in single index varying coefficient models with lasso
Wilson, Tobias, The topology of the affine Springer fiber in type A

**Worcester Polytechnic Institute** (4)

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Ho, Nguyenho, Swimming filaments in a viscous fluid with resistance
Kiley, Erin, Reduced-dimension coupled electromagnetic, thermal, and mechanical models of microwave sintering
Nika, Grigor, Multiscale analysis of emulsions and suspensions with surface effects
Yin, Jiani, Bayesian nonparametric models for multi-stage sample surveys

**MICHIGAN**

**Central Michigan University** (3)

**DEPARTMENT OF MATHEMATICS**

Lazar, Drew, Scale and dimension reduction in symmetric spaces
Mohammad, Mutaz, Frame based method for investigating Gibbs phenomenon
Soller, Katherine, Normalizable and unitarizable matrices

**Michigan State University** (17)

**DEPARTMENT OF MATHEMATICS**

Chen, Liping, A linear homotopy method for computing generalized tensor eigenpairs
Dahlberg, Samantha, Patterns and statistics in partitions and restricted growth functions
Gao, Hongli, Minimization of some non-smooth convex functionals arising in micromagnetics
Hua, Xianfeng, Machine learning method for authorship attribution
Ivanisvili, Paata, Geometric aspects of exact solutions of Bellman equations of harmonic analysis problems
Jin, Jiayin, Invariant manifold theory and its applications to nonlinear PDEs
Kim, Seonghak, The existence of Lipschitz solutions to some forward-backward parabolic equations
Kraitzman, Noa, Bifurcation and competitive evolution of network morphologies in the strong functionalized Cahn-Hilliard equation
Liang, Yu, The mathematical models of nutritional plasticity and the bifurcations of a nonlocal diffusion equation
Lui, Qinbo, Estimates on singular values of functions of perturbed operators
Machen, Casey, Abelian varieties associated to cubic and quartic forms

**Michigan Technological University** (3)

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Banjialbulruhman, Ahmad, Dynamic meshing around fluid-fluid interfaces with applications to droplet tracking in contraction geometries
Gorgin, Elaheh, Heuristic methods for Tikhonov regularization
Liang, Chao, Development of computational methods for the investigation of liquid drop phenomena in external flows

**Oakland University** (4)

**DEPARTMENT OF MATHEMATICS AND STATISTICS**

Abdallah, Mohamad, Fault-tolerant Hamiltonian-connectivity of 2-tree generated networks
Afskormani, Arej, Mathematical models of HIV latent infection with time delays and age structure
Beshaj, Lubjana, Integral binary forms with minimal height
Pate, Kevin, Quadratic homogeneous Keller maps

**University of Michigan** (24)

**DEPARTMENT OF MATHEMATICS**

Acosta, Pedro, A general Landau-Ginzburg/Gromov-Witten correspondence
DeWoskin, Daniel, Multiscale modeling of coupled oscillators with applications to the mammalian circadian clock
Farmer, Brittan, Modeling and simulation of carbon nanotube growth
Gupta, Purvi, Fefferman’s hypersurface measure and volume approximation problems
Hathaway, Daniel, Domination of functions
Kadryszewo, Zhbep, Tight closure, F-purity, and varieties of nearly commuting matrices
Kaye, Adam, Arithmetic of the Asai L-function for Hilbert modular forms

**University of Michigan** (24)

**DEPARTMENT OF MATHEMATICS**

Kim, Giwan, Richardson varieties in a toric degeneration of the flag variety
Perez, Juan, On connections between invariants of singularities in zero and positive characteristics
Ricks, Russell, Flat strips, Bowen-Margulis measures, and mixing of the geodesic flow for rank one CAT(0) spaces
Shnidman, Ariel, Heights of generalized Heegner cycles
Su, Yi, Electrical networks and electrical Lie theory of classical types
Wetzel, Alfredo, Three stratified fluid models: Benjamin-Ono, tidal resonance, and quasi-geostrophy
Zhang, Tengren, Degeneration of Hitchin representations
Zhao, Xiaolei, Topological Abel-Jacobi mapping and Jacobi inversion

**DEPARTMENT OF STATISTICS**

Bagschi, Pramita, Non-standard problems under short and long range dependence
Henderson, James, Methods for reconstructing networks with incomplete information
Lu, Xi, Evaluation and comparison of dynamic treatment regimes: Methods and challenges
Ma, Jing, Estimation and inference for high-dimensional Gaussian graphical models with structural constraints
Narisetty, Naveen Naide, Statistical analysis of complex data: Bayesian model selection and functional data depth
Nguyen, Dao Xuan, Bayesian model selection and functional data depth
Nguyen, Nhat, On a multi-dimensional stochastic control problem: The parabolic case
Roy, Sandipan, Statistical inference and computational methods for large high-dimensional data with network structure
Xia, Dongpeng, Measuring influence and topic dependent interactions in social media networks based on a counting process modeling framework
Zhou, Xiang, Three essays on economic inequality and social mobility

**Wayne State University** (8)

**DEPARTMENT OF MATHEMATICS**

Catanzaro, Michael, A topological study of stochastic dynamics on CW complexes
Cui, Xiaoyue, New characterizations of Sobolev spaces on Heisenberg groups, Carnot groups and higher order Sobolev spaces on Euclidean space
Guo, Hailong, Recovery techniques for finite element methods and their applications
Nguyen, Nhat, On a multi-dimensional singular stochastic control problem: The parabolic case
Ouyang, Wei, Well-posedness properties in variational analysis with applications
Tian, Yuan, Finite-difference methods in optimal control of differential inclusions
Yuan, Quan, Stochastic recursive algorithms with applications to consensus and particle swarm optimization
Zabka, Matthew, Cohomology operations on random spaces

Western Michigan University (2)

DEPARTMENT OF MATHEMATICS
Clark, Timothy, Resolving classes and resolvable spaces in rational homotopy
LaForge, Elliot, Chromatic connectivity of graphs

MINNESOTA

University of Minnesota—Twin Cities (22)

DIVISION OF BIOSTATISTICS, SCHOOL OF PUBLIC HEALTH
Kim, Junghi, Statistical methods for imaging genetics
Lee, Chi Hyun, Nonparametric and semiparametric methods for recurrent gap time data
Musgrove, Donald, Spatial models for large spatial and spatiotemporal data
Ray, Debashree, Statistical modeling and testing for joint association in genomewide association studies

SCHOOL OF MATHEMATICS
Acosta, Javier, Convergence in law of the centered maximum of the mollified Gaussian free field in two dimensions
Dilks, Kevin, Involutions on Baxter objects and q-gamma nonnegativity
Fu, Guosheng, Devising superconvergent HDG methods by M-decompositions
Garver, Alexander, On the structure of oriented exchange graphs
Goh, Ryan, Pattern formation in the wake of external mechanisms
Goodson, Heidi, Hypergeometric functions and arithmetic properties of algebraic varieties
Leifeld, Juliann, Smooth and nonsmooth bifurcations in Weland’s ocean convection mode
Mak, Cheuk Yu, Rigidity of symplectic fillings, symplectic division and Dehn twist exact sequences
McConvil, Thomas, Biclosed sets in combinatorics
McIntyre, Stephen, Understanding and analyzing APD alternars
Melbourne, James, Convex measures and associated geometric and functional inequalities
O’Connell, Rosemary, A computational study of cortical spreading depression
Olson, Derek, Formulation and analysis of an optimization-based atomistic-continuum coupling algorithm
Patrias, Rebecca, Combinatorial constructions motivated by K-theory of the Grassmannian
Wang, Xu, Searching, clustering and regression on non-Euclidean spaces
Wei, Ning, Alternans, ephaptic coupling and their relation to ventricular arrhythmias

SCHOOL OF STATISTICS
Archila, Felipe Acosta, Markov Chain Monte Carlo for linear mixed models
Knudson, Christina, Monte Carlo likelihood approximation for generalization

MISSISSIPPI

Mississippi State University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Bonyo, Job, Groups of isometries associated with automorphisms of the half-plane
Calvert, Velinda, Rational Bernoulli functions for solving problems on unbounded domains
Maslayehki, Somayeh, Hybrid functions in fractional calculus

University of Mississippi (2)

DEPARTMENT OF MATHEMATICS
Nakarmi, Janet, On variable bandwidth kernel density and regression estimation
Priddy, Bruce, Independent domination of subcubic graphs

University of Southern Mississippi (2)

DEPARTMENT OF MATHEMATICS
Cibotarica, Alexandru, Solution of non-linear time-dependent PDEs through componentwise approximation of matrix functions
Kuo, Lei-Hsin, On the selection of a good shape parameter for RBF approximation

MISSOURI

Missouri University of Science and Technology (7)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Abdarasul, Emad, Small sample confidence bands for the survival function under the proportional hazards model
Cuchta, Thomas, Discrete analogues of some classical special functions
Edirisinghe, Pasan, Small sample saddlepoint confidence intervals in epidemiology
Jornaz, Abdelmonaem, Modeling daily electricity load using splines and functional principal components
Liu, Xuejing, On testing common indices for several multi-index models: A link-free approach
Ozturk, Ozkan, Existence and classification of nonoscillatory solutions of two dimensional time scale systems
Zhong, Xiao, Essays on unit root testing in time series

St Louis University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Garbuz, Darren, Decomposing gluing maps for Heegaard diagrams in terms of Lickorish generators
Munden, James, Explicit formulae for the exponential map for special families of deformed space forms
Sykes, Kyle, Burn time: Computation and properties

University of Missouri—Columbia (15)

DEPARTMENT OF MATHEMATICS
Bontz, Simon, Rectifiability and harmonic measure
Coleman, Thomas, Inertial Chow rings and a new asymptotic product
Granger, Valerie, GIT-equivalence and semi-stable subcategories of quiver representations
He, Daming, Weak Hardy spaces and paraproducts
Kline, Daniel, Locally semi-simple quiver representations
Lynch, Richard, Subsequences of frames and their operators
Renner, Andrew, A foliated Seiberg-Witten theory
Schmutzler, Brock, Calderon-Zygmund theory for single integral operators associated with second-order elliptic partial differential systems on rough subdomains of Riemannian manifolds
Spencer, Patrick, Some results in convex geometry

DEPARTMENT OF STATISTICS
Cheng, Yuan, Bayesian analysis of fMRI data and RNA-seq time course experiment data
Liu, Sifan, Partially informative normal and partial spline models
Nicholas, Alan, Functional data analysis: Children’s mathematical development
Tong, Xiaojun, Bayesian smoothing spline models and their application in estimating yield curves
Wu, Ho-Hsiang, Nonlocal priors for Bayesian variable selection in GLM and GLMM and their application in biology data
Yang, Yiqun, Bayesian hierarchical models for estimating nest survival
University of Missouri—Kansas City (1)

Department of Mathematics and Statistics

Menning, Melissa, Cohomology of finite modules over short Gorenstein rings

Washington University (7)

Department of Mathematics

Boyett, Casey, Graphs with eigenvalues of high multiplicity

Chu, Cheng, Three problems in operator theory and complex analysis

Cox, Chris, No-slip billiards

Fernandes da Silva Jr, Genival Francisco, On the limiting behavior of variations of Hodge structures

Keast, Ryan, Some results in higher weight Hodge theory

Liu, Bingyuan, Several complex variables, complex geometry and their applications

Passer, Ben, Noncommutative Borsuk-Ulam theorems

MONTANA

Montana State University (6)

Department of Mathematical Sciences

Bergren, Hannah, On abstract tiling actions, expansiveness and local structure

Heberling, Tamra, Mathematical modeling for transcription of DNA with pausing; Stochastic model with torque, and diffusive transport model

Jackson, Benjamin, Transport of dissolved and particulate material in biofilm-lined tubes and channels

Malo, Robert, Discrete extremal lengths of graph approximations of Sierpinski carpets

Samuels, Shari, The evolution of prospective elementary teacher’s competencies

Weeding, Jennifer, Bayesian measurement error modeling with application to the area under the curve summary measure

University of Montana—Missoula (2)

Department of Mathematical Sciences

Joyce, Kevin, Point spread function estimation and uncertainty quantification

Palmer, Cody, The dynamics of vector-borne relapsing diseases

NEBRASKA

University of Nebraska—Lincoln (12)

Department of Mathematics

Behrens, Sarah, Graph centers, hypergraph degree sequences, and induced-saturation

Dalley, Douglas, Rigidity of the Frobenius, Matlis reflexivity, and minimal flat resolutions

Dyer, Scott, The strict higher Grothendieck integral

Kerian, Anne, Crosscap number: Hand-cuff graphs and unknotting number

Nu’man, Anisah, Tame filling functions and closure properties

Reynolds, Sara, Dynamics of interacting populations: Consumer-resource systems and evolutionary outcomes for cannibalistic spiders

Roth, Zachary, Analysis of neuronal sequences using pairwise biases

Schafhauser, Christopher, Generalizations of AF-embedding theorems of Brown and Pimsner

Shultis, Katherine, Systems of parameters and the Cohen-Macaulay property

Thompson, Feder, Stable local cohomology

Tregeser, Jeremy, Local and nonlocal models in thin-plate and bridge dynamics

Department of Statistics

Hao, Xiaojuan, Variational Bayesian inference on phylogenetic trees, with applications to metagenomics

NEW HAMPSHIRE

Dartmouth College (5)

Department of Mathematics

Cianci, Donato, On the Poisson relation for lens spaces

Epstein, Jonathan, Dynamics of magnetic flows on nilmanifolds

Hein, Jeffrey, Orthogonal modular forms

Infeld, Eva, Uniform avoidance coupling, design of anonymity systems and matching theory

Petit, Nicolas, Finite-type invariants of order one for framed and long virtual knots

University of New Hampshire (5)

Department of Mathematics and Statistics

Benson, David, Extensions of MF algebras and volume entropy in finite von Neumann algebras

Chaar, May, Secondary preservice, in-service, and student teachers’ noticing of mathematical work and thinking in trigonometry

Machmer-Wessel, Keely, Discussion, task selection, and novice teachers’ understanding of the common core math practices

McClain, John, A supercell, Bloch wave method for calculating low-energy electron reflectivity with applications to free-standing graphene and molybdenum disulfide

Wen, Baole, Porous medium convection at large Rayleigh number: Studies of coherent structure, transport, and reduced dynamics

NEW JERSEY

Montclair State University (1)

Mathematical Sciences Department

Abi-Hanna, Rabab, How do manipulatives help students communicate their understanding of double-digit subtraction?

Princeton University (16)

Department of Mathematics

Collins, Dan, Anticyclotomic p-adic L-functions and Ichino’s formula

Dowlin, Nathan, Khovanov-Rozansky complexes in the knot Floer cube of resolutions

Harron, Piper, The equidistribution of lattice shapes of rings of integers of cubic, quartic, and quintic number fields

Sawin, Will, A Tannakian category and a horizontal equidistribution conjecture for exponential sums

Schweinhart, Benjamin, Statistical topology of embedded graphs

Truong, Linh, Applications of Heegaard-Floer homology to knot concordance

Varma, Ila, On local-global compatibility for cuspidal regular algebraic automorphic representations of GLn

Wang, Xuecheng, Global solutions for the gravity water waves system: Infinite depth setting and flat bottom setting

Xue, Yang, Elliptic involutions in bordered Heegaard-Floer homology

Zhang, Ruobing, Regularity, quantitative geometry and curvature bounds

Program in Applied Computational Mathematics

Chan, Yuk Fung, Financial models for commodity, energy and equity markets

Hammoud, Naima, On instabilities in thin-film flows

Joe-Wong, Carlee, Smart data pricing

Li, Qianxiao, Phase transition and free action of non-equilibrium systems

Tai, Cheng, Multi-scale adaptive representation of signals: Models and algorithms

Wang, Chu, Collective behavior in network-based dynamical systems

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Rutgers The State University of New Jersey
New Brunswick (20)

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Chang, Kun, Topics in compositional, seasonal and spatial-temporal time series

Fan, Yi, New nonparametric approaches for multivariate and functional data analysis in outlier detection, construction of tolerance tubes and clustering

Mittra, Priyam, Topics in model averaging and toxicity models in combination therapy

Shu, Heng, Improved methods for causal inference data combination

Wu, Yaoshi, Higher order multivariate inference using approximation methods

MATHEMATICS DEPARTMENT

Borda, Bence, The number of lattice points

Chien, Edward, Square tiling of surfaces from discrete harmonic 1-chains

Coulson, Bud, An affine Weyl group interpretation of the "motivated proofs" of the Gordon-Andersson-Bessoud identities

Cowen, Charles Wes, Optimal data utilization for goal-oriented learning

Garnett, Brian, Small deviations of sums of random variables

Kaya, Burak, Cantor minimal systems from a descriptive perspective

Kim, John, Probabilistic and polynomial methods in additive combinatorics and coding theory

Larenas, Manuel, An abstract approach to pointwise decay estimates for dispersive equations

Nuer, Howard, Moduli of Bridgeland stable objects on an Enriques surface

Russell, Matthew, Using experimental mathematics to conjecture and prove theorems in the theory of partitions and commutative and non-commutative recurrences

Seuffert, Francis, An extension of the Bianchi-Egnell stability estimate to Bakry, Gentil, and Ledoux's generalization of the Sobolev inequality to continuous dimensions and an application

Shar, Nathaniel, Experimental methods in permutation patterns and bijective proof

Trinh, Tien, Estimates on non-decaying Whittaker functions

Wilson, Glen, Motivic stable stems over finite fields

Xiao, Jianguo, Multi-center vector field methods and some applications for dispersive equations

Rutgers The State University of New Jersey
Newark (1)

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Wang, Pei, Relative Rips machine and thin type components of bound complexes

Stevens Institute of Technology (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Davidson, James, Mathematical theory of condensing coagulation

Flynn, Christopher, Hurst parameter estimation of a discretely sampled Itô integral with fractional Brownian motion driven integrand

Heimig, Monika, On neighbor component order edge connectivity

NEW MEXICO

New Mexico Institute of Mining and Technology (2)

DEPARTMENT OF MATHEMATICS

Legay, Gunter, The effect of a basal-friction parameterization on grounding-line dynamics in ice-sheet models

Miller, Gabrielle, Urban blast waves: A semi-analytic solution for intense explosions with rigid wall reflections

New Mexico State University, Las Cruces (5)

DEPARTMENT OF MATHEMATICAL SCIENCES

Anderson, Meredith, Character varieties of twice-punctured torus bundles

Basyal, Deepak, A 1933 Nepali mathematics and astrology book ‘Sis’ubodha Taran gini II: Translation and commentary on mathematics chapters

Fawaz, Zahi, Bounded archimedean f-rings

Paudel, Lokendra, The group of invertible fractional ideals of a Prüfer intersection of valuation rings

Tian, Weizhong, The distortion risk measures and multivariate distributions based on skew-normal settings

University of New Mexico (6)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Bizzozero, David, Studies of coherent synchrotron radiation with the continuous Galerkin method

Gong, Ming, Improving the material point method

Konda, Sahitya, Spatial decay of rotating waves and restrictions on finite disks

Medina, Erik, Lifts of Frobenius on arithmetic jet spaces of schemes

Wei, Yonghua, Dynamic generalized extreme value via particle filters

Zhou, Lang, Neyman smooth-type goodness of fit tests in complex surveys

NEW YORK

Binghamton University, State University of New York (6)

DEPARTMENT OF MATHEMATICS AND SCIENCE

Bustamante, Mauricio, On the topology of the space of pinched negatively wired metrics with finite volume and identical ends

Diao, Qinggang, Cox proportional hazards model with time-dependent covariates

Ding, Ding, Canonical Barsotti-Tate groups of finite level

Lu, Qi, Learning partially labeled data in the high-dimensional, low-sample size setting

Penta, Diego, Decomposition of the rank 3 Kac-Moody Lie algebras $F$ with respect to the rank 2 hyperbolic subalgebra $Fib$

Zhu, Yilin, Estimation of error distribution function in a varying coefficient model

Clarkson University (3)

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

Gajamanne, Kelum, Manifold learning and dimensionality reduction in collective motion

Jayawardana, Veron, Inferences on fibromyalgia regression models and multiple imputations on missing values

Quansah, Emmanuel, Investigation of three species predator-prey food chain models in ecology: “Ecological” damping, Allee effects and environmental noise

Columbia University (22)

DEPARTMENT OF APPLIED PHYSICS AND APPLIED MATHEMATICS

Harnett, Sean, Optimization methods for power grid reliability

Jenkins, Michael, Bifurcation of on-site and off-site solitary waves of discrete nonlinear Schrödinger type equations

Lee-Thorp, James, Bifurcation perspective on topologically protected and non-protected states in continuous systems

DEPARTMENT OF MATHEMATICS

Benoist, Stephane, Conformally invariant random planar objects

Bruggeman, Cameron, Dynamics of large rank-based systems of interacting diffusions
Castellano, Robert, Kuranishi atlases and genus zero Gromov-Witten invariants
Filip, Ioan, A local relative trace formula for spherical varieties
Gimre, Karsten, Isometric embeddings and quasi-local energy
Heyman, Andrea, Dualization and deformation of the Bar-Natan-Russel skein module
Krishna, Rahul, Relative trace formula for $SO_2 \times SO_3$ and the Waldspurger formula
Krishnamoorthy, Subrahmanya, Graph theory, dynamics, and Barsotti-Tate groups: Variations on a theme of Mochizuki
Liu, Zheng, Nearly overconvergent forms and $p$-adic $L$-functions for symplectic groups
Pal, Vivek, Simultaneous twists of elliptic curves and the Hasse principle for certain K3 surfaces
Potashnik, Natasha, Derived categories of moduli spaces of semistable pairs over curves
Smirnov, Andrey, Quantum difference equations for quiver varieties
Wang, Chongli, An alternative proof of genericity for the unitary group in three variables
Wang, Yinghui, Viscosity characterizations of explosions and arbitrage
Zhao, Jingyu, Periodic symplectic cohomologies and obstructions to Lagrangian immersions

**DEPARTMENT OF MATHEMATICS**
Belanger, David, Sets, models and proofs: Topics in the theory of recursive functions
Benea, Cristina, Vector-valued extensions for singular bilinear operators and applications
Chong, Kai Fong Ernest, Face vectors and Hilbert functions
Clavier, Lucien, Non-affine horocycle-invariant ergodic measures on strata of translation surfaces
Jung, Joen, Iterated trilinear Fourier integrals with arbitrary symbols
Kara, Yasemin, The Laplacian on hyperbolic Riemann surfaces and Maass forms
Kern, Thomas, Nonstandard models of the weak second order theory of one successor
Kesler, Robert, Unbounded multilinear multipliers adapted to large subspaces and estimates for degenerate simplex operators
Messick, Scott, Continuous autonomous compactness, and Young measures
Zhatev, Radoslav, Examples of explicitization of hypersurfaces

**Graduate Center, City University of New York**

**PhD PROGRAM IN MATHEMATICS**
Areetines, Chris, On the relationship between intersection angles of geodesics and hyperbolic metrics on surfaces
Blair, David, Counting restricted integer partitions
Cavallo, Bron, Algorithmic properties of poly-Z groups and secret sharing using non-commutative groups
Fischer, Aron, Massey products in string topology
Florez, Jorge, Explicit reciprocity laws for higher local fields
Karabulut, Cihan, On sums of binary Hermitian forms
Kramer-Miller, Joseph, P-adic L-functions and the geometry of Hida families
Quinn, Joseph, Quaternion algebras and hyperbolic $3$-manifolds
Rivera, Manuel, On string topology operations and algebraic structures on Hochschild complexes
Sosnovski, Bianca, Cayley graphs of semi-groups and applications to hashing
Spizziirri, Nicholas, An averaging method for advection-diffusion equations
Taam, Alexander, Equations over hyperbolic groups
Vidaurre, Elizabeth, Cohomology of certain polyhedral product spaces
West, Lloyd, The moduli space of rational maps

**New York University**

**Tandon School of Engineering (1)**

**DEPARTMENT OF MATHEMATICS**
Gbedemah, Amakoe, On the $L_p$ theory of positive definite matrices

**New York University, Courant Institute (23)**

**COURANT INSTITUTE OF MATHEMATICAL SCIENCES**
Askham, Travis, Integral-equation methods for inhomogeneous elliptic partial differential equations in complex geometry
Calvo, Juan, Domain decomposition methods for problems in $H(curl)$
Chen, Nan, Filtering and predicting complex nonlinear turbulent dynamical systems with model error
Denlinger, Ryan, The propagation of chaos for a rarefied gas of hard spheres in vacuum
Fang, Fang, Hydrodynamic interactions between self-propelled flapping wings
Greenberg, Spencer, Machine learning at extremes
Guadagni, Joseph, Numerical solver for the two-dimensional Vlasov-Poisson equations in gyrokinetic variables
Hershkovits, Or, Mean curvature flow: Smoothing, regularity and isoperimetric properties
Jagannath, Aukosh, Variational and structural methods in mean field spin glasses
Jiang, Tian, Adaptive geometric search for protein design
Kuznetsov, Vitaly, Theory and algorithms for forecasting non-stationary time series
Lee, Dooheon, Stable boundaries of CAT(0) groups
Lewis, Michael, Bayesian analysis and Monte Carlo sampling in the study of cryo-electron microscopy
Munoz Medina, Andres, Learning theory and algorithms for auctioning and adaptation problems
Park, Hyunbin, The Martingale extraction method with applications to finance
Qian, Jin, Contraction of algebraic points
Ryan, Jeffrey, Probabilistic topic models of fragmented DNA for rapid organism identification
Seo, Insuk, Large scale behavior of interacting Brownian motions
Widmayer, Klaus, On dispersive effects in inviscid fluids and non-uniqueness of weak wave maps
Wu, Chenyue, Energy distance in data-driven distribution analysis
Xiao, Xiao, Surface buoyancy dynamics in the ocean
Yu, Bing, The effects of flow on the equilibrium state of a plasma
Zhong, Xingxin, Principal dynamical components: Methods, properties and financial applications

New York University, Stern School of Business (1)
IOMS-STATISTICS GROUP
Cao, Wen, Three essays in modern data analysis: Drift in asset price models, a mixed model approach for text reviews, and improved survival trees for competing risks data

Rensselaer Polytechnic Institute (7)
DEPARTMENT OF MATHEMATICAL SCIENCES
Altrichter, Scott, Flight path optimization for resolution and coverage in Synthetic Aperture Radar (SAR)
Chen, Jiaming, Electrical impedance tomography and D-bar equation
DiLorenzo, Tyson, Classifying microtubular network using curvature calculation of discrete curves
Kim, Jerry, Time reversal operation for distributed systems in stationary and dynamic environment
Nambirajan, Srinivas, Topics in matrix approximation
Pyzza, Pamela, Idealized models of insect olfaction
Rosenthal, Joseph, Mathematical models of amyloid-beta production, aggregation, and treatment in Alzheimer’s disease

Stony Brook University (35)
DEPARTMENT OF APPLIED MATHEMATICS AND STATISTICS
Chen, Hao, Development of a novel double neural network and its applications
Chen, Hsin-Chiang, Scalable Lagrangian partial algorithms for compressible fluid dynamics
Citovsky, Gui, Geometric optimization problems in sensor networks
Conley, Rebecca, Overcoming element quality dependence of finite element methods
Dong, Xiaojin, A new stochastic regime switching model with time-varying regression coefficients and error variances
Feng, Tian, An empirical study on concentration-QTc model
Gong, Xiaoxue, Turbulent combustion study of scramjet problem
Hao, Xue, Factor-augmented error correction model with time varying coefficients
He, Fei, Development and application of an integrated parallel platform on short-read sequences assembly
Hu, Wenlin, Statistical moments in variable-density incompressible Rayleigh-Taylor flows
Huang, Jiayu, A constrained functional linear model for multi-loci genetic mapping
Huang, Kan, Greedy local routing and geometric hitting problem
Huang, Ya-Ting, Stochastic short term forecasting of cloud boundaries
Jiang, Lingling, Structure-based drug design targeting HIV gp41
Lee, Hyejo, Clustering and classification methods for prediction of the risk for developing disease
Lee, Sooyoun, Multi-marker linkage disequilibrium mapping of quantitative trait loci
Mo, Hua, Estimation of alpha stable distribution and tempered stable distribution
Qi, Huan, High-resolution detection of change-point with low coverage single-cell sequencing data
Ruan, Tingjun, Multiple-objective clustering analysis
Shi, Xiang, Advanced applications of generalized hyperbolic distributions in portfolio allocation and measuring diversification
Wang, Bing, Monotonicity properties of stochastic kriging metamodels in sequential setting and a new adaptive sampling method for prediction
Yu, Kwang Min, Computational relativistic electrodynamics: New algorithms, parallel software, and applications to accelerator design
Yi, Rihui, Log band fraction approximation for covariance estimation and low volatility
Zhang, Li, Influence propagation modeling and applications in finance
Zhang, Na, Design and analysis of parallel algorithms for multiscale modeling of platelets
Zhang, Xiao, Regime switching fractionally integrated GARCH in dynamic volatility modeling
Zhang, Yuzhong, Asset pricing in intraday trading
Zhou, Sichen, Multiple change-points estimation in GARCH models

DEPARTMENT OF MATHEMATICS
Adams, Joseph, Infinitely primitive renormalizable polynomials of bounded type
Hao, Cheng, Regularized geometry of the loop space
Lin, Tsung-Yin, On the local isometric embedding in $\mathbb{R}^3$ of surfaces with zero sets of Gaussian curvature forming cusp domains

Medina, Anibal, E-infinity comodules and topological manifolds
Sobolev, Yury, Tritangents of spherical curves
Yang, Chi, On the route to chaos for two-dimensional modestly area-contracting analytic maps
Zhang, Zili, Multiplicativity of perverse filtration for Hilbert schemes of fibered surfaces

Syracuse University (1)
DEPARTMENT OF MATHEMATICS
Biermann, Patrick, Lipschitz geometry of Banach and metric spaces

The University of Albany, SUNY (5)
DEPARTMENT OF MATHEMATICS AND STATISTICS
Choi, Jae Yong, Convergence of a smooth random average and its variation inequality
Guzman, Maxine, Swan modules of elementary abelian 2-groups over quadratic imaginary fields
Hayworth, Emily, Generators for k of a category with cofibrations
Ramer, Kevin, On combinatorial formulas for non-symmetric Macdonald polynomials
Wood, Daniel, On monomial resolutions supported on posets

University at Buffalo—SUNY (12)
DEPARTMENT OF BIOSTATISTICS
Baker, Mark, A collection of procedures for non-standard hypothesis testing problems in order restricted spaces
Chen, Xiwei, New statistical procedures with parametric and nonparametric likelihood structures with applications to evaluations of discriminant ability of biomarkers measured with/without measurement errors
Dibaj, Seyyedeh Shira, Exact tests in different dichotomous data analysis problems
Golzy, Mojgan, Mixed effects modeling of recurrent events: A generalized frailty model approach
Liu, Xiaobin, Selected methods for correlated binary data, model selection and homogeneity tests
Ren, Xing, Novel methods for estimating null distributions in gene and gene pathway analysis for large scale hypothesis testing
Yang, Luge, Some novel applications of empirical likelihood methods

DEPARTMENT OF MATHEMATICS
Liang, Bingbing, Mean dimension, mean length, and von Neumann-Lück rank
Orenstein, Adam, An algebra of functions on the unit circle and Toeplitz operators in symmetrically-normed ideals
Rosas, Michael, On the structure of Specht modules in weight three blocks of symmetric algebras
Ruppe, Dennis, On the AJ-conjecture for certain families of satellite knots
Sartwell, Matthew, Detecting mapping spaces and derived equivalence of algebraic theories

University of Rochester (6)
Department of Biostatistics and Computational Biology
Chen, Tian, A new class of functional response models for robust regression analysis
Chowdhry, Amit, Missing data in meta-analysis
Tran, Thanh Van, Threshold boolean network inference and experimental design
Xia, Changming, Generalized semiparametric linear mixed-effects models

Department of Mathematics
Kotok, Malcolm, Computing zeta functions of nondegenerate hypersurfaces over finite fields
Straub, Denizta, Numerical and microanalytical analysis of inverse problems with internal data

NORTH CAROLINA

Duke University (12)
Department of Mathematics
Diaz, Humberto, Finite-dimensionality, Chow-Künneth decompositions and intersections of cycles
Levin, Caitlin Jane, Augmentation and rulings of Legendrian links
Potter, Harrison David Parke, Modeling temperature dependence in Mangioni-driven thin-films
Temamogullari, Nihal Ezgi, Mathematical modeling of perfusion cell structure experiments
Wang, Kangkang, Determinant, wall monodromy and spherical functor

Department of Statistical Science
Chang, Shih-Han, Interfaces between Bayesian and frequentist multiple testing
Glynn, Christopher, Advances in dynamic modeling and computation for count data
Irie, Kaoru, Bayesian emulation for sequential modeling, inference and decision analysis
Johnkrow, James, Bayesian inference in large-scale problems
McClure, David, Relaxations of differential privacy and risk/utility evaluations of synthetic data and fidelity measures
Schiefling, Tracy, Combining information from multiple sources in Bayesian modeling
St Thomas, Brian, Linear subspace and manifold learning via extrinsic geometry

North Carolina State University (27)
Department of Mathematics
Adoteeye, Kaska, Biological applications of uncertainty quantification, including multiscale Daphnia Magna population modeling
Al-Kateeb, Ala’a Qasim, Structure and properties of cyclotomic polynomials
Battista, Christina, Parameter estimation of viscoelastic models in a 1-D circulatory network
Bishop, Abigail, Involutions posets on non-crystallographic covekter groups
Bock, Brandon, Algebraic and combinatorial properties of statistical models of ranked data
Bookman, Lake, Approximate solutions of the Landau-Lifshitz equations
Burch, Tiffany, Supersolvable Leibniz algebras
Chen, Guanyu, Accurate gradient computation for elliptic interface problems with discontinuous and variable coefficients
Coolney, Brett, Sequential programming for PDE constrained optimization
Daleo, Noah, Algorithms and applications in numerical elimination theory
Fregosi, Anna, Calibration of thermal soil properties in the shallow substance
Hoang, Phuong, Supervised learning in baseball pitch and Hepatitis C diagnosis
Holodnak, John, Topics in randomized algorithms for numerical linear algebra
Ivy, Samuel, Classifying the fine structures of involutions acting on root systems
Jiang, Hansi, Modularity component analysis
Kennedy, Emese, Swing-up and stabilization of a single inverted pendulum: Real-time implementation
Landi, Amanda, The nonnegative matrix factorization: Methods and applications
Long, Colby, Algebraic geometry of phylogenetic models
Mason, Sarah, Conjugacy classes of maximal k-split Tori invariant under an involution of $SL(n,k)$
Nance, James, Investigating molecular dynamics with sparse grid surrogate models
Ngamini, Melissa, Nonparametric and semiparametric estimation in forward and backward recurrence time data
O’Brien, Jonathan, Statistical methods for case-cohort studies with failure time outcome
Panza, Nicole, From pacemaker to vortex ring: Modeling jellyfish propulsion and turning
Rahmoeller, Margaret, On demure crystals for the quantum affine algebra $U_q(sl(n))$
Turner, Bethany, Some criteria for solvable and supersolvable Leibniz algebras
Varga, Katherine, Portfolio optimization with stochastic dividends and stochastic volatility
Wheelless, William, Additional symmetries of the extended Toda hierarchy

University of North Carolina at Chapel Hill (40)
Department of Biostatistics
Choi, Byeongyeob, Statistical contributions to non-experimental studies
Chung, Yunro, Statistical contributions to order restricted inferences for survival data analysis
Da, Eric, Longitudinal regression conditioning on continuation
Deng, Yu, Generalized change-point hazard models with censored data
Hammill, Bradley, The use of propensity score methods to address confounding by provider
Lam, Diana, Innovative methods for some statistical issues in clinical trials
Ni, Ai (Andy), Variable selection for case-cohort studies with failure time outcome

Department of Biostatistics
O'Brien, Jonathon, Statistical methods for proteomics
Gou, Fang-Shu, Quantile regression models for interval-censored failure time data
Roy, Pourab, Non-parametric and semi-parametric estimation in forward and backward recurrence time data
Rudra, Prataydipta, Statistical tools for general association testing and control of false discoveries in group testing
Stewart, Thomas, Statistical learning with missing data
Sun, Hengrui, Controlling multiplicity in confirmatory clinical trials
Wise, Alison, Making robust use of parental genotype data for finding effects of variants on the X-chromosome
Yang, Hojin, Learning methods in reproducing kernel Hilbert space based on high-dimensional features
Zhou, Xin, Machine learning techniques for optimal treatment regimes

Department of Mathematics
Brandon, Namdi, Novel integration in time methods via deferred correction formulations and space-time parallelization
Grudzien, Colin, The method of geometric phase as a reformulation of the Evans function for reaction diffusion equations
Hoover, Alexander, From pacemaker to vortex ring: Modeling jellyfish propulsion and turning
Jin, Yuan, Rheology and flow of mucus in human bronchiolar epithelial cell cultures
Lax, David, Combinatorial structures in the coordinate rings of Schubert varieties
Moore, Ryo, Extensions of J. Bourgain’s double recurrence theorem
Mukherjee, Mayukh, Variational approaches to nonlinear Schrödinger and Klein-Gordon equations
Schuster, Michael, Rank reduction of conformal blocks
Sherman, Cass, Weight stretching in moduli of parabolic bundles and quiver representations
Tsou, Chung-Nan, Formulation of underwater plumes and velocity variations due to entertainment in stratified environments

Department of Statistics and Operation Research
Feng, Qing, Non-iterative joint and individual variation explained and automatic Toda transformation
Kimes, Patrick, New statistical learning approaches with applications to RNA-Seq data
Lamm, Michael, Confidence intervals for solutions to stochastic variational inequalities
Li, Gen, Integrated analysis of multiple data sets with biomedical applications
Liu, Minghui, Elementary reformulation and succinct certificates in conic linear programming
Shi, Wen, Applications of fiducial inference to biology
Wang, Dong, Some statistical approaches to the analysis of matrix-valued data
Wang, Ling, Statistical challenges in genome-wide association study
Wilson, James, A hypothesis testing approach to assessing and identifying significant structure in network models
Xie, Yu Yang, Estimation of graphical models with biomedical applications
Yin, Leicheng, Monte Carlo strategies in option pricing for SABR model
Yin, Liang, Confidence regions and intervals for sparse penalized regression using variational inequality techniques
Yu, Guan, Flexible supervised learning techniques with applications in neuroscience
Zhai, Haojin, Principal component analysis in phylogenetic tree space

University of North Carolina at Charlotte (6)
Department of Mathematics and Statistics
Erturk, Huseyin, Limit theorems for random exponential sums and their applications to insurance and the random energy model
Fairchild, Michael, Symmetry and constraints in hydrodynamics and mechanical locomotion
Huang, Wei, Frame wavelets in high dimension
Lee, Unkyung, Analysis of semiparametric regression models for the cumulative incidence functions under the two-phase sampling designs
Turhan, Nezihe, Limit theorems for one class of ergodic Markov chains
Zinser, Brian, High-order integral equations for electromagnetic problems in layered media with applications in biology and solar cells

North Dakota State University, Fargo (7)
Department of Mathematics
Altmann, Hannah, Semidualizing DG modules over tensor products
Aung, Pye, Gorenstein dimensions of rings of the form R ⊕ C
Dunn, Thomas, Integral closure and generalized multiplicity sequence
Habtemicael, Semere, Modeling financial swaps and geophysical data using Barndorff-Nielsen and Shephard model
Singh, Jayant, Optimization problems arising in stability analysis of discrete time recurrent neural networks
Spanier, Mark, L1-approximation in de Branges spaces
Totushek, Jonathan, Homological dimensions with respect to a semidualizing complex

Ohio State University, Columbus (12)
Department of Mathematics
Barndorff-Nielsen and Shephard model
Hoffman, John, Some problems in additive number theory
Livshyts, Galyna, On the geometry of log-concave measures
Lyons, Corey, Induced characters with equal degree constituents
Tang, Tunan, Extensions of Gauss, block Gauss and Szegö quadrature rules, with applications

University of North Carolina (6)
Department of Mathematics and Statistics
Chen, Ying-Ju, Jackknife empirical likelihood and change point problems
Li, Songzi, K-groups: A generalization of K-groups by energy distance
Li, Yi, Goodness-of-fit tests for Dirichlet distributions with applications
Liu, Yang, Variable selection utilizing the whole solution path
Olsen, Andrew, When infinity is too long to wait: On the convergence of Markov chain Monte Carlo methods
Petraglia, Elizabeth, Estimating county-level aggravated sexual assault rates by combining data from the National Crime Victim Survey and the National Incident-Based Reporting System
Risser, Mark, Spatially-varying covariance functions for nonstationary spatial process modeling
Stettler, John, The discrete threshold regression model
Thomas, Zachary, Bayesian hierarchical space-time clustering methods

Vaidynathan, Sivarajani, Bayesian models for computer model calibration and prediction

Wang, Xiaoma, Robust Bayes in hierarchical modeling and empirical Bayes analysis in multivariate estimation

White, Staci, Quantifying model error in Bayesian parameter estimation

Yang, Hui, Adjusting for bounding and time-in-sample effects in NCVS property crime rate estimation

Zaetz, Jiaqi, A Riemannian framework for shape analysis of annotated 3D objects

Ohio University, Athens (3)

Department of Mathematics

Gong, Xue, Dynamical systems in cell division cycle, winnerless competition models, and tensor approximations

Nguyen, Son, Topics on sufficient dimension reduction

Odoro, Bismark, Mathematical models of Chagas disease

University of Cincinnati (11)

Department of Mathematical Sciences

Barrera, Juan, Quenched asymptotics of the discrete Fourier transforms of a stationary process

Bellman, Jacob, Phase response optimization of the circadian clock in Neurospora crassa

Caicedo Caceres, Miguel Andres, Well-posedness and control of the Korteweg-de Vries equation on a finite domain

Duan, Li, Bayesian nonparametric methods with applications in longitudinal, heterogeneous and spatiotemporal data

Estep, Dewey, Prime end boundaries of domains in metric spaces and the Dirichlet problem

Fox-Neff, Kristen, Inverse methods in parameter estimation for High Intensity Focused Ultrasound (HIFU)

Gao, Yixuan, Bayesian model selection for Poisson and related models

Li, Xingning, Inference for autoregressive coefficients and error distribution

Mei, Jingning, An isospectral flow for complex upper Hessenberg matrices

Pokharel, Krishna, Efficient inference for periodic autoregressive coefficients with polynomial spline smoothing approach

Oklahoma State University (3)

Department of Mathematics

Bauer, Sean, On the existence of KAM tori for presymplectic vector fields

Ho, Nancy, Controllability of linear and nonlinear control systems related through simulation relations

Khalil, Estapraa, Existence and stability of solutions to a model equation for dispersion-managed solitary waves

Tang, Shiyun, Some results on the elliptic equations and modeling seasonal dynamics of human influenza

Turki, Salam, The representations over p-adic fields associated to elliptic curves

Wright, Rachel, Totally reflected groups

Yamamoto, Tetsuya, Categorizing students’ difficulties with proof construction

University of Oklahoma (7)

Department of Mathematics

Bauer, Sean, On the existence of KAM tori for presymplectic vector fields

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Wright, Rachel, Totally reflected groups

Yamamoto, Tetsuya, Categorizing students’ difficulties with proof construction

Oregon State University (8)

Department of Mathematics

Costa, Timothy, Hybrid multiscale methods with applications to semiconductors, porous media and materials science

Do, Hieu, New families of pseudo-Anosov homeomorphisms with vanishing Sah-Arnoux-Fathi invariant

Loke, Sooie Hoe, Ruin problems with risky investments

McGregor, Duncan, Compatible discretizations for Maxwell’s equations with general constitutive laws

Sherson, Brian, Some results in single-scattering tomography

Pennsylvania

Carnegie Mellon University (17)

Department of Mathematical Sciences

Cheng, Zhe, Endogenous mortgage current coupons

Gunther, William, Some results on classical semantics and polymorphic types

Jiang, Zilin, Problems in discrete geometry and extremal combinatorics

Liu, Jing, Numerical approximations of problems that arise in elasticity

Murray, Ryan, Some asymptotic results for phase transition models

Rodriguez, Daniel, Models of \( \mathbb{R} \)-super-compactness

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Sae-Sue, Tanawit, Radner equilibrium in infinite and finite time-horizon Lévy models
Weston, Kimberly, Market stability in nonequivalent markets and the Martin-gale property of the dual optimizer

Department of Statistics

Ast, Dena, Geometric approaches to inference: Non-Euclidean data and networks
Bellone, Gaia, Clustering strategies for DNA genotyping
Bodea, Corneliu, A method to exploit the structure of genetic ancestry spaces to enhance case-control studies
Ciollaro, Mattia, Nonparametric techniques for functional data analysis
Huang, Shiqiong, High dimensional sparse precision matrix estimation
Lu, Cong, Understanding the genetic basis of schizophrenia by using RNA-sequencing data
Stern, Rafael, A statistical contribution to historical linguistics
Ventura, Samuel, Large-scale classification and clustering methods with applications in record linkage
Wang, Lawrence, Network comparisons using sample splitting

Drexel University (4)

Department of Mathematics

Armstrong, Jeffrey, The homotopy theory of modules of curved A-infinite categories
Minner, Michael, Compressive sensing applied to MIMO radar and sparse disjoint scenes
Smith, Jonah, A new class of integrable surfaces related to Bertrand curves
Tang, Xuezhi, Synchronization of coupled dynamical systems on Cayley and random graphs

Lehigh University (5)

Department of Mathematics

Clearman, Samuel, Combinatorial aspects of Hecke algebra characters
Cui, Xin, On curvature, volume growth and uniqueness of steady Ricci solitons
Dumnich, Sarah, A measure theoretic approach to the construction of scaling functions for wavelets
Ferahlar, Cuneyt, A Weitzenbock formula for compact complex manifolds and applications to the Hopf conjecture in real dimension 6
Wildman, Mackenzie, The Dobric-Ojeda process with applications to option pricing and the stochastic heat equation

Pennsylvania State University (26)

Department of Mathematics

Bannangkoon, Pichkitti, C*-algebras in Kirillov theory
Droz, Daniel, Orthogonal sets of Latin squares and class-r hypercubes generated by finite algebraic systems
Gafni, Ayla, Asymptotic formulae in analytic number theory
Huang, Zhan, Nonlocal models with convection effects
Khanmohammadi, Ehsan, Quantization of coadjoint orbits via positivity of Kirillov’s character formula
Maler, Adrian, Effective theory of Levy and Feller processes
Peng, Guangzhong, Quantization of affine coadjoint orbits
Qiao, Changhe, General purpose compositional simulation for multiphase reactive flow with a fast linear solver
Wang, Haining, Anticyclicotom theory for Hilbert modular forms
Yang, Kai, Stable discretization and robust preconditioning for fluid-structure interaction
Yelton, Jeffrey, Hyperelliptic Jacobians and their associated ℓ-adic Galois representations
Zelenberg, Aleksey, Rokhlin dimension for C*-correspondences

Department of Statistics

Bagyvan, Armine, Central limit theorems for randomly modulated sequences of random vectors with resampling and applications to statistics
Cho, Youngjoo, Semiparametric analysis of failure time data in the presence of dependent censoring
Christou, Eliana, A non-iterative method for fitting the single index quantile regression model with uncensored and censored data
Goldstein, Joshua, Compartmental, spatial and point process models for infectious diseases
Huang, Yuan, Projection test for high-dimensional mean vectors with optimal direction
Liu, Yang, Approaches to reduce and integrate data in structured and high-dimensional regression problems in genomics
Park, Sae Na, Classification of transients by distance measures
Shen, Wejie, Dimensional analysis in statistics: Theories, methodologies, and applications
Song, Won Chul, Nonparametric independence screening and test-based screening via the variance of the regression function
Wang, Ningtong, A block mixture model to map eQTLs for gene clustering
Wang, Yaqun, Inference of gene regulatory network based on gene expression dynamics in response to environmental signals
Xu, Zheyong, Locally stationary quantile regression for inflation and interest rates
Yu, Ye, New procedures for Cox’s model with high dimensional predictors

Temple University (10)

Department of Statistical Science

Afrigré, Prince, Applications of procedures controlling the tail probability of the false discovery proportion
Banton, Dwaine, A Bayesian decision theoretic approach to fixed sample size determination and blinded sample size re-estimation for hypothesis testing
Chen, Aiying, Multiple testing procedures under group sequential design
Gehman, Andrew, The effects of spatial aggregation on spatial time series modeling and forecasting
Gilbert, Elizabeth, The validity of summary morbidity measures
Huang, Ke, Optimal reduced size choice sets with overlapping attributes
Lee, Bu Hyoun, The use of temporally aggregated data on detecting a structural change of a time series process
Liu, Yanping, New approaches to multiple testing of grouped hypotheses
Minster, Angela, Model-free variable selection through sufficient dimension reduction
Xiao, Jing, Some results on Pareto optimal choice sets for estimating main effects and interactions in 2^n and 3^n factorial plans

University of Pennsylvania (22)

Department of Applied Mathematics and Computational Science

Gu, Shi, Control theoretic analysis of human brain networks

Department of Biostatistics and Epidemiology

Gamerman, Victoria, Statistical methods for time-conditional survival probability and equally spaced count data
Kennedy, Edward H, Doubly robust causal inference with complex parameters
Kobie, Julie, Sparse simultaneous signal detection with applications in genomics
Li, Jiaqi, Modeling approaches for cost and cost-effectiveness estimation using observational data
Shi, Pixu, Statistical methods for compositional and tree-structured count data
Wan, Fei, Instrumental variable and propensity score methods for bias adjustment in non-linear models

Department of Mathematics

Astrand, Matti, Lifting problems and their independence of coefficient field
Frankel, Brett S, Representations of fundamental groups of abelian varieties in characteristic p
**Doctoral Degrees Conferred**

**Gilita, Maxim M.**, A real analytic approach to estimating oscillatory integrals with nondegenerate phases

**Jang, Jin Woo**, Global classical solutions to the relativistic Boltzmann equation with angular cut-off

**Kjuchukova, Alexandra**, On the classification of irregular dihedral branched covers of four-manifolds

**Li-Ping, Mo**, Hit polynomials have only real roots

**Wei Quan, Poh**, Shape and other properties of 1324-avoiding permutations

**Ying Anna, Pan**, On decomposition of the product of Demazure atoms and Demazure characters

**Sundstrom, James D.**, Lower bounds for generalized regulators

**Spencer, Tofts**, On the existence of solutions to the Muskat problem with surface tension

**Wharton Department of Statistics**

**Colin, Fogarty**, Modern optimization in observational studies

**Kory, Johnson**, Discrete methods in statistics: Feature selection and fairness-aware data mining

**Chao, Feng**, Essays in problems in sequential decisions and large-scale randomized algorithms

**Ville, Satopaa**, Partial information framework: Basic theory and applications

**Asaf, Weinstein**, Empirical Bayes estimation in cross-classified Gaussian models with unbalanced design

**University of Pittsburgh (15)**

**Department of Biostatistics**

**Jia-Yuh, Chen**, Joint modeling of bivariate longitudinal and bivariate survival data in spouse pairs

**Kidane, Ghebrehawariat**, Parametric inference on quantile residual life

**Residual, Jiang**, Gene-based association testing of dichotomous traits using generalized functional linear mixed models for family data

**Geoffrey, Johnson**, Quality adjusted Q-learning and conditional structural mean models for optimizing dynamic treatment regimes

**Xianxian, Wang**, Competing risks regression under random signs censoring using pseudo-values

**Department of Mathematics**

**Daniel, Grady**, Steenrod squares and Grady, Daniel

**Ping, Li-Ping**, Hit polynomials have only real roots

**Quan, Poh**, Shape and other properties of 1324-avoiding permutations

**Pan, Ying Anna**, On decomposition of the product of Demazure atoms and Demazure characters

**Diederick, Sundstrom**, Lower bounds for generalized regulators

**Spencer, Tofts**, On the existence of solutions to the Muskat problem with surface tension

**University of Puerto Rico (10)**

**Department of Mathematics**

**Bo, Cui**, Exponential rank and classification of AH-algebras using Morse theory

**Jean K., Innocent**, Bayes factors consistency for nested linear models with increasing dimensions

**Ang, Li**, Bayesian calibration of p-values under multiple comparisons: Bounds and new approximations

**Hui, Qin**, Code raised from hypercube graph and completed graph

**RHODE ISLAND**

**Brown University (10)**

**Department of Mathematics**

**Paul, Carter**, Fast pulses with oscillatory tails in the FitzHugh-Nagumo system

**Nam, Culluc**, Weighted estimates of Calderon-Zygmund operators on vector-valued function spaces

**Edward, Newkirk**, Billards with bombs

**Yumeng, Ou**, Multi-parameter commutators and new function spaces of bounded mean oscillation

**Division of Applied Mathematics**

**Mohammadreza, Aghajani**, Infinite-dimensional scaling limits of stochastic networks

**Seonmin, Ahn**, Bayesian inference in statistical analysis of paleoclimate records

**Mingae, Deng**, Dissipative particle dynamics for anisotropic particles and electrostatic fluctuations: A fully Lagrangian approach

**Elisabeth, Makrides**, Existence and stability of localized planar patterns

**Manuel, Sanchez Uribe**, Finite element methods for interface problems using unfitted meshes: Design and analysis

**Trask, Nathaniel**, Compatible high-order meshless schemes for viscous fluid flows through $F_2$-optimization

**University of Rhode Island (2)**

**Department of Mathematics**

**Defective, Armstrong, Addie**, Degree-limited definite 3-colorings of planar graphs

**Yung Anna, Pun**, On decomposition of for family data

**Pablo, Jang**, Essays in problems in sequential decisions and large-scale randomized algorithms

**Michael, Finney**, Estimating single gender classroom effects using propensity scores and matching

**Rachel, Grotheer**, Hyperspectral diffuse optical tomography using the reduced basis method and sparsity constraints

**Reflect, He**, Algebraic geometry arising from discrete models of gene regulatory networks

**Jason, Hedetniemi**, Problems in domination and graph products

**Reliability, Jiang, Chendi**, Analysis of load-sharing models

**Jonathan, Leverenz**, Network target coordination for multiparametric programming

**Arunchige Anuradha, Priyadarshani**, Bayesian minimum description length techniques for multiple change-point detection

**Thilo, Strauss**, Statistical inverse problems in electrical impedance and diffuse optical tomography

**Shiyi, Tu**, Objective Bayesian analysis on the quantile regression

**Graph, Xu, Honghai**, Problems in domination and graph products

**Medical University of South Carolina (6)**

**Department of Public Health Sciences**

**Dissipative, Carroll, Rachel**, Model selection for hierarchical Poisson modeling in disease mapping

**Adaptive, Fan, Liqiong**, Covariate classification under covariate-adaptive randomization: Understanding the impact and method for bias correction

**Adjustment, Nicholas, Katherine**, Covariate adjustment in non-inferiority trials: Implications for type I errors
Payne, Elizabeth, Statistical methods for modeling count data with overdispersion and missing time varying categorical covariates
Rotejanapraserth, Chawarat, Developments in clustering and surveillance for spatial health data
Vonorca, Delia, Marginal inference for positive outcomes with a point mass at zero

**University of South Carolina (11)**

**DEPARTMENT OF MATHEMATICS**

Faulkner, Nathan, Commutator studies in pursuit of finite basis result
Lane, Michael, Avoiding doubled words in strings of symbols
Rorabaugh, Daniel, Toward the combinatorial limit of free words
Short, Taylor, Some extremal and structural problems in graph theory
Smith, Heather, Trees, partitions, and other combinatorial structures
Wang, Che, Fast methods for variable-coefficient peridynamic and non-local diffusion models

**DEPARTMENT OF STATISTICS**

Bao, Junshu, Development and application of Bayesian semiparametric models for dependent data
Cipoll, William, Bayesian nonparametric approaches to multiple testing, density estimation and supervised learning
Wu, Haifeng, Frailty Probit models for clustered interval-censored failure time data
Yao, Bin, Semiparametric regression analysis of panel count data and interval censored failure time data
Zhou, Haiming, Bayesian semi- and nonparametric analysis for spatially correlated survival data

**TENNESSEE**

**Middle Tennessee State University (3)**

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Gaddy, Angeline, Identification of obstacles to transitioning to reform-oriented instruction among high school mathematics teachers
Gerstenschlager, Natasha, Identifying the supports needed by a sixth grade teacher implementing a reform-oriented, statistics unit
Li, Xia, Efficient numerical methods for nonlinear Schrödinger equations

**University of Memphis (5)**

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Dogon, Ali, On saturated graphs and combinatorial games
Fofana, Demba, On some Bayesian and empirical Bayes procedures for analyzing gene expression data
Kester, Morve, Approximations by generalized discrete singular operators
Madahan, Behrouz, Statistical shrinkage methods for classification, prediction, and feature extraction using genomewide gene expression data and small sample sizes
Sokolov, Yury, Dynamics of discrete and continuous spatially distributed systems

**University of Tennessee, Knoxville (13)**

**DEPARTMENT OF MATHEMATICS**

Allen, Brian, Non-compact solutions of inverse mean curvature flow in hyperbolic space
Austin, Kyle, Geometry of scales
Bintz, Jason, Population modeling for resource allocation and antimicrobial stewardship
Collins, Craig, Domain decomposition methods for discontinuous Galerkin approximations of elliptic problems
DeSilva, Kokum, Investigating advection control in competitive PDE systems and environmental transmission in Johne's disease ODE models
Golenbiewski, Kyle, Kinetic Monte Carlo models for crystal defects
Holloway, Michael, Duality of scales
Jum, Ernest, Numerical approximation of stochastic differential equations driven by Lévy motion with infinitely many jumps
Levy, Benjamin, Modeling feral hogs in Great Smoky Mountains National Park
Lewis, Elizabeth, The congruence-based zero-divisor graph
Li, Yukun, Numerical methods for deterministic and stochastic phase field models of phase transition and related geometric flows
Manathunga, Vajira, The Conway polynomial and amphicheiral knots
Sunkes, James, Hankel operators on the Drury-Arveson space

**Vanderbilt University (7)**

**DEPARTMENT OF MATHEMATICS**

Corson, Samuel, Subgroups and quotients of fundamental groups
Gao, Min, Age-structured population models with applications
Jiang, Jiayi, Quantization in signal processing with frame theory
Jones, Corey, Annuar representation theory with applications to approximation and rigidity properties for rigid $C^*$-tensor categories
Northington, Michael, V, Balian-Low type theorems for swift-invariance spaces

**Shao, Yuanzhen**, Theory of parabolic differential equations on singular manifolds and its applications to geometric analysis
Su, Yujian, Disease minimal on flat tori and four-point maximal polarization on $S_2$

**TEXAS**

**Baylor University (12)**

**DEPARTMENT OF MATHEMATICS**

Graham, Curtis, Boundary conditions dependence of spectral zeta functions
Nelms, Charles, Eigenvalue comparison theorems for certain boundary value problems and position solutions for a fifth order singular boundary value problem
Nguyen, Huy, Krylov methods for solving a sequence of large systems of linear equations
Streit, Brian, Conformal mapping methods for spectral zeta function
Tennant, Tim, Chaotic properties of set-valued dynamical systems
Wicks, Quinn, Glazman-Krein-Naimark theory, left-definite theory and the square of the Legendre polynomials differential operator
Yang, Zhao, A multigrid Krylov method for eigenvalue problems

**DEPARTMENT OF STATISTICAL SCIENCES**

Chen, Wencong, Bayesian models for unmeasured confounder in the analysis of time-to-event data
Eschmann, Mark, Bayesian methods to estimate the accuracy of a binary measurement system
Guo, Yuanyuan, Topics in Bayesian adaptive clinical trial design using dynamic linear models and missing data imputation in logistic regression
Marcovitz, Michelle, Bayesian models for short sequences of correlated binary variables possessing first-order Markov dependence
Tecson, Kristen, Topics in Bayesian models with ordered parameters: Response misclassification, covariate misclassification, and sample size determination

**Rice University (17)**

**COMPUTATIONAL AND APPLIED MATHEMATICS DEPARTMENT**

Gandham, Rajesh, High performance high order numerical methods: Applications in ocean modeling
Huang, Yin, Born waveform inversion in shot coordinate domain
Medina, David, Okl: A unified language for parallel architectures
Whaley, Meagan, Dynamics of brain networks during reading
Wood, Cynthia, Clique generalizations and related problems
Chang Young Jang, Contributions to
Yang, Yandan (Daisy) Lu, Wentao

Department of Statistics

Chiang, Sharon, Hierarchical Bayesian models for multimodal neuroimaging data
Flores Castillo, Nicolas, Stochastic modeling of cancer tumors using Moran models and an application to cancer genetics
Kim, Soyeon, Prediction oriented marker selection for personalized medicine with application to high dimensional data
McDonald, Thomas, Modeling clonal evolution with branching processes
Ni, Yang, Bayesian graphical models for complex biological networks
Vankov, Emilian, Filtering and estimation for a class of stochastic volatility models with intractable likelihood

Southern Methodist University (7)

Department of Mathematics

Choi, Young Ok, The Galerkin boundary element method for three-dimensional transient Stokes flow
Downes, Edward, Numerical studies of nonlinear processes in light filaments
Jang, Chang Young, Contributions to the theory and applications of Hermite methods
Wang, Zheng, Filtered Davidson-type methods for large-scale eigen-related problems

Statistical Science Department

Liu, Bingchen, Ranked set sampling and judgment post-stratification estimators for discrete distributions
Lu, Wentao, An adaptive testing approach for meta-analysis of gene set enrichment studies
Yang, Yandan (Daisy), On analysis of system-based reliability data

Texas A&M University (24)

Department of Mathematics

Boedihardjo, March, Topics in functional analysis
Castanon Quiroz, Daniel, Solution of the MHD equations with non-axisymmetric conductors using Fourier-finite element method
Chan, Wai Kit, Perturbations of certain crossed product algebras by free groups
Gin, Craig, Topics in stability analysis of multi-layer Hele-Shaw and porous media flows
Goldsmith, Aaron, LASSO asymptotics with heavy tailed error
Grimley, Lauren, Brackets on Hochschild cohomology of noncommutative algebras
Gu, Cong, Computational mechanics for aircraft water entry and wind energy
Hamm, Keaton, On the interpolation of smooth functions via radial basis functions
Johnson, Maya, A continuing mechanics model of stress mediated arterial growth during hypertension using an Eulerian frame
Liu, Jiayin, Quantifying uncertainty for an elliptic inverse problem with finite data
Moon, Minam, Generalized discontinuous multiscale method for flows in highly heterogeneous porous media
Muddamallappaa, Mallikarjunaiah, On two theories for brittle fracture: Modeling and direct numerical simulation
Penland, Andrew, Finitely constrained groups
Protasov, Anastasiya, Local-global model reduction techniques
Rainone, Timothy, K-theoretic dynamics and C*-crossed products
Ren, Jun, Multiscale solution techniques for high-contrast anisotropic problems
Rupam, Rishika, Meromorphic inner functions and their applications
Tan, Xiaosi, Multilevel uncertainty quantification techniques using multiscale methods
Wang, Yi-Ching, Numerical computation of wind turbine flows and fluid problems by open FOAM and ANSYS
Zhou, Zhi, Numerical analysis of fractional-order differential equations with nonsmooth data

Department of Statistics

Jeong, Jaehong, Spatial-temporal models for processes on the sphere and their application in climate problem
Rahmen, Shahina, Efficient nonparametric and semiparametric regression methods with application in case control studies
Zhang, Bohali, Statistical methods for large spatial and spatio-temporal datasets
Zhang, Nan, Adaptive basis sampling for smoothing splines

Texas Christian University (1)

Department of Mathematics

Matthews, Kyle, Universal Poincaré duality for intersection homology of branched and partial coverings of pseudomanifolds

Texas State University (7)

Department of Mathematics

Bower, Rachel, Cases of noticing in linguistically diverse mathematics classrooms
Hansuch, Sarah, The use of examples in a transition-to-proof course
Herrera, Christine, The effect of the conceptualization of limits on proof comprehension
Mejia Colindres, Carlos Alberto, The mediating role of mathematical translanguage
Melnikova, Yuliya, Alignment in students, teaching assistants and instructors on the purpose and practice of calculus I labs
Smith, Shawnna, Geometry teaching knowledge: A comparison between pre-service and high school geometry teachers
Starkey, Christina, Reflective journaling as a tool to support learning mathematical proofs

Texas Tech University (8)

Department of Mathematics and Statistics

Chakraborty, Pritha, Extremal problems in Bergman spaces
Gamage, Pemantha, Smoothed functional principal component analysis
Gonzalez, Elias, Complex classification of singularities of reducible septic curves
Jesse, Odin, Algebraic characterization of non-negativity of polynomials over polytopes
Koksal, Fatih, Injectivity and Gorenstein injectivity under faithfully flat ring extensions
Ma, Jie, On stability of linear switching systems
Osborn, Sarah, Multilevel solution strategies for the stochastic Galerkin method
Wijenayaka, Hansameenu Thanuka, Analysis of the error in an iterative algorithm for solution of regulator problems for linear distributed parameter control systems

University of Houston (11)

Department of Mathematics

Agrawal, Akshay, Optimization of plane wave directions in plane wave discontinuous Galerkin methods for the Helmholtz equations
Alsheikh, Dina, The hypercircle method and an equilibrated a posteriori error estimator for discontinuous Galerkin approximations of elliptic boundary value problems on simplicial meshes
Alvarez, Angelynn, On the positive holomorphic sectional curvature of projectivized vector bundles over compact complex manifolds
Hammen, Nathaniel, Stable phase retrieval using low-redundancy frames of polynomials
Leonhard, Nicole, Correlation minimizing frames
Maxwell, Nicholas, Gaussian polynomial filters and generalized shift-invariant frames
Ng, Wai Hin, Tensor products of operator systems via factorization
Ortiz, Carlos, Graph parameters via operator systems
Ozcan, Burcin, Image analysis using directional multiscale representations and applications for characterization of neuronal morphology
Preston, Benjamin, A hidden Markov renewal model
Zheng, Da, The operation system generated by Cuntz isometries and its applications

University of North Texas (7)

Mathematics Department
Atmaï, Rachid, Contributions to descriptive set theory
Berardinelli, Angela, Restricting invariants and arrangements of finite complex reflection groups
Chang, Cheng (Jeff), The relative complexity of various classification problems among compact metric spaces
Dahal, Koshal, Trees and ordinal indices in C(K) spaces for K countable compact
Islas, Jose, Optimal strategies for stopping near the top of a sequence
Jacobs, George Anthony, Reduced ideals and periodic sequences in pure cubic fields
Krohne, Edward, Continuous combinatorics on F(2^{2^5})

University of Texas at Arlington (11)

Department of Mathematics
Ali, Ahmed, Bisection method for the banded hyperbolic quadratic eigenvalue problem
Blackwell, Justin, Numerical methods for spontaneous and evoked glutamate release
Chandler, Richard, On the quantum spaces of some quadratic regular algebras of global dimension four
Goodwin, Rachel, Some multivariate process capability indices
Griffis, John, Representations of the extended Poincare superalgebras in four dimensions
Looney, Carl, Finite M-inverse loops and quasigroups with a long inverse cycle
Sutton, Julie, The influence of dynamic visualization on undergraduate calculus learning
Traylor, Rachel, Stochastic reliability models for a general server and related networks
Ventura, Wilber, On solving forward-backward SDES
Wood, Daniel, Advancements and applications of nonstandard finite difference methods
Xiao, Pengcheng, A modeling study in the regulation of stress on neuronal plasticity

University of Texas at Austin (28)

Department of Mathematics
Bennett, Julia, Exotic smoothings via large R4’s in Stein surfaces
Berg, Jennifer, Obstructions to the integral Hasse principle for generalized affine Chatlet surfaces
Chen, Chieh, Implicit boundary integral methods
Delfeld, James, Labeling and denoising geometrically parameterized data with applications to cryo-em
Fenyves, Aaron, Warping geometric structures and abelianizing SL(2,R) local systems
Franklin, Giovanni, The Andre-Quillen spectral sequence for pre-logarithmic ring spectra
Fredrickson, Laura, Asymptotic limits in the Hitchin moduli space
Gal, Itamar, Explorations in algebra and topology
Garza, Cesare, A construction of hyperkahler metrics through Riemann-Hilbert problems
Goswami, Palak, Recovering the payoff structure of a utility maximizing agent
Hughes, Adam, Multiplicative and dynamical analysis on idèles and idèle class groups
Jain, Rohit, Regularity estimates for some free boundary problems of obstacle-type
Kontaxis, Andrew, Asymptotics for optimal investment with high-water mark fee
Larson, Kyle, Some constructions involving surgery on surfaces involving 4-manifolds
Li, Jixuan, Existence, characterization and approximation in the generalized monotone follower problem
Pool, Jamie, A quadrature Eulerian-Lagrangian WENO scheme for reservoir simulation
Royer, Aaron, Aspects of derived Koszul duality
Taskovic, Maja, Mittag-Leffler moments and weighted L∞ estimates for solutions to the Boltzmann equation for hard potentials without cutoff
White, Chris, Optimality guarantees for non-convex low rank matrix recovery problems

Institute for Computational Engineering and Science
Carleton, James, Microscale modeling of layered fibrous networks with applications to biomaterials for tissue engineering

Ellis, Truman, Space-time discontinuous Petrov-Galerkin finite elements for transient fluid mechanics
Graham, Lindley, Adaptive measure-theoretic parameter estimation for coastal ocean modeling
Hussmann, Jeffrey, Expanding the applications of high-throughput DNA sequencing
Isaac, Tobin, Scalable, adaptive methods for forward and inverse problems in continental-scale ice sheet modeling
Martin, James, A computational framework for the solution of infinite-dimensional Bayesian statistical inverse problems with application to global seismic inversion
Morrison, Rebecca, On the representation of model inadequacy: A stochastic operator approach
Taus, Matthias, Isogeometric analysis for boundary integral equations
Young, Jonathan, Computational discovery of genetic targets and interactions: Applications to lung cancer

University of Texas at Dallas (6)

Department of Mathematical Sciences
Chu, Jufen, Nonparametric hazard rate estimation with left truncated and right censored data
Elewitz, Zachary, Detection of the Reide-meister 2-move via generalized Polyak invariants
Li, Changsong, Multiplicative structure on KBM of 1-bundle over a disk with three punctures
Wang, Shanshan, Masking and swamping robustness of outlier detection procedures
Wang, Tiansong, Multi-sensor change-point detection
Wijesuriya, Uditha, Exploratory nonparametric functional data analysis using the spatial depth approach

University of Texas School of Public Health (12)

Department of Biostatistics
Azadeh, Shabnam, Integrative Bayesian modeling of imaging and genetic data
Cao, Ying, Detecting genetic and nutritional lung cancer risk factors related to folate metabolism using Bayesian generalized linear models
Hong, Chuan, Statistical tests for homogeneity using parametric and semiparametric models with applications to meta-analysis and statistical genetics
Huang, Jing, Bayesian dynamic mediation analysis
Li, Xiaoji, Statistical models for recurrent events during alternating restraint and non-restraint periods
Lin, Li An, Bayesian analysis of multitype recurrent events with dependent termination
Liu, Yulun, Meta-analytical methods and their applications to biomedical studies
Sun, Jia, A hierarchical model of mutations with genotyping errors and maximum likelihood estimations and the male-to-female mutation rate ratio
Wu, Chih-Hsien, Analysis of bivariate longitudinal discrete data: A joint continuous-time Markov chains approach
Yang, Yang, Data-adaptive SNP-set-based association tests of longitudinal traits
Ye, Jiabu, Covariates adjustment for nonparametric tests for two sample comparison
Zhu, Huirong, Two-part mixture models for zero-inflated longitudinal measurements with heterogeneous random effects and time to event data

**UTAH**

**Brigham Young University (2)**

Department of Mathematics
Dang, Vinh, Compression bodies and their boundary hyperbolic structures
Simmons, Skyler, Analysis of multiple collision-based periodic orbits in dimension higher than one

University of Utah (7)

Department of Mathematics
Babenko, Vira, Numerical analysis in L-spaces
Cesa, Morgan, Dehn functions of higher rank arithmetic groups of type \( \text{A}_n \) in products of simple Lie groups
Dixon-Gorringle, Megan, Roles for ubiquitin and dimensional dependence in protein regulation
Egbert, Paul Andrew, Log minimal models of arithmetic threefolds
Kerby, Brent, Semivariogram estimation: Asymptotic theory and applications
Krtolica, Predrag, Compatibility conditions in discrete structures and application to damage
Watson, Alan, Generic vanishing and the geometry of irregular varieties in positive characteristics

Utah State University (3)

Department of Mathematics and Statistics
Duncan, Jacob, A spatiotemporal mountain pine beetle outbreak model predicting severity, cycle period, and invasion speed
Flake, Darl, Separation of points and interval estimation in mixed dose-response curves with selective component labeling
Neupane, Ram, Modeling seed dispersal and population migration given a distribution of seed handling times and variable dispersal motility: Case study for pinyon and juniper in Utah

**Virginia**

**George Mason University (4)**

Department of Statistics
Hoysepyan, Harut, Valuation of commercial mortgages in incomplete markets: A four-state model with fundamental economic theory
Shao, Hui, Exact properties of restricted randomization procedures
Wilson, SeungHyu, Trend detection and pattern recognition in financial time series
Ye, Xuan, Group sequential methods for ROC curves

**Old Dominion University (1)**

Department of Mathematics and Statistics
Li, Wei, Modeling and simulation of molecular Couteau flows and related flows

**University of Virginia (7)**

Department of Mathematics
Atkinson, Scott, Convex sets associated to \( C^\ast \)-algebras
Bley-Delgado, Gonzalo, Estimates of functional integrals of non-relativistic quantum field theory with applications to the Nelson and Polaron methods
De Stefani, Alessandro, Homological methods, singularities, and numerical invariants
Franz, Daniel, Quantifying the residual fitness of linear groups
Hardy, Stephen, Pseudocompact \( C^\ast \)-algebras
Lai, Chun-Ju, Affine quantum symmetrical pairs: Multiplication formulas and canonical bases
Tverrillager, Bryce, Tandem queues with identical service times in heavy traffic

**Virginia Commonwealth University (3)**

Department of Mathematics and Applied Mathematics
Cooper, Racheal, An applied mathematical approach to modeling inflammation: Hematopoietic bone marrow stem cells, systemic estrogen and wound healing and gas exchange in the lungs and body
Lazzaryan, Shushan, Dynamics of discrete planar systems that model stage-structured populations

**DEPARTMENT OF STATISTICAL SCIENCES AND OPERATIONS RESEARCH**

Leonard, Robert, Considerations for screening and follow-up experimentation

**Virginia Polytechnic Institute and State University (22)**

Department of Mathematics
Arat, Seda, A systems biology approach to microbiology and cancer
Gao, Guangyue, Some controllability and stabilization problems of surface waves on water with surface tension
Kramer, Boris, Model and reduction for control, identification and compressed sensing
Kuster, George, On the role of student understanding of function and rate of change in learning differential equations
Lattimer, Alan, Model reduction of nonlinear fire dynamics model
Li, Ming, Recycling preconditioners and matrix reordering
Moon, Kihyo, Immersed discontinuous Galerkin methods for acoustic wave propagation in inhomogeneous media
Plaxco, David, Solving the inverse of sparse matrix in exponential time to event data
Wang, Taije, Mathematical analysis on the PEC model for Thixotropic fluids
Wills, Andrew, Abacus-tournament models of Hall-Littlewood polynomials

**DEPARTMENT OF STATISTICS**

Carzolo, Marcos, On a selection of advanced Markov chain Monte Carlo algorithms for everyday use: Weighted particle, tempering, practical reversible jump, and extensions
Chen, Chen, Evaluating time-varying effect in single type and multi-type semiparametric recurrent event models
Hoegh, Andrew, Predictive model fusion: A modular approach to big, unstructured data
Li, Qing, Recurrent event models for detecting the change points in the driving risk of the teenage drivers
Lofus, Stephen, On the use of grouped covariate regression in oversaturated models
Ortega Villa, Ana Maria, Semiparametric varying coefficient models for matched case-crossover studies
Shan, Liang, Joint Gaussian graphical model for multi-class and multi-level data
Sun, Peng, Semiparametric Bayesian approach using weighted Dirichlet process mixture for finance statistical models
Xie, Yimeng, Advancements in degradation modeling, uncertainty quantification and spatial variable selection
Negron, Cris, Alternate approaches to the cup product and Gerstenhaber bracket on Hochschild cohomology
Palvanan, Bharathwais, On Selmer groups and factoring $p$-adic L-functions
Prelli, Lorenzo, Results on singularities of pairs
Rudnick, Christian, Boundary Harnack principle for stable-like processes
Sprehn, David, Some cohomology of finite general linear groups
Stark, James, Sheaves on support varieties and varieties of elementary subalgebras
Taylor, Jair, Formal group laws and hypergraph colorings
Wang, Jiashan, Matrix free methods for large scale optimization
Wong, Ting Kam Leonard, Geometry and optimization of relative arbitrage
Zhou, Hanming, Some linear and nonlinear geometric inverse problems

WISCONSIN

Marquette University (4)

DEPARTMENT OF MATHEMATICS, STATISTICS AND COMP SCIENCE

Buelow, Zachary, Out-tournament matrices with equal ranks
Kawser, Ferdous, Computational approaches for remote monitoring of symptoms and activities
Majumder, AKM Jahangir, Development of a wireless mobile computing platform for fall risk prediction
Rizio, Rizwana, A mobile health approach to assist veterans reintegrating into civilian life

University of Wisconsin, Madison (36)

DEPARTMENT OF MATHEMATICS

Cladek, Laura, Multiplier theorems, square function estimates, and Bochner-Riesz means associated with rough domains
Dewey, Edward, Characteristic classes of cameral curves
Hu, Yueke, Period integrals, L-functions, and applications to subconvexity bound and mass equidistribution
Kim, Yoosik, On non-displaceable Lagrangian tori on Fano toric surfaces: Wall-crossings and bulk-deformations
Lee, Jaeho, Non-displaceable toric fibers on compact symplectic manifolds via tropicalization
Li, Lei, Fluid-structure interaction at different Reynolds numbers
Strenner, Balazs, Algebraic degrees and Galois conjugates of Penner stretch factors
Su, Yun, Higher order degrees of complex hypersurface complements
Sun, Yu, Multilevel Monte Carlo methods with applications to biochemical models
Wong, Kahi Tommy, Twisted Alexander polynomials of hypersurface complements
Xu, Xiaqian, Singularities and mixing in fluid mechanics
Zhao, Jie, Hyperkähler metrics on focus-focus fibrations
Zheng, Fan, On constructing eigenfunctions of Weil representations over p-adic fields

Department of Statistics

Binkiewicz, Norbert, Contextualized network analysis: Theory and methods for networks with node covariates
Brooks, Wesley, Local variable selection in varying-coefficients regression models
Chen, Yan, Some new methodologies in optimal designs, composite likelihood and reinforcement learning
Cho, Juhee, Statistical inferences and applications for a low-rank matrix
Du, Lilun, Some new developments on multiple testing procedures
Fan, Haoyang, A boosting approach to high dimensional linear mixed model
Feng, Xiaoqing, Composite likelihood estimation and inference for spatial data models
Fu, Rao, Regularized regression methods with spatial binary and multinomial outcomes
Guo, Xiao, Topics on estimation of large covariance and precision matrices
Henderson, Nicholas, Methods for ranking and selection in large-scale inference
Idowu, Timothy, Bayesian inference for max-stable processes with application to financial data
Jiang, Qi, Bayesian functional concurrent logistic models for spatial categorical data
Konate, Lancine, Dependent credit risk modeling using nonlinear filtering techniques
Kong, Jing, Topics on distance correlation, feature screening and lifetime expectancy with application to Beaver Dam Eye Study data
Liu, Yi, Volatility estimation with financial data
Solis-Lemus, Claudia, Statistical methods to infer population structure with coalescence and gene flow
Tian, Jianan, Dissection and fine-mapping of tran-eQTL
Wang, Zhishi, Statistical methods for gene set analysis
Xiong, Lie, Statistical learning for high dimensional data set with group structure
Xu, Chenliang, Statistical analysis of quantum annealing models and density matrix estimation in quantum homodyne tomography
Ye, Shuyun, Statistical methods for subclass discovery on genomic structures with quantitative outcomes
Zhai, Yun, Discrete time harness processes
Zuo, Chandler, Large-scale computation in genomic and epigenomic inference

University of Wisconsin, Milwaukee (11)

Department of Mathematical Sciences

Adhikari, Ram, A weak Simpson method for a class of stochastic differential equations and numerical stability results
Cheong, Sami, Parameter estimation for the spatial Ornstein-Uhlenbeck process with missing observations
Feller, Jesse, Random iteration of rational maps
Gollin, James, The root-finite condition on groups and its application to group rings
Griffin, Brian, Improving the subgrid-scale representation of hydrometeors and microphysical feedback effects using a multivariate PDF
Kapcz, Dawn, Predictability of sea ice near bifurcations
Mitchell, Alan, The existence of the Mandelbrot set in the parameter planes of certain rational functions
Samanthi, Ranadeera, Comparing the riskiness of dependent portfolios
Sugiyama, Noriyuki, The Great Lakes’ regional climate regimes
Trulen, Justin, Asymptotic estimates for some dispersive equations on the alpha-modulation space
Yu, Daoping, Statistical contributions to operational risk modeling

Wyoming

University of Wyoming (4)

Department of Mathematics

Choi, Hayoung, Hamburger moment completions and its applications
Deng, Quanling, Local conservation on continuous Galerkin finite element methods with application
Huntington, Michael, A tuan type result and generalized friendship graphs
Nelson, Curtis, Tiling with dominoes and monomers, P-sets, and the inverse eigenvalue problem