Doctoral Degrees Conferred

2007–2008

ALABAMA

Auburn University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Ford, Robert, Path curvatures on a convex roof

Hollingsworth, Blane, Stochastic differential equations: A dynamical systems approach

Moore, Emilia, On the existence of even and K-divisible matchings

University of Alabama at Birmingham (3)

DEPARTMENT OF MATHEMATICS

Baker, Steven Jeffrey, Spectral properties of displacement models

Goswick, Lee, Dynamical, geometric and arithmetic properties of Euclidean lattices

Hamza, Eman, Localization properties for the unitary Anderson model

University of Alabama-Huntsville (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Duehring, Dawn, Periodic traveling wave solutions for diffusion equations with time-delayed and non-local responding reaction

Hester, Anthony, Semigroups generated by pseudo-contractive mappings under the Nagumo conditions

Sinko, Anne, Generalized colorings in graphs

University of Alabama-Tuscaloosa (6)

DEPARTMENT OF MATHEMATICS

Raridan, Chris, Useful results for the study of magical and expander graphs

Thomas, Shawanda, An optimal hedging strategy for multiple commodities

Xu, Mingu, Optimal consumption rate under certain spending behavior

DEPARTMENT OF INFORMATION SYSTEMS

Natarajaratihanam, Malini, Base stock policies for the stochastic inbound inventory routing problem

Upreti, Rahul, Inventory policies for containers with stochastic returns

Wang, Huapeng, Missing data analysis in structural equation modeling—expectation maximization and multiple imputation methods

ARIZONA

Arizona State University (10)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Cates, Dennis, Edge detection using Fourier data with applications

Dur-e-ahmad, Muhammad, Structural plasticity of dendritic spines: A computational study

Erdem, Mustafa, Epidemics in structured population with isolation and cross-immunity

Gehrig, Eric, Hopf algebras, projections, and coordinates of the first kind in control theory

Malik, Tufail, Microbial quiescence, a survival strategy in environmental stress

Mendez, Guillermo, Tree-based methods to model dependent data

Sealey, Vicki, Calculus students’ assimilation of the Riemann integral into a previously established limit structure

Sutton, Karyn, Theoretical studies on pneumococcal vaccination

Thalhauser, Craig, The two-state model of cancer growth: Evolutionary implications at the local and global scales

Zhong, Zimin, Curve registration in functional data analysis

University of Arizona (8)

DEPARTMENT OF MATHEMATICS

Berger, Lisa, Ranks of Abelian varieties in towers of function fields

Fernandes, Anthony, A partnership between a middle school teacher and a novice mathematics educator centered around the content

Ivkovic, Milos, Characterization and coding techniques for long-haul optical telecommunication systems

McLeman, Cameron, A Gold-Shafarevich equality and p-tower groups

Miller, Justin, On p-adic continued fractions and quadratic irrationals

PROGRAM IN APPLIED MATHEMATICS

Arpin, Sheree, Using mathematical models to investigate phenotypic oscillations in cichlid fish: A case of frequency-dependent selection

Shen, Fangfang, Approximating ideal-observer performance using Fisher information and the extreme value distribution in detection tasks

Shkarayev, Maxim, Effects of nonlinearity and disorder in communication systems

ARKANSAS

University of Arkansas at Fayetteville (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Gyurov, Boyko, Maximal inverse semigroups of transformations

Haller, Erin, Comparison principles for fully non-linear parabolic equations in Carnot groups with applications to the horizontal Gauss curvature flow

Taylor, Phillip, Analytic bounded point evaluations and polynomial approximation in the mean on crescents

The above list contains the names and thesis titles of recipients of doctoral degrees in the mathematical sciences (July 1, 2007, to June 30, 2008) reported in the 2008 Annual Survey of the Mathematical Sciences by 213 departments in 154 universities in the United States. Each entry contains the name of the recipient and the thesis title. The number in parentheses following the name of the university is the number of degrees listed for that university. A supplementary list containing names received since compilation of this list will appear in a summer 2009 issue of the Notices.
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**University of California, Berkeley** (6)

| Department of Statistics           |                   |        |        |
| Bhambani, Shankar                  | Random networks: Flows and asymptotics |
| Dong, Rui                          | Coagulation-fragmentation duality for Poisson-Dirichlet distributions, and exchangeable partitions derived from Markovian coalescents |
| Peled, Ron                         | Global irregularities for Poisson processes—gravitational allocation and rough isometries |
| Rocha, Guillerme                   | Sparsity and model selection through convex penalties: Structured selection, covariance selection and some theory |
| Traskin, Mikhail                   | On the consistency of ensemble classification algorithms |

**California Institute of Technology** (13)

| Department of Applied and Computation Mathematics |
| Donaldson, Roger                        | Discrete geometric homogenisation and inverse homogenisation |
| Helgason, Hannes                        | Nonparametric detection and estimation of highly oscillatory signals |
| Hoch, David                             | Nonreflecting boundary conditions obtained from equivalent sources for time-dependent scattering problems |
| Monro, John, Jr.                        | A super-algebraically convergent windowing-based approach to the evaluation of scattering from periodic rough surfaces |
| Sweatlock, Sarah                        | Asymptotic weight analysis of low-density parity check (LDPC) codes |
| Tian, Lixiu                             | Effective behavior of dielectric elastomer composites |
| Wang, Ke                                | A subdivision approach to the construction of smooth differential forms |

**Claremont Graduate University** (3)

| School of Mathematical Sciences       |                   |        |        |
| Beasley, Joseph                       | Performance feedback and control of solar concentrators using wave front sensing techniques |
| Paolini, Christopher                 | A service-oriented architecture for thermochemical computation |
| Xu, Dong                              | An ab initio multi-dimensional solver for probing vibrational dynamics in polyatomic molecules and free radicals |

**Stanford University** (21)

| Department of Mathematics            |                   |        |        |
| Akat, Muzaffer                        | A unified credit risk model |
| Alper, Jarod                          | Good moduli spaces for Artin stacks |
| Buyukboduk, Kazim                     | Kolyvagin systems over an Iwasawa algebra |
| Chang, Hua-Lian                      | Donaldson Thomas invariant of P^1 scroll |
| Duque, David Fernandez                | Results in dynamic topological logic |
| Eichhorn, Michael                     | Non-variational existence problems in general relativity |
| Groft, Chad Lawrence                 | Isoperimetric inequalities on the universal covers of compact spaces |
| He, Jian                              | Symplectic field theory of subcritical Stein manifolds |
| Helleloid, Geir Trygge                | Automorphism groups of finite p-groups: Structure and applications |
| Ramras, Daniel Alexander              | Stable representation theory of infinite discrete groups |
| Wu, Baosen                           | Degeneration formula of Donaldson-Thomas invariants |

**Department of Statistics**

| Chang, George                        | Tools for multivariate bump hunting |
| Chen, Jiehua                          | Regression models with spatially correlated errors: Applications to urban core growth in China |
| Li, Ping                              | Stable random projections and conditional random sampling, two sampling techniques for modern massive datasets |
| Salzman, Julia                        | Spectral analysis with Markov chains |
| Ward, Gillian                         | Statistics in ecological modeling: the presence-only problem and other procedures |

**Department of Mathematics**

| Levaillant, Claire                    | Irreducibility of the Lawrence-Kramer representation of the BMW algebra of type An-1 |
| Tsankov, Todor                       | Amenability, countable equivalence, relations and their full groups |
| Venzke, Rupert                        | Braid forcing, hyperbolic geometry and pseudo-Anosov sequences of low entropy |

**Department of Biostatistics**

| Bembom, Oliver                        | Statistical methods for causal inference when the assumption of experimental treatment assignment is violated |

**University of California, Berkeley** (6)

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**Group in Biostatistics**

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**Department of Mathematics**

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| Zhu, Li                                | Modeling dynamics in two statistical problems: Longitudinal disease activity score and parasite infection |
University of California, Irvine (5)

DEPARTMENT OF MATHEMATICS

Li, Xiangrong, Nonlinear simulations of solid tumor growth using a mixture model: Invasion and branching
Munteanu, Ovidiu, The structure of complete manifolds with positive spectrum
Vargas, Benjamin, Mixed end conditions and morphogen gradient formation
Webster, Micah, Nonlinear stability analysis of a free boundary problem
Wong, Chiu Fai, Zeta functions of projective toric hypersurfaces over finite fields

University of California, Los Angeles (17)

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Brandman, Jeremy, A level set method
Landa, Yanina, Kwon, Soonsik, Hinde, Colin, Busch, Joseph, Lower bounds in arithmetic complexity via asymmetric embeddings
Epstein, Inessa, Some results on orbit inequivalent actions of non-amenable groups
Hinde, Colin, The essence of Ricci curvature
Kwon, Soonsik, Low regularity problem of the higher order KdV type equations and the orbital stability issues of soliton solutions
Landa, Yanina, Visibility of point clouds and exploratory path planning in unknown environments
Leo, John, Fourier coefficients of triangle functions
Ni, Kang-Yu, Variational PDE-based image segmentation and inpainting with applications in computer graphics
O'Donnol, Danielle, Intrinsically n-linked spatial graphs
Prescott, Timothy, Invariance principles for random environments and shape theorems
Roy, Tristan, Global existence of the defocusing cubic wave equation in dimension 3
Sinapova, Dima, A model for a very good scale and bad scale
Smith, S. Alex, Layered percolation on the complete graph
Souldatos, Ioannis, Characterizable cardinals and local Hanf numbers
Waelder, Robert, Elliptic genera in algebraic geometry
Yanovsky, Igor, Unbiased nonlinear image registration
Zhu, Mingqiang, Fast numerical algorithms for total variation based image restoration

University of California, Riverside (5)

DEPARTMENT OF STATISTICS

Lesch, Scott, A new class of goodness-of-fit tests based on linear functions of order statistics for the exponential distribution under general Type II censoring schemes
Liu, Junmei, Estimating the number of species from a censored sample
Wilson, Jason, On the probability of correct selection when k is large
Zhang, Qi, Different statistical tests to assess the validity of one-part software reliability models
Zhang, Wei, Logistic regression with unknown sizes

University of California, San Diego (12)

DEPARTMENT OF MATHEMATICS

Angle, Robert, Holomorphic Segre preserving maps
Buckovcshi, Orest, Simple Lie algebras, algebraic prolongations and contract structures
Butler, Steven, Eigenvalues and structures of graphs
Clark, David, Functorality for the su(3) Khovanov homology
Guo, Hong Xin, The 3-dimensional steady gradient Ricci soliton
Horn, Larissa, Fun with tensor products
Liese, Jeffrey, Counting patterns in permutations and words
Nordgren, Karl, Well-posedness for the equations of motion of an inviscid, incompressible, self gravitating fluid with free boundary
Regev, Alon, Filtered algebraic algebras
Richardson, Ross, Combinatorial and geometric problems on point processes
Riehl, Amanda, Ribbon Schur functions and permutation patterns
Robinson, Daniel, Primal-dual methods for nonlinear optimization

University of California, Santa Barbara (4)

DEPARTMENT OF STATISTICS AND APPLIED PROBABILITY

Bagasheva, Biliana, Bayesian methods in the investment management process
Kaneda, Naohisa, Fitting mixture models from kernel estimators
Vestal, Douglas, Interacting particle systems for pricing credit derivatives
Wang, Dezhang, Pricing tranches of a CDO and CDX index

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DEPARTMENT OF APPLIED MATHEMATICS AND STATISTICS

Patil, Anand, Bayesian nonparametrics for inference of ecological dynamics

Taddy, Matthew, Bayesian nonparametric analysis of conditional distributions and inference for Poisson point processes

University of Southern California (7)

DEPARTMENT OF MATHEMATICS

Akopian, Vardan, Modeling of Earth’s ionosphere and variational approach for data assimilation
Alagband, Mohamad, Stochastic models for understanding and pattern recognition of molecular data
DiMuro, Joseph, On prime power elements of GL(d) acting irreducibly on large subspaces
Han, Yong Ho, Commuting triples of matrices
Hiatt, Christopher, Quantum traces in quantum Teichmüller space
Mayberry, John, The effects of noise on bifurcations in circle maps with applications to integrate-and-fire models in neural biology
Villalobos, Jose, Monte Carlo methods for FBSEDE in high dimensions

COLORADO

Colorado State University (13)

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Al-Azemi, Abdullah, Classification algorithms for graphs, digraphs, and linear spaces
Davis, Diane, Toward a type Bn geometric Littlewood-Richardson rule
Fatemeh, Emad, Signal fraction analysis for subspace processing of high dimensional data
Jen-Mei, Chang, Classifications on the Grassmannians: Theory and applications
Mertens, Keith, Mathematical methods for fluid-solid interfaces: Meandering streams and sand ripples
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Cao, Xiaofan, Model selection based on expected square Hellinger distance
Higgs, Megan, Clipped latent-variable spatial models for ordered categorical data
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Seguin, Troy, Risk measures

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DELAWARE
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He, Jianghua, Time-varying coefficients models for longitudinal aging data
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Stefanov, Dimitre, Cardiovascular risk functions based on multi-state models
Tan, Fei, A method for finding the nadir of non-monotonic relationships
Uhm, Dai Ho, Flexible additive risk models using piecewise constant hazard functions

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Liu, Tian, Bayesian functional mapping of complex dynamic traits

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Roy, Ananya, Empirical and hierarchical Bayesian methods with applications to small area estimation
Ryu, Euijung, Modeling and inference for an ordinal effect size measure
Saha, Sourish, Response surface designs for linear mixed models
Santra, Upasana, Probability matching priors for the bivariate normal distribution

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Adhikari, Dhruba R., Applications of degree theories to non-linear operator equations in Banach spaces
Andreescu, Irena, Mathematical modeling and analysis of options with jump-diffusion volatility
Daqqa, Ibtisam, Subconstituent algebras of Latin squares
Davis, John C., Identification of parameters when the density of the minimum is given
Genova, Daniela, Forbidding and enforcing of formal languages, graphs, and partially ordered sets
George, Florence, Johnson’s system of distributions and microarray data analysis
Hoare, Armando, Parametric, non-parametric and statistical modeling of stony coral reef data
Ibrahim, Boubakari, The Leray-Schauder approach for the topological degree of perturbed maximal monotone operators
Mbah, Alfred K., On the theory of records and applications
Shih, Shou Hsing, Forecasting models for economic and environmental data
Staninska, Anna, A theoretical model for flexible tiles self-assembly
Taylor, Rodney, Lagrange interpolation on Leja points

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School of Mathematics
Carroll, Christina, Enumerative combinatorics of posets
Inkmann, Torsten, Tree-based decompositions of graphs on surfaces and applications to the traveling salesman problem
Kamps, Guido, Mathematical modeling of fines migration and clogging in porous media
Kettner, Michael, Algorithmic and topological aspects of semi-algebraic sets defined by quadratic polynomials
Lessard, Jean-Philippe, Validated continuation for infinite dimensional problems
Ulusoy, Suleyman, The mathematical theory of thin film evolution
Viveros-Rogel, Jorge, An extension of KAM theory to quasi-periodic breather solutions in Hamiltonian lattice systems

University of Georgia (13)

Department of Mathematics
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Cooper, Bobbe Jane, Support varieties for tilting modules for GL_n
Dave, Emille Kennae, Characterizing right-veering homeomorphisms of the punctured torus via the Burau representation of B_3
Li, Haipeng, Prewavelet solution to Poisson equations
Petkov, Peter Konstantinov, Nash problem on spaces of arcs
Platt, Kenyon, Classifying the representation type of finitely generated blocks of category O
Rusinko, Joseph Patrick, Equivalence of mirror families constructed by toric degenerations of flag varieties
Wright, Caroline, Second cohomology groups of Frobenius kernels
Wu, Jianbao, Spherical splines for Hermite interpolation and surface design

Department of Statistics
Cai, YiMei, Estimation of the seed distribution with genotypic data
Iaci, Ross, Multivariate association and dimension reduction
Park, Jin-Hong, Dimension reduction in time series
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ILLINOIS

Illinois Institute of Technology (2)

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Ortega, Oscar, Consensus and location: The mean function

Northern Illinois University (4)

DEPARTMENT OF MATHEMATICAL SCIENCES

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Kisunzu, Phillip, Teacher instructional practices, students' mathematical dispositions and mathematics achievement
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Milan, David, C*-algebras of inverse semigroups
Sakuntasathien, Sawanya, Global well-posedness for systems of nonlinear wave equations
Weiss, Jacob, Second order dynamic equations on time scales

**DEPARTMENT OF STATISTICS**

Schmid, Kendra, Analysis of landmark data using multi-dimensional regression
Wang, Yi, Semiparametric mixed-effects analysis on PK/PD models using differential equations

**NEW HAMPSHIRE**

**University of New Hampshire (1)**

**DEPARTMENT OF MATHEMATICS AND STATISTICS**

Fang, Junsheng, Unitarily invariant norms and tensor products of maximal injective von Neumann subalgebras

**NEW JERSEY**

**New Jersey Institute of Technology (4)**

**DEPARTMENT OF MATHEMATICAL SCIENCES**

Chandrasekaran, Lakshmi, Role of plasticity in temporal coding of neuronal networks
Ha, Joon, Roles of gap junctions in neuronal networks
Murisi, Nebojsa, Instabilities of volatile films and drops
Posta, Filippo, Signal transmission in epithelial layers

**Princeton University (9)**

**DEPARTMENT OF MATHEMATICS**

Arguin, Louis-Pierre, The structure of correlation in quasi-stationary competing particle systems
Carlsson, Erik, Vertex operators and moduli spaces of sheaves
Gornik, Bojan, Duality of Khovanov-Rozansky link homology
Juhasz, Andras, Floer homology and sutured manifolds
Li, Ye, Smoothing Riemannian metrics in dimension 4 and its applications
Sorrentino, Alfonso, On the structure of action-minimizing sets for Lagrangian systems
Sullivan, Blair D., Extremal problems in digraphs
Xu, Chenyang, Topics on rationally connected varieties

**PROGRAM IN APPLIED COMPUTATIONAL MATHEMATICS**

Kryazhimskiy, Sergey, Pathogen evolution under natural selection: The influenza A case study
Rutgers University-Newark (1)
Department of Mathematics and Computer Science
McDonald, Keith Tim, On p-adic zeta functions and their derivatives at s = 0

NEW MEXICO
New Mexico State University, Las Cruces (1)
Department of Mathematical Sciences
Nousi, Hubert, Stabilization of competition models in the chemostat via feedback linearization

University of New Mexico (2)
Department of Mathematics and Statistics
Beznosova, Oleksandra, Bellman functions, paraprodutions, Haar multipliers, and weighted inequalities
Gomez, Ralph, On Lorentzian Sasakian-Einstein geometry

NEW YORK
Clarkson University (4)
Department of Mathematics and Computer Science
Sanititissadeekorn, Naratip, Transport analysis and motion estimation of dynamical systems of time-series data
Shen, Xunyang, Towards a practical solution of handling over/under flow exceptions with alternate number formats
Vora, Mehul, A novel approach to data mining: GA for feature selection
Yao, Chen, Modeling low-dimensional submanifolds in dynamical systems

Columbia University (16)
Department of Mathematics
Baldwin, John, Heegaard Floer homology, contact structures, and open books
Faber, Alexander, Topics in arithmetic geometry over function fields
Gillam, William, Hyperelliptic Gromov-Witten theory
Gkigkitzis, Ioannis, On the cross curvature tensor and the cross curvature flow
Hanson, Nels, Sobolev norms of holomorphic sections and variations of the density of states
Hsieh, Ming-Lun, Construction of p-adic ordinary Eisenstein series on certain unitary groups
Kontorovich, Alex, The hyperbolic lattice point count in infinite volume with applications to sieves
Li, Qi, Energy functional of their applications to Monge-Ampère equations
Mezhericher, Borislav, Computational aspects of Maass forms for SL(3, Z)
Swinarski, David, Geometric invariant theory and moduli spaces of pointed curves
To, Tung, A free boundary problem for the evolution p-Laplacian equation with a combustion boundary condition
Yuan, Xinyi, Equidistribution theory over algebraic dynamical systems
Zhang, Bei, Fourier-Jacobi coefficients of Eisenstein series on unitary group
Zickert, Christian, Hyperbolic 3-manifolds and the Cheeger-Chern-Simons class

Department of Statistics
Abayomi, Kobi Ako, Diagnostics for multivariate imputation copula based independent component analysis and a motivating example
Lee, Yi Hsuan, Contributions to the statistical analysis of item response time in educational training

Cornell University (12)
Center for Applied Mathematics
Lyles, Danielle, Chromaffin cell excitability and BK channel gating: Data, modeling, simulation, and experiment
Robinson, Michael, Eternal solutions and heteroclinic orbits of a semilinear parabolic equation
Schmidt, Deena, A mathematical look at DNA regulatory sequence evolution
Sherwood, William Erik, Response in networks of bursting neurons: Modeling central pattern generators
Yamada, Richard Yujiro, Quantitative models of transcriptional elongation
Zhang, Wenjie, Measure of serial dependence and testing for conditional quantile models

Department of Mathematics
Eshmatov, Farkhod, The Calogero-Moser correspondence for noncommutative deformations of Kleinian singularities
Gyrya, Pavel, Heat kernel estimates for inner uniform subsets of Harnack-type Dirichlet spaces
Johnston, Henri, The trace map and Galois module structure of rings of integers for absolutely abelian number fields
Schweig, Jay, Poset convex-eam decompositions and applications to the flag h-vector
Sinefakopoulos, Achilleas, On some classes of Borel fixed ideals and their cellular resolutions
Velasco, Mauricio Fernando, Monomial resolutions and the Cox rings of del Pezzo surfaces

Graduate Center, City University of New York (7)
PhD Program in Mathematics
Mumm, Michael, Volume growth and the topology of manifolds with nonnegative Ricci curvature
Nechayeva, Marina, Asymptotics of weighted lattice point counts inside dilating domains
Serre, Abhranjan, On iterative refinement/improvement of the solution to an ill conditioned linear system
Wojciechowski, Radoslaw, Stochastic completeness of graphs
Won, Dong Wook, Word problems on balanced semigroups and groups
Yuan, Shenglan, Dynamics of certain families of transcendental meromorphic functions
Zyman, Marcos, IA-automorphisms and localization of nilpotent groups

New York University, Courant Institute (20)
Courant Institute of Mathematical Sciences
Bramham, Barney, Pseudoholomorphic foliations for area preserving disc maps
Cousot, Laurent, Constructions of martingales and of increasing processes with constrained marginal distributions
Diaz-Alban, Jose, The high frequency and inviscid limit of acoustic waves in a porous medium
Fish, Joel, Compactness results for pseudoholomorphic curves
Hammond, David, Representing and modeling images with multiscale local orientation
Hasha, Alexander, Gravity wave refraction by three-dimensionally varying winds and the global transport of angular momentum in the atmosphere
Heymann, Matthias, The geometric minimum action method: A least action principle on the space of curves
Hryniewicz, umberto, Finite energy foliations of convex sets in R^4
Huang, Shih-Ting, On the mechanism of forward motion during flapping flight: Numerical simulation by the immersed boundary method
Kadota, Minoru, The Madden-Julian oscillation and its seasonal impact on mid-latitude weather predictability
Kargin, Vladislav, Limit theorems in free probability theory
Koiller, Jose, Invariant measures for coupled map graphs
Kuptsov, Alexey, REM universality for random Hamiltonians
Lee, Pilhwa, The immersed boundary method with advection-electrodiffusion
Royfman, Roman, Randomly trapped random walks
Shen, Haiping, Two PDE problems from electromagnetics
Spagnolie, Saverio, Flapping, ratcheting, bursting and tumbling: A selection of problems in fluid-body interaction dynamics
Stechmann, Samuel, Models of convectively coupled waves in the tropical atmosphere
Tice, Ian, Lorentz space estimates and applied boundary current dynamics for Ginzburg-Landau
Vilenky, Yevgeny, Large deviation bounds for the totally asymmetric simple exclusion process

**Polytechnic University** (3)

**Department of Mathematics**
Centonze, Paolina, An algebra for access control
Lenchner, Jonathan, Sylvester-Gallai results and other contributions to combinatorial and computational geometry
Morgan, Thomas, Concentration and sparsity in space and frequency

**Rensselaer Polytechnic Institute** (7)

**Department of Mathematical Sciences**
Agius, Phaedra, Mathematical models for biological data
Andersen, Timothy, Trapped slender vortex filaments in statistical equilibrium
Dediu, Simona, Analysis of frequency dependent attenuation in shallow water
Gershgorin, Boris, Characterization of thermalized Fermi-Pasta-Ulam chains
Kunapuli, Gautam, A bi-level optimization approach to machine learning
Yan, Fu, Two-stage Nash equilibrium problems
Zhao, Jinye, Recent applications of Nash equilibria

**State University of New York at Albany** (2)

**Department of Mathematics and Statistics**
Clark, Timothy, Poset resolutions of monomial ideals
Madsen, Alpheus, Symbolic powers and Gorenstein grade-3 ideals

**State University of New York at Binghamton** (6)

**Department of Mathematics and Science**
Atanasov, Risto, Groups of geometric dimension 2
Chen, Cuixian, Asymptotic properties of the Buckley-James estimator for a bivariate interval censorship regression model
Du, Jichang, Covariate-matched estimator of the error variance in nonparametric regression
Loftus, John, Powers of words in language families
Millan-Vossler, Silvia, The Whitehead and the lower algebraic K-theory of braid groups on S2 and RP2
Wassink, Bronlyn, Subgroups of R Thompson’s group F that are isomorphic to F

**State University of New York at Buffalo** (5)

**Department of Mathematics**
Han, Xiaoying, Interlayer mixing in thin film growth
Li, Jinglai, Estimating the reliability of optical fiber communication systems
Mastroberardino, Antonio, Three-dimensional equilibrium crystal shapes with corner energy regularization
Yu, Chih-Chien, Conditions for the existence of a steady state solution for a competition system of plankton population

**Department of Biostatistics**
Pak, Youngju, Multivariate linear path models

**State University of New York at Stony Brook** (31)

**Department of Applied Mathematics and Statistics**
Brady, Christine, Power analysis of finite mixtures of Poisson distributions
Braunstein, Janet, Analysis of task mapping for parallel supercomputers
Du, Jian, Simulations of magnetohydrodynamics multiphase flow
Fazzari, Melissa, Classification ensembles with applications to genomics
Huang, Zhiying, The power of linkage analysis of a quantitative disease endophenotype
Ji, Chen, Joint analysis of gene and protein data
Jia, Xicheng, Applications of front tracking to multiple scientific problems
Lavergne, Paul, Thermonuclear flame studies in rectangular geometry
Lee, Hyunsun, Compressible multiphase multispecies flow models
Li, Yuanhua, Enhanced 3D front tracking method with locally grid based interface
Lim, Noha, Classification ensembles from random partitions using logistic regression models
Ma, Yeming, Step density function and bootstrap resampling
Manu, Manu, Canalization of gap gene expression during early development in Drosophila melanogaster
Masser, Thomas, Breaking temperature equilibrium for mixed cell hydrodynamics
McQuown, Joseph, Multi-scale, geometric algorithm for non-parametric data exploration with an application to genomic data

**State University of New York at Buffalo** (5)

**Department of Mathematics**
An, Daniel, Complete set of eigenfunctions of the quantum periodic Toda chain
Chen, Je-Wei, Neighborly properties of simple convex polytopes
Chen, Xiaojuan, On general chain model of the free loop space and string topology
Dupont, Emiko, A symplectic isometry of a product of projective spaces
Dutta, Satyaki, Rigidity of conformally compact manifolds
Kalafat, Mustafa, Self-dual metrics on 4-manifolds
Li, Tao, A monotonicity conjecture for the entropy of Hubbard trees
Mustopa, Yusuf, The effective cone on symmetric powers of curves
Prince, Tanvir, On the Lego-Teichmüller game for finite G cover
Shu, Yu-Jen, Compact complex surfaces and csCk metrics
Unal, Ibrahim, Phi-critical submanifolds and convexity in calibrated geometry

**Syracuse University** (5)

**Department of Mathematics**
Adamowicz, Tomasz, On the geometry of p-harmonic mappings
Dickerson, David, High school mathematics teachers’ understandings of the purposes of mathematical proof
Kimani, Patrick, Calculus students’ understandings of the concepts of function transformation, function composition, function inverse, and the relationships among the three concepts
Nzuki, Francis, Investigating African American students’ identity and agency in a mathematics and graphing calculator environment at a low-SES school
Struble, Dale, Wavelets on manifolds and multiscale reproducing kernel Hilbert spaces

**University of Rochester** (7)

**Department of Biostatistics and Computational Biology**
He, Hua, Correcting verification bias in the assessment of the accuracy of diagnostic tests
Wagner-Geiger, Lesley, Some skew models for quantal response analysis

DEPARTMENT OF MATHEMATICS
Bian, Ji, The pair correlation of zeros of $\mathbb{Z}^{(N)}(s)$
Liang, Lei, Comparison principle for stochastic heat equations
Lu, Naiji, Models based on pure birth and branching process
Milinovich, Micah, Mean-value estimates for the derivative of the Riemann zeta-function
Xue, Heng, Extensions of stochastic integrals as distributions and applications to SPDEs

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DEPARTMENT OF MATHEMATICS
Belov, Sergei, Breaking in the semiclassical solution of the focusing nonlinear Schrödinger equation
Gratton, Michael, Coarsening of thin fluid films
Narkawicz, Anthony, Cohomology jumping loci and the relative Malcev completion
Nicholas, Michael, A third order numerical method for 3D doubly periodic electromagnetic scattering problems
Robbins, Nicholas, Negative point mass singularities in general relativity
Spivey, Joseph, Twisted cohomology of hyperelliptic mapping class groups
Xu, Feng, $SU(3)$ structures and special Lagrangian geometries

DEPARTMENT OF STATISTICAL SCIENCE
Cha, Jen-Hwa, Bayesian function estimation using overcomplete dictionaries with application in genomics
Kinney, Satkarrar, Model selection and multivariate inference using data multiply imputed for disclosure limitation and nonresponse
Pillai, Natesh, Levy random measures: Posterior consistency and applications
Sang, Huiyan, Extreme value modeling for space-time data with meteorological applications
Shen, Haige, Bayesian analysis in cancer pathway studies and probabilistic pathway annotation
Woodard, Dawn, Conditions for rapid and torpid mixing of parallel and simulated tempering on multimodel distributions

North Carolina State University (30)

DEPARTMENT OF MATHEMATICS
Beier, Julie, Crystals for Demazure modules of special linear quantum affine type
Bean, Stacy, On the classification of orbits of minimal parabolic $k$-subgroups acting on symmetric $k$-varieties of $SL(n, k)$
Braun, Tom, High speed model implementation and inversion techniques for smart material transducers
Brown, Jonathan, $N$-symplectic quantitation
Cook, James, Foundations of supermathematics with applications to $N = 1$ supersymmetric field theory
David, John, Estimation and shape design: Analysis and applications
De Vault, Kristen, Numerical study of two problems in fluid flow: Cavitation and cerebral circulation
Dillard, Karen, An application of implicit filtering to water resources management
Gong, Yan, Immersed-interface finite-element methods for elliptic and elasticity interface problems
Grove, Sarah, Optimization problems in the presence of uncertainty
Osborne, Jason, On geometric control design for holonomic and nonholonomic mechanical systems
Petersen, Richard, Transformation semigroups over groups
Sweetingham, Kelly, Auxiliary signal design for fault detection in nonlinear systems
Wills, Rebecca, When rank trumps precision: Using the power method to compute Google’s pagerank

DEPARTMENT OF STATISTICS
Chang, Sheng-Mao, A stationary stochastic approximation algorithm for estimation in GLMM
Chiswell, Karen, Model diagnostics for the nonlinear mixed effects model with balanced longitudinal data
Griffith, Emily, Catch curve and capture recapture models: A Bayesian combined approach
Gu, Jiezhu, Nonparametric and semiparametric inference about ROC curves
Huang, Lingkang, Variable selection in partial linear models for clustered survival data
Liu, Xuan, “Smooth” inference for clustered survival data
Yang, Hongmei, Variable selection procedures for generalized linear mixed models in longitudinal data analysis
Yoshizaki, Jun, Use of natural tags in closed population capture-recapture studies: Modeling misidentification
Yu, Miao, Quantitative trait loci (QTL) mapping with longitudinal traits
Zhang, Min, Semi-parametric methods for analysis of randomized clinical trials and arbitrarily censored time-to-event data

University of North Carolina at Chapel Hill (24)

DEPARTMENT OF MATHEMATICS
Hague, Charles, Cohomology of flag varieties and the BK-filtration
Jabloski, Michael, Real geometric invariant theory and Ricci soliton metrics on two-step nilmanifolds
Lee, Joohoe, Mathematical descriptions of nematic polymers in the monolayer limit
Lin, Zhi, Passive scalar intermittency in random flows
Lindley, Brandon S., Linear and nonlinear shear wave propagation in viscoelastic media
Marangell, Robert, The general quadruple point formula
Richmond, Edward, Recursive structures in the cohomology of flag varieties
Todd, Abby, Inclusion of a glycosylation regulation mathematical model into a contextual metabolic framework
Yang, Gao, Short time behavior of solutions to nonlinear Schrödinger equations in $N$ space dimensions
Yao, Lixing, Viscoelasticity at microscopic and macroscopic scales characterization and prediction

DEPARTMENT OF STATISTICS AND Operation RESEARCH
Bai, Ping, Temporal-spatial modeling in FMRI
Didier, Gustavo, Adaptive wavelet decompositions of time series
Gaydos, Travis, Data representation and basis selection to understand variation of function valued traits
Huang, Tao, Continuous optimization approaches to the quadratic assignment problem
Lee, Chihoon, Long time asymptotics for constrained diffusions in polyhedral domains
Lee, Myung Hee, Continuum direction vectors in high dimensional low sample size data
Liu, Liqiang, Queueing models with workload-based blocking applications to call center
Liu, Xiaolin, New statistical tools for microarray data and comparison with existing tools

Doctoral Degrees Conferred

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NOTICES OF THE AMS
Maroulas, Vasilios, Small noise large deviations for infinite dimensional stochastic dynamical systems

Shamseldin, Elizabeth C., Asymptotic multi-variate kriging using estimated parameters with Bayesian prediction methods for non-linear predicaments

Sun, Xing, Significance and recovery of block structures in binary and real-valued matrices with noise

Trovero, Michele A., Effects of aggregation on estimators of long-range dependence

Zhang, Lingsong, Functional singular value decomposition and multi-resolution anomaly detection

Zhou, Jie, High dimensional spatial modeling of extremes: With application to U.S. rainfall

University of North Carolina at Charlotte (6)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Fan, Kai, A generalized discontinuous Galerkin (DG) method and its applications

Hyon, Jeungyean, Statistical analysis of competing risk models

Jalali, Mohamadreza, Central limit theorem for Markov chains on compact abelian groups

Jeong, Jae-Woo, Implementation of reproducing polynomial particle (RPP) shape functions in meshless particle methods for two-dimensional elliptic partial differential equations

McNair, Dawn, Duals of ideals and trace properties in rings with zero divisors

Squartini, Nicola, Global limit theorems for sums of independently identically distributed random variables using quasicumulants

NORTH DAKOTA

North Dakota State University, Fargo (1)

DEPARTMENT OF MATHEMATICS

Matson, Amanda, Results regarding finite generation, near finite generation, and the catenary degree

OHIO

Bowling Green State University (2)

DEPARTMENT OF MATHEMATICS AND STATISTICS

Marcusanu, Mihaela, The classification of $\ell_1$-embeddable Fullerences

Yenig"un, Deniz, A test of independence in contingency tables based on maximal correlation

Case Western Reserve University (9)

DEPARTMENT OF MATHEMATICS

Li, Zhuo Bin, Schistosomiasis transmission and control in a distributed heterogeneous human-snail environment in coastal Kenya

Zachlin, Paul, On the field of values of the inverse of a matrix

DEPARTMENT OF EPIDEMIOLOGY AND BIOSTATISTICS

Bajunirwe, Francis, Effectiveness of antiretroviral therapy in rural Uganda

Jun, Gyungah, Identification of genes associated with age-related cataract

Kiwanka, Noah, The effect of HIV-1 subtypes on HIV transmission and disease progression in Rakai district, Uganda

Kou, Tsuyang Doug, Watchful waiting and active surveillance in prostate cancer patients—a population-based study using the SEER-Medicare linked database

Liu, Constance, Evaluating measures of geographic accessibility in urban diabetics in Cuyahoga County

Londono, Douglas, Applications of the Hardy-Weinberg principle to detection of linkage disequilibrium and genotyping errors in the context association studies

Marrie, Ruth Ann, Influence of comorbid diseases and health behaviors on clinical characteristics, disability at diagnosis and disability progression in multiple sclerosis

Kent State University (3)

DEPARTMENT OF MATHEMATICAL SCIENCES

Abramov, Vilen, Stopping times related to trading strategies

Li, Hongcheng, Multivariate extension of CUSUM procedure

Rollick, Mary Elizabeth, Puzzling over spatial reasoning: A phenomenological study of pre-service elementary teachers

Ohio State University, Columbus (18)

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Balachandran, Niranjan, The 3-design problem

Hambrock, Richard, Evolution of conditional dispersal: A reaction-diffusion-advection approach

Hur, Suhkjin, The Kuratowski covering conjecture for graphs of order less than 10

Lennon, Craig, On the likely number of stable marriages

McClain, Christopher, Edge colorings of graphs and multigraphs

Nikolov, Martin, Construction of series of degenerate representations for GSp(2) and PGL(n)

Park, Chongseok, Irregular behavior in an excitatory-inhibitory neural network

Qi, Dongwen, On irreducible, infinite, non-affine Coxeter groups

Schoenecker, Kevin Joseph, An infinite family of anticommutative algebras with a cubic form

Xu, Songyan, Degree 2 curves in the Dwork pencil

DEPARTMENT OF STATISTICS

Cui, Zhenhuan, The solution paths of mult$category-cated$ vector machines: Algorithm and applications

Lam, Chen Quin, Sequential adaptive designs in computer experiments for response surface model fitting

Lang, Lixin, Advancing sequential Monte Carlo for model checking, prior smoothing and applications in engineering and science

Li, Hongfei, Approximate profile likelihood estimation for spatial-dependence parameters

Pan, Xueliang, Using structural information in modeling and multiple alignments for phylogenetics

Roberts, Clint, Imputing missing values in time series of count data using hierarchical models

Wang, Ke, On concomitants of order statistics

Wei, Lai, Spectral-based tests for periodicities

Ohio University, Athens (1)

DEPARTMENT OF MATHEMATICS

Srivastava, Ashish, Rings characterized by properties of direct sums of modules and on rings generated by units

University of Akron (1)

DEPARTMENT OF THEORETICAL AND APPLIED MATHEMATICS

Childers, Carey, Effective properties of a fiber reinforced composite with a functionally graded transition zone

University of Cincinnati (6)

DEPARTMENT OF MATHEMATICAL SCIENCES

Camfield, Christopher, Comparison of BV norms in weighted Euclidean spaces and metric measure spaces

Hunter, Tina, Gibbs sampling and expectation maximization methods for estimation of censored values from correlated multivariate distributions

Jiang, Dongming, Objective Bayesian testing and model selection for Poisson models

Oraby, Tamer, Spectra of random block-matrices and products of random matrices
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Ruth, Harry L., Jr., Conformal densities and deformations of uniform Loewner metric spaces
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University of Toledo (1)
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Liu, Nanshan, Theory and applications of Legendre polynomials and wavelets

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Bryn Mawr College (3)
Department of Mathematics
Battiste Presutti, Cathleen, Determining lower bounds for packing densities of non-layered patterns using weighted templates
Dalton, Jennifer, Legendrian torus links
Teti, Sherry, The existence of elliptic periodic orbits in the smoothed Bunimovich stadium

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Department of Mathematical Science
Anthony, Barbara, Approximation algorithms for network design with uncertainty
Carita, Graca, Relaxation in SBR for constrained-valued fields
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Towsner, Henry, Some results in logic and ergodic theory
Young, Michael, Triangle problems in extremal graph theory

Lehigh University (3)
Department of Mathematics
Gorman, Jennifer, Nested traveling salesperson problems
Mormbele, Akongwi Clement, Time dependent and steady state interaction among capillaries in skeletal muscle
Panofsky, Ellen, Graph labeling problems with distance conditions

Pennsylvania State University (18)
Department of Mathematics
Bang, Seunghoon, Rarefaction wave of pressure-gradient system
Barton, James, Generalized complex structures on Courant algebroids
Cho, Durkbin, Multilevel methods for the generalized finite element method discretizations
Kang, Hanseok, Dynamics of the local map of a discrete Brusselator model

Keith, William, Ranks of partitions and Durfee symbols
Rowell, Michael, The Bailey transform and conjugate Bailey pairs
Stojanovic, Gordana, Embedding with certain non-degeneracy conditions
Wang, Jiakou, Stochastic and deterministic coagulation models, their numerical approximations and applications to cell aggregation
Zhang, Ke, Thermodynamic formalism for maps with inducing schemes

Pennsylvania State University (3)
Department of Statistics
Noll, Jennifer, Graduate teaching assistants’ statistical knowledge for teaching

University of Oregon (5)
Department of Mathematics
Archer, Dawn, Crossed product C*-algebras by infinite group actions with a generalized tracial Rokhlin property
Jordan, Alexander, A super version of Zhu’s theorem
Kronholm, William, The RO(G)-graded Serre spectral sequence
Miller, Matthew, The rational homotopy types of configuration spaces of three-dimensional lens spaces
Wilson, James, Group decompositions, Jordan algebras, and algorithms for p-groups

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Oklahoma State University (1)
Department of Statistics
Wagler, Amy, Simultaneous inference in generalized linear model settings

University of Oklahoma (3)
Department of Mathematics
Martinez, Eduardo, Combination of quasiconvex subgroups in relatively hyperbolic groups
Okaya, Pedro, Orbital integral correspondence for the pair (G2, S(1, R)) via the Cauchy Harish-Chandra integral
Seo, Arim, Torus leveling of (1, 1)-knots

Oregon

Oregon State University (5)
Department of Mathematics
Strowbridge, Jessica, Middle school teachers’ use of a formative feedback guide in mathematical problem solving instruction

Department of Statistics
Giovanini, Jack, Generalized linear mixed models with censored covariates
Henry, John, III, Extreme value index estimation with applications to modeling extreme insurance losses and sea surface temperatures
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Lu, Lin, Unconditional estimating equation approaches for missing data

Portland State University (2)
Department of Mathematics and Statistics
Ciancetta, Matthew, Statistics students’ reasoning when comparing distributions of data
Fitchian, David, Pseudomodular Fricke groups

Univ of Oregon (5)
Department of Mathematics
Archey, Dawn, Crossed product C*-algebras by infinite group actions with a generalized tracial Rokhlin property

University of Pittsburgh, Pittsburgh (7)
Department of Mathematics
Bang, Seunghoon, Rarefaction wave of pressure-gradient system
Barton, James, Generalized complex structures on Courant algebroids
Cho, Durkbin, Multilevel methods for the generalized finite element method discretizations
Kang, Hanseok, Dynamics of the local map of a discrete Brusselator model

Keith, William, Ranks of partitions and Durfee symbols
Rowell, Michael, The Bailey transform and conjugate Bailey pairs
Stojanovic, Gordana, Embedding with certain non-degeneracy conditions
Wang, Jiakou, Stochastic and deterministic coagulation models, their numerical approximations and applications to cell aggregation
Zhang, Ke, Thermodynamic formalism for maps with inducing schemes

Department of Statistics
Han, Bing, A Bayesian approach to false discovery rate for large scale simultaneous inference
Hui, Guodong, Matrix distances with their application to finding directional deviations from normality in high-dimensional data
Jung, Hyekyung, A latent-class selection model for nonignorable missing data
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Seo, Byungtae, Doubly-smoothed maximum likelihood estimation
Tang, Zhihui, Three topics on dimension reduction
Yang, Jingyan, Measurement of agreement for categorical data
Yao, Weixin, On using mixtures and modes of mixtures in data analysis
Young, Derek, A study of mixtures of regression

Temple University (4)
Department of Mathematics
Bitew, Worku, Sufficient conditions and higher-order regularity for local minimizers in the calculus of variations
DeSario, David, Polyhedral sums and theta series
Elhashash, Abdul Rahman (Abed), Perron-Frobenius properties of general matrices and generalized M-matrices which may not have nonnegative inverses
Liu, Zhongzhi, Quantum random walks under decoherence

University of Pennsylvania (4)
Department of Mathematics
Boqan Pavelescu, Elena, Braids and open book decompositions
Dalakov, Peter, Higgs bundles and opers
Fithian, David, Pseudomodular Fricke groups
Kein, Martin, Biquotients with almost positive curvature

University of Pittsburgh, Pittsburgh (7)
Department of Mathematics
Day, Jerry, On Banach function spaces and the fixed point property

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Day, Judy, Mathematical approaches to modeling, understanding, and controlling the acute inflammatory response to pathogen and endotoxin

Hancioglu, Baris, Mathematical modeling of virus dynamics in immunology

Mi, Qi, Modelling wound healing in necrotizing enterocolitis and diabetic foot ulcer

Neda, Monika, Numerical analysis and phenomenology of homogeneous, isotropic turbulence generated by higher order models of turbulence

Pejić, Bojana, On the uniqueness of Polish group topologies

Xie, Dejun, Optimal prepayment strategy of mortgages

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Brown University (15)

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Kwon, Hyun-Kyoung, Similarity of operators and geometry of eigenvector bundles

Miller, Stephen Francis, The calculus of equivariant spectra and a classification of degree 2 endofunctors

Stange, Katherine Elisabeth, Elliptic nets and elliptic curves

Wise, Jonathan Samuel Dennis, The genus zero Gromov-Witten theory of $\text{Sym}^2 \mathbb{P}^2$ and the enumerative geometry of hyperelliptic curves in $\mathbb{P}^2$

Yasufuku, Yu, Vojta’s conjecture and blowups

DIVISION OF APPLIED MATHEMATICS

Chun, Sehun, High-order accurate methods for solving Maxwell’s equations; modeling photonic crystals and thin layer approximations

Dean, Thomas Anthony, A subsolutions approach to the analysis and implementation of splitting algorithms in rare event simulation

Feiszli, Matt, Conformal shape representation

Foo, Jasmine, Multi-element probabilistic collocation in high dimensions: Applications to systems biology and physical systems

Keaveny, Eric, Dynamics of structures in active suspensions of paramagnetic particles and applications to artificial micro-swimmers

Leder, Kevin, Large deviations and importance sampling for queueing systems with discontinuous service policies

Li, Zheng, Approximation to random process by wavelet basis

Liberti, Jessica, Determining tumor blood flow parameters using dynamic imaging data

Micheli, Mario, The differential geometry of landmark shape manifolds: Metrics, geodesics, and curvature

Wang, Wei, Multiscale discontinuous Galerkin methods and applications

SOUTH CAROLINA

Clemson University (6)

DEPARTMENT OF MATHEMATICAL SCIENCES

Beeler, Robert, Automorphic decompositions of graphs

Faulkner, Bryan, Estimates related to the arithmetic of elliptical curves

Howell, Jason, Numerical approximation of shear-thinning and Johnson-Segalman viscoelastic fluid flows

Kraft, Christine, Planning, scheduling, and timetabling in a university setting

Seneviratne, Padmapani, Permutation decoding of the codes from graphs and designs

Zhao, Meng, Issues in model selection, minimax estimation, and censored data analysis

Medical University of South Carolina (7)

DEPARTMENT OF BIOSTATISTICS, BIOINFORMATICS & EPIDEMIOLOGY

Hedden, Sarra, Methods in substance abuse clinical trials

Howard, Virginia, Nativity and interstate migration patterns and their effect on stroke risk factors

Jaffa, Miran, Development and application of models for slope estimation for univariate and bivariate longitudinal outcomes in the presence of informative right censoring

Johnson, Shayna, Racial disparities in living kidney donations among South Carolinians: The effect of health conditions, individual behavior, and family attributes

Karpievitch, Yuliya, Computational tools for MS-based proteomics

Mountford, William, Racial variation in long-term risk of cardiovascular disease mortality with regards to diabetes and hypertension

Rastogi, Amal, Arterial compliance and periodontal inflammation in adults

University of South Carolina (12)

DEPARTMENT OF MATHEMATICS

Jordan, Kelly, The necklace poset is a symmetric chain order

Kožek, Mark, Applications of covering systems of integers and Goldbach’s conjecture with monic polynomials

Owens, Luke, Multigrid methods for two weakly over-penalized interior penalty methods

Rusu, Anamaria, Determining starlike bodies by their curvature integrals

Sanacory, Frank, The richness of the space of operators on a Banach space

DEPARTMENT OF STATISTICS

Adekpedjou, Akim, Estimation of the gap-time distribution with recurrent event data under an informative monitoring period

Autin, Melanie, Nonparametric methods in the analysis of estuarine water quality data

Deutsch, Roland, Benchmark analysis for two predictor variables

Ignatova, Iliana, Multistage samples and the minimum sum method for Medicare fraud investigations

Ni, Jun, Extensions of hierarchical Bayesian shrinkage estimation with applications to a marketing science problem

Quiton, Jonathan, General outlier detection and goodness of fit for recurrent event data

Zhang, Litong, The estimation of multidimensional item response theory model

TENNESSEE

University of Memphis (2)

DEPARTMENT OF MATHEMATICAL SCIENCES

Wheeler, Jeffrey Paul, The Cauchy-Davenport theorem and the Erdős-Heilbronn problem for finite groups

Zhang, Lijun, Stochastic and state space models of carcinogenesis with applications

University of Tennessee, Knoxville (2)

DEPARTMENT OF MATHEMATICS

LaGrange, John, Zero-divisor graphs, commutative rings of quotients, and Boolean algebras

Phillippi, R. David, A comparison of the deck group and the fundamental group of uniform spaces obtained by gluing

Vanderbilt University (7)

DEPARTMENT OF MATHEMATICS

Callender, Hannah, Mathematical modeling of species-specific diacylglycerol dynamics in the RAW 264.7 macrophage following P2Y2 receptor activation by uridine 5’-diphosphate

Hinow, Peter, Partial differential equation models for intranuclear diffusion, inverse problems in nanobiology and cell cycle specific effects of anticancer drugs

Jennings, David, Topological algebras and q-undemanding varieties

Lambert, Thomas Paul, On the classification of closed flat four-manifolds

Nowak, Piotr Wojciech, Property A as metric amenability and its applications to geometry

Spakula, Jan, K-theory of uniform Roe algebras
Yattselev, Maxym Leonidovich, Non-Hermitian orthogonality and meromorphic approximation

TEXAS

Baylor University (2)
DEPARTMENT OF MATHEMATICS
Jackson, Billy Joe, A general linear systems theory on time scales: Transforms, stability, and control
Rogers, James W., Adaptive methods for the Helmholtz equation with discontinuous coefficients at an interface

Rice University (66)
DEPARTMENT OF COMPUTATIONAL AND APPLIED MATHEMATICS
Castillo, Edward, Optical flow methods for the registration of compressible flow images and images containing large voxel displacements of artifacts
Eydelzon, Anatoly, A study on conditions for sparse solution recovery in compressive sensing
McClosky, Benjamin, Independence systems and stable set relaxations
Turner, Jesse, Multi-scale behavior in chemical reaction systems: Modeling, applications, and results
Young, Joseph, Program analysis and transformation in mathematical programming

DEPARTMENT OF MATHEMATICS
Jennings, Landan, Sufficient conditions for Hamiltonian paths
Jorgensen, Jamie, Surface homeomorphisms that do not extend to any handlebody and the Johnson filtration
Ralston, David, Heaviness: An extension of a lemma of Yuval Peres
Simpson, Matthew, On log canonical models of the moduli space of stable pointed genus zero curves

DEPARTMENT OF STATISTICS
Fox, Garrett, A Bayesian hierarchical model for detecting associations between haplotypes and disease using unphased SNPs
Gershman, Jason, Classification of time-course gene expression array data
Jabri, Hannah, Term structures and conditional probabilities of corporate default in an incomplete information setting
Kyi, Lada, Estimating realized covariance using high frequency data
Noyola-Martinez, Josue, Investigation of the Tau-leap method for stochastic simulation
Papkov, Galen, Locally-adaptive polynomial-smoothed histograms with application to massive and pre-binned data sets
Williams, Talithia, A dynamic spatio-temporal model for real-time estimation of rainfall data

Southern Methodist University (5)
DEPARTMENT OF MATHEMATICS
Cao, Guanghua (Kenny), Pricing and risk management of variable annuities and equity indexed annuities
Chaturvedi, Praveen, Single phase multicomponent flow simulation in porous media
Lam, Kwan, Pattern formation in nonlinear chemical systems

DEPARTMENT OF STATISTICS SCIENCE
Roberson, Steve, Generalizations and applications of linear chirp stationary processes
Xu, Mengyuan, Filtering analysis of nonstationary time series by time deformation

Texas A&M University (17)
DEPARTMENT OF MATHEMATICS
Abbott, Kevin, Applications of algebraic geometry to object/image recognition
Bondarenko, levgen, Groups generated by bounded automata and their Schreier graphs
Celik, Mehmet, Contributions to the compactness theory of the C Neumann operator
Dobrev, Veselin, Preconditioning of discontinuous Galerkin methods for second order elliptic problems
Dostert, Paul, Multiscale simulation methods for stochastic porous media flows and applications
Fuselier, Jenny, Hypergeometric functions over finite fields and relations to the Livsic coboundary equation
Ivanov, Nikolay, Graphs searching and a generalization of parking function
Kannan, Lavanya, Dense graphs and matroids
Kostic, Dimitrije, Densities in graphs and matroids
Kostic, Dimitrije, Graph searching and a generalized parking function
Moreira, Rivera, Products of representations of symmetric group and non-commutative versions
Raffo, James, A straightening law for the d Lagrangian Grassmannian
Zheng, Bentuo, Embeddings and factorizations of Banach spaces

DEPARTMENT OF STATISTICS
Gold, David, Bayesian learning in bioinformatics
Jin, Lei, Generalized score tests for missing covariate data
Lee, Sang Han, Estimating and testing of functional data with restrictions
Liu, Lian, Topics in measurement error and missing data problems
Liu, Yingxue, Estimation of circadian parameters and investigation in cyanobacteria via semiparametric varying coefficient periodic models

Texas Tech University (6)
DEPARTMENT OF MATHEMATICS AND STATISTICS
Cupidon, Jean Rene, Functional data analysis
Ji, Xiao Yi, Fréchet differentiation of functions of operators with application to functional data analysis
Pang, Wei Kong Johnny, Some statistical methods for directly and indirectly observed functional data
Talukder, Mohammed H., Order-restricted analysis for repeated measures
Wang, Keyi, Variance reduction methods based on smoothing spline estimator for non-parametric regression model
Wesley, Curtis, Discrete time and continuous time epidemic models with applications to the spread of hantavirus in wild rodent and human populations

University of Houston (5)
DEPARTMENT OF MATHEMATICS
Linsenmann, Christopher, Adaptive multi-level-based shape optimization for stationary Stokes flows by path-following primal-dual interior point methods
Gucciardi, Barbara, Subgroupoids in coupled cell systems
Hao, Jiao, Numerical methods and simulations for fluid/particle interactions: Sedimentation in a viscoelastic fluid and cell lifting in shear flow
Nguyen, Hu, Whitney regularity for solutions to the Livsic coboundary equation on Cantor sets in dimension three
Patel, Swabhimita, Global existence for solutions of diffusively coupled reaction diffusion equations

University of North Texas (2)
DEPARTMENT OF MATHEMATICS
Atim, Alexander, Uniqueness results for the infinite unitary, orthogonal and associated groups
Padipedi, Sridevi, Localized radial solutions for nonlinear p-Laplacian equation in R^n

University of Texas at Arlington (6)
DEPARTMENT OF MATHEMATICS
Badiu, Florin, Study of multiple impacts of a rigid body with a flat surface
Busse, Theresa, Generalized inverse scattering transform for the nonlinear Schrödinger equation
Martines, Ian, Mathematical analysis of allelopathy and resource competition models
Mo, Min, Estimating absolute transcript concentration for microarrays using Langmuir adsorption theory
Stern, Paul, On progenitively Koszul commutative rings
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Xie, Peng, Uniform compact/noncompact schemes for shock/boundary layer interaction

University of Texas at Austin (19)

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Carreon, Fernando, Singular limits of reaction diffusion equations of KPP type in an infinite cylinder
Chan, Chi Hin, The De Giorgi method as applied to the regularity theory of incompressible Navier-Stokes equations
Cozzi, Elaine, Incompressible fluids with vorticity in Besov spaces
Czubak, Magdalena, Well-posedness for the space-time monopole equation and Ward wave map
Garza, John, The height in terms of the normalizer of a stabilizer
Ghosh, Rohit, Incompleteness of the Giulietti-Ughi arc
Hammond, John, Regular realizations of \( p \)-groups
Hitt, Laura, Genus 2 curves in pairing-based cryptography and the minimal embedding field
Klonoff, Kevin, An index theorem in differential K-theory
Luxtton, Mark, The log canonical compactification of the moduli space of six lines in \( \mathbb{P}^2 \)
Moreira, Diego, Least supersolution approach to regularizing elliptic free boundary problems
Samuels, Charles, Auxiliary polynomials and Weil height
Van Horn-Morris, Jeremy, Constructions on open decompositions
Young, Andrea, Modified Ricci flow on a principal bundle

INSTITUTE FOR COMPUTER ENGINEERING AND SCIENCES
Bauman, Paul, Adaptive multiscale modeling of polymeric materials using goal-oriented error estimation, Arlequin coupling and goals algorithms
Cottrell, John, Isogeometric analysis and numerical modeling of the fine scale fields within the variational multiscale method
Khandelwal, Shweta, Ecology of infectious diseases with contact and percolation theory
Sokolova, Ekaterina, Indifference valuation in non-reduced incomplete models with a stochastic risk factor
Su, Qimou, Essays on derivatives pricing in incomplete financial markets

University of Texas at Dallas (2)

DEPARTMENT OF MATHEMATICAL SCIENCES
Sahi, Ramanjot, Tangle replacement moves on links

Yin, Kunshan, A Bayesian paradigm for method comparison studies

UTAH
Brigham Young University (1)

DEPARTMENT OF MATHEMATICS
Grout, Jason, The minimum rank problem over finite fields

University of Utah (8)

DEPARTMENT OF MATHEMATICS
Chamberlain, Erin, Modules with prescribed intersection properties
Iwao, Yoshikiro, Invariance of Gromov-Witten theory under a simple flop
McNulty, Meagan, Mathematical models of respiratory inflammation
Nesse, William, Random fluctuations in dynamical neural networks
Song, Qiang, Questions in local cohomology and tight closure
Thompson, Joshua, Grafting real complex projective structures
Todorov, Gueorgui, Pluricanonical map on threefolds of general type and the Gromov-Witten potential of the local
Zhang, Da Li, Inverse electromagnetic problem for microstructure media

VERMONT
University of Vermont (1)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Mahassen, Hania, Weakly and strongly correlated two-dimensional layered Coulomb systems

VIRGINIA
Old Dominion University (3)

DEPARTMENT OF MATHEMATICS AND STATISTICS
Parrish, Sarah, Analysis and application of perfectly matched layer absorbing boundary conditions for computational aeroacoustics
Sabo, Roy, Modeling and efficient estimation of intra-family correlations
Thomas, Howard, II, On the use of quasi-Newton methods for the minimization of convex quadratic splines

University of Virginia (6)

DEPARTMENT OF MATHEMATICS
Bociu, Lorena, Existence, uniqueness and blow-up of solutions to wave equations with supercritical boundary interior sources and damping
Cramer, Wesley, Cyclotomic Specht filtrations and Delta filtrations

WASHINGTON
University of Washington (32)

DEPARTMENT OF APPLIED MATHEMATICS
Bale, Brandon, Modeling the dynamics and stability of mode-locked fiber lasers
Gomez, Miguel, Optimization-based analysis of rigid mechanical systems with unilateral contact and kinetic friction
Jeon, Jihyoun, Mathematical modeling of pre-malignant lesions in multistage carcinogenesis
Patterson, Matthew, Computing the Abel map and the Riemann constant vector
Seo, Gunog, The dynamics of simple predator-prey models with Holling functional responses
Srivastava, Santosh, Bayesian minimum expected risk estimation of distributions for statistical learning
Bahuaud, Eric
Department of Mathematics
Yu, Xuesong, Restricted measure
Courdurier, Matias
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Linkage and segregation analysis allowing for multiallelic inheritance
Leek, Jeffrey, Surrogate variable analysis
Rosenthal, Elisabeth, Statistical methods for analyzing genomic data with consideration of spatial structures

WASHINGTON STATE UNIVERSITY (2)

Washington State University

Huang, Yang, Evaluating the predictiveness of continuous biomarkers

WEST VIRGINIA

West Virginia University (4)

RESEARCH IN PROGRESS

WISCONSIN

Medical College of Wisconsin (2)

DIVISION OF BIOSTATISTICS

Liu, Jingxia, Utilizing propensity scores to test treatment effects in survival data
Zhang, Yinghua, Selecting between the Cox and Aalen models for right censored survival data

UNIVERSITY OF WISCONSIN, MADISON (13)

DEPARTMENT OF MATHEMATICS

Deng, Geng, Simulated-based optimization
Henderickson, Anders, Supercharacter theories of finite cyclic groups
Holden, Christopher, Mod 4 Galois representations and elliptic curves
Hunter, James, Higher-order reverse topology
Kieserman, Noah, The Liouville phenomenon in the deformation problem of coisotropics
Mueller, Stefan, The group of Hamiltonian homeomorphisms and co-symplectic topology
Raghavan, Dilip, Madness and other topics in set theory
Rose, Michael, On Gromov-Witten invariants of stacks
Rouse, Jeremy, Arithmetic analytic and geometric aspects of the theory of modular forms
Shallue, Andrew, Two number theoretic algorithms that illustrate the power and limitations of randomness

Tang, Yudong, Geodesic rays and test configurations
Wang, Bing, On the conditions to extend Ricci flow
Wang, Jue, On lower branch exact coherent structures

UNIVERSITY OF WISCONSIN, MILWAUKEE (9)

DEPARTMENT OF MATHEMATICAL SCIENCES

Dudek, John, A mathematical investigation of solutions for the two-component order parameter in the Ginzburg-Landau equations of superconductivity
Lee, Jae Kook, Some covers and relative covers of modules
Lehrke, Stephen, Asymptotic properties of the MLE of parameters of the multivariate O-U process
May, Margaret, Finite dimensional Z-complications
Mooney, Christopher, On boundaries of CAT(0) groups
Schoeder, Timothy, $l^2$-homology of Coxeter groups
Sears, Christopher, Monotonicity of kneading sequences in families of one-kink maps
Shomberg, Asta, Estimation of false discovery rate under parametric assumptions with application to DNA microarrays
Zaidan, Younis, Analysis of Maxwell-systems with various nonlinear polarization mechanisms